WOODWORK | TURNING | TOOL TESTS | FEATURES

March 2023

The Woodworker

& Good woodworking

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Bob Chapman's
10 top turning tips

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PLUS...

- THE FUNDAMENTALS OF FURNITURE FIXTURES & FITTINGS
- PAUL GREER DISCUSSES THE HISTORY OF WOOD'S USE IN ART
- SHAUN NEWMAN'S TRIBUTE TO VIOLIN MAKER ARTHUR RICHARDSON

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Welcome

While my DIY skills are fairly limited, I'm lucky in that my partner is able to turn his hand to all manner of tasks. A keen woodworker with a background in boatbuilding, since moving into our new home he's been tackling various jobs on the never-ending 'to do' list. With the workshop build still in progress, finding tools can be a tad challenging, especially when they're located in temporary storage at the end of the garden...

Our new property is one of 38 on a mid 19th-century crescent in Brighton, originally built in 1847 by notable architect Amon Henry Wilds. With many original period features still intact, such as beautiful coving, cornicing and marble fireplaces, there's also five sets of lovely double saloon doors, with one in particular boasting a rather grand brass bolt, as pictured above.

Draughty dilemma

One of the downsides to this style of door, however, is that over time and due to wood movement, a gap opens up between the two halves – as much as 5mm in this case – thus letting in unwanted draughts and currents of cool air. To remedy this, a 2,000 × 3 × 25mm hardwood batten and some expanding wood glue – Joiners Mate Liquid Wood Adhesive – along with several G-clamps were required to hold everything in place. Once dry, a little wet and dry sanding, a steady hand to cut in the bright work, and a simple magnetic catch solved the problem: no more draughts and a cosy living room. Only three rooms to go and I've requested that my office is next!

French door finesse

As time passes and styles and tastes change, this can often lead to properties being subjected to neglect or having original features either removed completely or covered in countless layers of paint. As a result, details sadly get lost and hidden away, often never to be seen again. Luckily, due to having 'broken' one of the locks on the set of French doors that lead out onto the garden, my partner used this as an opportunity to give the door hardware a bit of a revamp. Doing so involved having to painstakingly remove numerous coats of white gloss, starting with a long soak in paint stripper to loosen the build-up. Once this had taken effect, careful use of a pen knife allowed him to pick out the wonderful details, before finally using WD40 and '0000' wire wool to complete the job. Now reinstated, these look stunning and create a wonderful contrast with the freshly painted white doors.

Silky smooth finish

Finally, with a new house comes a new table, and this time round, one in a rustic farmhouse style with Norwegian style chairs seemed to fit the bill. With a 12-week lead time from placing the order to delivery, we were excited by the prospect of no longer having to eat dinner off our laps, but when it did eventually arrive, the table top's overall finish was a bit disappointing. The chairs were solid and stylish and the table legs chunky yet elegant, but running a hand over the table's surface revealed a sticky wax residue along with a few planer marks. Basically, the resulting finish just didn't feel, well, finished! To remedy this, some wire wool and turpentine – to remove the wax and bring out the grain – was required along with some good old-fashioned elbow grease. The next part of this DIY workout involved wet and dry sanding followed by Desk Olje D1 saturating wood oil, which is commonly used in the boatbuilding trade. I must admit that the end result looks and feels fantastic and it should certainly stand the test of time, not to mention a few accidental spills!

Hopefully, now that spring is just around the corner, the workshop will seem like a more inviting space and projects can be started and others finished off following a winter break. Whether it's tackling odd jobs, woodworking projects or both, there's certainly a sense of satisfaction and achievement that comes with making something or restoring an item to its former glory.

Enjoy!

Email tegan.foley@dhpub.co.uk

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38 A GIFT FROM THE PAST – A TRIBUTE TO ARTHUR RICHARDSON MBE (1882–1965)

Gifted some scraps of wood by a neighbour, Crediton-based luthier Shaun Newman was delighted to find they'd come from the workshop of world-famous violin maker, Arthur Richardson, who'd lived in the same market town. Using pieces of fine-grained spruce, flamed maple and beech, he incorporated these into a 'Baroque' style guitar

veritas

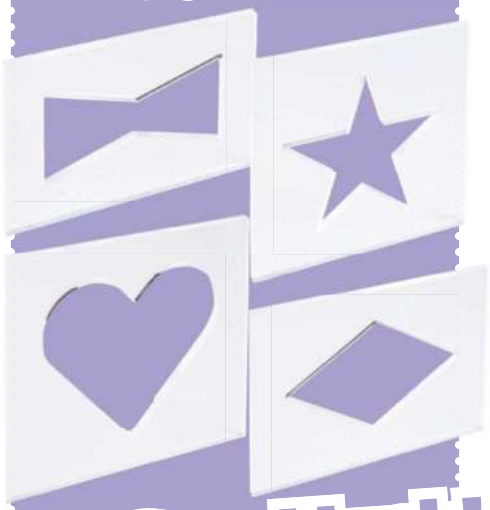
SEND IN YOUR TOP WORKSHOP HINT/TIP/POINTER OR PIECE OF ADVICE & YOU COULD BE IN WITH A CHANCE OF WINNING A **VERITAS APRON PLANE**
– see page 67 for details

WIN!

WOOD WORKERS WORKSHOP

1 of 5 four-piece AUKTools Router Inlay Template sets

Elevate your woodworking projects to a whole new creative level with this set of four **AUKTools Router Inlay Templates** – there's five up for grabs, courtesy of **Wood Workers Workshop**
– see page 20 for details



Good luck!

CHISEL RATING

PROJECT DIFFICULTY 1-5

Each project in this issue includes a difficulty rating from 1-5, so you can readily see whether or not a particular one is suited to you. While it's good to try and push yourself and develop skills, workshop safety should always be a main consideration and we urge you not to attempt a project/use specified tools or machinery, if you're unsure how to do so in a safe manner. A wide range of safety information is available online and a good place to start is **www.hse.gov.uk**

1 **Very easy**; only requires basic tools
2 **Simple to make**; only a few tools required
3 **Aimed at beginners-intermediate**; some specific equipment/tools required
4 **Aimed at intermediate-advanced**; sound woodworking knowledge required in addition to a wide range of hand/power tools
5 **Advanced skills/knowledge required**; a wide range of specialist equipment is needed to complete the project

The Woodworker & Good Woodworking
MARCH 2023

PROJECTS & TURNING

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FEATURES

ON TEST

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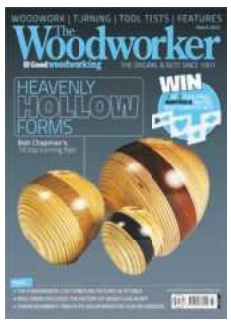

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CIG81216	4.9 x 3.7 x 2.5m	£359.00	£430.80
CIG81020	6.1 x 3 x 2.4m	£389.00	£466.80
CIG81220	6.1 x 3.7 x 2.5m	£429.00	£514.80
CIG81224	7.3 x 3.7 x 2.5m	£539.00	£646.80
CIG1432‡	9.7x4.3x3.65m	£1099.00	£1318.80
CIG1640#	12x4.9x4.3m	£2998.00	£3597.60

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Clarke CBS2	1200W	480	£94.99	£113.99
Makita 9911	650W	75-270	£104.99	£125.99

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Model	Sheet Size	Motor	exc.VAT	inc.VAT
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CON320	230x115mm	320W	£38.99	£46.79

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CDP102B	350 / 5	£115.95	£139.14
CDP152B	450 / 12	£209.98	£251.98
CDP202B	450 / 16	£269.00	£322.80
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CDP452B	550 / 16	£349.00	£418.80
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Tiger 11/550	2.5HP	9.3	50ltr	£209.98	£251.98
Tiger 16/550	3HP	14.5	50ltr	£279.00	£334.80
Tiger 16/1050	3HP	14.5	100ltr	£349.98	£419.98

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CJS400	400W	55/ - mm	£18.99	£22.79
CON750	750W	80/10mm	£31.99	£38.39
Bosch PST700E	500W	70/4mm	£56.99	£68.39

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Model	Motor	Speed RPM	exc.VAT	inc.VAT
CSS400D	120W	400-1600	£99.98	£119.98
CSS16VB	90W	550-1600	£129.98	£155.98
CSS400C	90W	550-1600	£157.99	£189.59

Clarke CPF13 ELECTRIC POWER FILE

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*Black & Decker

Model	Motor	Belt Size (mm)	exc.VAT	inc.VAT
CPF13	400W/230V	13x457	£49.98	£59.98
KA900E*	350W/230V	13x455	£59.99	£71.99

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CMS10S2B

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LASER GUIDE

Model	Blade Dia/Bore (mm)	Max Cut Depth/ Cross	exc.VAT	inc.VAT
CMS210B	210	60/120	£99.98	£119.98
CMS10S2B	255/3	90/340	£184.99	£221.99

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DONCASTER Wheatley Hall Road	01302 245 999	**MANCHESTER OPENSHAW** Unit 5, Tower Mill, Ashton Old Rd	0161 223 8376
DUNDEE 24-26 Trades Lane. DD1 3ET	01382 225 140	**MANSFIELD** 169 Chesterfield Rd. South	01623 622160
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		NORWICH 282a Heigham St. NR2 4LZ	01603 766402
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		POOLE 137-139 Bournemouth Rd. Parkstone	01202 717913
		PORTSMOUTH 277-283 Copnor Rd. Copnor	023 9265 4777
		PRESTON 53 Blackpool Rd. PR2 6BU	01772 703263
		SHEFFIELD 453 London Rd. Heeley. S2 4HJ	0114 258 0831
		SIDCUP 13 Blackfen Parade, Blackfen Rd	0208 3042069
		SOUTHAMPTON 516-518 Portswood Rd.	023 8055 7788
		SOUTHEND 1139-1141 London Rd. Leigh on Sea	01702 483 742
		STOKE-ON-TRENT 382-396 Waterloo Rd. Hanley	01782 287321
		SUNDERLAND 13-15 Ryhope Rd. Grangetown	0191 510 8773
		SWANSEA 7 Samlet Rd. Llansamlet. SA7 9AG	01792 792969
		SWINDON 21 Victoria Rd. SN1 3AW	01793 491717
		TWICKENHAM 83-85 Heath Rd.TW1 4AW	020 8892 9117
		WARRINGTON Unit 3, Hawley's Trade Pk.	01925 630 937
		WIGAN 2 Harrison Street, WN5 9AU	01942 323 785
		WOLVERHAMPTON Parkfield Rd. Bilston	01902 494186
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FESTOOL presents its first active exoskeleton: The ExoActive

The PLANEX LHS 2 225 EQI long-reach sander weighs 4.7kg, yet thanks to the ExoActive, feels as light as a feather

The new ExoActive is designed to become one with your body – no components get in the way, and there's no restrictive strap

The battery-powered ExoActive exoskeleton is designed to make light work of strenuous overhead tasks. For dry mortarless construction, painting, wallpapering or installation tasks – on walls or ceilings – the ExoActive provides an added boost for tired arms as well as taking the load off a user's neck. By reducing stress imposed on the body, users can work more effectively, better focus on the quality of work, and ultimately get more enjoyment out of the task at hand. The exoskeleton's required support level can be adjusted in a matter of seconds to deliver targeted support precisely where it's needed. The ExoActive is comfortable and easy to wear, just like a rucksack, and can be quickly adjusted to suit individual body size.

Festool's ExoActive is powered by an 18V battery and signals a revolution for virtually all trades in the construction industry. This is due to the fact that unlike available systems currently on the market, the ExoActive actively supports workers under the arms to take the effort out of working on walls and ceilings.

The new ExoActive from Festool provides targeted support precisely where it's needed, while being as easy to wear as a rucksack. It can also be quickly adjusted to accommodate different body sizes

Easy to wear, like a rucksack

Users can precisely adjust the ExoActive's support setting to obtain the level required for the task at hand. Thanks to its powerful Festool 18V battery pack, the ExoActive gives users the boost they need to make light work of tiring overhead tasks. From the waist up, at chest height or overhead, support can be set exactly where it's needed, as well as the level required, in a matter of seconds. If necessary, the support boost can be paused completely. Additionally, the ExoActive can be quickly adjusted to accommodate different body sizes so that its ergonomics work perfectly for all body types. "Once you know first hand what it's like to work supported by an active exoskeleton, you won't want to work on a wall or ceiling without it ever again. The exoskeleton makes it much easier to avoid overexertion during overhead work in particular. Our ExoActive reduces the load on the front of users' shoulder muscles by up to 30%. This means that work feels up to onethird easier. Additionally, we have an active system, which is a unique selling point in this product segment. 'Active' refers to the fact it's supplied with power, which is how the ExoActive is able to adapt almost instantly to any work situation. It's powered by the same Festool 18V battery pack used for our other tools. This makes it the perfect addition to the existing battery system," explains Dominic Ender, Festool Product Manager.

Provides up to 5kg of support

The ExoActive provides each underarm with an added boost of up to 50N, which is equivalent to reducing the load by approximately 5kg. For comparison, the PLANEX LHS 2 225 EQI long-reach sander weighs 4.7kg, yet feels as light as a feather in the user's hands. "As applications in the trades are so varied, the level of support provided by the ExoActive can be tailored specifically to the task at hand. Set the support you need at any given moment by turning the controller. The exoskeleton has three predefined working areas for effortless control: from the waist up, from the chest up, or overhead," continues Dominic.

The Festool Work App – free to download from the App Store or Google Play Store – can also be used to select additional profiles for optimal support. The ergonomically designed, easy-to-reach control element allows users to switch the ExoActive on and off as needed, set the support level to any of five settings, and select the working area. If the user doesn't require any support for the time being – i.e. if picking up a screw or mixing paint – the system can be paused at the press of a button.

Maximum freedom of movement

The new exoskeleton becomes one with your body: no components get in your way, and there's no restrictive straps. Whether picking up a screw, mixing paint or retrieving tools from your vehicle, the ExoActive offers maximum freedom of movement and is very comfortable to wear. All of the ExoActive's fabric and strap parts are removable and washable, so it can be worn by different people. What's more, all users can have their own harness system, making it even quicker and easier to swap between them.

Integrated into the Festool 18V System

The ExoActive is supplied with all accessories in robust packaging that, in addition to protecting the product, also functions as a raised storage area. Powered by an 18V battery, which is compatible with the entire Festool 18V System, the new ExoActive exoskeleton is expected to be available to purchase from selected specialist dealers during 2023 with further details to be announced in due course. In the meantime, find out more by visiting **www.festool.co.uk**.

Timber Suppliers Directory – March 2023

Adhectic Ltd (Berkshire)
Tel: 01235 5
Web: www.adhectic.co.uk

A Harrison (Northants)
Tel: 01536 725 192
Web: www.aharrisonwoodturning.co.uk

Bennetts Timber (Lincolnshire)
Tel: 01472 350 151
Web: www.bennettstimber.co.uk

Black Isle Woodturning (Scotland)
Tel: 07842 189 743
Web: www.blackislewoodturning.com

Brodies Timber (Perthshire)
Tel: 01350 727 723
Web: www.brodiestimber.co.uk

Brooks Brothers Timber (Essex)
Tel: 01621 877 400
Web: www.brookstimber.co.uk

C&G Barrett Ltd, Cilfiegan Sawmill (South Wales)
Tel: 01291 672 805
Web: www.cilfiegansawmill.com

Clive Walker Timber Ltd (West Yorkshire)
Tel: 01132 704 928
Web: www.clivewalkertimber.co.uk

D Emmerson Timber (Lincolnshire)
Tel: 01507 524 728
Web: www.emmersontimber.co.uk

Earlswood Interiors (West Midlands)
Tel: 01564 703 706
Web: www.earlswoodinteriors.co.uk

English Woodlands Timber (West Sussex)
Tel: 01730 816 941
Web: www.englishwoodlandstimber.co.uk

Exotic Hardwoods (Kent)
Tel: 01732 355 626
Web: www.exotichardwoods.co.uk

EO Burton, Thorndon Sawmills (Essex)
Tel: 01277 260 810
Web: www.eoburton.com

Eynsham Park Sawmill (Oxfordshire)
Tel: 01993 881 391
Web: www.eynshamparksawmill.co.uk

FH Ives (Essex)
Tel: 01268 732 373
Web: www.fhives.com

Fulham Timber (London)
Tel: 0208 685 5340
Web: www.fulhamtimber.co.uk

G&S Specialist Timber (Cumbria)
Tel: 01768 891 445
Web: www.toolsandtimber.co.uk

Good Timber (Northamptonshire)
Tel: 01327 344 550
Web: www.goodtimber.com

The Hardwood off cut shop (Essex)
The Wood Yard, Canterbury Tye Farm, Doddinghurst road, Brentwood, Essex, CM15 0SD
Tel: 01277 205990
Web: www.hardwoodoffcuts.co.uk
sales@hardwoodoffcuts.co.uk

Horndon Timber Products
Unit 8-9 Orsett Industrial Park
Stanford Road, Orsett, Grays
Essex. RM16 3BX
Tel: 01375 679 999
Web: sales@horndontimber.co.uk

Interesting Timbers (Somerset)
Tel: 01761 241 333
Web: www.interestingtimbers.co.uk

ISCA Woodcrafts (South Wales)
Tel: 01633 810 148/07854 349 045
Web: www.iscawoodcrafts.co.uk

Joyce Timber (London)
Tel: 0208 883 1610
Web: www.joycetimber.co.uk

Lincolnshire Woodcraft (Lincolnshire)
Tel: 01780 757 825
Web: www.lincolnshirewoodcraft.co.uk

Nottage Timber (South Wales)
Tel: 01656 745 959
Web: www.nottagetimber.co.uk

Ockenden Timber (Powys)
Tel: 01588 620 884
Web: www.ockenden-timber.co.uk

Olivers Woodturning (Kent)
Tel: 01622 370 280
Web: www.oliverswoodturning.co.uk

Oxford Wood Recycling (Oxfordshire)
Tel: 01235 861 228
Web: www.owr.org.uk

Stiles & Bates (Kent)
Tel: 01304 366 360
Web: www.stilesandbates.co.uk

Scadding Timber (Avon)
Tel: 01179 556 032
Web: www.scadding-son-ltd.co.uk

Scawton Sawmill (North Yorkshire)
Tel: 01845 597 733
Web: www.scawtonsawmill.co.uk

S.L. Hardwoods (Croydon)
Tel: 020 3051 4794
Web: www.slhardwoods.co.uk

St. Andrews Timber (Scotland)
Tel: 01316 611 333
Web: www.standrewstimbersupplies.co.uk

Surrey Timbers Ltd (Guildford)
Tel: 01483 457 826
Web: www.surreytimbers.co.uk

Sykes Timber (Warwickshire)
Tel: 01827 718 951
Web: www.sykestimber.co.uk

The Timber Mill (Cornwall)
Tel: 07966 396 419
Web: www.thetimbermill.com

The Wood Recycling Store (East Sussex)
Tel: 01273 570 500
Web: www.woodrecycling.org.uk

Thorogood Timber Ltd (Essex)
Tel: 01206 233 100
Web: www.thorogood.co.uk

Timberman (Carmarthenshire)
Tel: 01267 232 621
Web: www.timberman.co.uk

Tree Station (Lancashire)
Tel: 01612 313 333
Web: www.treestation.co.uk

UK Timber Ltd (Northamptonshire)
Tel: 01536 267 107
Web: www.uk-timber.co.uk

Waterloo Timber Ltd (Lancashire)
Tel: 01200 423 263
Web: No website

Wenban Smith (West Sussex)
Tel: 01903 230 311
Web: www.wenbans.com

Wentwood Timber Centre (South Wales)
Tel: 01633 400 720
Web: www.wentwoodtimbercentre.co.uk

W L West & Sons Ltd (Surrey)
Tel: 01798 861 611
Web: www.wlwest.co.uk

Yandle & Sons Ltd (Somerset)
Tel: 01935 822 207
Web: www.yandles.co.uk

SCREWFIX extends refurbished power tools offering & launches new sustainability commitment

Screwfix, the omnichannel retailer, is proud to extend its range of refurbished power tools, supporting even more tradespeople and serious DIYers in getting their jobs done quickly, affordably and right first time, by offering responsibly manufactured products made to last.

Earlier this year, the retailer launched a successful online trial, with the trade showing how it values the opportunity to give tools a second and longer life. To give customers more sustainable product options, Screwfix has decided to further grow its refurb offer. Initially set up with 12 units, the range now includes over 700 products, with in excess of 75,000 items successfully refurbished in 2022.

When products are returned, they're fully PAT and functionality tested. All components and instructions are checked, cleaned and refurbished, so contractors have everything they need to get the job done. The refurbished tools are also supplied with all accessories and benefit from a one-year guarantee.

Where it's not possible to repair and refurbish a faulty product, Screwfix recover spare parts and recycle in line with Waste Electrical and Electronic Equipment (WEEE) regulations, with zero waste to landfill.

Matt Compton, Commercial Director at Screwfix, says: "We know that many tradespeople are already making more sustainable choices when sourcing products and Screwfix is committed to supporting them. Refurb products are available for next day delivery from our distribution centre to stores, or directly delivered on site. Our customers love the offering, and we're planning to add more categories to grow our range even further in 2023."

Keeping products in use for longer forms a key part of a wider Screwfix's environmental strategy. There are six key priority areas that ensure a meaningful difference to customers, colleagues, community and the planet, the other five being eliminating carbon emissions, reducing and recycling waste, sourcing responsibly, selling sustainable products, and providing sustainable packaging.

With its new campaign 'Let's Fix Tomorrow Today', which involves colleagues and partners, Screwfix aims to become a sector leader in sustainability, encouraging other retailers to take action in tackling climate change and securing a greener future for next generations.

To find out more about Screwfix's bold strategy, visit **www.screwfix.com/landingpage/screwfix-sustainability**.

KITCHEN CABINET PAINT – V33's hints & tips for achieving the best results

You may've spotted stories in the press of people painting their kitchen cabinets instead of going to the expense of buying a whole new set of units, and yes, this is a great way of saving money on a kitchen renovation. However, there's some key features to look out for when choosing the paint, and it's important to choose one that's specifically formulated for this very application. V33, the innovative surface solutions expert, has some hints and tips on what to buy in order to achieve the best results.

V33's Marketing Manager, Richard Bradley says: "One of the most important attributes to look out for when buying kitchen cabinet paint is an ability to renovate high traffic surfaces. It must be extremely durable and resistant to culinary and domestic stains. That means it should be unaffected by hot and cold fats, and substances such as vinegar, wine, ketchup, coffee and tea.

"In addition, your selected paint must allow regular and easy cleaning without the process altering its colour or finish. The paint needs to be resistant to care and maintenance products such as water, washing up liquid, various household cleaning products and even diluted bleach.

"You need to ensure that the paint you use has a really high adhesion level without the need for an undercoat. I'd be looking for something like V33 Renovation Cupboard & Cabinet paint, with its high resistance to scratches, friction and impact. High on my wish-list would be a perfect finish that's ultra-washable so that it's easy to keep surfaces clean."

Give life back to kitchen cupboards

V33 Renovation Cupboard & Cabinet paint is ideal for giving life back to kitchen cupboards. V33 Renovation Radiator & Household Appliances paint brings the perfect finish to radiators and appliances such as refrigerators and dishwashers. The latter is also offered in a handy spray for enhanced precision during application.

All of the products in the range – with the exception of the spray product – are water-based paints that are easy to use, requiring simple application with only minimal preparation required. They're offered in a range of neutral shades, including three shades of grey, and formulated for use by the experienced or novice DIY-er.

The V33 Renovation range for B&Q is available via **www.diy.com**. V33 Renovation Cupboard & Cabinet paint is priced at £26 for a 750ml tub, which provides 10m² of coverage. V33 Renovation Radiator & Household Appliances paint is priced at £23 for a 750ml tub, which also provides 10m² of coverage. To find out more, see **www.v33.co.uk**.

New from ISOtunes: LINK 2.0, AIR DEFENDER & FREE Aware

ISOtunes FREE 2.0 is an all-around improvement to the original FREE model, offering enhanced connection to Bluetooth devices and a higher noise reduction rating (NRR), all without the hassle of cords or tangled wires. Three product variations of the FREE 2.0 are now available.

The FREE 2.0 filters damaging noise levels while still allowing you to listen to music and take phone calls without needing to remove the earbuds. The true wireless design gives peace of mind with no wires or cords to get caught on equipment.

The FREE 2.0 model delivers a 25dB NRR, Bluetooth 5.2 connectivity, and a rechargeable charging case that provides longer battery life than many hearing protection solutions on the market.

The LINK 2.0 ear defenders are priced at £99.99; the AIR DEFENDER model at £79.99; and the FREE AWARE ear buds at £169.99. For further information on ISOtunes products, see **www.isotunes.co.uk**.

THOMAS FLINN & CO LTD – celebrating 100 years of manufacturing (1923–2023)

Thomas Flinn & Co Ltd is the UK's only traditional saw manufacturer and this year – 2023 – sees the company celebrating its centenary. Founded in 1923, Thomas Flinn was a sawmaker in a city synonymous with steel and its by-products. Sheffield quality is world renowned and in the early days, many items with cutting edges were manufactured and dotted all around the city – as many as 70 sawmaking companies, perhaps.

A family business

Frank Ellis was Thomas Flinn's apprentice and purchased the business from him in 1936. Since then, it's been in the Ellis family, with generations two, three and four all having roles. During this time, however, the company has had to evolve to ensure survival with the focus now being on premium sawmaking having purchased many of Sheffield's old saw brands and continuing these.

Renowned brands & expanding ranges

The PAX brand, established in 1776, is one of the most well-known, and the Garlick Saw Company – Lynx brand – was founded in 1858. Over time, modern technology has been utilised to assist in the continuity of production but the entire saw range still involves many skilled elements and hand work to ensure all are made with precision and care. A premium quality saw such as this means it can be re-sharpened and, treated well, will last a lifetime.

Thomas Flinn also purchased Clifton planes in 2014 and added this premium line to its range.

Export & online sales

Many of the tools are exported, with more than 50% of goods being shipped worldwide to various retailers. The company also has an online platform, which as well as allowing customers to buy products, allows them to sell some of the more niche items they manufacture. The reputation of high quality reaches far and wide and customers truly appreciate these tools, which are made by craftsmen who've learned their trade from previous generations. Thomas Flinn & Co Ltd aims to continue manufacturing only the finest saws and hand planes as well as championing the 'Made in Britain' message.

For further information, call **0114 272 5387**, email **orderonline@flinn-garlick-saws.co.uk** or visit **www.flinn-garlick-saws.co.uk**.

Level 1 carpentry and joinery students from Moreton Morrell College

Student carpenters/joiners' BIG CHARITY EFFORT

A charity that supports children suffering from life-threatening illnesses will benefit from the craftsmanship of carpentry students at Moreton Morrell College in Warwick.

Level 1 carpentry and joinery students have joined forces with site carpentry Level 2 and 3 learners to create an array of items including coasters, chopping boards, tealight holders and tables. These painstakingly-crafted products will be sold or raffled off at the college's annual Lambing and Animals Weekend, held at Nether Moreton Farm, which last year attracted more than 4,000 visitors.

Students took £800 worth of orders during the last event and sold raffle tickets to raise money for Oxfam's Humanitarian Appeal. The upcoming weekend, which takes place from 25–26 March, will see students manning their own stall with 40% of the money raised from items made and sold being donated to the Molly Ollys charity.

The Warwick-based charity was set up 11 years ago by Rachel and Tim Ollerenshaw after their eight-year-old daughter Molly died from kidney cancer. Molly Ollys emotionally supports UK children between 0-18 who have a life-threatening illness.

John Billings, carpentry and joinery lecturer at Moreton Morrell College, has seen students embrace the project across the board. He said: "Each year as part of their personal development, full-time learners choose a charity, to help promote being a good citizen and raise money for that particular cause.

"This year, Molly Ollys was chosen after hearing about the amazing work they do. Everything we're making is on the basis of 60% of the sale going towards materials with the rest donated to charity. It really helps students with learning how to price materials and planning labour schedules."

During this process, it was decided that a table involving more than 40 hours' of student labour wouldn't be sold, as John explained: "With the hours invested and the cost that would incur, students began to realise that they wouldn't be able to make the money back, so they chose to raffle the piece off instead.

"This project has helped with their curriculum and certainly to develop a lot quicker; they're keen to progress and use items such as power tools that they previously weren't ready to do.

"What's been really great is seeing a new member of staff – Ollie Adams – who's an instructor/technician in carpentry and joinery, come straight in from industry and bring his skills to the workshop."

To find out more about the carpentry courses at Warwickshire College, see **www.wcg.ac.uk/carpentry**. For further information on Molly Ollys, visit **www.mollyolly.co.uk**.

The table made by students, which will be raffled off to raise money for Molly Ollys charity

WOODTURNING CONNECT 2023 – Biennial exhibition & competitions

The Worshipful Company of Turners' biennial turning competitions are well established in the City and Craft calendar. For those woodturners looking to 'CONNECT' with a London audience and potential buyers in order to get their name known, the Turners' Company's next event gives entrants the opportunity to do just that.

Fresh opportunities in 2023 include a new category – 'Master's Exhibition' – which is by invitation only. Through the theme, 'Coronation', it aims to showcase the finest elite woodturning in the UK. Curators from the V&A museum in London will be making a 'choice' award from this collection.

Try something new, by merging pewter, leather or both into your woodturning. The 'Master's Mixed Media Competition' not only gives turners the chance to mix wood with pewter and leather, but also to work on a project and connect with other skilled craftspeople. If you're looking to work with a pewterer or leatherworker, email Rebecca Baker – **assistantclerk@turnersco.com** – who'll be able to make enquiries through the various Livery Companies.

There's also the opportunity to sell your work to those who're passionate about shopping for beautiful, unique handmade turned pieces. At the competitions, potential buyers are given the chance to connect with makers, which could lead to a special commission.

Further details of the 10 turning competitions can be found by visiting **www.turnersco.com** along with online entry forms. These must be submitted before Monday 18 September 2023; any received after this date won't be accepted, and no entry will be accepted without prior registration.

FURTHER INFORMATION

When: Judging – Wednesday 18 October 2023, followed by a private viewing in the evening; public viewing – Thursday 19 October

Where: Pewterers' Hall, Oak Lane, London EC2V 7DE

Entry deadline – call for entries: Monday 18 September 2023

Web: www.turnersco.com

MAKITA pushes performance even further with its new BL4080F 40VMAX 8.0Ah XGT battery

Makita has launched its largest capacity battery to date, which features an impressive 288W hours of energy. The 8.0Ah BL4080F offers the longest runtime for its XGT products, meaning less downtime and improved productivity. This is especially useful when used on higher drain XGT machines, and the new battery pushes performance even harder.

The 40VMax XGT BL4080F 8.0Ah battery has been designed to be both robust and highly intelligent. Equipped with 20 cells, it has a higher power output, which allows Makita's XGT tools to be pushed even harder and perform heavy-duty, continuous operation over extended periods.

Thanks to its heavy-duty, durable outer and cell casing, this battery has a significantly improved impact resistance. The BL4080F is also IPX4 rated with a water- and dust-resistant triple layer structure and enhanced terminal structure, so it can handle any job site condition.

The battery has been designed with Makita's digital communication function between tool, battery and charger, in order to optimise the charging process, reduce charge times and protect the battery from damage. This real-time digital communication actively monitors heat, overload and over-discharge as well as delivering up to two times longer sustained power during demanding applications.

Kevin Brannigan, Marketing Manager at Makita UK, said: "We're very excited to be releasing this product as our largest capacity battery to date. Offering the longest runtime for our XGT products, the BL4080F will considerably improve productivity on site, as users won't need to down tools as often in order to recharge batteries. Furthermore, despite its capacity, the battery can be charged in just over an hour – at approximately 76 minutes when using the DC40RA charger – which makes it stand out in the market. It truly is a game changer, and we can't wait for people to test it for themselves."

For more information on Makita's cordless technology, visit **www.makitauk.com**.

Restorate celebrates new partnership with DULUX

Cirencester-based wood care and antique restoration product shop, Restorate, is expanding into interior paints ahead of a new partnership with national paint brand, Dulux, and the installation of a new paint colour mixing machine. Restorate will sell the Dulux Trade and Heritage ranges, matching existing custom colours and any designer paint shade within minutes, as well as offering this facility cheaper than many of the big brands.

Restorate, rebranded from Rest Express last year, has been supplying decorating, antique restoration, wood care and DIY products for almost 18 years. Founded by Weston Mitchell in 2005 while he was still a practising antique restorer and cabinetmaker, Rest Express was originally set up to supply the trade with specialised restoration products without minimum order and at a good price. Sam, Weston's son, who shares his father's passion for restoration and conservation, has run the company since 2020 as well as working in the business for many years. "We're very

LIBERON'S Spirit Wood Dye brings antique furniture back to life

If you'd like to bring a favourite, albeit faded, piece of antique furniture back to life, then choosing the right wood dye could be the solution. The item's original vibrancy can be regained using a spirit wood dye, and such a product offered by Liberon can also help to achieve the exact shade you're after. Available in eight colours, which can be mixed together for the perfect tone, it's ideal for use on dense, hardwood furniture such as mahogany and oak. This traditional dye benefits from having extra absorbency and its solvents penetrate deep into the wood.

Liberon's Spirit Wood Dye is ethanol-based, and the extra absorbency makes it ideal for already-finished timbers. Available in Antique Pine, Dark Oak, Ebony, Georgian Mahogany, Light Oak, Medium Oak, Teak and Walnut, it can be over-coated with wax, oil or varnish, and even used to tint French polish.

Spirit dyes are easy to apply, especially on previously finished woods, providing any finish or wax polish has already been removed. Wax polish can be removed with Liberon Wax Polish Remover used in conjunction with Liberon '0000' steel wool, then any residue taken off with a clean lint-free cloth.

Prior to application, it's essential to ensure that the surface to be stained is clean with no trace of previous finishes. Shake the can well before use, then apply one coat liberally with a foam applicator or fine bristle brush, working in the direction of grain where possible. Allow the stain to be absorbed and wipe away any excess with a clean cotton cloth following grain direction. If a deeper colour is required, a second coat can be applied after four hours although this must be carried out quickly, taking care to ensure you don't go back over the surface as this can pull the first coat. Once dry, the dye must be finished with a water-based varnish, oil or wax polish. To find out more, visit **www.liberon.co.uk**.

pleased to be a merchant partner of Dulux and believe that interior paints are a great addition to the variety currently offered in our shop," Sam comments. "The installation of the paint mixer means we can further cater for professionals, home decorators, or those wanting to turn their hand to a bit of DIY. Dulux adds to our brand offering in the decorating sector, complementing others including Mirka, Osmo, Liberon, Cuprinol, Ronseal and Purdy."

He continues: "In the past, we've mainly focused on online retail; however, we're really keen to help the local community with personalised DIY and restoration advice, products and projects. This is very much a family company, and one with 30 years' woodworking and restoration expertise. My Dad is a fountain of knowledge and happy to share this with others. We believe it's our job to share this insight in order to keep these valuable skills alive."

Sam and Weston Mitchell of Restorate

For more information on Restorate's Dulux paint mixer or other products, call **01285 831 668** or visit the website: **www.restorate.co.uk**.

NIWAKI RYOBA, DOZUKI & FLUSH CUT SAWS

Ryoba saw – 240mm

Dozuki saw

Flush cut saw

Whether you're already a nokogiri enthusiast or looking for saws that cut quickly and cleanly, any of this Niwaki trio, available from **Wood Workers Workshop**, would be worthy additions to your tool board, as **Jonathan Salisbury** shows here

Niwaki is well known for Japanese gardening tools and tripod ladders, but they also stock a small range of woodworking tools, which are now available from Wood Workers Workshop. Niwaki's woodworking saws are sourced directly from manufacturers: the larger ryoba and dozuki saws are made by Shirai Sangyo, based in Sanjo, Japan; and the smaller kugihiki saw is from the Razorsaw brand, manufactured by Gyokucho.

The basics

Japanese saw blades are thin and work in tension, as the teeth point towards the handle. Effort must only be applied on the pull stroke and blades can buckle as you push forwards; this requires focus, especially if you're used to cutting the other way. Occasionally a tooth can break if the blade is twisted too much or isn't guided carefully enough through exceptionally hard areas in the wood, such as dead knots, but this doesn't usually stop them performing well. Don't be put off by this, however; suitable techniques are easy to master with a little patience and failure to achieve good results is more likely due to lack of experience than saw quality.

The two categories of blade are Kataba – single edge – and Ryoba – double edge. Dozuki, meaning 'tenon shoulder', which is what they're designed to cut, are kataba saws with a back. Flush cut saws are called Kugihiki. Ripsaw teeth have a simple profile similar to western saws, and often have smaller teeth close to the handle for starting and larger teeth for speed at the other end. Ripsaws are easy to resharpen. Crosscut teeth are comparatively thin and have multiple cutting edges, which makes them more awkward to sharpen. Nowadays, many saws have replaceable blades.

The test

All three saws on test have fixed blades; with reputable brands this indicates quality.

The handles of the Ryoba and Dozuki are made from magnolia; that of the smaller flush cut is Japanese white oak, but listed as pine. The blades are held in place with steel pins or rivets, and the two larger saws have a short rattan 'ferrule', which prevents the handle's end from splitting. Choosing a saw seems straightforward, but it depends on what you want to cut. While there's a certain amount of flexibility, they're not always very forgiving if you get it wrong. These are suitable for softwood and medium-hard hardwoods; cutting oak and ash would be pushing them beyond their limits, resulting in a disappointing finish quality and/or the risk of blade damage.

The saws are delivered well-wrapped

Cutting edges are protected

Ripsaw teeth at the toe are large...

The three saws on test

Ryoba

This is a medium-size saw for carpentry, rather than fine cabinetmaking, with both crosscut and rip teeth on one blade. The long handle allows for a range of different grips; I use the ripsaw one-handed for joints and with both hands for long cuts in planks, flipping it over to tackle crosscutting tasks – one-handed for bench work and two to trim thicker pieces to length. The crosscut tooth geometry suits thicker pieces of timber and I've not yet got it to work so well with anything thinner than about 35mm. Two-handed through decking boards didn't pose a problem, but with planed '2×1', the balance feels wrong and the blade didn't progress through the timber as it should.

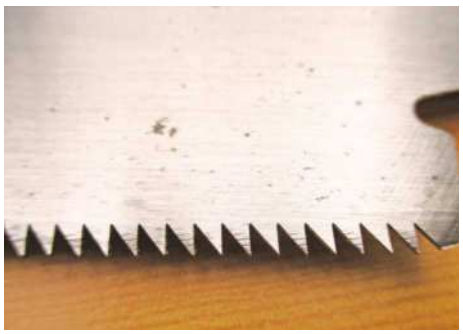
One disadvantage of having teeth on both edges is that it's possible for the teeth along the top edge to start rubbing in the kerf of really thick pieces of timber – 75-100mm – leaving marks or causing the blade to catch.

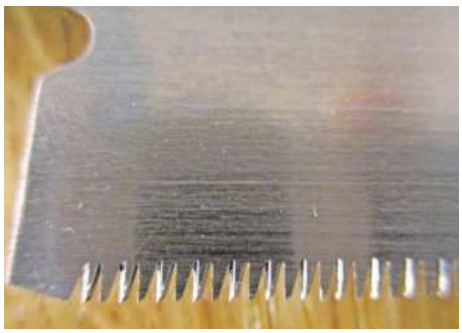
Dozuki

Dozuki blades are very thin, which means they can cut a super-fine kerf; they'd be difficult to control without the rigidity provided by the back, however. Used gently one-handed, it cuts exceedingly quickly and precisely and I found it very easy to control straight away. The Dozuki is the same length as the Ryoba, but with finer teeth, making it suitable for cutting smaller pieces to length. The weight of the back means that it needs little effort to use, producing a very smooth finish that requires no further work even on visible end-grain, unless you're exceptionally fussy. Due to the back, depth of cut is limited to 40mm.

Kugihiki

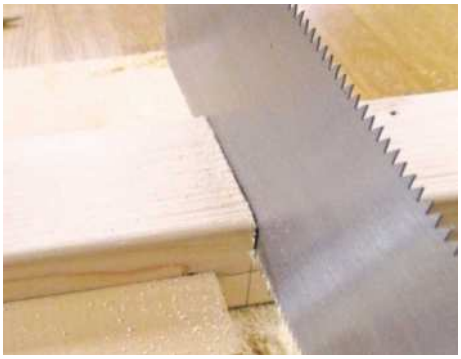
These specialist saws cut off pegs, plugs, dowels or surplus material flush with the surface from which they protrude. They also require a special technique to use. The blade is very thin – 0.3mm – and flexible, so that the cutting part of the blade is flat even if the handle is being held at an angle over the workpiece. This Ryoba Kugihiki has fine teeth – 1.3mm pitch – on one edge and

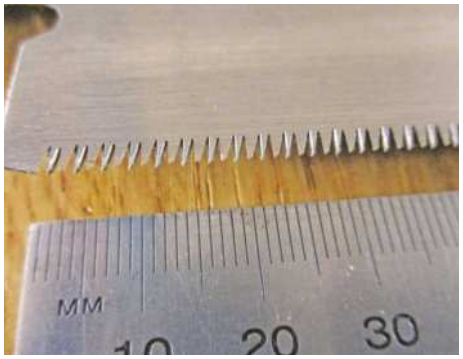

... and those close to the handle are smaller


Crosscut teeth have a complex profile


The rattan wrap stops the handle splitting

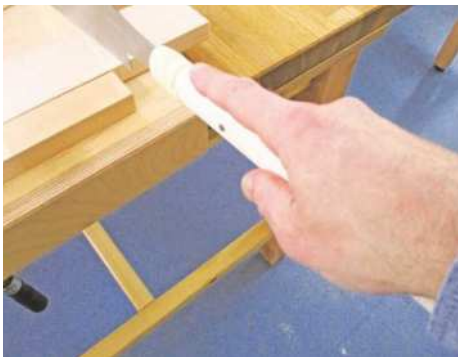
The wider Ryoba and the Dozuki's back


The Ryoba has both crosscut and ripping teeth



Fine Dozuki teeth produce a very smooth finish


Almost nothing more to do


Slightly different techniques need to be developed...

even finer – 1mm – on the other; the teeth have no set, so there's no appreciable sharp contact with the surface. As long as you keep the blade flat, the results are amazing; a flush cut peg/plug/dowel/joint that requires no further work.

Conclusion

The Ryoba is excellent for cutting boards and planks to length, and is also handy for carpentry joints. As an introduction to Japanese saws and for learning technique, this one would be my choice as it's a more sturdy general purpose saw, has both crosscut and ripping teeth, and is also reasonably priced.

If you're after a much smoother finish, are working with smaller sections or cutting finer joints, then the Dozuki is perfect. It's particularly good for dovetails.

Trimming wood flush with the surface it's protruding from is so easy with a Kugihiki; provided you take care, no further work is required, which saves considerably on time and abrasives. The Kugihiki blade is too flexible for general work, but could be used for cutting small sections.

The sharp blades of every saw slice through softwood quickly and easily, leaving a surface that usually requires no further finishing. You'll need patience when sharpening the crosscut teeth as they start to blunt, but, with care and attention, the cutting edges will last as long as their more expensive western counterparts.


... which can look a little odd at first!


The Kugihiki saw is excellent for flush-cutting small joints...


... as well as trimming pegs

SPECIFICATION

Niwaki Ryoba saw – 240mm
Weight: 148g
Dimensions: 596 × 98 × 19mm
Blade length: 244mm
Material: SK-5 steel
Handle: Magnolia
Origin: Made in Japan
Typical price: £39

Niwaki Dozuki saw
Weight: 173g
Dimensions: 554 × 19 × 62mm
Blade length: 226mm
Material: SK-5 steel
Handle: Magnolia
Origin: Made in Japan
Typical price: £49

Niwaki flush cut saw
Weight: 42g
Dimensions: 273 × 32 × 15mm
Blade length: 125mm
Handle: Birch
Origin: Made in Japan
Typical price: £24
Web: www.woodworkersworkshop.co.uk

THE VERDICT

PROS

- Quick and easy cutting; smooth finish that requires little further work; lightweight and enjoyable to use; affordable

CONS

- Require a technique that might need patience to master; sharpening crosscut teeth is more difficult

RATING – VALUE: 5 OUT OF 5
PERFORMANCE: 5 OUT OF 5

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AUKTOOLS CIRCULAR ROUTER INLAY TEMPLATE

In the second of three tests of tools available from **Wood Workers Workshop**, **Jonathan Salisbury** looks at this handy routing aid

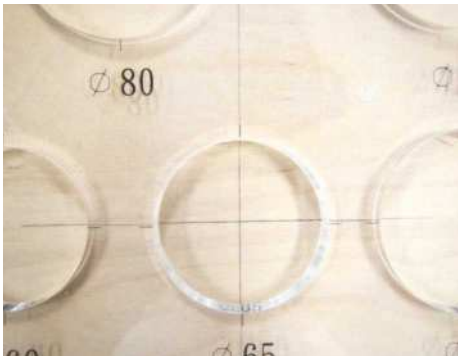
Router templates are easy to make from any flat material, and many woodworkers use MDF. The problem with MDF, however, is that it starts to wear quite quickly, with diminishing accuracy the end result. Add a bit of damp, and you have a template that's far from ideal. Plywood is preferable, but acrylic is better – especially if you have a laser cutter. But if you don't, there's the AUKTools Circular Router Inlay Template. Laser cut from clear 10mm thick acrylic, the corners have 30, 40, 50 and 60mm radii and the 12 holes start at 30mm diameter and increase in 5mm steps, all the way up to 85mm.

Dimensionally speaking

To cut a shallow hole for storage, or an inlay, you'll need to use bushes. The marked size is true – the holes aren't oversized to compensate for a guide – so to get the required diameter hole, you need to calculate the difference between the outside of the bush and cutting edge. I had a 30mm guide bush and 10mm straight cutter already installed in my router, so the 65mm diameter template created a 45mm diameter hole. Similarly, using the guide bush will increase the corner radius by 10mm, so a 20mm radius will end up as 30mm. For outside edges and through-holes, a bearing-guided cutter could be used instead – as long as the bearing, and not the cutter, is in line with the template before you start! Combining different cutters and guides will increase the range of radii and holes that can be created.

In use

The template is very straightforward to use: simply clamp or use double-sided tape to hold it in position, place your router, plunge, then move. The large, smooth surface is ideal for the router base to ride over; unused holes don't cause it to rock, because they're small and widely spaced.

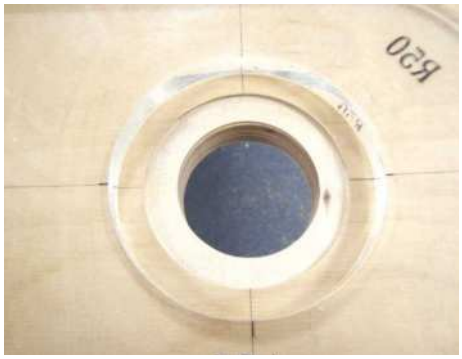


Lined up – or is it?

The first cut...

... yields impressive results

Radii cut with a guide bush will be oversized



Stepped holes for inserts are a breeze – with the template positioned upside down

Acrylic is reasonably hard, but don't expect it to remain in pristine glass-clear condition. The fine crosshairs on the top make it easier to align the required hole with your centre marks, although unless looking from directly above the hole's centre the template will, more often than not, be in the wrong place. The parallax error caused by a transparent 10mm thick sheet of acrylic is quite considerable, but I solved this problem by using the template upside down. You couldn't do that with MDF! I wonder if I could I get commission for suggesting that the crosshairs ought to be on the underside.

Conclusion

This template is far superior to my home-made MDF and plywood efforts, but then it ought to be! While the price seems quite high, 10mm acrylic is pretty expensive, as is a laser cutter... Even so, not everyone could justify the cost for a one-off project, but if the template was going to be used frequently, it would prove to be a very good investment.

Acrylic surfaces scratch easily and instantly

SPECIFICATION

Cut perfect circles with your router
Material: 10mm thick acrylic
12 full circle diameters: 30mm; 35mm; 40mm; 45mm; 50mm; 55mm; 60mm; 65mm; 70mm; 75mm; 80mm; 85mm
Four quarter circle radii: 20mm; 30mm; 40mm; 50mm
Typical price: £49.96
Web: www.woodworkersworkshop.co.uk

THE VERDICT

PROS

- Very accurate; convenient method of keeping several guide holes together; longer lasting and easier to line up than home-made MDF or plywood versions; clearly marked radii and diameters, with crosshairs for alignment

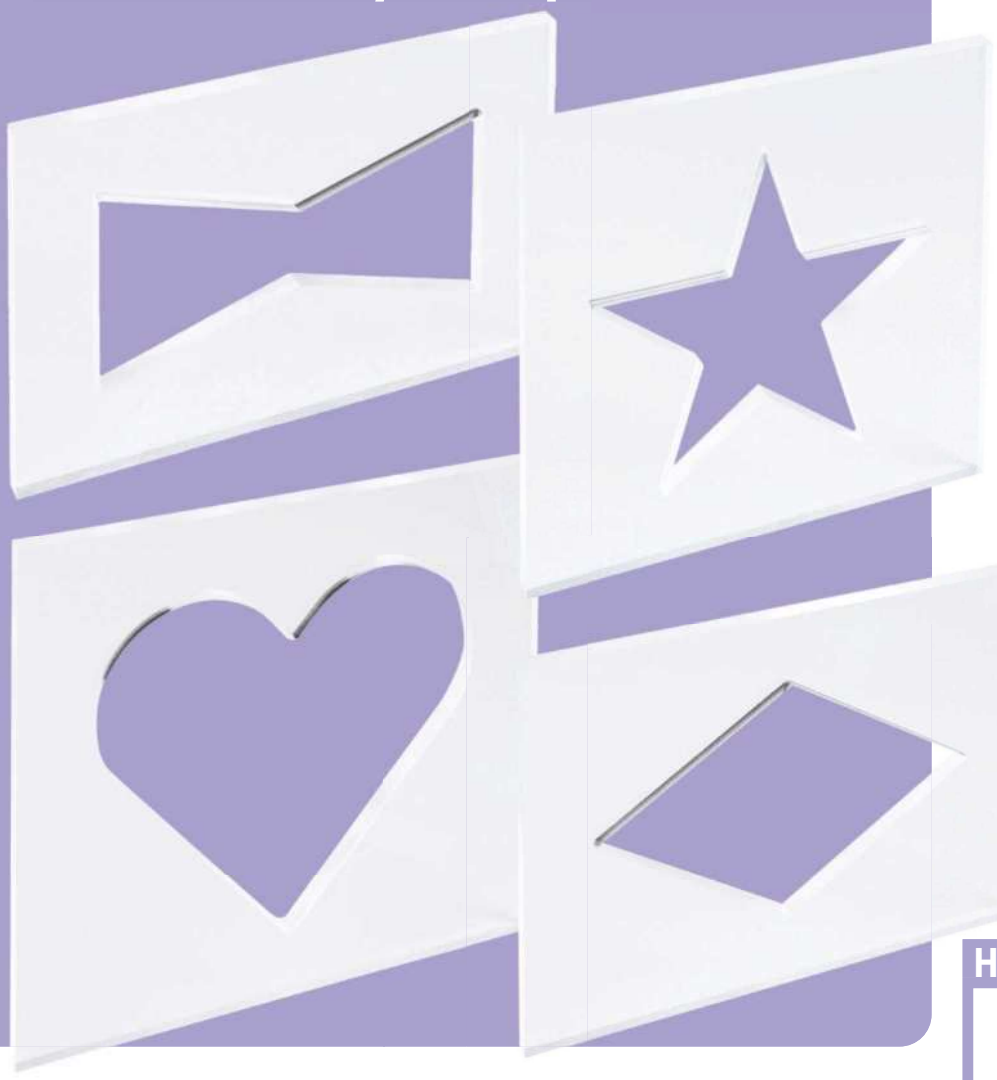
CONS

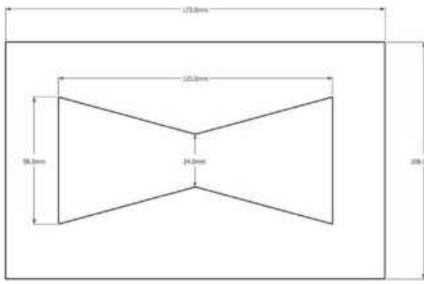
- Requires appropriate guide bush and cutter combinations to achieve the desired hole size; holes aren't oversized to allow for guide bushes; shallow 85mm holes would be difficult to achieve; material thickness can cause parallax-related inaccuracies when lining up, unless used upside down

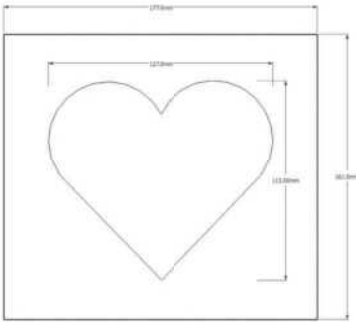
RATING – PERFORMANCE: 4.5 OUT OF 5
VALUE: 5 OUT OF 5

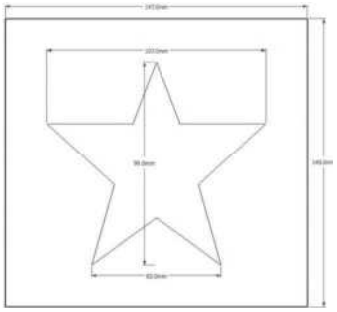
WIN!

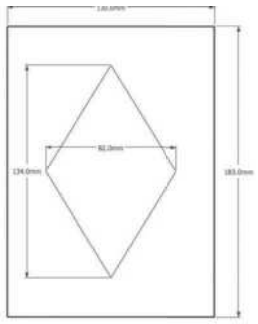
1 of 5 four-piece AUKTools Router Inlay Template sets











Elevate your woodworking projects to a whole new creative level with this set of four **AUKTools Router Inlay Templates** – there's five up for grabs, from **Wood Workers Workshop**

Routing inlays into your woodworking projects brings the finished piece to a whole new creative level. AUKTools' Router Inlay Templates, available from Wood Workers Workshop, are manufactured from hardened 10mm transparent acrylic.

Each template gives your router a stable, flat surface on which to run. Also available is the AUKTools Solid Brass Router Inlay Kit, which allows for perfect inlay cutting and recessing using the same template.

The set includes the following shapes: classic heart; classic bow tie; classic five-pointed star; and classic diamond.

For more information on products available from Wood Workers Workshop and others in the AukTools range, visit **www.woodworkersworkshop.co.uk**.

WOOD WORKERS WORKSHOP

HOW TO ENTER

To be in with a chance of winning 1 of 5 **four-piece AUKTools Router Inlay Template sets**, visit **www.thewoodworkermag.com/category/win** and answer the multiple choice question below:

QUESTION: Name one of the router template shapes included in the four-piece set

A: Classic heart
B: Fleur-de-lis
C: Classic oval

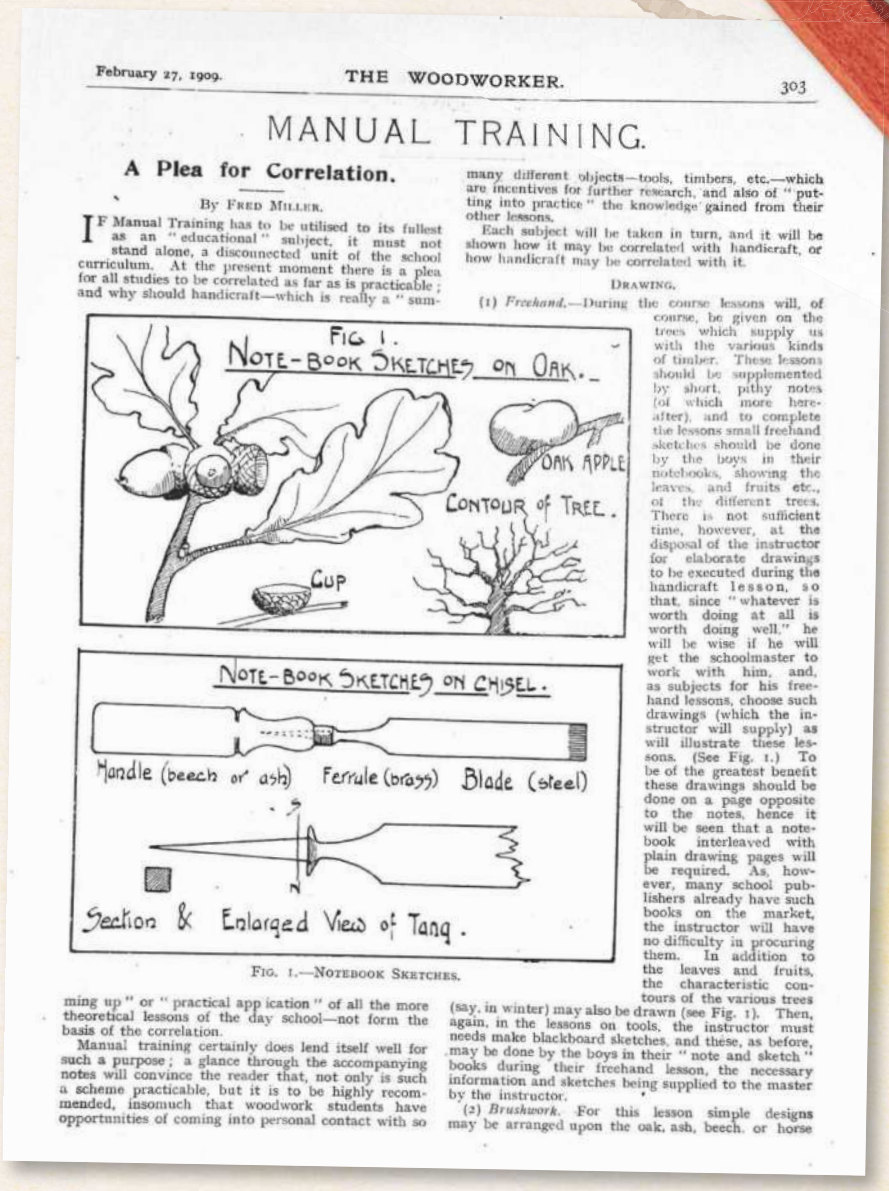
The winners will be randomly drawn from all correct entries. The closing date for the competition is **17 March 2023**. Only one entry per person; multiple entries will be discarded. Employees of David Hall Publishing Ltd and Wood Workers Workshop are not eligible to enter this competition

Correlated studies

Robin Gates finds woodwork at the core of a school curriculum in *The Woodworker* of February 1909

The know-how of making so many useful and beautiful things, once commonly passed down from generation to generation, has all but disappeared from present-day knowledge. Many of these heritage crafts would seem to have little or no connection with woodwork yet surely it was in a school woodwork shop that many an industrious youngster gained their first acquaintance with hand tools and natural materials. Learning to work wood with saw, plane and chisel laid the foundations for careers spanning the gamut of trades from shipwright to silversmith.

Recently joining a party of parents touring a new school, I stood mesmerised by its computer-guided machines making perfect shapes, but soon grew bored. Where were the racks of dovetail and tenon saws, I wondered, the jack planes and smoothers, the organised stacks of hardwoods and softwoods? Concern for the state of woodwork education in schools is nothing new, as I discovered when turning to *The Woodworker* of 27 February 1909.



February 27, 1909. THE WOODWORKER. 303

MANUAL TRAINING.

A Plea for Correlation.

By Fred Miller.

IF Manual Training has to be utilised to its fullest as an "educational" subject, it must not stand alone, a disconnected unit of the school curriculum. At the present moment there is a plea for all studies to be correlated as far as is practicable; and why should handicraft—which is really a "summing up" or "practical application" of all the more theoretical lessons of the day school—not form the basis of the correlation.

Manual training certainly does lend itself well for such a purpose; a glance through the accompanying notes will convince the reader that, not only is such a scheme practicable, but it is to be highly recommended, insomuch that woodwork students have opportunities of coming into personal contact with so many different objects—tools, timbers, etc.—which are incentives for further research, and also of "putting into practice" the knowledge gained from their other lessons.

Each subject will be taken in turn, and it will be shown how it may be correlated with handicraft, or how handicraft may be correlated with it.

Drawing.

(1) *Freehand.*—During the course lessons will, of course, be given on the trees which supply us with the various kinds of timber. These lessons should be supplemented by short, pithy notes (of which more hereafter), and to complete the lessons small freehand sketches should be done by the boys in their notebooks, showing the leaves, and fruits etc., of the different trees. There is not sufficient time, however, at the disposal of the instructor for elaborate drawings to be executed during the handicraft lesson, so that, since "whatever is worth doing at all is worth doing well," he will be wise if he will get the schoolmaster to work with him, and, as subjects for his freehand lessons, choose such drawings (which the instructor will supply) as will illustrate these lessons. (See Fig. 1.) To be of the greatest benefit these drawings should be done on a page opposite to the notes, hence it will be seen that a notebook interleaved with plain drawing pages will be required. As, however, many school publishers already have such books on the market, the instructor will have no difficulty in procuring them. In addition to the leaves and fruits, the characteristic contours of the various trees (say, in winter) may also be drawn (see Fig. 1). Then, again, in the lessons on tools, the instructor must needs make blackboard sketches, and these, as before, may be done by the boys in their "note and sketch" books during their freehand lesson, the necessary information and sketches being supplied to the master by the instructor.

(2) *Brushwork.* For this lesson simple designs may be arranged upon the oak, ash, beech, or horse

Fig. 1.—Notebook Sketches.

Woodwork education

'A Plea for Correlation' was the first of three short articles by Fred Miller suggesting ways in which woodwork could provide common ground for practical and theoretical studies in the school curriculum. Miller began with woodwork's relationship to art, taking the oak tree as a subject for sketching, using 'small freehand drawings' and 'short, pithy notes' to record the oak's characteristic features. Next he proposed taking measurements of 'the tenon saw, gauge, mallet, try-square, smoothing plane, axe, chisel and rip saw' to produce scale drawings, and how better to observe shape and proportion related to a tool's purpose – short of using it, that is. This first article concludes with ideas for naturalistic designs based around leaves, fruits and seeds in the Art Nouveau style of the day.

Imperial-sized tools

Miller's second article of 6 March – the magazine was fortnightly back then – moved onto mathematics, suggesting Imperial-sized tools be measured using the metric system so as 'to form a fairly accurate idea of the relation between inches and centimetres'. Aiming to acquaint students with 'the relative values of the timbers with which they're working', he showed how problems could be set using length, width and 'prices supplied by the instructor from his latest invoice'. Maths and I aren't the best of friends, and Miller's next idea for correlating woodwork with English would be more my cup of tea, using the 'short, pithy notes' made earlier as the basis for an essay on trees. He took a decidedly poetical turn while describing the sturdy oak as the 'monarch of the forest'; the deep-ridged bark of 'the rugged elm'; beech, the 'mother of the forest' with its autumn blanket of leaves protecting seedlings on the forest floor; birch being the 'lady of the forest'; the 'spreading chestnut tree'; 'weeping willow'; and cypress, which he calls the 'mournful tree.'

Woodwork & general science

In the third part, a fortnight later, Miller tied woodwork to general science by observing acorns growing between damp blotting paper and glass in a jam jar half filled with water, extracting resin from pine wood, converting wood to charcoal, and using the principles of the wedge, lever and screw. The relative porosities of timbers could be estimated by immersion in coloured liquid, while their strengths and flexibilities could be investigated using thin laths, and weights compared by floating in water. Touching on geography, he mentioned the effects of latitude and altitude on tree growth, the significance of the timber trade and tree products, before concluding with an appreciation of woodwork's place in history. Recalling the power of the longbow, discoveries made under sail, the beauty of church carving, the sturdiness of a timber-framed barn and the sweat and dust of the saw pit – now there's ample food for thought should the spectacle of CNC machinery lose its shine.

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DEWALT DWST83470 TOUGHSYSTEM 2.0 CHARGER BOX

MANUFACTURER: DeWalt
D&M GUIDE PRICE: £224.95

New from DeWalt, the DWST83470 ToughSystem 2.0 Charger Box – featuring a two-port charger – is specifically designed for 18V XR and FlexVolt series cordless power tools, and presented in the form of a ToughSystem 2.0 case.

The DeWalt DWST83470 Charger Box is in the Half Module format and connects to other half width boxes or full-size ToughSystem 2.0 boxes for easy and safe transportation.

The Charger Box also features two USB charging ports – type A (internal) and type C (external) for mobile devices – in addition to internal and external charging status lights. When the box is closed, an in-built internal fan dissipates heat during charging and the lid features a IP55 water seal, which offers protection against moisture and dust ingress.

MAKITA DLX2455TJ 18V LXT TWO-PIECE BRUSHLESS KIT

MANUFACTURER: Makita
D&M GUIDE PRICE: See website

This new brushless two-piece kit from Makita contains a DHP486 combi drill featuring a single sleeve keyless chuck for one-handed operation, two-speed brushless motor, electric brake and all-metal gear construction, while the DTD172 180Nm 290W impact driver has a quick mode switching button and benefits from electronic four-stage impact power selection. The kit also includes two 5Ah batteries, DC18RC charger and Makpak Type 3 Connector Case.

KREG IN-LINE CLAMP

MANUFACTURER: Kreg
D&M GUIDE PRICE: £19.95

This new offering from Kreg allows you to hold workpieces securely without the clamp obstructing work progress. By applying pressure from the side, rather than overhead, the In-Line Clamp stays out of the way while you work. Held in place via a peg, which is designed to fit any 20mm diameter hole, the In-Line Clamp allows you to get more from any workbench that features dog holes, or work surfaces where holes can be drilled.

The Kreg In-Line Clamp offers the helping hand you need, when you need it, with the versatility and power required for a wide variety of do-it-yourself and woodworking tasks. It applies up to 113kg of clamping force, and swivels to clamp from any angle on almost any workpiece shape or assembly.

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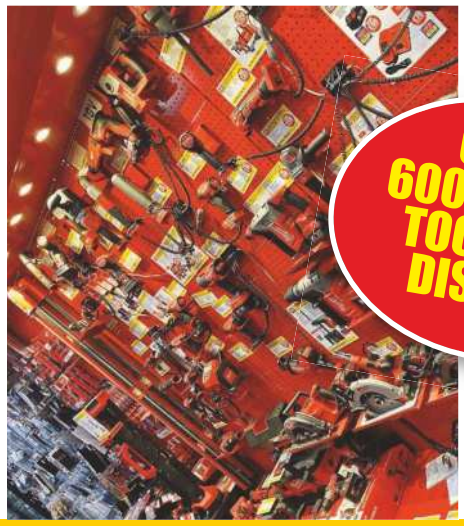

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CHISEL RATING

WIPE THE SLATE CLEAN

Peter Dunsmore's small coffee table design combines two natural materials that not only present a practical solution, but also complement each other well in both colour and texture

CUTTING LIST

2 @ 800 × 60 × 20mm
2 @ 450 × 60 × 20mm
1 @ 450 × 50 × 20mm
4 legs @ 380 × 60 × 60mm
3 rails @ 800 × 60 × 20mm
2 × plywood @ 320 × 320 × 6mm
2 slate tiles @ 300 × 300mm

The problem with small coffee tables is potential damage caused by hot cups on wooden surfaces and the inevitable rings that often follow. The design shown here is my way of overcoming this and combining two very natural materials to create a wholly practical coffee table. The basic design consists of two slate tiles, which are set into an oak frame. Both materials complement each other very well in terms of colour and texture. The slate is easily obtainable in various standard sizes and some stores will allow you to pick individual tiles.

Early thoughts

There are simpler ways of jointing the corners but I wanted the challenge of making a haunched mortise & tenon joint with offset shoulders; this forms the plywood panel rebate, onto which the slate is later glued. While not the easiest joint to cut, once mastered, it does have many uses, particularly in the construction of doors and windows. To ensure that all went well, I thought it prudent to carry out a practice run on some softwood, which was cut to the same section, before committing myself to the English oak I'd saved for this project. The following photos show this joint's construction on the softwood. In simplistic terms, the joint is a mortise & tenon, but with one of the shoulders cut shorter than the others. This difference is used to fill the gap made by a rebate, which is cut to the timber's full length. To complete the joint, the tenon is haunched into the mortise, which has the benefit of creating an attractive feature on the table's edge in addition to preventing any tendency for the timber to cup.

So, where to start? As a rule of thumb, tenons should be cut about one-third of the timber's thickness and the subsequent mortise cut to suit. The rebate's width can vary depending on requirements, but in this case, 10mm is suitable as it's only there to support a piece of plywood onto which the slate will later be glued.

Making the joint

The table top is made from 20mm thick timber, so tenons cut a little over 6mm thick would be correct. Begin by marking the mortise's limits, which is achieved by lightly

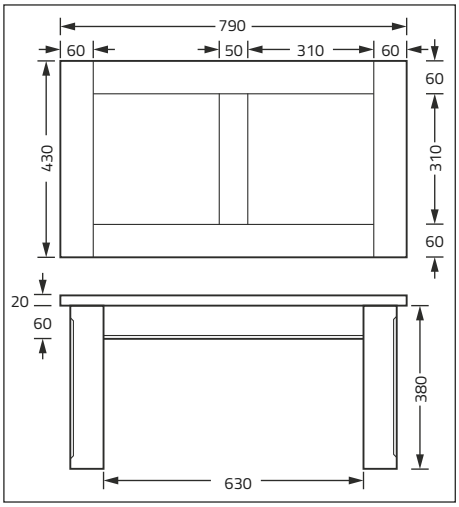
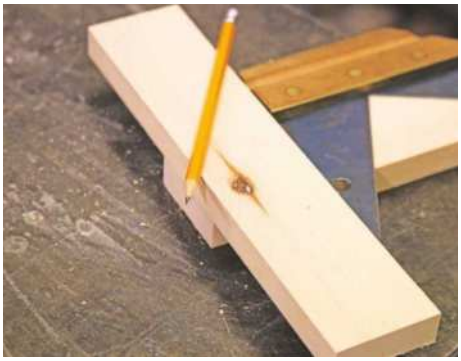
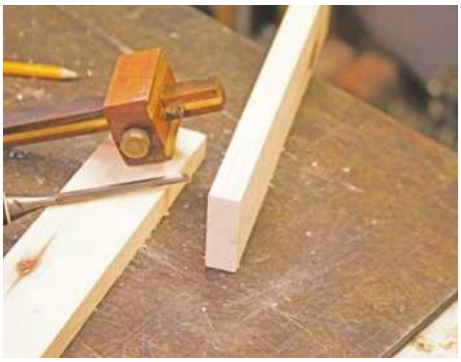


Fig 1. Slate table dimensions



1 Mark timber width onto the end rail



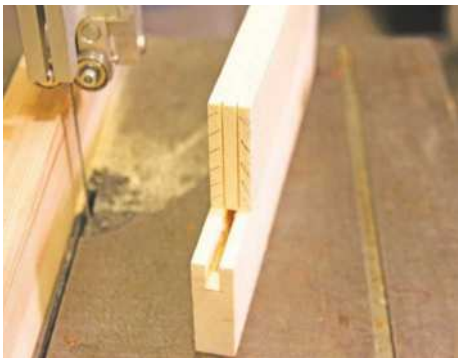
2 Use a marking gauge to denote the mortise

3 Note the vacuum extractor to remove waste

4 Mark a depth of 15mm for the haunched tenon

5 The completed mortise

6 Using a pencil to shade in any timber to be removed avoids some mistakes

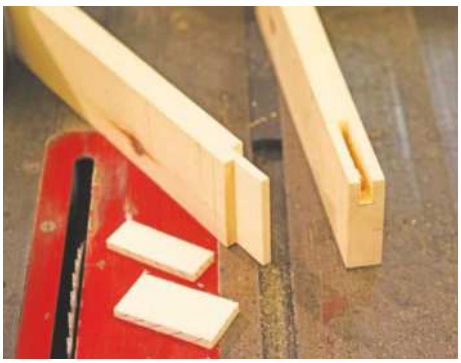


7 Test before removing the waste

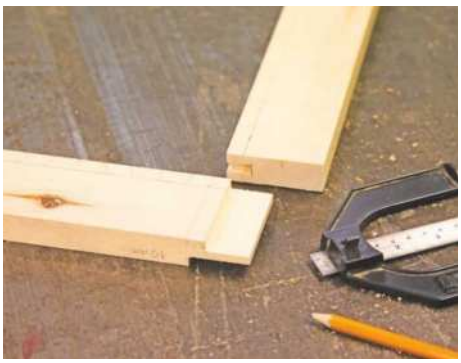
squaring the timber's end with a sharp pencil (**photo 1**). Use a marking gauge to denote the mortise's width, ensuring it's placed centrally on the timber (**photo 2**). I used a mortiser fitted with a 6mm chisel to remove the majority of the waste, but starting the mortise about 10mm from the timber's end (**photo 3**). Now use the previously set marking gauge to mark the timber's end to a depth of 15mm (**photo 4**) and remove waste timber using either a chisel (**photo 5**) or a router cutter carefully and correctly set to the depth of cut. Take the piece of timber that'll form the tenon and pencil in its extremities. Remember that the rebate to support the plywood is going to be 10mm wide, so one of the tenon shoulders must therefore be cut 10mm shorter. Marking clearly with a pencil and shading the area to be removed will help to ensure you remove the correct amount (**photo 6**). I used a carefully set bandsaw to remove the waste on either side of the pencil line, although a tenon saw and chisel will work just as well (**photo 7**). Remove waste to form the tenon (**photo 8**) and mark a line along the timber's length, 10mm in from the edge (**photo 9**) to coincide with the difference between the length of the tenon shoulders.

Set the table saw to cut 6mm deep, position the fence 10mm away from the blade's edge (**photo 10**) and remove waste along the timber to form a rebate. To cut a rebate like this involves removing the saw guard, so it goes without saying that particular care should be taken at this stage and the use of a push-stick is highly advised. Repeat this on both timbers but check that you're removing the correct edge. Now you know why I find it useful to shade in the timber's areas to be removed. Next, it's simply a matter of cutting the haunched part of the tenon (**photo 11**) to suit the mortise, then testing for fit (**photo 12**).

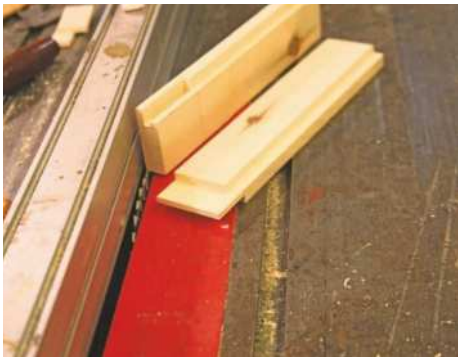
With my dummy run proving a success on the softwood, it was time to make the



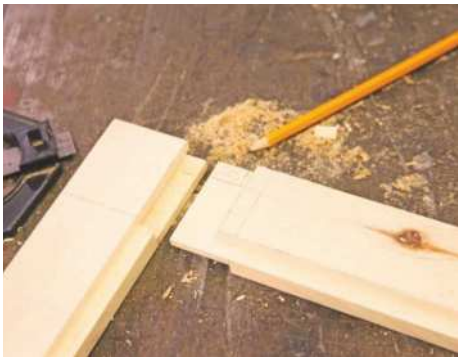
8 Note the two differing waste lengths



9 Mark the waste to be removed as before



10 Carefully set the saw depth and fence



11 Mark the tenon's haunch

12 The result should look like this

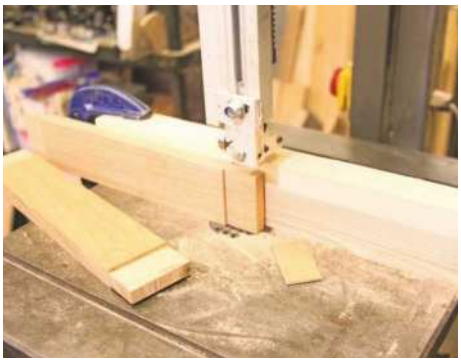
13 Cut plywood to fit the recess

14 Mark the location of each mortise

15 Butt joining two legs provides extra support for the router base

16 Mark shoulder positions on the tenons

17 Ensure the cut is square to the rail



18 Remove waste to form the shoulders

table top in the same way. The only slight difference is that the central muntin is rebated along two edges to provide support for both pieces of plywood.

Completing the table top

Next, cut the five pieces of oak used for the table top and carry out a dry assembly to ensure all goes together satisfactorily, making any slight adjustments as required. Once satisfied that all goes together well, apply a little adhesive to the joints, clamp together and allow to dry. Confirm that the table top is square by comparing diagonals across the table top corners. Cut some 6mm plywood panels to fit the recess, then glue in place. Some suitable weights can be utilised to hold the plywood down while the glue dries (**photo 13**).

Making the base

The legs are made from timber planed to 60mm square section, and are simpler to make. As shown in the photos, the leg is set in from the table's edge by 20mm and the rails positioned so that the inner edge runs alongside that of the plywood (**photo 14**). I used haunched mortise & tenon joints to secure the rails to the tops of the legs and began by butting two legs together on the bench, using a router fitted with a 12mm cutter and fence to cut my mortise to match the haunch's depth (**photo 15**). Repeat this step for all four legs before chiselling out waste to form the mortises. Cut a small shoulder onto the rails' lower edge to form a neater joint, so ensure to allow for this when marking the mortise's length on the table legs. Lay one of the rails above the mortise and mark shoulder positions for cutting on the tenon (**photo 16**), then accurately set the bandsaw fence. Before cutting this part, saw the tenon's end (**photo 17**); this makes it much easier when cutting waste off the sides of the rails (**photo 18**). Now it's simply a matter of cutting the shoulders so that the tenons fit into the legs (**photo 19**).

Once satisfied that all goes together, you can decide on any decoration that may be cut into the legs or rails. I opted for a small bead along each rail's lower edge and a stopped chamfer on the edge of each leg. Before gluing legs and rails together, drill two holes in each longer rail to suit screws that'll secure these to the table top's underside. A little careful measuring is required to avoid the screw point penetrating the table top. Once complete, glue legs and rails together (**photo 20**), then allow to dry.

Completing the table

After a final rub down with abrasives, it's time to apply a suitable finish. I used Danish oil applied with a lint-free cloth and allowed this to dry before securing the base to the top. Use some silicon to glue the slate to the plywood, but as slate thickness can vary, I found it necessary to put a couple of thin scrap plywood strips on the base to level the top with the surrounding frame. Once dry, mix some flexible grout and use this to fill the gap between slate and wood. Some careful work with a small trowel ensures a neat finish between the two materials. Finally, wipe a slate sealer onto the tile surface. Although quite expensive, it does enhance the slate's colour in a similar way to oil or varnish on wood grain.

19 Cut the haunches and test for fit

20 Check legs are square to the rails

21 Danish oil is applied with a rag

WW TECHNIQUE

FIXTURES & FITTINGS

In the penultimate part of this series, **John Bullar** looks at the wide variety of fixtures and fittings available to the furniture maker, such as hinges, locks, movable supports and hidden latches, before exploring how these can be used to best effect

In this article we're going to look at some of the movable parts added to furniture once the main wooden sections have been shaped and fitted together. Sometimes these are standard hardware components we buy, such as butt hinges and mortise locks, while in other cases, they're parts that can be made in the workshop.

Wood screws

Wood screws are widely used for fitting removable parts and there's a huge range available, although the best type of screws to use for each job and how to use them for best results is by no means obvious.

As well as requiring a means of attachment, movable surfaces on furniture, such as doors and flaps, will often need to have their movement limited, so we'll also look at supports and stays. As makers, we want to ensure the user finds it easy to open and close our furniture by providing handles, knobs or shaped areas that are easy on the fingers as well as looking good.

2 A traditional rustic latch fixed to a pine door

1 L-shaped blocks or 'buttons' fixed by wood screws to the underside of a table top

3 Traditional countersunk wood screws need a pilot hole drilling

Using wood screws

One unintended but inevitable type of movement found in solid wood furniture is the expansion across the width of a board that occurs when the humidity level increases. Makers design furniture to accommodate these movements in various ways, covered in other parts of this series, but in the case of a table top, for example, this movement is quite large and if we're not careful, it'll fight against the rigid frame that supports it. By screw-fitting 'L' shaped blocks to the top's underside and dry mortising them into the frame, we can allow for this movement without any strain (**photo 1**).

If you buy a latch or handle and it comes complete with screws, it's fair to assume they're the most suitable type. Even so, these giveaway screws are often very poor quality, so for the sake of a few pence, I'll often change them for better quality screws of the same size (**photo 2**).

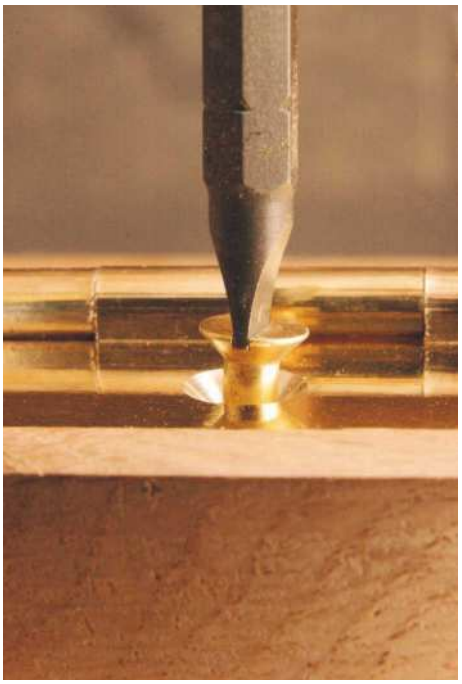
4 In this sectional view, you can see how the screw's plain shaft allows two pieces to be clamped firmly together without the threads jacking them apart

Slotted screws

Screws are usually made from steel or brass. Steel is stronger but needs some type of coating to reduce corrosion. The acid in many hardwoods reacts with steel and some coatings produce stains, especially when the humidity is high.

Makers generally prefer brass screws as they corrode less than steel, don't stain the wood, and the heads can be polished up to a bright golden surface, which enhances the furniture's detailed appearance. The lower strength of brass compared to steel is easily compensated for when necessary, by using slightly thicker screws.

The blade of the driver must be a good fit otherwise it may 'cam out' and damage



5 A hollow ground screwdriver has parallel faces at the end, making it ideal for soft brass screws

6 Brass hinges and screws are polished with wire wool before fitting

7 A simple brass plate, let into a cabinet's upper rail, provides the bearing for a screw, which forms the hinge pin

8 Cross-headed screws have many advantages but can be troublesome if the screwdriver isn't a good fit. Note: Phillips head on the left and Pozidrive on the right

9 These screwdrivers are Phillips on the left – labelled PH – and Pozidrive on the right – labelled PZ. The Pozidrive tip can be identified by a second cross pattern angled at 45° to the first

the slot. If a screw is too tight, remove it and make or enlarge the pilot hole rather than forcing it. Candle wax run along the thread or a shaving dropped into the pilot hole will prevent any screw from jamming. Most wood screws have a blank un-threaded region below the head; this ensures the screw only pulls on the lower piece of wood when used to clamp pieces together. Wood screws with threads along the whole length won't clamp tightly and can jack two pieces apart unless they have a wide clearance in the upper hole (**photo 5**).

Fitting hinges

Brass butt hinges are commonly used for fine cabinetwork and it's a good idea to polish up both the hinges and screws with steel wool before fitting them (**photo 6**). This way they can be checked for scratches and defects and filed or sanded as necessary without risk of spoiling the finished furniture.

Kitchen cabinet-style recessed hinges, which have a tendency to look clumsy when the door is opened, can be effective for some cabinet designs. Small brass hinges based on the same principle are much tidier and ideal for miniature work.

Alternatively, you can improvise your own hinges by passing a wood screw through a carefully positioned hole in a cabinet frame and into the door's edge. A brass plate stops the frame wearing away and the finished hinge is completely invisible (**photo 7**). This technique can be found on some Tudor furniture, so there's no need to worry about how well it'll last!

Cross-headed screws

Cross-headed screws can be quick to fit, especially with a battery-powered driver. Many are designed for rapid insertion into softwood or man-made board without a pilot hole, although I wouldn't recommend this for hardwoods. However, crosshead screws are notorious for slipping, which damages both the driver tip and screw, thus making it impossible to move the screw either way. The worst thing that can happen here is to leave a damaged screw sticking out of a carefully made piece of furniture.

11 A more stylised Arts & Crafts wedge used to lock the rail on a collapsible table. The wedge is made from hard ebony and has a shoulder to make it easier to remove

12 A hinged wing provides support for one of the flaps on a Pembroke table

10 A simple wedge is used to lock the tenon in place on a removable rail

It's important to distinguish between Phillips and Pozidrive screw and driver designs – although these two main types look similar they're not compatible as the tips are shaped at different angles (**photo 9**). It's also important to use the correct size of driver and check it's a solid fit into the screw head. The driver must always approach the head square on, so that all four fins engage fully in their sockets.

Finally, it's essential to limit the torque, either by hand pressure or a slipping clutch on a powered driver, so that it doesn't damage the head. Once a crosshead bit has slipped on one screw, it needs replacing before it damages others.

Wedged fittings

Wooden wedges provide the simplest possible removable fittings for locking furniture together (**photo 10**). A shallow angled wedge, knocked into a through-tenon, will stay in place by friction

13 Wooden quadrants form supporting stays for a desk's drop down front

14 Slide-out beams called 'lopers' support the flap for a traditional bureau desk

and can either be knocked or levered back out when required. This system was traditionally used centuries ago in the case of trestle tables and collapsible benches.

The Arts & Crafts style, which was influenced by various medieval designs, resurrected the use of wedges that were sometimes glued in place as a decorative feature (**photo 11**).

Movable supports

Wooden components can themselves sometimes be made as movable supports either to hold up or limit the movement of doors, flaps and other movable panels. A classic example is the Pembroke table, which has fold down flaps either side supported by wings hinged in the frame (**photo 12**). Larger tables can have a gate-leg that swings out to support a flap, which may be nearly as long as the table is high. If a table has a sliding top, then the flaps can be hidden in the frame beneath the middle.

Desks and bureaus often have a fold-down front that extends the working surface when opened. These are popular with people who do a lot of writing on laptops or tablets but also need to store papers. The usual supports are in the form of rails that slide out beneath the front and are called 'lopers' (**photo 14**). Sometimes these move automatically when the desk front is lowered, thanks to a simple mechanism.

Hidden latches

Concealed drawers are simple to make as they just look like wide rails or decorative panels

15 A push close, push open latch allows the maker to fit secret drawers without handles

when closed. The drawer can be made to open simply by pushing it if there's a suitable latch fitted behind (**photo 15**). This latch works in the same way as a push-button switch – the first push closes it, and the second one opens it.

Furniture locks

Small brass mortise locks were traditionally fitted to many cabinets, drawers and chests but nowadays tend to be more popular on small decorative boxes, such as jewellery cases.

Fitting these locks requires care but is relatively straightforward for makers who're used to cutting joints using hand tools. As far as possible, mark out the position and dimensions by running a knife directly against the lock (**photo 16**). Don't rely solely on ruler measurements when direct marking, as they're far less accurate.

Inlaid details

Keyholes for box or cabinet locks can be fitted with a small brass insert – sometimes supplied with the lock – or can be protected by a larger escutcheon, which is inlaid into wood around the hole (**photo 21**). Inlay is a detailed subject

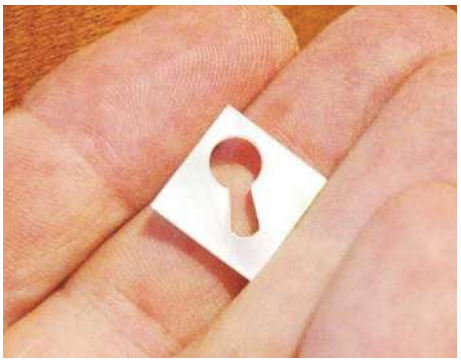
16 Before fitting a lock, the position is marked out using each of the lock's plates as a template

17 Knife marking directly against the lock's sides provides a much more accurate fit than measurement alone

18 A socket is chopped out to house the lock's body in a similar way to chopping a mortise

19 The lock body fitted and key inserted. The keyhole is located by first drilling a pilot hole from inside

20 Inlaid material such as this mother-of-pearl is set into sockets pared out of the wood and held in place by either traditional animal glue or epoxy resin



21 A piece of mother-of-pearl is drilled then sawn with a jeweller's fretsaw and filed to make an escutcheon

in its own right, but for the time being, squares of material set into recesses chopped like shallow mortises can be used as escutcheons or simply for decorative purposes.

Making handles

Handles are the most important details and very much set the tone of a piece of furniture. The same cabinet may look contemporary, traditional or timeless simply by fitting different handles. They can also have a big influence on a piece's perceived quality.

One way to escape from having your furniture typecast by the handles you buy is to design and make your own. This may be simpler than it sounds, especially if you have access to a lathe (**photo 24**). Even without a lathe, attractive handles can be shaped by saw, chisel and plane in any number of unique designs.

Conclusions

The devil's in the detail, so the saying goes, and attention to small details is what distinguishes a really good piece of furniture from one of poorer quality. For example, cross-headed screws are good for rapid assembly but in the wrong place

22 The escutcheon is fitted in a socket around the keyhole opening where, as well as being decorative, it protects the wood from damage by the key

they look cheap compared to slotted screws. If you install a lock on a fine quality piece of furniture, you want it to stay looking good and not have the keyhole surround bruised by the key, so an escutcheon inlaid into the wood is the traditional solution here. These details, which only take a small fraction of the time and cost spent on a well-made piece of furniture, can really make or break the end result.

23 A set of cabinet door handles made by routing and planing a hardwood strip with grips on each side, then chopping it into the required number of pieces

NEXT TIME

In the May issue, the final part of this series, John will look at practical and effective ways of finishing the surfaces of your pieces of furniture, not forgetting the all-important preparation for finishing

24 Handles made from a piece of hardwood, turned on a lathe into a disc, then lightly dished on each side. The disc is then sawn into separate handles

25 Small round wooden knobs have sockets drilled in the underside to house bolt heads. In this case, the knobs are used to hold a leather strap

The completed guitar made using some of the Richardson wood

Gifted some scraps of wood by a neighbour, Crediton-based luthier **Shaun Newman** was delighted to find they'd come from the workshop of world-famous violin maker, **Arthur Richardson**, who'd lived in the same market town. Using pieces of fine-grained spruce, flamed maple and beech, he incorporated these into a 'Baroque' style guitar

Many violin players and enthusiasts will have heard of Arthur Richardson. Details about his life, however, are rarely seen although he was certainly regarded as one of England's finest ever violin makers. His repertoire also included cellos and violas and during some 50 years of manufacture, made over 500 instruments. This is an extraordinary output and works out at almost one per month. Anyone who's tried to make any of the three instruments for which Arthur is famous will immediately understand the enormous demands this output must have placed on his shoulders.

Richardson was born in 1882 in Staveley, Derbyshire. He didn't move into violin making directly from school, but was apprenticed into woodworking trades such as architectural woodcarving and patternmaking. He worked in the North of England – Leeds specifically – and only relocated to the South West in 1915 when he arrived in the small market town of Crediton, near Exeter, Devon. He was attracted by the role of ecclesiastical woodcarver, offered by the firm of Dart and Francis, which still exists today with offices in the centre of Crediton, though no manufacturing work continues. Some of their work can be seen in London's Guildhall and at Liverpool Cathedral, as well as surrounding towns and villages in this part of England.

Services to the world of music

Arthur, also a keen bowls player, was active outside of his workshop and had many friends and acquaintances in Crediton. Some older people living in the town still remember his novel lacquer-drying technique, which involved hanging some of the completed violins on the washing line (**photo 1**). A wooden bench that overlooks the bowling green at the side of Crediton Park carries a brass plate inscribed in his honour, which is attached to the back. The bench has been in place since the late 1960s and is now beginning to look rather weathered, albeit still intact.
In 1961, Richardson was awarded an MBE for his services to the world of music, and this

A GIFT FROM THE PAST

A TRIBUTE TO ARTHUR RICHARDSON MBE (1882–1965)

1 Arthur Richardson in his garden

wasn't in any small measure due to his friendship and collaboration with the world renowned viola player, Lionel Tertis. Not far from the bench, on the town library's outside wall, a blue commemorative plaque is also dedicated to him (**photo 2**).

A legendary collaboration

The relationship between the two men became almost legendary. Tertis was the son of Polish-Jewish immigrants who'd escaped to Britain before World War II. He was soon recognised as an outstanding violin player but while attending the Royal Academy, was persuaded to concentrate on the viola. He soon became extremely proficient with the instrument and as such, his reputation strengthened, so much so that he was able to attract renowned composers such as Bax, Bridge, Holst and Vaughan-Williams, who wrote pieces for him so important that they were played by Tertis at several of the Proms. Notable among them was the piece entitled *Triptych*, which incidentally has only recently been recorded onto CD. This very composition would go on to be played at a Concert Promenade in 1942, the event being supported by Sir Henry Wood and the piece directed by Sir Adrian Boult.

Perhaps the most important aspect of the collaboration between Richardson and Tertis, however, was the development of a new type of viola. Tertis was never fully satisfied with the tonal qualities of those most available and in particular, was looking for a better response in the lower register. Apparently, he frequently complained about the poor quality of the lowest 'C' playable, so to overcome this, Tertis and Richardson designed and made a viola with a soundbox

2 Arthur Richardson's Blue Plaque

The completed Baroque style parlour-sized classical guitar, which makes use of fine-grained spruce, flamed maple and beech, that belonged to Arthur Richardson MBE

3 The box of magic

4 Two wedges of fine-grained spruce dated 1922

that had a larger chamber and in particular, a wider lower bout. This meant that it was almost as comfortable to play as a standard instrument, but exhibited the qualities Tertis was looking for.

A boxful of magic

So, how on earth did the timber I've described here as 'a present from the past' come into my possession? First, I live and work in Crediton as a luthier and this is well known to my next door neighbour who happens to be a member of the Crediton Area History & Museum Society. The society was having a meeting in a large country house located just outside the town when one of the members brought in a box of 'firewood' and asked if anyone would like some (**photo 3**). Before the offer was accepted, however, my neighbour stepped in and suggested he knew someone who could make better use of it, rather than committing it to the flames. He brought the box to me and I was delighted to find pieces of fine-grained spruce, flamed maple and beech. As I was sorting through the contents, I saw two wedges of spruce that'd been prepared to make a viola soundboard. Remarkably, these were marked '1922' in pencil, and this hand-writing was almost certainly that of Arthur Richardson (**photo 4**). I measured the pieces and found there was almost enough to make the front for a small guitar provided I put a fillet along the centre, which would increase the width of the joined boards by a small amount. Further delving turned up more bits and pieces that caught my eye, and I really felt I should go ahead and make something special using as much of this 'firewood' as possible. After all, it was now the year 2022, and exactly 100 years on. A final boost came when I noticed the name 'Tertis' written on one of the maple pieces (**photo 6**) – what a find!

5 A mould for guitars made in the Baroque style

Parlour-sized classical guitar

I shortly set to work and began to think of the best method for making the soundboard. As the spruce was a little too narrow even with a centre strip, I chose a mould based on Baroque instruments made some 400-500 years ago (**photo 5**). A full-sized classical guitar mould would've been too wide at the lower bout. As the spruce had first been made into wedges ready to be transformed into a viola's soundboard, a lot of hand planing was required to get the two book-matched pieces as flat as possible. The amount of waste material was alarming, but I kept reminding myself that the timber would've likely ended up in someone's hearth (**photo 7**). Once I'd prepared the two boards and placed a narrow fillet along the centre to make the width just right, it was time to cramp all soundboard components in a wedge and lace jig (**photos 8** & **9**). This jig was also used to cramp the maple boards for the back. When the soundboard came out of the jig, I added a couple of ebony inlays for decorative purposes. The next task was to make the remaining parts – i.e. the sides – also known as 'ribs' – neck, fingerboard and back, ready for assembly (**photo 10**).

Before the front could be fitted it had to be strengthened as the spruce was brought down to a thickness of just 2mm. This means that without bracing, the front would bulge outwards and likely split and burst under the string tension's pull. The fan bracing pattern is largely of my own design but based loosely on that of several

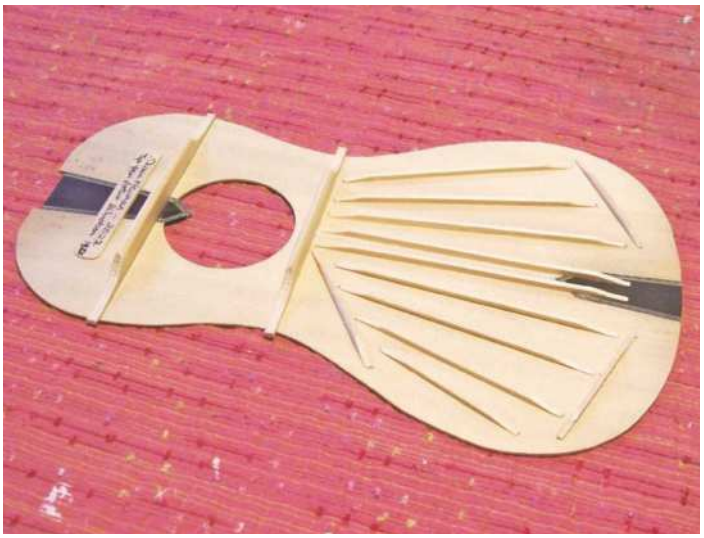
6 The name 'Tertis' is clearly visible

7 Planing the wedges to flat boards

8 The wedge and lace jig

9 The soundboard in the jig

10 The build's main components

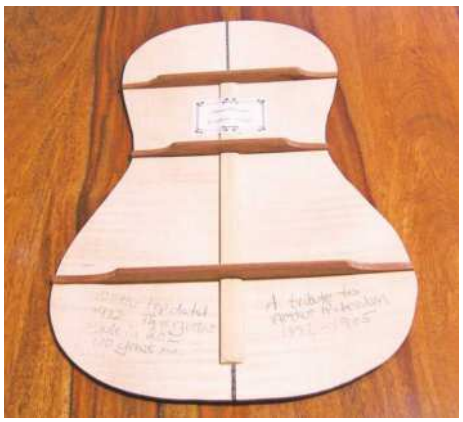


11 The soundboard braced and ready for fitting

concert guitar makers from Spain (**photo 11**). To hold the front firmly in place, while ensuring not to dampen the sound, 'tentellones' are used. These are small triangular pieces of spruce faced with adhesive and placed side by side with tweezers into the point where the ribs meet the soundboard. To support the back, kerfed linings were glued in place and levelled with the ribs' top edges (**photo 12**). The back requires bracing as well as the soundboard, though it doesn't have directly to sustain pressure of the six strings. Nevertheless, to help maintain curvature on the back – a 'lift' of around 4mm – three braces, which have themselves been curved before fitting, are placed horizontally across the inside (**photo 13**).

Once the assembly was complete, I was able to make a small ebony bridge and bone top nut and saddle ready for stringing up and tuning. The finished instrument looked good (**photos 14** & **15**), but I was keen to hear whether it produced an acceptable sound. The test proved to be very promising indeed with clear, singing trebles and full resonant basses. This was my first impression, and it's well accepted by guitarists that the sound will improve after a few months as the instrument is played in. So, thank you, Mr Richardson, for this gift of timber, which lives on to this day, albeit in a different stringed instrument.

12 Tentellones and kerfed linings in place



13 The back braced and ready to fit

14 The completed guitar, as seen from the back...

15 ... and side

FURTHER INFORMATION

For more information on Tormek, see **www.tormek.com**
To find your nearest reseller, see **www.tormek.com/uk/en/resellers**

Precise, controlled & repeatable sharpening with TORMEK's GRINDING JIG RANGE

WW TECHNIQUE

Tormek's grinding jig range includes those for short, long and flexible knives, scissors, axes, woodturning tools, chisels, gouges, planer blades, moulding knives, drill bits and more – we look at each of them here

WHAT IS A GRINDING JIG?

According to Tormek, a jig can also be referred to as a fixture, guide or stop. To achieve controlled sharpening, users are advised to simply mount their edge tool in the relevant jig. Tormek's extensive range of jigs is designed to provide accurate sharpening of most available edge tools. Users can easily sharpen a particular tool to a preferred angle as well as shape and repeat the settings whenever required.

SHARPEN EDGE TOOLS WITH UNBEATABLE PRECISION

Tormek's range includes jigs for short, long and flexible knives, scissors, axes, woodturning tools, chisels, gouges, planer blades, moulding knives, drill bits and more.

All jigs work on the Universal Support, which makes it possible to keep the bevel even against the grinding wheel during the entire sharpening process. This has several advantages, including a significant increase in sharpening efficiency and precision compared with other methods.

KJ-45 Centring Knife Jig

KJ-45 CENTRING KNIFE JIG – A SYMMETRICAL RESULT REGARDLESS OF BLADE THICKNESS OR GEOMETRY

With Tormek's patented KJ-45 Centring Knife Jig, you can achieve symmetrical bevels with the same angle on both sides of the knife, regardless of thickness or blade geometry. Whether sharpening a regular kitchen knife or a thicker, tapered hunting knife, for example, you'll get the same results on both bevels without needing to reset the jig. The KJ-45 fits most types of knives: household, chef, craft varieties and those for hunting and fishing. It also works for woodcarver's straight drawknives as well as gardener's pruning shears.

- Centres a knife in the jig for optimal, symmetrical results;
- Centres tapered knives and holds them firmly;
- An extra stop for tall knives, such as cleavers;
- Ability to shape a slightly convex edge with a movement between the two stops;
- Robust design – zinc-cast clamps and durable composite handle;
- Well-balanced – the majority of the weight is focused on the clamps, which provides a more balanced feel during sharpening;
- Slides smoothly with low friction against the Universal Support;
- Works with both the Tormek T-4 and T-8, as well as older models.

Centring for symmetrical sharpening

When mounting a knife in the KJ-45 Jig, it self-centres, regardless of blade thickness or geometry. This means that the jig centres everything from the thinnest knives to those with a thickness of up to 10mm. It also means that knife blades that taper off from back to edge and heel to tip are centred in the jig, providing symmetrical grinding on both knife bevels. It's easy to set up and delivers perfect results every time.

Guided freedom

As the KJ-45 is positioned with the stop resting freely against the Universal Support, you're able to follow the shapes of the knife, and therefore use this as a guide and reference point. As such, it's possible to sharpen knives with different blade shapes, from craft knives to recurve knives and classic chef's knives.

With Morakniv fitted...

... and drawknife

Fits most knives

The Jig centres knife blades up to 10mm thick. You can sharpen knives with blades all the way down to 60mm long and 12mm tall. For smaller knives, use in conjunction with the SVM-00 Small Knife Holder, which allows even the smallest knives to be sharpened. The KJ-45 also has an extra stop, which makes it possible to sharpen cleavers, for example. When used in conjunction with the US-430 Extended Universal Support, even larger knives and tools can be sharpened.

For knives with long and flexible blades, such as filleting knives, the KJ-140 Wide Centring Knife Jig can be used to stabilise these, which ensures even and symmetrical results.

Well-balanced & ergonomic

When it came to designing and constructing the KJ-45, user experience was at the forefront. For the best sharpening experience, most of the jig's weight is focused on the clamps – the part closest to the sharpening action. This provides a very well-balanced feel when in use.

The end of the stop has been designed with ergonomics in mind and consists of a flat surface on which the user places their thumb in order to secure the jig against the Universal Support. This neat little feature makes long periods of grinding more comfortable.

The jig is supplied fully assembled and ready to use, along with instructions for both the KJ-45 and KJ-40.

KJ-140 WIDE CENTRING KNIFE JIG – SYMMETRICAL RESULT ON FLEXIBLE KNIVES

This well-balanced, patented jig provides extra stability when sharpening knives with long, flexible blades, such as filleting knives.

KJ-140 Wide Centring Knife Jig

Using this jig, you can achieve symmetrical sharpening with the same angle on both sides of the blade. Regardless of blade thickness and geometry, it self-centres in the jig, guaranteeing the same result on both bevels. The longer clamp stabilises flexible knife blades to prevent them from flexing, which allows the same angle and pressure to be achieved over the entire bevel.

- Centres long, flexible knife blades in the jig for optimal, symmetrical results;
- The 5½in wide clamp stabilises flexible blades;
- Centres tapered knives and holds them firmly;
- An extra stop for tall knives, such as cleavers;
- Ability to shape a slightly convex edge with a movement between the two stops;
- Robust design – zinc-cast clamps and durable composite stops;
- Well-balanced – the majority of the weight is focused on the clamps, thus providing a more balanced feel when grinding;
- Slides smoothly with low friction against the Universal Support;
- Works with both the Tormek T-4 and T-8, as well as older models.

Wider clamp – greater stability

The KJ-140 Wide Centring Knife Jig works in the same way as the KJ-45, but has a wider clamp. The wider 140mm clamp stabilises thin and flexible knife blades and provides greater support for an even bevel along the entire blade. Of course it can also be used with larger knives that feature more stable blades, such as chef's knives.

Note: The KJ-140 Wide Centring Knife Jig cannot be used with the SVM-00 Small Knife Holder – instead, opt for the KJ-45 Centring Knife Jig. The jig is supplied fully assembled and ready to use, along with instructions for the KJ-45 and KJ-40.

Sharpening a filleting knife

SVM-00 Small Knife Holder

SVX-150 Scissors Jig

SVA-170 Axe Jig

The SVM-00 is ideally suited to whittlers and woodcarvers who use smaller-bladed knives but still require maximum sharpness

SVM-00 SMALL KNIFE HOLDER – SHARPEN YOUR SMALLEST KNIVES

The SVM-00 Small Knife Holder facilitates sharpening of even the smallest-bladed knives, which cannot be sharpened using the KJ-45 Centring Knife Jig. It's perfect for whittlers and woodcarvers who use smaller-bladed knives but still require maximum sharpness.

- Precision sharpening for even the smallest available knives;
- Easy to use;
- Complements the KJ-45 Centring Knife Jig;
- Works with both the Tormek T-4 and T-8, as well as older models.

Small-scale sharpening

Tormek has developed the SVM-00 Small Knife Holder to allow even the smallest knives to be sharpened with the same precision as their larger counterparts. This is particularly appreciated by woodworkers and woodcarvers, who commonly use these, and where precise sharpening is therefore of the utmost importance.

The SVM-00 complements the KJ-45 Centring Knife Jig and makes it possible to sharpen even the tiniest of knife blades, which is achieved by attaching the knife handle in the jig.

No lower limit

The SVM-00 allows users to sharpen various kinds of craft knives, chip-carving knives and those intended for detailed work. Even pocket knives can be sharpened with perfect control. Due to the knife handle being mounted in the jig, there's consequently no lower limit for blade size. The jig is supplied fully assembled and ready to use, along with full instructions.

SVX-150 SCISSORS JIG

This jig works with most types of scissors and shears, from small household varieties to large hedge shears. You can even sharpen pinking shears that cut fabric in zigzags and certain electronic hand plane blades.

- Make your blunt scissors sharper than ever before;
- Very easy to use;
- Works with both the Tormek T-4 and T-8, as well as older models;
- Suitable for most types of scissors and shears.

Simple setup

To use this jig, mount your scissors or shears in the holder that rests against the support plate. The sharpening angle can be set to allow easy and exact repeatability of the existing sharpening angle. With each use, only the smallest possible amount of material is removed, regardless of whichever angle the scissors or shears are positioned at.

Sharpening scissors & shears of various shapes

One scissor blade is often slightly convex, or sometimes both are. Tormek's patented design allows you to follow the individual shape of each blade to ensure even sharpening along the entire length. Rotation of the grinding wheel presses the scissors against the support plate, so you can concentrate on moving the blades across the grinding wheel while maintaining full control.

Included in the box

The SVX-150 is supplied fully assembled and ready to use, along with instructions. Also included is a mounting plate for scissors/shears along with an aluminium support plate.

Use the SVX-150 to sharpen scissors and shears of various shapes and sizes

SVA-170 AXE JIG

Using this specialised jig, you'll be amazed at how sharp it can make an axe. The axe rests securely in the jig and is sharpened with a constant sharpening angle, regardless of whether it has a straight or curved edge.

- Make your axes razor-sharp with a longer-lasting edge;
- Easy and precise sharpening;
- Works with both the Tormek T-4 and T-8, as well as older models;
- Suitable for most types of axes.

Straight or curved edges that last

Outdoor and carving axes usually have a curved edge, while cleavers and carpenter's axes may have an almost straight edge. The axe is fixed to the jig's rubber stop, which means you can easily follow the shape of the edge, regardless of whether it's straight or rounded.

When dry grinding on a fast rotating bench grinder, there's a risk of burning the edge and ruining the axe. However, with the Tormek system, no such risk exists as it rotates at a low speed and water continuously cools the edge.

Set the sharpening angle by usage

Choose the best sharpening angle for your axe. The edge angle for an all-round axe – those designed for sports and leisure – is bigger than that of a carving axe. A splitting maul requires an even bigger edge angle.

Carving axes can be sharpened asymmetrically, with a larger bevel on the left-hand side, assuming you're right-handed. This allows the axe to cut more easily as the cutting force is closer to the cutting direction.

No more hand cramps

Grinding wheel rotation pushes the axe up so that it's fixed against the jig's rubber stop and amplifies the force of your hand. This automatically applies just the right amount of pressure against the grinding wheel, and means that the edge won't cut into it; this can easily occur when sharpening freehand against the direction of rotation.

The jig is supplied fully assembled and ready to use, along with instructions.

SE-77 Square Edge Jig

Easily set chisels and plane irons for straight 90° sharpening

The SVD-186 R Gouge Jig being used in a violin-making workshop

SE-77 SQUARE EDGE JIG – SHARPEN CHISELS & PLANE IRONS

The SE-77 Square Edge Jig makes it easy to set your chisels and plane irons for straight 90° sharpening. The jig's design paves the way for successful sharpening with outstanding precision. You can also set the jig to sharpen a slightly rounded shape on a tool's edge.

- Make plane irons and chisels sharper than ever before;
- Easy to set up and use;
- Micro adjust screws compensate for tiny deviations in tool design;
- Possibility of slightly rounding off the corners of an edge to prevent scratches in the timber being planed;
- Works with both the Tormek T-4 and T-8, as well as older models;
- Mounts firmly and sharpens safely;
- The tool is aligned in the jig along the tool's flat top surface. The SE-77 has a flat shoulder, which makes it easy to mount the tool correctly at a 90° angle. The pressure from the plate's centre is distributed to the edges, positioning the tool firmly in the jig without having to force it to stay in place. Then, you just have to check the sharpening angle and set the jig at the correct height on the Universal Support.

Micro adjust screws = maximum precision

The SE-77 Square Edge Jig has been fitted with a movable end, which can be adjusted using two small adjustment screws to facilitate fine-tuning of settings if necessary. This might be required if the tool is very narrow or not exactly parallel to the grinding wheel, or if the blade is slightly twisted. Fine-tuning of settings is achieved in a matter of seconds by releasing one of the adjustment screws and tightening the other.

Sharpening conical chisels

The jig's design also allows conical tools that are thicker towards the handle to be positioned and sharpened, such as some Japanese chisels. Safety stops keep the jig on the Universal Support bar, preventing the tool slipping off the grinding wheel, which ensures there's no risk of hurting your fingers while sharpening. The jig fits chisels and plane irons up to 77mm wide.

Sharpen plane irons with rounded edges

Most plane irons benefit from having a slightly rounded shape. Degree of chamfering depends on the type of hand plane and is roughly equivalent to the thickness of shavings produced by the plane. The jig's adjustable end allows optimum tool shape to be achieved. When sharpening to chamfer the edges, the tool is centred below the jig's pivot point, then marked with a line. The more you release the adjustment knobs, the greater the amount of pendulum movement, thus increasing the chamfer.

The jig is supplied fully assembled and ready to use, along with instructions.

SVS-38 SHORT TOOL JIG – SIMPLE & VERSATILE

The SVS-38 has been developed especially for short carving tools, short chisels, tools for electric sculpting machines and smaller, straight gouges. Using this simple and versatile jig, keen amateurs are even able to sharpen damaged flat-head screwdrivers and chisels.

- Precise sharpening of short carving tools;
- User-friendly jig that provides very stable sharpening;
- Works with both the Tormek T-4 and T-8, as well as older models.

Stable & easy sharpening

The SVS-38 has two parallel flanges, which guide on both sides of the Universal Support. The patented design makes this jig extremely stable, and the tool always stays perpendicular to the grinding wheel, even when turned. The design offers a great advantage, as you can concentrate on sharpening or honing at all times without having to worry as to whether the tool is perpendicular. Minimum tool length is 45mm at a 20° sharpening angle, and maximum width is 38mm. The jig is supplied fully assembled and ready to use, along with instructions.

SVS-38 Short Tool Jig

SVD-186 R GOUGE JIG – SHARPEN YOUR GOUGES & MUCH MORE

A favourite with woodturners, the SVD-186 R Gouge Jig allows users to easily and optimally sharpen fingernail gouges. The high level of control allows for precise repetition of a chosen profile. This jig can also be used to sharpen woodcarving tools with complex shapes, such as curved or bent gouges and V-gouges, and sharpening luthier and tanto knives is also a breeze.

- Sharpens all gouges and other tools with complex shapes, such as V-gouges and carbide woodturning cutters;
- Precise setting for exact repeatability with the TTS-100 Turning Tool Setter;
- Use Tormek recipes for various sharpening sequences, or create your own;
- Works with both the Tormek T-4 and T-8, as well as older models.

The ultimate jig for turning tools

The SVD-186 R provides exact repeatability of the shape and sharpening angle of both bowl and profile gouges. This means you can ensure the tool behaves in the same predictable manner at the lathe every time you sharpen. The TTS-100 Turning Tool Setter gives you exactly the shape and sharpening angle desired, depending on turning style.

The SVD-186 R allows you to sharpen tools with the edge in the same rotation direction as that of the grinding wheel, with the Universal Support in the horizontal position. If your machine dates back to 2001 or before, fitting a XB-100 Horizontal Base facilitates sharpening with the edge trailing.

The length of the gouge's wings can also be varied so that the tool shape suits your turning style. When used correctly and in conjunction with a Tormek machine, nothing delivers faster or sharper results.

Follow ready-made recipes, or create your own

The SVD-186 R Gouge Jig can be adjusted to give different profiles. Create your own profile – also known as a 'recipe' – or choose one of the recommended profiles shown in the profile guide, provided with the instructions. Use Tormek's PL-01 Profile Labels to record individual recipe settings and attach these to the metal ferrule around the tool handle,

so that you can quickly and easily repeat a particular tool's sharpening angle.

This jig can also be used to sharpen carbide woodturning cutters in a controlled manner by mounting these on the special shaft, supplied with the jig.

SVD-186 R for wood sculpting tools

Tormek's slow-rotating and water-cooled grinding wheels are perfect for sharpening wood sculpting and carving tools as well as curved or bent tools. The water-cooled grinding wheel is gentle on carbon steel and eliminates the risk of overheating delicate edges.

The jig can be adjusted to fit the tool's shape, allowing you to easily create a smooth bevel on a rounded edge. You can also sharpen curved gouges with the same fantastic results.

Lock the turning motion

A locking knob allows you to lock the jig's rotational movement. This feature makes it easier to maintain full control when sharpening wood sculpting tools such as V-gouges. The locking knob also allows you to sharpen with a completely flat bevel on luthier knives when using Tormek's MB-100 Multi Base and diamond grinding wheels.

Tool re-profiling

Do you have a new tool and need to remove a lot of steel in order to change its profile or create a smaller sharpening angle? With the BGM-100 Bench Grinder Mounting Set, you can also use the SVD-186 R Gouge Jig on a bench grinder, taking care to not burn the edge. Once initial rough sharpening on the bench grinder is completed, switch to your Tormek machine and give the edge its final sharpness.

Tormek's patented TTS-100 Turning Tool Setter allows you to keep the exact same shape and sharpening angle. This gives you the best of both worlds in one jig system – fastest possible steel removal and best possible sharpness.

Included in the box

The SVD-186 R is supplied fully assembled and ready to use, with instructions. Also included is the PP-10 Profile Pen and PL-01 Profile Labels with instructions – one sheet of nine labels.

SVS-50 Multi Jig – viewed from above

SVS-50 MULTI JIG – LIKE TWO JIGS IN ONE

This jig is so called as it consists of a housing with two interchangeable seats for different types of tools; the open and closed seat, which practically gives two jigs in one. Use the SVS-50 Multi Jig to sharpen straight and round-edged woodturning chisels, as well as parting tools, spindle roughing gouges, in addition to carving gouges and chisels.

- Like two jigs in one – sharpen all your woodturning chisels, parting tools, spindle roughing gouges and more.
- Easy to use – just turn the jig over to grind the second bevel without resetting it;
- Includes PL-01 Profile Labels for easy setup and precise repeatability.
- Works with both the Tormek T-4 and T-8, as well as older models.

SVS-50 Multi Jig for woodturning chisels

The closed seat allows you to sharpen the vast majority of skew chisels with precision, regardless of whether they have a rectangular or rounded blade and a straight or rounded edge. The tool is mounted vertically in the jig's centre, so you only need to mount the tool once in order to sharpen two sides. When you've finished one side, turn the jig upside down, then grind the tool to a symmetrical shape.

Owing to the unique and patented design, you can also sharpen chisels with oval cross-sections and chisels with rectangular blades. The jig straightens the chisel so that it's parallel to the Universal Support, allowing you to sharpen both straight and rounded edges. Maximum turning chisel width is 32mm.

Spindle roughing gouges, parting tools & wide carving gouges

The open seat, where the tool is mounted with the top screw, is best used for tools with an edge across the longitudinal direction. It's also ideal for sharpening parting tools, spindle roughing gouges and wide carving gouges. Both the open and closed seat are mounted using a bottom screw, which also locks it at the selected angle.

Turning tool sharpening – the simplest setting

When sharpening turning tools, Tormek strongly recommend using the SVS-50 Multi Jig together with the TTS-100 Turning Tool Setter. Doing this allows you to easily and accurately repeat a shape and angle an unlimited number of times. This not only saves time but also increases a tool's lifespan, as only the minimum amount of steel is removed each time you sharpen.

The SVS-50 jig being used to sharpen a flat skew chisel with a curved edge

Water-cooled sharpening on a Tormek affords you a very sharp edge, which also lasts longer. A really sharp chisel cuts easily and leaves an optimally smooth finish on the wood, which often doesn't require sanding afterwards.

Re-shaping tools

New tools that require a great deal of steel removal and profile changing is made possible with the BGM-100 Bench Grinder Mounting Set, which allows the SVS-50 Multi Jig to also be used on a bench grinder. As before, care needs to be taken to ensure the edge doesn't burn.

The jig is supplied fully assembled and ready to use, along with instruction booklet, plus PL-01 Profile Labels and instructions – one sheet of nine labels.

SVD-110 Tool Rest Jig

SVD-110 TOOL REST – FOR STABLE, FREE SHARPENING

The toolrest surface offers a larger support area compared to the Universal Support. It's ideal for sharpening various rounded scrapers used for woodturning. The SVD-110 Tool Rest also works perfectly with special carving tools such as those for hollowing as well as curved drawknives. It can also be used for card scrapers and cutting blades for turning tools, spokeshaves as well as flat-head screwdrivers.

- Make your scrapers sharper than when purchased new;
- Incredibly straightforward to set up and use;
- A versatile jig that can be set to sharpen a variety of tools;
- Works with both the Tormek T-4 and T-8, as well as older models.

Designed for stability

Scrapers often have a fairly large angle, which can make sharpening difficult to control. To combat this, the SVD-110 has a generous 90 × 110mm surface area, which allows you to hold the tool firmly and securely against the grinding wheel. The hole for attaching the toolrest has a special wedge shape, which increases locking force by as much as 250% when compared to a round hole. The unique TorLock design – patented by Tormek – allows the toolrest to be instantly locked at a selected angle.

Simple but versatile

The SVD-110 Tool Rest can be used both with and against the grinding wheel's direction of rotation. It can also be positioned so that the grinding wheel's flat face can be used when sharpening card scrapers, for example. Using this jig, many hard-to-sharpen tools that don't fit in any other jig or have unusual sharpening angles can be completed, in a number of other positions, with a little creativity.

The jig is supplied fully assembled and ready to use, along with instructions.

SVH-320 Planer Blade Attachment

SVH-320 PLANER BLADE ATTACHMENT – FOR ALL LENGTHS OF PLANER BLADE ATTACHMENTS

The SVH-320 jig allows HSS planer blades of any length to be sharpened and is also suitable for mitre trimmer blades. Accurate setting ensures precise sharpening along the entire edge.

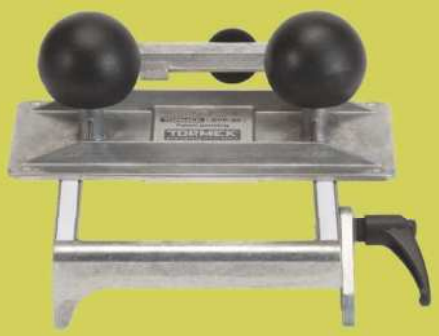
- Sharpen planer blades of any length;
- Patented design with precise adjustment for identical results on blades;
- Works with both the Tormek T-4 and T-8, as well as older models, although the T-8 is recommended.

Save time by sharpening your own blades

Using this jig, sharp planer blades are guaranteed, which also avoids your work being interrupted by having to send blades away for sharpening. The jig can sharpen blades of unlimited length, but those longer than 270mm need to be moved along in the jig and sharpened in two steps.

Always top precision

The SVH-320 guides tools precisely and sharpens them straight along the entire length to whichever depth you set. When the jig is set up correctly, this leaves minimal scope for handling errors. Follow the instructions carefully, step by step, for perfect and optimal planer blade sharpening. Supplied fully assembled and ready to use.



SVP-80 Moulding Knife Attachment

Use the SVP-80 jig to sharpen moulding knives with ease

SVP-80 MOULDING KNIFE ATTACHMENT – FOR SHARP PROFILES

The SVP-80 jig flat-grinds all types of moulding knives, with 24, 30 and 36mm spacing between guide holes. This jig is easy to use and with sharp blades, timber is left with a smooth surface. Profiled paint scrapers can also be sharpened to maximum capability.

- Sharpens profiles of all kinds;
- Easy to set up and use;
- Patented design provides an even flat-grind over the entire moulding knife;
- Sharpen profiled paint scrapers to maximum effect;
- Works with both the Tormek T-4 and T-8, as well as older models.

Sharpen moulding knives with ease

Since sharpening is carried out on the moulding knife's flat backside, this jig can handle all kinds of profiles with a maximum width of 100mm. The frame includes two sliding strips that reduce friction and facilitate sharpening. Good blade contact is maintained and you can feel when it touches the grinding wheel.

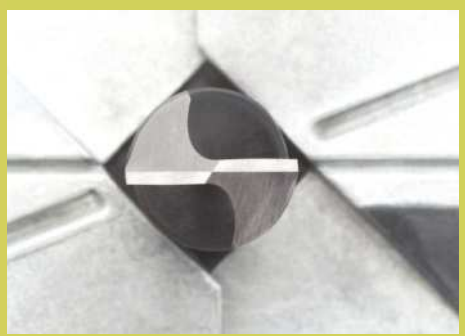
Easy, flexible mounting

This jig features a steel plate with magnetic insert and a number of holes. You can easily see which holes correspond to those in the moulding knife and insert the supplied clamping pins into the magnet's corresponding holes. This way, you can freely and easily mount various moulding knives for steady sharpening.

Included in the box

The SVP-80 Moulding Knife Attachment is supplied fully assembled and ready to use.

- Instructions for use;
- Extra US-105 Universal Support.



DBS-22 Drill Bit Sharpening Attachment

The DBS-22 jig is used to create a four-facet point that provides great cutting characteristics

DBS-22 DRILL BIT SHARPENING ATTACHMENT – SHARP DRILL BITS GUARANTEED

Using this jig, you can sharpen drill bits from 3-22mm in diameter with maximum precision, with a four-facet point for best performance. The optimum tip and lip relief angle can be set for each drilling operation, taking into account drill bit size and material. Broken bits can also be sharpened back to perfect shape.

- Sharpens a four-facet point, which drills more efficiently as well as lasting longer;
- Sharpens drill bits with outstanding precision;
- Extends drill bit service life by more than four times compared to traditional S-tip drill bits;
- Works best with the Tormek T-8, as well as older models.

Longer lasting four-facet point

The patented DBS-22 jig is used to create a four-facet point that provides great cutting characteristics as the drill bit's cross-cut is pointed instead of being almost flat, as seen on many other drill bits. A four-facet point won't wander and requires significantly less drilling pressure compared to a conventional cone point drill.

A precision-sharpened four-facet point also reduces heat build-up, which results in a very long drill bit service life. Independent tests show that drill bits sharpened using Tormek equipment last more than four times longer in comparison to newer, conventional drill bits.

Controlled sharpening

The risk of overheating and microcracking or loss of steel hardening is eliminated by working with natural laws and continuously cooling the edge. You have full control at all times and can check to see how sharpening is progressing. A magnifying glass is included for smaller drill bits, which helps to line up a bit in the jig and see the sharpening results.

Included in the box

The Tormek DBS-22 Drill Bit Sharpening Attachment is supplied fully assembled and ready to use.

- Instructions for use;
- Magnifying glass for lining up a drill bit in the jig;
- Jig setting template with magnets;
- Tube of Tormek PTFE lubricant.

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CONGRADUATIONS

CHISEL RATING

Referencing an ash specimen chest he'd been tempted to buy a few years previously, **Peter Bishop** receives a commission to make a graduation present in a similar style

The basic idea was to make a small oak chest of drawers that could be used as a jewellery or collector's cabinet. It was designed to be as flexible as possible and have a slightly antique feel to it. I factored in some precision cutting, a bit of fuming and some simple turning to keep it interesting.

1 Rub the glue into the joint of each main carcass board to create a good bond

2 Leave the cramped boards to set overnight, then surface-plane each one to its finished size

Natural selection

As usual, the stock I used was kiln-dried; however, being cautious and fully aware that artificial drying is an art rather than a precise science, I'd cut the nominal stuff out and put it in my office for a few weeks before I started. The aim here, as I'm sure you'll be well aware, is to try to bring the wood's moisture content into equilibrium with its eventual environment, thus avoiding any further shrinkage or possible distortion. The stock was selected with care to produce fully quarter-sawn, figured stuff for the top and as many of the drawer fronts as possible.

Plane sailing

Making the four main carcass pieces was the starting point. Each consists of two pieces joined edge to edge to create the necessary width. Having decided which went with which, I faced them all on one side, planed them flat and true, then planed the adjoining edges square to these. To avoid any of the grain picking up during planing when these pieces had been joined, I marked each with a 'direction of grain' arrow and made sure each pair had these pointing the same way.

Always set out to have any slope in the grain trailing down at the back from the leading edge when you're planing on a machine, or up and away from you when finishing by hand. Follow this simple rule and you won't lift the grain unnecessarily. Of course, sometimes, with stuff that has variable grain this will be difficult; just try to get it as close as you can.

Edge to edge

I like to use Cascamite – the powdered resin glue – for rigid edge joints like these,

CUTTING LIST

Part	Qty	L	W	T
CARCASS				
Top/base	2	500	285	12
Side	2	325	270	12
Back – oak-faced MDF	1	500	300	4
Drawer divider – plain MDF	5	450	266	9
Bun foot	4	25 dia.	12	
DRAWERS				
Front	6	450	39.5	12
Side	12	300	39.5	9
Back	6	450	28	9
Base – plain MDF	6	450	260	4
Knob	12	15 dia.	30	

Note: All dimensions are in millimetres

You'll also need some thin straight-grained wood for the loose drawer inserts, some oak offcuts to edge the five MDF drawer dividers, and some self-adhesive baize to line the drawers' bases before the inserts are fitted

as it creates a bond that's stronger than the wood itself. PVA glue can move under stress. With the first piece of the carcass held in a vice, I applied glue to the edges and rubbed the board edges together (**photo 1**). This technique thins and spreads the glue evenly and also works it into the wood pores; this is what gives such a strong joint. Each pair was cramped up as flat as possible and left for the glue to cure.

Later on, I belt sanded the excess glue off, then planed each piece to its finished cross-sectional dimension (**photo 2**). These pieces are only 12mm thick, so I stacked them on edge (**photo 3**). This stops them picking up any moisture on just one face, which could lead to distortion. They stayed like this until I was ready to start work on them again.

Into the trenches

Cutting housings in the top and bottom pieces to take the two sides isn't too difficult so long as care is taken. The tricky bit is cutting out the housings on the inside of each side panel to take the drawer dividers. If they're slightly

3 Stack the thin boards on edge to stop them picking up moisture and warping

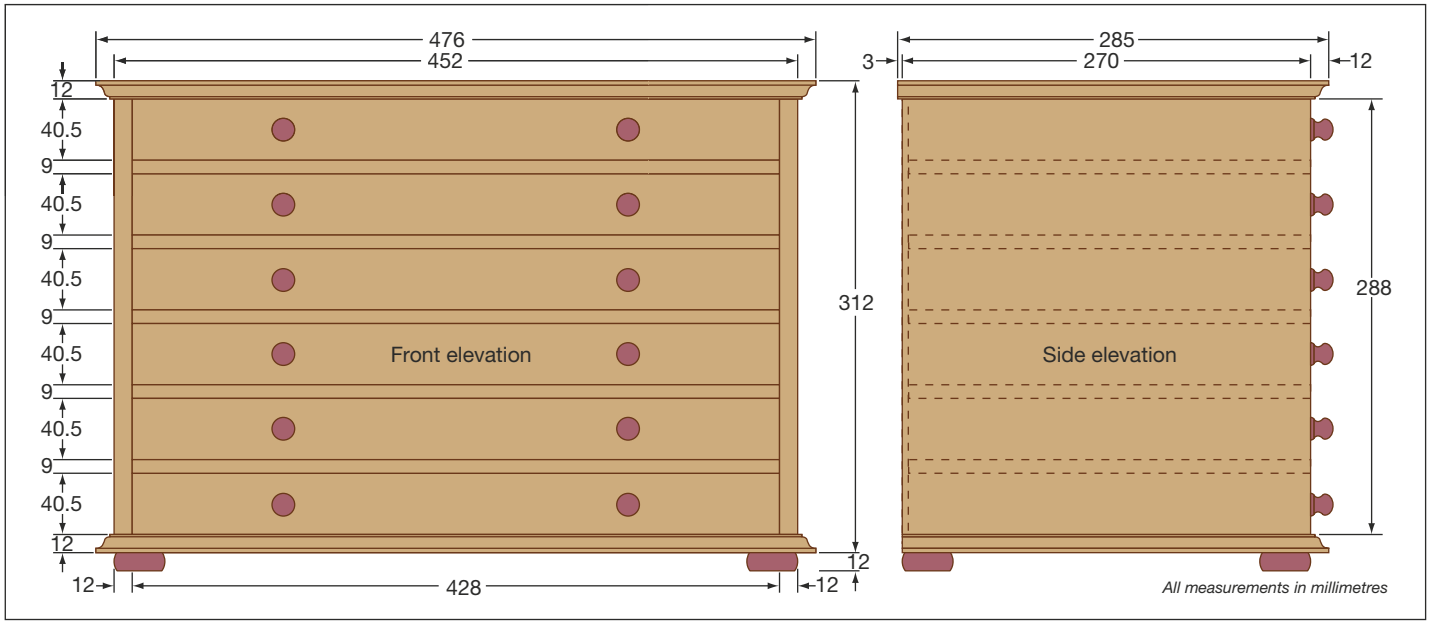
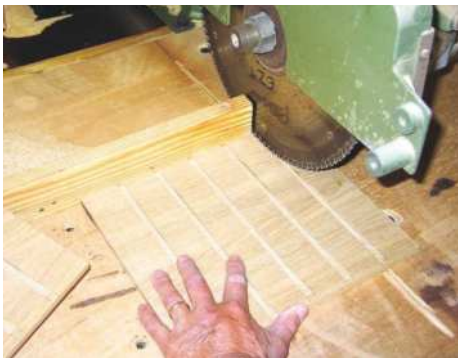
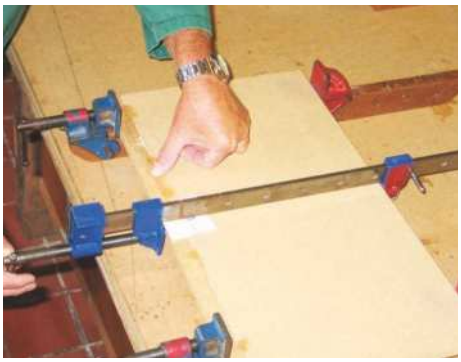


Fig.1 Graduation chest dimensions



4 Cut the five housings in the side pieces with a crosscut saw, or router if you prefer



5 A piece of MDF with a solid wood edge strip glued on forms each drawer divider

6 Use a straight cutter in the router table to form a rebate for the back panel

out of line or there's variations in the gaps, the difference will stand out like a sore thumb.

Rather, they need to be marked out in pairs. The position of the housing's front part is the critical bit. Some slight – but only slight – variations can be allowed further back as the drawers can be trimmed to fit later if necessary.

I was using 9mm thick oak-edged MDF for the dividers. The trick is to make the drawer openings a regular size – 40.5mm in my case. Each drawer front could then be made 39.5mm high to fit snugly. The sides were then marked out, housings cut – I used a cross-cut saw (**photo 4**) but a router will do the job just as well – and the ends cleaned up and squared out.

Five divisions

I made up the five drawer dividers next, gluing some 9mm thick strips of oak to the MDF panels' front edges (**photo 5**). These were then notched at their front corners to fit into the stopped trenches. Next, I cut a shallow stopped rebate into the rear edges of the main carcass pieces to take the 4mm thick back panel (**photo 6**) and applied a moulding to the top and bottom panel's three edges.

Putting it together

After a dry assembly run, the whole carcass was glued and cramped up. I started with the side panels and drawer dividers, then added the top and bottom. Sometimes, I find it difficult to hold the protective packing pieces in place. A trick I've learned over time is to fix them in place with masking tape before you begin (**photo 7**), then they stay in place as you assemble the carcass from the bottom up (**photo 8**).

Once the glue had dried, I cleaned off the excess and sanded the exterior to a 180 grit finish. Next, I cut the back panel – a piece of 4mm oak-faced MDF – to size and glued and pinned it in place.

Simple joints

The drawers come next. No dovetails are needed for these slim-line trays. The sides are rebated into the front and the back is housed into each side. The drawer base, a piece of plain 4mm MDF, is let into a groove routed in the front and sides (**photo 9**), which slides under the bottom edge of the drawer back.

Before they all go together, drill two knob holes in each drawer front while the wood can be got onto a pillar drill; it's more precise that way. After the drawer boxes are made up (**photo 10**), you can slide the bases in and pin their rear edge to the drawer back's bottom edge. This gives the whole drawer its strength and stability.

Chemistry lesson

I've probably said this many times before, but you get some great, deep nut-brown oak out of stuff that's come from old cow sheds! The ammonia fumes given off by farm animals' muck react with the tannins found in oak to darken the wood. If it's old enough you don't need stains, and the colour change can be very deep (**photo 11**).

Replicating this is nearly possible by acquiring a concentrated ammonia solution – known as

7 Stick packing pieces to the carcass' top and bottom with masking tape

8 Fit the drawer dividers, add the top and bottom, then cramp everything up square

9 The drawer fronts and sides are grooved to accept MDF base panels

10 I used a couple of frame cramp sets to hold the drawer boxes together

11 Fuming the components with ammonia in a sealed chamber darkens them dramatically

12 I turned the knobs in pairs, leaving a shaft in the blank's centre...

13 ... which I then cut through and held in a chuck to complete the shaping

14 I tackled the bun feet in one length so I could check they were a uniform thickness

.880 ammonia – and treating your wood to a process called fuming. You can buy .880 ammonia from some hardware shops or search for it online.

Fuming

You'll need a sealed chamber – made from polythene sheeting and Gaffer tape on a simple wooden frame – into which you can put the item to be fumed, plus some saucers or small containers into which the ammonia solution can be poured. Take great care with this noxious chemical. Make sure you're not in a confined space when pouring it out, and avoid being exposed to its fumes for any length of time. If possible, it's best to site your fuming chamber outside.

The effects fuming creates can be dramatic. The longer you leave the oak in the fumes, the darker it gets. Overnight or 24 hours is normally long enough. Once the process has gone as far as you want, the treated surface can then be sealed and waxed to a lustre finish.

The end game

Just to keep things interesting, I finished making the chest with a bit of turning – 12 walnut drawer knobs and four matching bun feet, to be precise. I turned the knobs in pairs between centres (**photo 12**), then cut through the shaft in between and finished them in the chuck (**photo 13**). I created the bun feet in one length with spaces in between so I could make them all the same thickness (**photo 14**). I then cut them off, applied a stain, centre-drilled, before screwing in place (**photo 15**).

I sized the shafts on the knobs to fit the pre-drilled holes in the drawer fronts, and cut a slot in the end of each shaft so I could tap in a small wedge from inside the drawer after gluing the knobs into their holes.

Fine-tuning

Having found a supplier of self-adhesive baize, I bought some in and lined the bottom of each drawer with it (**photo 16**), which looked very smart. To create the flexible divider system, I square-planed some stock, which was about 12mm wide and 6mm thick, and cut 12 pieces of this to length to fit in the front and back of each drawer. These were then V-grooved about half way through using an appropriate cutter in a router mounted on a home-made sliding jig (**photo 17**). The final stage was to cut the front-to-back dividers to length, to form a 'V' shape on each end, then slot these in place in their grooves.

The personal touch

My final task was to set a small engraved brass plaque – ordered from a trophy supplier – into the top of the chest for the lucky graduate. After careful marking out, I used a straight cutter in the router to remove most of the waste. Good old hand tools finished the job of cleaning out and squaring up the recess (**photo 18**), and a drop of epoxy adhesive on the back of the chest secured the plaque in place. A final dust and wax had the job finished, to the great satisfaction of all.

15 I stained the knobs and feet to a dark shade, and screwed the feet to the chest's base

16 Measure twice and cut once if you don't want to waste the self-adhesive baize lining

17 This simple jig makes light work of routing all the grooves in the drawer inserts

18 I used my router and some hand tools to cut a recess for the commemorative plaque

FURTHER INFORMATION

.880 ammonia – £19.95 for 2.5 litres (plus P&P)
H S Walsh & Sons Ltd
Tel: 01959 543 660
Web: www.hswalsh.com

SFWW & CCFMS
An innovative collaboration

Choosing to join forces for the benefit of their members and bringing together those with a passion for woodworking, **The Southern Fellowship of Woodworkers (SFWW)** and **Church Crookham and Fleet Men's Shed (CCFMS)** continue to successfully collaborate and expand, says SFWW Secretary, **Tim McGinn**

In an innovative collaboration, the Southern Fellowship of Woodworkers (SFWW) has developed and delivered a range of woodworking experience days with the Church Crookham and Fleet Men's Shed (CCFMS).

During 2022 there have been 20 courses with 125 participants from both organisations. No prior skills are needed and the Experience Days are evaluated by the participants to measure and maintain quality standards.

Each Experience Day lasts from 10am-4pm and is delivered in the outstanding 100m² CCFMS custom-built workshop sited on the former home of the Gurkhas at Queen Elizabeth Camp in Church Crookham, which is now a housing estate with allotments and a SANG (Suitable Alternative Natural Green space).

The range of courses was prioritised by members from both organisations and the top 10 selected included:

- **Vacuum Veneering making a Chessboard**
- **Traditional Veneering Techniques and Practices**
- **Carving a Dolphin on a Seascape**
- **Creating a Bench Hook and Shooting Board**
- **Carving House Nameplates**
- **Carving Initialised Coasters**
- **Restoration Techniques and Practices**
- **Dovetailing Making a Display Shelf**
- **Chisel and Plane Sharpening**
- **Bowl Woodturning**

SFWW was established in 1994 by Peter Guyett who led the fellowship for many years. It brings together those with a passion for woodwork, whether enthusiastic hobbyist or skilled professional – see **www.sfww.org.uk**. They meet monthly through the autumn, winter and spring in the stunning medieval Cross Barn in Odiham, Hampshire close to Junction 5 on the M3. In the summer months they organise visits to professional woodworkers' studios, museums and other points of interest.

The Woodworker Fellowship

Going back to 1991, *The Woodworker* magazine decided to resurrect an organisation, The Guild of Woodworkers which had ceased in 1989, in the form of The Woodworker Fellowship, run by Zachary Taylor. Sadly this didn't last long, once again due to lack of support on the part of woodworkers in general, finally ceased during 1994.

The original Guild of Woodworkers formed by *The Woodworker* magazine, started around 1976 when the Editor at the time was Anthony Talbot. A 75th year souvenir annual signed by Anthony

Talbot and Charles Hayward was available for sale to Guild members.

46 years have elapsed since the first germ of an idea proposed by *The Woodworker* magazine to encourage workers in wood to form a mutual Guild. By contrast CCFMS was established in 2017 by SFWW member, Allan Walker.

CCFMS' Men's Shed

Men typically find it more difficult to build social connections than women outside the working environment. Generally, men rarely share personal concerns about health and personal worries, often becoming depressed and insular. Men's Shed wants to make a change, to give men a voice, and every opportunity to forge new relationships.

Men's Sheds are about meeting like-minded people and having someone to share your worries with. They are about having fun, sharing skills and knowledge with like-minded people, and gaining a renewed sense of purpose and belonging.

As a by-product of all of that, locally Sheds want to reduce isolation and feelings of loneliness, allowing men to deal with mental health challenges more easily and remain independent. Men's Sheds have become a vital asset to the local community in so many ways.

CCFMS members show off their completed chess boards following a dedicated Experience Day

With the aid of a Lottery Grant, CCFMS created their Men's Shed which is a larger version of the typical man's shed in the garden; a place where you can feel at home and pursue practical interests. Their shed offers the facilities to pursue personal projects or for those feeling more community spirited, get involved in one of our many community projects, all in our purpose-built shed.

CCFMS has some amazing machinery and equipment, and members also share the tools and resources they need to work on any project. There's no pressure, members can work at their own pace or for those wanting some conversation here in a safe, friendly and inclusive environment.

More importantly it's forging friendships, it's social interaction and it's drinking tea and eating biscuits. What's not to like?

CCFMS is affiliated with the UK Men's Shed Association, the support body for Men's Sheds across the UK. They work to inspire and support the development of as many Men's Sheds as possible, for the benefit of men's health and wellbeing – see **www.menssheds.org.uk**.

Commitment to the local community

SFWW is a Supporter of the Worshipful Company of Furniture Makers and reaches out to three schools with their School Design Award. This recognises the woodwork attainments of two students in each school with the winners receiving a certificate of achievement and a prize book.

For the last two years the book has been *Beyond Parnham*, the story of an educational phenomenon that inspired a generation of designers and furniture makers under the leadership of John Makepeace OBE. John added a personal note to each student, which was particularly well received.

John Makepeace was the Guest of Honour at a fellowship Members Day to celebrate the end of lockdown and he gave an inspiring presentation on the qualities of good woodworking: design, structure and materials using a chair he had created to illustrate the detail of these principles in action.

CCFMS also has an active outreach programme to their local community with projects for pre-school, schools and other local initiatives. These include hosting local Girl Guides and Cubs groups for group sessions

Through CCFMS, friendships are forged as well as increased social interaction among members

making bird and bug boxes. Another reaches out to pre-school children making hedgehogs banging nails in a pre-shaped block.

Another superb initiative was providing purpose-built lending libraries for local junior schools to enable their students to share books among themselves. At the other end of the scale, CCFMS built a wooden steam engine complete with working smoke stack for the Fleet Rotary. This is now owned by CCFMS and will be used at Christmas to raise funds for three local charities.

Their commitment to the local community has been recognised by Fleet Carnival in 2022 when the Shed was honoured to be the Charity of the Year. Their outreach work was further endorsed by the UK Men's Shed Association at their national ShedFest 2022 gathering at Worcester University Arena when CCFMS was named 'Shed Partnership of the Year 2022'.

The Men's Shed benefits from having a wide range of machinery and equipment. Members also share the necessary tools and resources required to work on any project

Breaking new ground

The collaboration to deliver the Experience Days broke new ground and enabled the participants to acquire and refine new skills and tools.

For the Chisel Sharpening Experience Days a customised Sharpening Station was created with a float glass panel mounted on an inscribed block featuring the correct angles for chisels and plane blades.

3M Microfilm strips ranging in size from 100, 80, 40, 15 and 9 microns were attached to the float glass panel and provided an excellent basis for sharpening blades with a honing guide.

Carving House Nameplates used the traditional Trajan Roman Alphabet to create attractive signs. Participants used the Auriou Letter Carving Chisels designed by renowned woodcarver Chris Pye to create a nameplate to their design and specification.

Creating a Bench Hook and Shooting Board used traditional designs using tulipwood and MDF to build practical workshop accessories that enabled the participants to craft their own devices to a pre-determined design and practise using them to cut and plane timber.

Collaboration Experience Day Programme 2023

A recent survey of both organisations members has identified further topics for their collaborative 2023 Experience Day programme, which includes classic woodworking skills.

Plans include a Fellowship Signature Box in the style of a traditional Japanese Carpenters Box with three potential options among others in the 2023 programme:

- **Finishing Woodwork Projects**
- **SFWW Signature Chisel Box**
- **Stool – Mortise & Tenon Joint**
- **Sawn Timber Breadboard & Cheeseboard**
- **Carpentry Exercise 9 Joints**
- **Tea Box**
- **Case and Drawer**
- **Upholstery**
- **SFWW Signature Carpenter's Box**
- **SFWW Signature Bijoux Box**
- **Step Stool**
- **Boot Bench**
- **Ash Bowl Woodturning**

Courses will be delivered by CCFMS and SFWW Members assisted by Ryan Saunders, a local carpenter with excellent demonstrating and teaching skills. Ryan worked in the USA for Tom Lie-Nielsen providing technical and sales support to the marketing of their exceptional range of tools including their planes and chisels.

Plans for expansion

CCFMS is also expanding its footprint with the acquisition of a second location in the newly developed Hartland Village, situated midway between Fleet and Farnborough in natural woodland.

This is an ongoing successful collaboration between two distinctive organisations with similar interests and endeavours sharing their skills, resources and capabilities for mutual advantage and benefit.

Both organisations welcome interest from prospective members. To get in touch with either, see details below.

CCFMS members with their completed 'dolphin on a seascape' following another of the dedicated Experience Days

FURTHER INFORMATION

CCFMS – **www.ccandfmensshed.org.uk**
SFWW – **www.sfww.org.uk**
UK Men's Shed Association – **www.menssheds.org.uk**

The Shed offers great facilities to pursue personal projects or get involved in community-focused ones

18+

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SCAN ME

An innovative treatment for desks or tables: details in American black walnut and English oak

THINK OR SWIM

Peter Scaife waited for ages, then came up with a good idea while in the pool

It had puzzled me for literally years and then, halfway along one length of the swimming pool, it came to me. Not wishing to choose between thinking and swimming, I got out of the pool so I could try out this idea at home.

It was a simple enough problem: how to design a new treatment for the corners of, for instance, a table or desk. What do we usually do? Leave them square, cut off at 45°, or round these to a quadrant?

Now, if you look at the photos here, you'll see what I mean. And then you can try it for yourself. Put something circular on the corner of your workpiece; it can be anything in size from a small jar to a large tin. Mark round it in pencil, making a quarter of a circle, cut off the waste, then smooth off the vertical surface, working with the grain – a spokeshave is probably the best hand tool.

Make two pencil lines inwards, at right angles to the edges, from where the quadrant touches the timber's edge, perhaps at just a slight angle from the vertical, then make shallow sloping saw cuts along those lines. Using a chisel, working downwards and outwards, create that domed effect.

The curve's underside, or counterpart, is best completed using a carving gouge, but I think it could also be accomplished with the aid of a half-round rasp (**photo 1**).

No to foot & ball

OK, so that's one idea for corners, but what about legs and feet? I haven't got the time, patience, skill, or inclination, to try to imitate Thomas Chippendale and produce a cabriole leg with ball and claw foot.

Here we have rebates cut with a router on the two inside corners of all four of these chair legs. With saw and spokeshave, the ends are shaped and rounded, then smoothed to a quarter-circle (**photo 3**). To my eye, this gives an attractive and lightweight look to the chair without sacrificing any of its appreciable strength. With this in mind, I'm sure you can think of your own individual variations.

1 An alternative use, in American black walnut, seen from below (inset). The concave shaping could be completed with a half-round rasp and abrasives

2 A little simple decorative treatment shown here on a furniture leg

3 With saw and spokeshave, the ends are shaped and rounded, then smoothed to a quarter-circle

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CHISEL RATING

10 STEPS TO HEAVEN

Hollow forms are enclosed turnings where the internal material has been removed through a relatively small hole. They're the woodworking equivalent of eating a boiled egg while leaving as much shell intact as possible – **Bob Chapman** explains all here

Working through a small hole increases a task's difficulty, largely because it prevents you from being able to see what the tool is doing during the cutting process. It also restricts a tool's movement within the form. Almost all cutting is carried out according to the tool's sound and feel as it cuts, together with frequent measurements of the wall thickness to avoid cutting right through from the inside. In other words, it's keyhole surgery without the camera!

1 Hollow forms are enclosed shapes with a small hole through which they've been hollowed out, as demonstrated in the examples above

1 DECIDE ON THE SIZE OF OPENING

Obviously the larger the starting hole is, the easier the hollowing will be. I generally advise beginners to go for a hole about 25mm in diameter. This is big enough to give plenty of clearance around the tool and may allow the cutting edge to be seen inside the form, or at least while working near the opening. It also makes it easier to put a finger inside to feel the surface, but you should never attempt to do this while the lathe is switched on. Any prominent ridges inside the piece can be felt, their positions noted, and an effort made to subsequently remove them.

Coping with disaster

Try to avoid damaging the edge of the opening as you work. If it does occur, you can always make the hole a little larger by cutting away the damaged part. However, there's a limit to how big you can make the

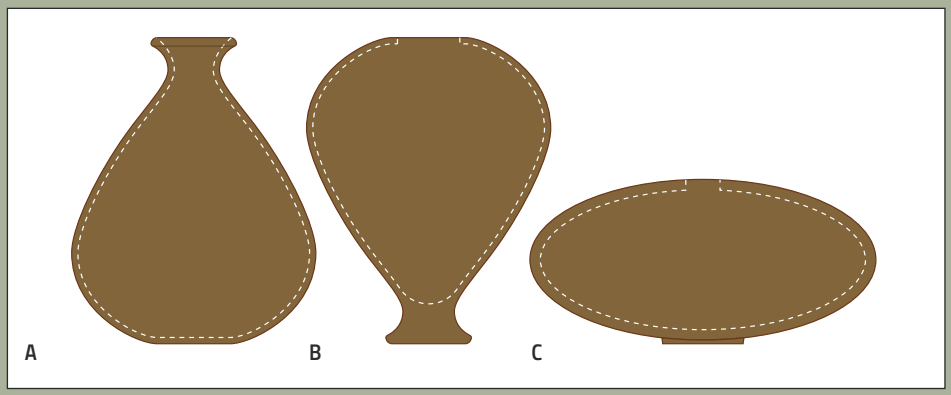

Fig.1 Hollow form variations


WW
TURNING

2 Although requiring a lot of hollowing, this piece is now a vase rather than a hollow form

opening without beginning to lose the hollow form concept you're looking for (**photo 1**). You'd eventually end up with a form with no attempt at enclosure, which might more accurately be called a vase (**photo 2**).

Another downside of creating a form with a large hole is that other turners, when examining it, will invariably stick their fingers through the hole and make suitable – usually good-natured but sometimes adverse – comments on the quality of the inside surface, but see step 6.

2 WORK WITH THE TOOLS YOU HAVE

Don't rush to buy any specialised tools for this very purpose. Everyone thinks of using only dedicated deep hollowing tools to create hollow forms, but a surprising amount can be achieved with some fairly ordinary turning tools – **photo 3** shows a number of those I use for hollowing. The top one is home-made by fastening a scraper tip to a length of 16mm round steel bar. It's an effective tool, and although the size of this tip demands a fairly large opening, smaller ones can also be used with it. The next two scrapers are cranked to allow them to reach more easily around the hollow form's shoulder.

3 This selection of hollowing tools ranges from homemade at the top to '£100 special' at the bottom – the choice is yours

4 A bowl gouge can be a surprisingly effective hollowing tool – note the flute's position

The fourth is simply a narrow 6mm straight scraper, and the fifth a slim bowl gouge.

A narrow scrape

Scrapers are straightforward tools to use inside a hollow form. The cutting edge is kept well down on entry, then lifted until cutting commences. Scrapers don't clog up and waste removal is quick and effective. A broader scraping edge will span the bumps and take them down to a relatively smooth surface. Generally speaking, small scrapers make excellent hollowing tools.

Playing the flute

A bowl gouge also makes a surprisingly effective hollower. Enter the form with the gouge's flute pointing down and to the left – the 8 o'clock position – and allow the top to rub the internal wall. Rotate the tool clockwise until, eventually, the gouge's lower wing makes contact with the wall and begins to cut (**photo 4**). More clockwise rotation increases the depth of cut but may cause catches, and rotating anti-clockwise reduces the cut again. The main problem is that the waste material may build up in the gouge's flute, clogging it up and preventing it from cutting cleanly. The only remedy is to remove the gouge and clear the flute at regular intervals.

Digging deep

The last tool shown in **photo 3** is a specialised deep hollowing tool, which costs well over £100. When it cuts well it does so to a very satisfactory level, but I find that when used on dry timber, the cutting tip clogs every couple of minutes or so. Withdrawing it to clear the blockage becomes very tedious, and I soon give up and revert back to using my scrapers.

When these tools are demonstrated at woodworking shows, they're almost always used on newly-felled timber. The high moisture content's lubricating effect allows long shavings to flow through the tip, and hollowing proceeds satisfyingly quickly. If you prefer to work with green timber, these tools may well be worth the extra cost involved, but if possible, do try them on dry timber before you commit to buying.

3 DESIGN FORMS TO SUIT YOUR TOOLS

Simple designs for three hollow forms are shown in **Fig.1**. Design B is simply design A turned upside down, but this simple change makes a vast difference to the tools required for hollowing. Design A (**photo 5**) can be hollowed entirely with a straight-bladed tool. Every part of its interior can be reached by a straight line through the opening. Hollowing is therefore straightforward, especially if the opening isn'ttoo small, and it can be completed with either a bowl gouge or straight-bladed scraper.

Cranking up the volume

Design B – see main photo overleaf – requires a cranked tool to reach around the hollow form's shoulder. This area simply can't be reached with a straight blade, and without the correct tools, the form would have to be left with thick walls at the shoulder, thus making it top-heavy.

A cranked scraper such as those shown near the top in **photo 3** would do the job fairly easily. Design C (**photo 6**) requires a much longer crank

5 A simple shape such as this yew form can be hollowed with a single straight scraper...

6 ... but to reach the insides of these squat shapes, you need a hollowing tool with a long crank

to reach across to the sides. The hollowing tool at the bottom of **photo 3** would be the best of those shown to accomplish this task. However, a scraper with the necessary length of crank at the correct angle would also be up to the job.

4 SHAPE THE OUTSIDE FIRST

It's much easier to get the internal shape right if you have an external shape from which to mimic and measure. Shape the exterior to match the final form's approximate shape (**photo 7**), but leave enough wood to support the piece during the stresses imposed by the hollowing process. Once the bulk of the hollowing is completed, the shape is gradually refined from both the inside and outside. The outside is what will be seen, and it's much more important that this, rather than the inside, looks right. Over-enthusiastic material removal from the inside, in order to maintain wall thickness, can force the exterior to look bulky or alter the piece's proportions, so avoid this at all costs.

5 PRACTICE MAKES PERFECT

The difficulty is that, inside a hollow form, you can't usually see what the tool is doing. However, you can make it visible for practice purposes. While your turning blank is still square, drill a large hole through the side of the wood (**photo 8**). Set lathe speed to the highest you're comfortable with, and turn it roughly to shape on the outside. Next, drill a hole down into the end so you can begin hollowing (**photo 9**).

During drilling, you'll see that the drill becomes visible through the hole created in the side. The same is true of the hollowing tool (**photo 10**), which is shown here with the lathe rotating. In this way, you can see what you're doing while developing a feel for manipulating the tool inside the hollow form.

As your skills improve, you'll probably want to make hollow forms from irregular lumps of wood, and these often develop holes in the sides. Contrary to popular belief, these holes make hollowing easier (**photo 11**), not more difficult.

6 MAKE LARGE OPENINGS SMALLER

One way of preventing the inquisitive turner from passing judgement on your hollow form's interior is to make the opening too small for a finger to reach inside. This would of course make it too small for successful hollowing, but the answer is to make a larger hole, then fill it in with a contrasting timber, which has a much smaller hole through it. This makes a feature of the hollow form's neck – and momentarily wrong-foots your critics! The two hollow forms shown in **photo 6** have both received this treatment – one with a piece of ebony; the other with a beech insert, painted to give the appearance of aluminium.

7 Start by shaping the form's exterior; this acts as a guide for hollowing the inside

9 Shape the blank's exterior and drill a hole into it, then you can start hollowing

7 KEEP THINGS SMALL

The largest of the hollow forms shown so far is only about 130mm high – the size of the largest example shown in the main photo. Large hollow forms aren't only tedious to create, but generally speaking, they're not very saleable as people don't have spaces in their homes big enough to display them. So don't waste your effort turning wooden replicas of the Portland Vase; stick to little Ashes urns instead!

8 For practice purposes, make the interior visible by drilling a large hole through the blank

8 CHEAT THE SYSTEM

There are ways to make hollowing out a piece quicker and easier. One popular method is to cut the blank into two pieces and hollow them separately like two bowls, before joining them back together again. To avoid a large mismatch in the grain pattern, use a narrow parting tool to sever the blank (**photo 12**). The hollowing is then easily accomplished in a few minutes with a bowl gouge (**photo 13**).

Unfortunately, no matter how carefully you match the grain, the join will always show as a permanent, and obvious, reminder of your cheating (**photo 14**). You can try to disguise the join by making it into a feature, such as a decorative bead (**photo 15**), for example. The problem with this method,

10 With the lathe running, you can now view the tool's progress through the side window

11 The presence of holes in the side of a piece actually makes hollowing easier

12 If you fancy cheating, use a narrow parting tool to cut the piece in two

13 It's then a simple matter of hollowing the two halves with a bowl gouge...

14 ... before reuniting them. Unfortunately the grain mismatch is clearly visible

however, is that although it may fool the uninitiated, most other turners will know exactly what you've done. I'm always deeply suspicious of any hollow form with a feature round its middle...

9 THINK BIG

Despite my own advice to keep things small, like everyone else I sometimes get the urge to turn something big, and in my case, this was a large hollow form about 350mm tall and a little less in diameter (**photo 16**). Hollowing such a large piece through a small hole would take forever, so I needed to cheat... but how to avoid it looking obvious?

The answer I came up with was to make the separating cut as a zigzag around the piece, similar to that shown on the much smaller form in **photo 17**. I started by partially hollowing through a hole in the top, then used a jigsaw to join up a series of holes drilled into the cavity.

Once separated, each piece could be hollowed with a bowl gouge, taking care to avoid contact with the zigzag edges' whirling corners. I then glued the two pieces back together and disguised the cut by inserting a series of contrasting wooden dowels in holes drilled over the zigzag line. The result is a hollow form that very few would suspect of being a cheat (**photo 18**). Incidentally, although I use the word 'cheat', I don't really regard this as such. You can only do so if you accept that there's rules to be obeyed in the first place.

10 DON'T BOTHER!

I'm not serious, surely... but it's a fact that hollow forms would look exactly the same if they were solid. Many years ago, I used to sell my work at craft fairs, and whenever anyone picked up a hollow form, their first comment was one of amazement as to its light weight. Almost without exception people expected them to be much heavier. In that case, I had to ask myself, why was I bothering to hollow them out at all?

Sarah Thirlwell has become known for her large turnings made from reclaimed and recycled materials. Looking at them, most turners would assume they're hollow forms, but this isn't the case. They're solid objects and very, very heavy, yet Sarah appears to have no trouble selling them, and why should she? They look just as good solid as if they were hollow.

With a simple hole drilled down the middle, your solid forms will look just as good as hers, be just as saleable, and a lot easier to make. In fact, one of the photos in this article shows a piece which isn't hollow. Passing it off as such really is cheating, but can you tell which one it is? Answers to the Editor, please!

15 You can disguise the join with a feature such as a bead, but it'll always look suspicious

16 In order to turn something like this 350mm tall hollow form, you'll need to learn some new tricks

17 One solution is to make a zigzag cut round the piece with a jigsaw after doing some hollowing

18 After reassembling the form, you can disguise the joint with a series of contrasting inserts... and even add a narrower neck if desired

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LETTERS

★LETTER OF THE MONTH

A COLLECTOR'S STORY

Dear Tegan,
I'm a 74-year-old retired joiner and still subscribe to *The Woodworker* as well as collecting books and various other woodworking magazines (**photo 1**). I file each copy of *The Woodworker* as it arrives and also have a great many older ones, going all the way back to before World War I, plus a full set of editions from 1950–1960.

In total, I have over 750 copies of *The Woodworker*, as well as many other magazine titles that have gone by the wayside over the years – some good; others not. In my opinion, yours is the original and best and continues to this day. I hope it carries on for many more to come as there's still a need for a good quality physical magazine, not just an app!

Planes-a-plenty

As well as my collection of woodworking books and magazines, I also have approximately 280 wooden planes and a few steel varieties (**photo 2**). I've amalgamated these over 30 years or more, buying them from old, retired joiners and cabinetmakers, or at auctions and car boot sales, while others have been gifted to me by people who know I'm an avid collector.

2 An impressive selection of around 280 planes

I do use some of them, mostly the steel versions, but the majority of moulding and plough planes are of little use now as nobody wants fancy edges on their furniture – it's all square corners and flat faces, such as those in the Shaker style.

When I look through my collection now and again, I can hardly find two planes that carry the same maker's name, but I'll never sell them; they're on my workshop wall and give the place a homely feel.

1 Tommy in his purpose-built stone and blockwork workshop

3 As well as planes, Tommy has a huge collection of woodworking tools, which are housed in purpose-made floor-to-ceiling fixed shelving

Cabinet of curiosities

In addition to the planes, I also have a collection of woodworking tools – some old; some not – and still use a few of these if a specific type of tool is required (**photo 3**). Most of the planes have been bought at auction or through tool dealers, and a few at car boot sales.

Shown in **photo 3** are the best of my old tools, but I still use ones like these every day in the workshop. Even though I'm now retired, these were invaluable in my trade as a joiner.

I've made a few items that I'd describe as cabinetmaking, and these tools are contained in purpose-made floor-to-ceiling fixed shelving and a bookcase that incorporates oak doors and oak-faced MDF.

The doors were salvaged from school stationery cupboards, which had their panels removed and replaced with 'greenhouse glass' – a cheap alternative to old glass, with its imperfections, which help to give it an aged or antique effect.

The built-in bookcase was made to the same design as that of my tool collection cabinet. I have approximately 200 books, which I've collected throughout my life, covering all aspects of woodworking, along with building, turning, carving and restoration.

Located on the bottom shelf is my collection of *Woodworker* annuals (**photo 4**) from 1935–1987 – a continuous set of 53 in total – as well as six earlier annuals including a 'facsimile' edition of Volume 1, which was printed in 1976 and consists of 276 pages.

4 *Woodworker* annuals from 1935–1987

I've not found any annuals after 1987 (Volume 91) so I think they must have been discontinued. By this time, they were getting quite large – containing 12 magazine editions – which themselves were increasing in pagination.

Thank you for a great magazine and I hope others enjoy seeing my various collections.
Regards, **Tommy Stephenson**

Hi Tommy, it was great to meet you at the recent 'Harrogate' show and thank you for passing on these photos and details of your impressive and ever-growing collection of various woodworking tools, books and magazines. You clearly have an enormous passion for woodworking in every sense of the word, which obviously is alive and well even though you've now retired from the joinery profession. Thank you for taking the time to detail your collection in all its glory, and also for giving us a glimpse inside your workshop. I hope you continue to enjoy the magazine for many more years to come and that you're able to make room for future editions! Keep up the great work!
Best wishes, **Tegan**

5 Various old copies of *The Woodworker*

DREAM MACHINE

Hi Tegan,
I thought I'd write in and show you some photos of my recently-made project, with a woodworking twist! It features a 3D printed dome, which took nine days in total to print. The main body is made from plywood and skinned with styrene plastic. The legs are wicked plywood along with the feet. The details are also 3D printed, and the hoses are the flex variety used for sinks. For the paint job, I used graffiti rattle cans, and in total, the project took about 3-4 weeks to complete. I hope you like it!
Regards, **Mike Berry**

Mike's completed model

Hi Mike, thanks so much for sending in photos of your robot model – it's truly unique and looks fantastic! Clearly, a great deal of hard work, patience and a fair bit of ingenuity was called for here. We always love to see what readers get up to in their workshops, and you've certainly opened our eyes! I'm sure others will enjoy it, too. Best wishes, **Tegan**

A view inside Mike's latest project, showing the main plywood construction

SIMPLE SHOOTING BOARD

Hello Tegan,
Back in the March 2022 issue, Phil Davy wrote an article on making a shooting board. Since then, I've made my own version and wanted to share some details of its construction along with a photo.

In basic terms, it has a base plate with another, thinner layer on top for the plane to run along, in addition to a fixed bearer at the top, set to 90°. There's also a bearer placed underneath, which acts as a bench stop. The 45° angle is formed from a separate piece of board, which is held in place with two dowels; these are permanently fixed in the angle plate, which locate into holes drilled in the baseplate. The knob is used to lift the angle plate off the base plate when not in use. Obviously this system could be used to form any other angle if required, but all in all, this simple shooting board was easy to make and works very well.
All the best, **Paul Abrey**

Paul's completed shooting board – the knob is used to lift the angle plate off the base plate when not in use

Hi Paul, thanks for showing us your shooting board and even better that it makes life easier in the workshop! While a simple project, it clearly serves a very useful purpose and as you rightly say, can also be modified for a variety of other angles, as the user sees fit. As always, it's great to see readers being inspired by projects featured in the magazine. Many thanks again for sharing! Best wishes, **Tegan**

READERS' HINTS & TIPS

For the next 10 issues, in conjunction with Veritas and Axminster Tools, we're giving one lucky reader per month the chance to get their hands on a fantastic Veritas apron plane with PM-V11 blade. Ideal for trim carpentry and featuring a ductile cast-iron body, its unique side wings allow for a comfortable, firm grip. To be in with a chance of winning this great piece of kit, just send your top workshop hints, tips or pointers – indeed anything that other readers may find useful in their woodworking journeys – to **tegan.foley@dhpub.co.uk**, along with a photo(s) illustrating your tip in action. To find out more about Veritas tools, see **www.axminstertools.com**

HANDY HINT: WORKSHOP-MADE FINISHING HELPERS

These finishing aids are so easy to make yourself

If, like me, other readers are tired of waiting for finish to dry on one side of a project before completing the other, then read on. You can purchase standoffs for this purpose, but it's also really easy to make them yourself. Simply drive 50mm drywall screws through 50 × 50mm squares of 20mm thick stock. The screw points will leave a divot in the finish, which can be touched up later, but I always let the back side of my project rest on the screws while the finish dries.
Barry Hancock

WRITE & WIN!

We always love hearing about your projects, ideas, hints and tips, and/or like to receive feedback about the magazine's features, so do drop us a line – you never know, you might win our great 'Letter of the Month' prize, currently the new Trend ¼in 30-piece Router Cutter Set, worth over £100. Simply email **tegan.foley@dhpub.co.uk** for a chance to get your hands on this fantastic prize – good luck!

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SOMETHING SIMPLE ON THE SIDE

CHISEL RATING

Brian Barber combines clean lines and a pragmatic approach in his oak side table, which is perfect for any room in the house

Having just revamped my study with a new oak desk and chair, I found myself in need of a small table – something simple but chunky – to sit beside a two-seater sofa. When designing, I tend to follow an 'evolutionary' process that begins with a rough sketch showing approximate dimensions – usually a height, width and depth, though sometimes it might just be the dimensions of a door or cabinet top – and proceeds from there.

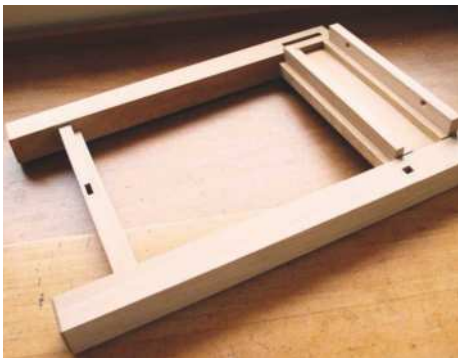
On this occasion, then, I reckoned that if I was going to go to all the trouble of making a table, I might as well add a drawer for those inevitable odds and ends, a small glass shelf for papers, etc. and perhaps a bit of detail on the top to make things a bit more interesting.

And that's the process by which I arrived at my sketch for a small side table. **Fig.1** shows the table's general arrangement, but the dimensions given can be easily modified to suit your own requirements and preferences. I chose to make the table from European oak as the timber is readily available, and also has a beautifully warm brown colour that'd match the new desk and chair in my study. As you can see from the drawing, the basic framework consists of two sides, each comprising two legs connected with a side rail top and bottom (**photo 1**). These assemblies are then joined with a matching rail at the back, a stretcher between the lower rails, and at the front with a drawer opening. This was made from two pieces of oak – 20 × 15mm and 22 × 20mm in section – which were mortised into the front legs. For increased strength, mortises and tenons were used for all the frame's joints.

Basic framework & drawer runners

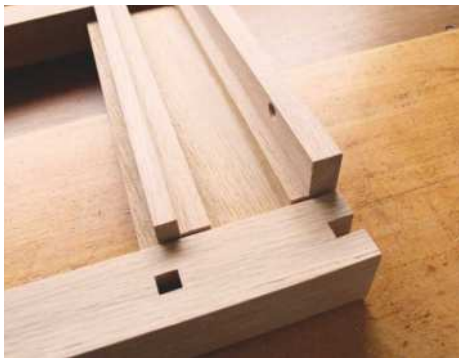
The first job was to make the legs, which are four pieces of 42 × 42mm oak mortised as necessary; chamfering the bottom edges of each leg helps to prevent the grain splitting. The two side and back rails were then cut from 20mm thick stock. I used a 3mm straight cutter to rout a small groove 22mm from the bottom of the upper side and back rails – a height that matches the bottom of the drawer opening (**photo 2**).

The runners and kickers, between which each drawer slides, were made from four pieces of rebated oak, glued to the side rails'



1 The basic framework consists of two sides, each comprising two legs, which are connected with a side rail top and bottom

2 To add interest, the side rails were detailed with a 3mm groove, which continues the line of the drawer opening



3 The drawer runners and kickers, made from rebated oak, are glued to the side rails' insides

insides (**photo 3**). Extra care must be taken when making these pieces to ensure they'll eventually hold the drawer so that it sits within the opening with about 1 or 2mm clearance.

To receive the 8mm plate glass shelf, the lower rails – made from 30 × 15mm oak – were routed to produce a 10mm deep rebate (**photo 4**). The glass itself was cut to size leaving about 2mm clearance all around, and the edges polished. All joints were then glued together using urea formaldehyde resin glue. **Photos 5** & **6** show the completed and unfinished framework before the top and drawer were added.

Making the top

The top, which is 22mm thick and measures 370 × 370mm, was assembled using biscuits and a breadboard construction, which allowed me to extend the detail on the side and back rails by routing 3mm grooves along the breadboard joins (**photo 7**). This isn't a way of hiding poor joints, by the way; any gaps or thick glue lines won't just show up, they'll be highlighted by this detailing. I feel it's always worth making the effort to ensure that all joins are as perfect as possible; there's no excuses for gaps, even in a project as simple as this one.

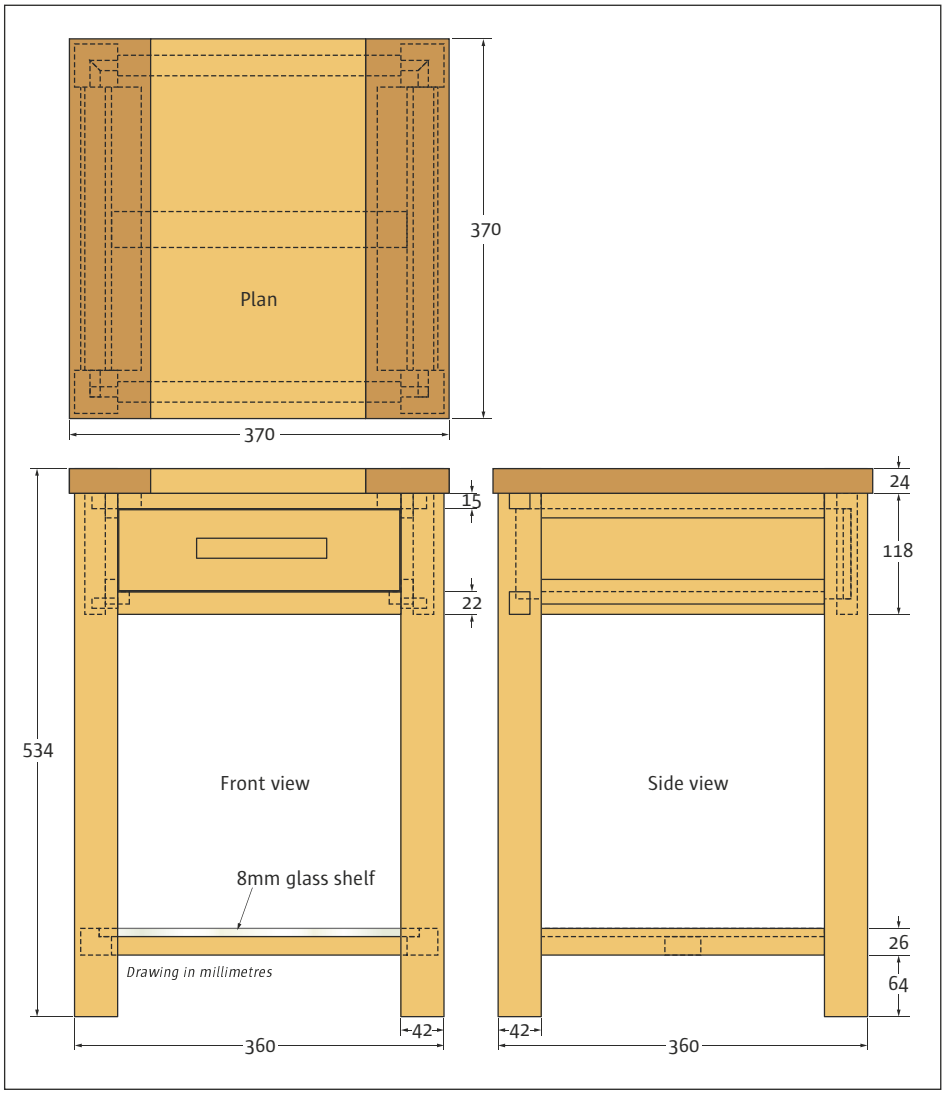


Fig.1 General arrangement and dimensions

Assembling the drawer

The drawer is constructed in traditional fashion: hand-cut dovetails all round, with lapped dovetails at the front to give the drawer front a clean line (**photo 8**). A plywood bottom was then slotted into grooves routed in the drawer sides. You can see the finished drawer in **photo 9**, complete with handle, which was made by shaping a length of oak so that it tapers from front to back to give a better grip when opening the drawer (**photo 10**).

Final finishing

During the cabinet build, I finished all pieces with a razor-sharp hand plane before sanding them using 320 grit abrasive. This ensured that, apart from only having a small amount of glue to clean up, there'd be very little finishing work to do when the cabinet was finally assembled – see 'Cleaning up' for an alternative approach.

I must admit to having a liking for good-quality hand planes, my favourites being Clifton and Lie-Nielsen. They're quite expensive, it's true, but worth every penny when it comes to making furniture mainly by hand, as the finish that can be achieved using them is superb.

To complement the finish on the desk and chair, I used Osmo's Polyx oil, which works well on many timbers, especially those such as oak, which have an open grain structure. The resulting finish is extremely hard-wearing and, just as importantly, it's easily renovated: any blemishes can be sanded out and refinished without leaving any tell-tale signs.

I applied three or four coats with a rag, giving the table a light sanding and a night to harden between coats. It's remarkable how the oil builds up to give a really pleasing sheen. It all looks quite

4 The lower rails are rebated to receive the 8mm plate glass shelf

5 The completed but unfinished framework...

disappointing when the first coat sinks in, but after a few of these, a beautiful transformation takes place. You can also apply oil with a brush and rag it off afterwards, but don't use a brush on its own as this can leave bristle marks. Once the last coat had thoroughly dried, I topped off the table with a wax polish (**photo 11**). All I need now is a mat to protect the newly polished top, and a cup of tea to put down on it...

7 The top's breadboard construction was detailed to match 3mm grooves on the side rails

8 The drawer employs traditional construction with hand-cut dovetails all round

10 ... while the handle echoes the table's clean and chunky design

6 ... waiting for top and drawer to be added

9 Lapped dovetails keep the drawer front lines clean...

11 After four coats of Osmo's Polyx oil, the table was finished with a wax polish

CLEANING UP

Brian's approach to cleaning up is sound advice, although others are taught to clean up inaccessible areas and internal edges prior to glue-up rather than cleaning up the whole project after assembly. A good example of this would be a panelled frame, where you'd clean up the frame's internal edges and the panel's relief mould, which are difficult to sand once put together.

If you're making a cabinet, for example, where you need to glue up a number of sub-assemblies – more panelled frames, say – which are then glued into a final assembly, we suggest planing and/or sanding the internal edges, panels, etc. before gluing up. It's then advisable to sand the various sub-assemblies prior to final assembly, which will leave you in a similar position to Brian – i.e. with only minimal clean-up to be carried out.

You should, however, resist the temptation to clean up all the faces too rigorously before glue-up otherwise you run the risk of ending up accumulating dirty handling marks, which will only lead to more sanding later. Besides, you'll probably have to sand or plane out any slight discrepancies around the joints, so, with this in mind, you may as well leave cleaning up the external faces until the final stage of the build

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'MegaReef 01' by Joshua Abarbanel – 2014, stained wood – 3.04 × 5.5 × 3.3m

WOOD'S PART IN ART

As **Paul Greer** shows, wood continues to play a significant role in the history of art, dating all the way back to Ancient Egypt

WW PROFILE

1 Guardian Statue of Tutankhamen's tomb

2 'Saint Tobias and The Angel' – antique 18th century Flemish Netherlandish religious Baroque gilt wood triptych. Gilt wood case with iron strap hinges and gilded decoration

3 Triptych of 'The Adoration of the Magi' Ca. 1494. Grisaille, oil on oak panel – on display at Museo Nacional del Prado, Madrid

Wood has played a significant role in the history of art. While principally via the artefacts themselves, this has also been through the equipment for making them. And though wood has sometimes come to be replaced by a modern – or just cheaper, more convenient – material, there are cases where it's remained the unchallenged preference of artists: after all, it combines lightness and durability with ease of cutting, while presenting a pleasing – not to say beautiful – surface.

4 Old artists' handmade wooden paintbrushes

5 Modern artists' paintbrush set with birch wood handles

Sculptural artefacts

Some of the most striking wooden artefacts are sculptures. Two early examples include the sentinel figures (**photo 1**), which guard the tomb of the Egyptian Pharaoh Tutankhamun, unearthed in 1922 by the English archaeologist Howard Carter. Life-sized and painted black and gold, they instantly stood out to him and his colleagues, even among the riches of the young king's antechamber, in whose airtight conditions they'd remained perfectly preserved for over 3,000 years. While not amounting to a physical barrier to intruders, they acted as reminders to any that they were entering a forbidden space.

Diptychs, triptychs & polyptychs

Until the early 15th century, artists painted on wooden panels. Two, three, or more of these – known as diptychs, triptychs or polyptychs – could be required for a particular work, and woodworkers became accustomed to making the elaborate shapes necessary. Most entailed gluing or nailing layers of wood together, but many of the larger pieces required battens on the back, to prevent warping (**photo 2**). Duccio and Cimabue were among the Tuscan masters executing their pictures on such bases, gesso-coated linen offering a uniform working surface.

However, this soon changed, and in 1423, commissioned by the eminent Florentine banker, Palla Strozzi, Gentile da Fabriano painted 'The Adoration of the Magi' (**photo 3**), which featured a wooden frame distinct from

6 Antique Victorian mahogany Winsor & Newton artist's box – circa 1880

7 Photograph of Queen Victoria by Alexander Bassano, 1882

8 'Self-Portrait as a Painter' by Vincent van Gogh

9 Victorian carved mahogany artist's easel – triangular frame featuring rococo style pierced foliate and rocaille surmount, with adjustable picture rail, on foliate scroll carved feet – 36in wide × 5in dia. × 78in high

the picture itself. In time, frames themselves acted as tokens of wealth, with walnut being especially prized for its rich colour. By contrast, pine or poplar were typically employed where the wood surface was to be gilded, and therefore hidden from view.

Artists' equipment

The ready-to-use equipment, which artists enjoy today, took time to develop and in addition to grinding their own colours, they used to make their own brushes (**photo 4**). In fact, specialised manufacture of wooden brushes only began late in the 18th century. Through combined human expertise and computerised precision, today's are commonly made of birch, and produced to a remarkably fine finish, being identical and flawless (**photo 5**).

Some companies making artists' brushes and other equipment today are very old. T and R Rowney began in 1783 as a perfume manufacturer and wig supplier, but soon came to serve artists alone. Founded a little later, in 1832, Winsor and Newton (**photo 6**) was a favourite of Queen Victoria (**photo 7**), and at whose request produced a particularly fine watercolour brush of kolinsky sable. Shortly after World War II, the firm moved its production base to Lowestoft, on the Norfolk coast, partly because the net-mending skills of the local fishing population lent themselves to the more delicate aspects of brush-making.

The portable wooden easel was among the most significant additions to artists' equipment. It allowed them to work outdoors, leading to stylistic developments through the direct study of nature. One of the greatest landscape artists, Vincent van Gogh, also produced a self-portrait featuring this device (**photo 8**). Some very old easels are so distinctive that they command thousands of pounds at specialist auctions (**photo 9**).

Wood in sculpture

In artistic circles during the late 19th and early 20th century, wood's status rose. Perceptions of it as a purely utilitarian material were gradually replaced by ones that not only acknowledged the decorative role, but also recognised its potential to fulfil aesthetic objectives.

The teaching of woodcarving, too, was established within a general revival of handicrafts by the Arts and Crafts movement. Such notable examples are Henry Moore (**photo 10**) and Barbara Hepworth (**photo 11**) – two famous 20th century British sculptors – who met while studying at Leeds College of Art in the early 1920s and whose mutual influence can be seen in their works, regardless of medium or scale. The celebrity of each rests mainly on pieces exhibited within a landscape, or at least, outdoors. To be durable in such conditions, most are made of stone or metal; however, both artists have produced numerous pieces in wood (**photos 12** & **13**), which, being displayed indoors, have maintained their finished surface.

Moore's small wooden sculptures derive chiefly from the human figure, and that of a reclining woman, in particular. Hepworth's are more geometric, and frequently combine wood with a metal, often as strands of wire. Moore's tend to make a feature of the wood grain, where

10 English artist and sculptor, Henry Moore

11 Barbara Hepworth – a 20th century sculpting great

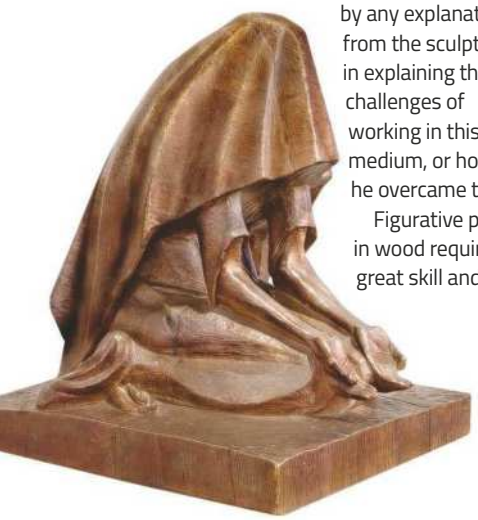
12 'Reclining Figure' 1939, elm sculpture by Henry Moore, on display at the Detroit Institute of Art – 94 × 201 × 76cm

13 'Wave' by Barbara Hepworth, 1943–1944, wood, paint, string – 30.50 × 44.50 × 21cm

many of Hepworth's are most satisfying owing to their deep, rosy lustre.

The art critic Roger Fry's essay 'Negro Sculpture in Vision and Design' (1920), was a likely early influence on Henry Moore, whose early pieces were carved in exotic woods. In time, however, he came to prefer native British species, such as elm. Unfortunately, the quality of the photos taken by Gemma Levine, with whom he collaborated on the book *Henry Moore: Wood Sculpture*, don't seem to have been matched by any explanation from the sculptor in explaining the challenges of working in this medium, or how he overcame them.

Figurative pieces in wood requiring great skill and inviting strong emotional response feature in the work of German sculptor, Ernst Barlach. He and other expressionist artists earned the disapproval of Hitler during the 1930s, and were either forbidden to work or exiled. Artists then whose work was other than conventional could be branded degenerate, or politically dangerous, and works such as 'Have Pity' (**photo 14**) shows that Barlach had the power to produce pieces with a potentially subversive message.



14 'Veiled Beggar Woman (Mercy)', 1919, Ernst Barlach, oak – 38 × 30.4 × 33.7cm Signed and dated on left of plinth: E Barlach 1919

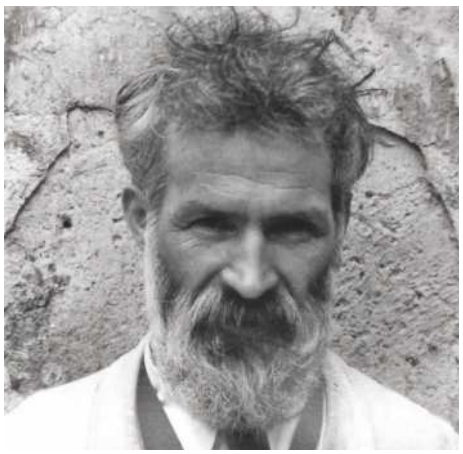
'The father of minimalism'

Neither Moore nor Hepworth came from areas associated with wood. One who did many see as the greatest sculptor of the 20th century, however, was Constantin Brancusi (1876–1957) (**photo 15**). Born in Romania, early on, he showed a facility for working in the material, making wooden work tools. Hailing from a peasant community, Brancusi's talent earned him training in his country's capital, Bucharest, and he went on to pursue much of his very creative life in France.

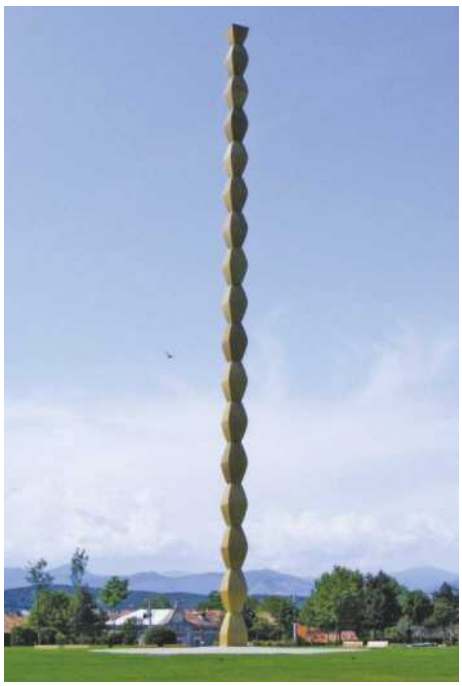
The mystic quality attached to much of his work is well-illustrated by one of his best known – 'The Endless Column' – of which there's more than one version (**photo 16**). The wooden one, in Târgu Jiu, is nearly 30m high, and seems to link earth and heaven. While inspired by traditional crafts, and even folk art, his finished pieces have prompted many to dub him 'the father of minimalism'.

One category of art, termed the 'found object', is where an artist selects an item, which they deem worthy of display, that exhibits features or qualities they consider distinctive and/or akin to those they themselves might seek to produce. Many such finds are made on the sea-shore (**photo 17**). Here, washed-up tree fragments –some quite large – can dry out in the sun, in time producing an organic piece whose colour, lines, cracks and angular, almost-human or animal outlines, render unique. Once completely desiccated, these often prove light enough for the artist to transport unaided.

One notable omission here, of course, are the wooden pencils so vital to artists' work. This is because, a separate article on this topic, written by myself, was featured in the April 2021 issue.



15 Constantin Brancusi, Romanian sculptor, painter and photographer



16 Brancusi's 'Endless Column' in Târgu Jiu, Romania

17 Seahorse driftwood sculpture

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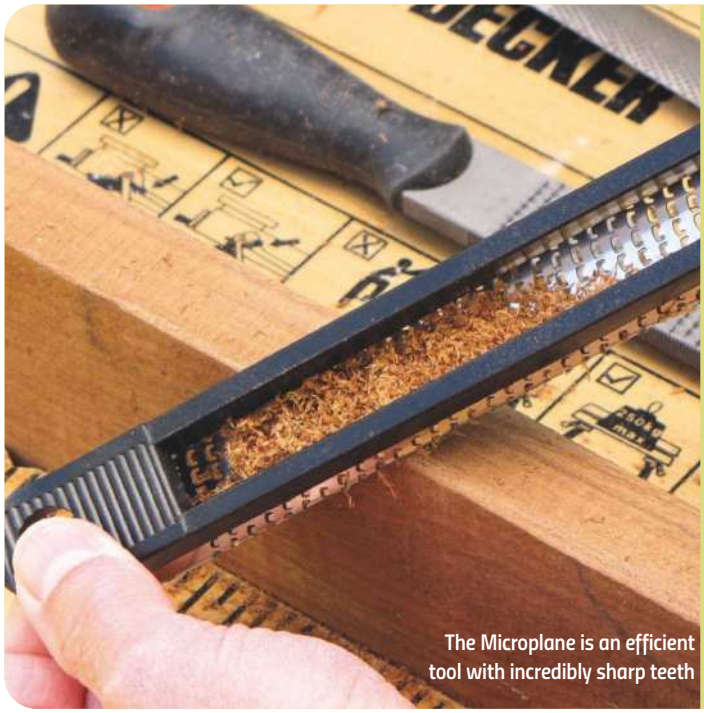
AROUND THE HOUSE WITH PHIL DAVY

Whether you consider yourself a beginner or a seasoned professional, I wonder how different readers first got into woodworking? Depending on your age, maybe you hark back to those traditional woodwork lessons at secondary school, or perhaps it was through an evening class at a local college? Increasingly, people develop an interest and learn new skills through watching YouTube videos or subscribing to online courses.

Decades ago, I reasoned that unless you underwent some sort of formal further education and gained a certificate – such as City & Guilds – to prove you'd reached a certain standard, then you weren't a proper woodworker. That myth was soon dispelled when I began visiting various craftspeople for *Good Woodworking* magazine's popular 'Workshop Angles' series. It soon became evident that some of the most creative and highly skilled woodworkers were often self-taught and extremely creative. Something of an eye opener, then, but I'm still grateful for my formal training and thankful that I had the choice back in my school days



The Microplane is an efficient tool with incredibly sharp teeth

Q&A SHAPESHIFTERS

Q I'd like to have a go at making a stringed musical instrument, probably a ukulele initially. What sort of tools would you suggest for shaping the neck, which I understand is quite a tricky job?
V Taylor, via email

A Several different hand tools are suitable for instrument neck carving. A convex-base spokeshave is perhaps the most traditional item, though if you've never used one before, these can be awkward to master and sharpen. Easier to use for this purpose are rasps and files, and you'll find that a couple of grades are required here. Recommended is the Japanese saw rasp, which is double-sided – coarse and fine – not to mention fast.

Another efficient tool is the Microplane rasp, consisting of a stainless steel blade with incredibly sharp teeth. Blades are replaceable and can be reversed to cut on either the push or pull stroke. When you've roughed out the neck, remove coarser blade marks with a half round or flat carver's file or abrasive paper – about 150 grit – glued to a strip of hardwood. For more information on the tools mentioned above, visit Axminster Tools' website: **www.axminstertools.com**

Q&A PEARLS OF WISDOM

Q I normally use PVA glue for woodworking, but am interested to know where traditional animal glue is used. Are there any benefits to using this type of adhesive for general woodwork tasks?
M Hackett, via email

Once hide glue reaches the correct temperature, it becomes viscous

A Although considered rather outdated compared with modern adhesives, animal, hide or Scotch glue is still used by antique furniture restorers and for veneering. It's the traditional glue used by luthiers, particularly for violin making and repair. The real advantage is that repairs are reversible, so you can separate joints on old furniture or remove the top or back on a musical instrument. It's made from animal hide or rabbit skin and is usually supplied in the form of small pearls or granules. It's not that easy to use, as these must be dissolved in water before heating. Once heated, the liquid is applied by brush and is good for flowing into tricky areas. Working time is short, so you need to cramp up fast. Joints must be tight-fitting, too, so it's not ideal for large areas. Once, every workshop would've had a glue pot bubbling away in the corner. Electric glue pots are still available, but at a cost. A cheaper option is to soak the pearls in a small jar, which is then heated up in a pan of water. Titebond make a modern liquid hide glue, which is perfect for small repairs as it's designed to be used cold

SPRING PROJECT: RETRO MAGAZINE RACK

DIVIDE & RULE

Takes:
A weekend

Tools you'll need:
Circular or table saw, router, jigsaw, sander, bench planes, drillstand

Curved edges give **Phil Davy**'s oak veneer magazine rack a mid-20th-century look and the divider should help keep your copies of *The Woodworker & Good Woodworking* in order

Even in this digital age, most of us probably have more magazines than we know what to do with. You could be one of the rare breed that passes them on to someone else once read from cover to cover, though you may still want to keep a few back issues.

This magazine rack should help to keep your copies organised and accessible, and has something of a retro feel with its curved edges. It can be made any size to suit your choice of reading material, with more than one divider if preferred. External dimensions for my rack are 490mm wide × 205mm deep × 370mm high, so two copies of this very magazine will sit upright, side by side.

With a quantity of veneered MDF left over from another job, this was used for the project in two thicknesses: 10mm for front, back and divider panels, with 19mm material for the ends. As the central divider is housed into both ends, these ideally need to be slightly heavier to accommodate the routed grooves. This panel incorporates a handle, so needs to be sturdy enough to take the weight of several magazines. If the completed rack is likely to remain in one place, you could skip this step and omit a handle.

Veneering considerations

The problem with any veneered material is knowing how best to finish the exposed edges. Lipping 19mm-thick MDF is simple enough with iron-on edging tape, though the edges aren't as robust as when using solid wood. Lipping 10mm boards is tricky with tape, though. Originally, I was going to use this method along the top edges of each panel, but soon realised that if solid oak were used instead it'd be feasible to create a profile that'd echo the curves of the two end pieces. This gives a retro flavour, particularly in conjunction with the natural oak veneer. Although there are several benefits to using veneered boards – stability, uniform thickness, etc. – it's probably easier to build this project from solid timber. If you do decide to use hard- or softwood, however, this would require the thicknessing and jointing of boards. Regular PAR softwood – finishing at 20mm – would be too heavy, both physically and aesthetically. You'd ideally need to reduce timber to around 15mm or less. If using hardwood you could really make a feature of the corner joints, using decorative dovetails, which would also be very strong. With softwood you could either use biscuits or lap joints, making construction quick and easy.

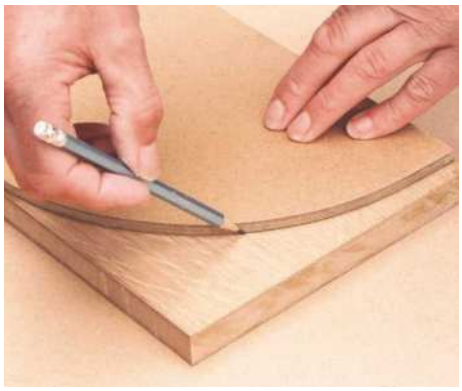
I finished the rack with two coats of Rustins Finishing Oil, which creates a lovely glow when used on oak. I find that it's easier to apply this to internal surfaces before gluing on the front and back panels.

1 Measure a couple of magazines to help decide on internal measurements, allowing space between

2 Make a template from 6mm MDF for the ends, then proceed to mark the curved front edge

3 Cut the template with a jigsaw, then tidy up the curve with a block plane and sanding block

4 Saw both end pieces and plane together, keeping them rectangular at this stage

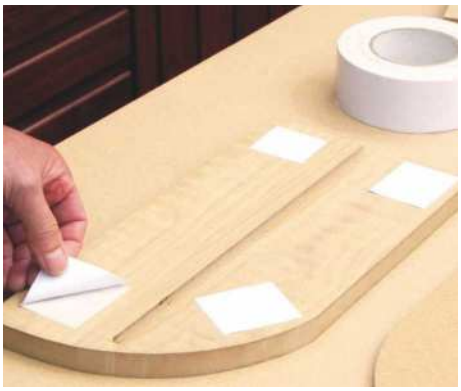


5 Draw around the template on to each end piece, keeping the sides and bottom edge aligned

6 Mark the position of the divider panel along the centre of each end. Rout a 10mm groove to about half the depth

7 The groove is stopped about 10mm below the curved top edge. Check that the divider slides and isn't too tight

8 Saw curves, keeping about 3mm away from the pencil line. Masking tape will reduce splintering on the surface



9 Next, stick double-sided tape to one of the end pieces. Firmly press the template in place, checking its alignment

10 With a flush trim cutter fitted in the router, carefully cut the curve to shape, following the existing template

11 The bottom panel will be rebated into the end pieces. Ensure to rout these carefully along the lower edges

12 Saw the divider panel to size and trim edges with a bench plane and shooting board. You can then check for square

13 Mark out the handle position. Bore holes at either end with a 25mm Forstner bit fitted in a pillar drill or drillstand

14 Stick masking tape on the top surface and saw along the lines joining both holes. A sharp, fine jigsaw blade is needed here

15 The ends of the front and back panels are lipped with solid oak. Cut slightly oversize and glue to the edges

16 When the glue has dried, carefully cut the ends to length with a fine saw, finishing with a block plane if necessary

17 Trim lipping flush with the surface, taking care not to damage the veneer. Use a cabinet scraper for final clean up

18 Dry-assemble and check the front and rear panels for size. These should overhang the ends slightly for trimming later

19 Apply edging tape with a hot iron, adding pressure with a cork block or roller as you work along the edge

20 With a finely-set block plane, trim the edging flush. You can then finish with a cabinet scraper or sanding block

21 Shape the top edges of the front, back and divider panels. Use a plane and abrasives to achieve a pleasing profile

22 Glue the ends to the divider and cramp together, checking for square. Add panel pins, punching heads below the surface

23 Fit the front and back panels in the same manner. Cut the base from 10mm MDF, then glue and pin into the rebates

24 Trim panel ends flush and fill the holes. Sand with 240 grit abrasive and brush on two coats of finishing oil

HEAT, SAND, STRIP!

Phil Davy shows you how to remove old polish and varnish

At some time we've probably all had to strip back a finish, whether it's to refinish a piece of furniture, salvage some timber in order to reuse it, strip painted doors, stairs, etc. Or maybe we're unhappy with our previous attempts at polishing or varnishing and need to start again. But what's the best approach?

It's important to assess each job individually. You don't want to make a pig's ear of what may actually be a fine piece of period furniture. With old furniture it's usually important not to lose its patina. That lovely old mahogany chair or table may simply need its finish reviving rather than stripping. Whatever method chosen you'll need the correct tools, though these can be quite basic. And if you're not sure whether the item you're about to attack with paint stripper could be a valuable antique, get advice from an expert first.

Sometimes it makes sense to combine tools and methods. Stripping a wide, flat surface back to bare wood is easy enough with a big sander, though attached mouldings and decoration can be easier with a chemical stripper. Some products are quite nasty to use, especially chemicals.

Always wear protective gloves and work outdoors if possible, especially when sanding. If this isn't possible, hook up a vacuum extractor to the tool if there's no dustbag fitted.

Sanding & scraping

Perhaps the most obvious way to remove a finish is to sand the wood, either by hand or using an electric sander. It really depends on the surface as some tools are more brutal than others. For removing layers of paint a belt sander is pretty effective, but don't be tempted to use this tool on veneered surfaces – it's far too aggressive.

For flat areas, a random orbit sander will leave fewer swirls than an orbital or palm sander (**photo 1**). It's better to start with a relatively fine abrasive – say 180 grit – and move to 120 grit if the finish is stubborn. Start with a coarser grit and you may find the sander is livelier than you expect, making it harder to remove scratches with subsequent grades. You can then switch to hand sanding, working in the direction of grain and using increasingly finer grits.

A detail sander (**photo 2**) will get into those awkward corners and is ideal for localised sanding. For outdoor work a cordless sander makes life easier and safer, with no extension cables to worry about. The downside is battery life, so have a spare fully charged, if possible. On moulded edges it can be just as quick to sand by hand (**photo 3**), using a length of dowelling or block shaped to fit. Just wrap abrasive around the matching piece of wood. In some situations it's hard to beat the good old cabinet scraper (**photo 4**). Correctly sharpened, this will cut through lacquer or varnish nicely. Use a convex or concave scraper to get into mouldings (**photo 5**).

Chemical strippers

Probably the messiest to use, chemical strippers are pretty effective (**photo 6**). Simply brushed on to a surface, the gel eats its way through the varnish, paint or whatever finish you want to strip. You'll probably need to apply this a couple of times at least, depending on how many layers you have to penetrate. The surface will start to bubble after a few minutes, but you may need to leave this for an hour or so for it to really work.

Scrape the paint or varnish or use a scouring pad or nailbrush on intricate surfaces. After you've finished brushing on the gel, wash off the residue with a damp cloth. When dry, sand the surface. Chemical strippers can be nasty should the gel come into contact with your skin, although there are now safer alternatives, which thankfully won't burn (**photo 7**). Make sure there's good ventilation as some fumes can be quite unpleasant.

Chemical stripper is great for jobs such as stripping stair balusters, as the gel clings to vertical surfaces and won't end up all over the floor. On the downside it's probably the most expensive method, especially where large areas need stripping.

Feel the heat

Nothing beats an electric heat gun for stripping paint or varnish rapidly (**photo 8**). Once switched on the heat is virtually instant, so take great care using this tool. With two or three temperature settings, the typical range is from 50-600°C. If you suspect lead is present in old paintwork, it's safer to work at no higher than 400°.

The lowest setting on this tool blows cold air and can actually be used to dry paint. Fitted with interchangeable nozzles, a heat gun can be used equally effectively on mouldings and in tight corners. Always start at the lowest setting and increase temperature as necessary.

Grand revival

Sometimes a finish won't need stripping back but simply reviving with an appropriate cleaner. This can often be the case with antique furniture, which may simply have acquired decades of grime. Handy products to use here are Rustins Surface Cleaner and Finish Reviver (**photo 9**). Surface Cleaner will remove a wax finish and is best applied with fine steel wool, while Finish Reviver is a fine abrasive cream that's excellent for removing heat and water marks as well as restoring a gloss.

Garden furniture

Outdoor furniture is often neglected and rarely inspected before storing for the winter. If the finish is generally OK but showing signs of algae or lichen, treating with a suitable restorer, such as Cuprinol Garden Furniture Restorer (**photo 10**), should bring it back to life. You can then apply a suitable exterior oil or varnish.

If the furniture needs stripping, any of the above methods can be used. Once stripped and sanded it's a good idea to apply a clear preservative, which will help to prevent rot and decay, though this will depend on how vigilant you are at maintenance. It's pointless reviving tired outdoor timber if it's not regularly maintained. For oil finishes, for example, it's worth checking every six months, particularly if items will be left uncovered throughout the winter months.

1 A random orbit sander should be your tool of choice for flat areas

2 A detail sander, such as this Ryobi version, handles awkward areas with precision

3 You can't beat hand sanding for moulded edges

4 Cabinet scrapers are aptly named...

5 ... but you'll need a suitably curved one when it comes to mouldings

6 You'll need at least two applications of your chosen chemical stripper

7 Luckily, less vicious chemical strippers are now available

8 For quick results, go for an electric heat gun

9 Of course, these Rustins' products could be all you need

10 Garden furniture will be grateful for a regular dose of Cuprinol

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A TALE OF TWO CANDLESTICKS

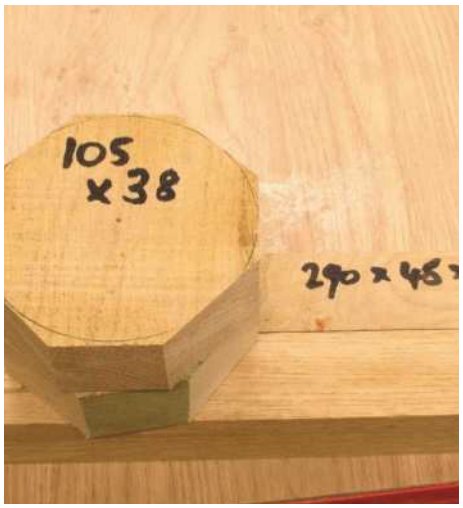
Les Thorne turns two identical candlesticks: he finishes one using traditional methods and the other with ebonising spray and paste wax to create an aged effect

Wikipedia tells us that yin and yang describes how opposite or contrary forces are actually complementary, interconnected, and interdependent in the natural world, and how they give rise to each other as they interrelate to one another. What's all this spiritualistic talk got to do with woodturning, I hear you say! Well, I like the thought of making something that's obviously a pair but you have to make up your own mind as to whether they fit together.

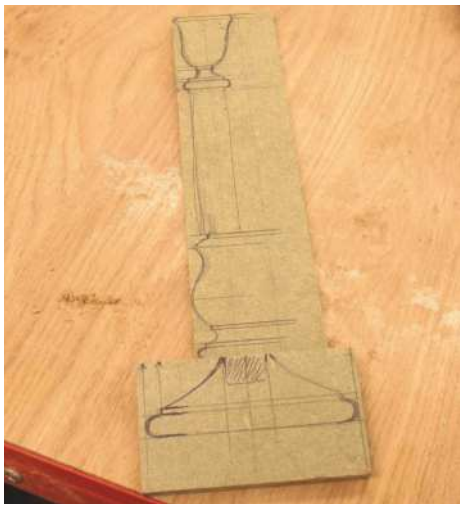
I've been doing demonstrations along these lines for a number of years, where you start with two identical bowl blanks, then make completely different shapes and get the audience involved in discussing which one they prefer. This is a great experiment not only for the amateur turner, but also from a commercial point of view: the more people like something, the more saleable it is.

This particular pair probably don't go together – in my opinion anyway – but oak is a timber that really does improve with age and using a simple wax finish will allow it to develop a nice patina.

A lacquered finish will keep the piece looking fresh for a long time – as modern finishes are designed to do. I like to think that the normal oak candlestick will look like the aged one in about 400 years from now.



1 If you're looking to add colour and texture to your work, oak and ash are probably the most versatile of timbers to use. Starting off with identically sized blanks helps enormously when it comes to making things the same



2 Here's my template: the design is an adaptation from one of my spindle form books. Ensure to accurately mark the punctuation points where the shape changes

3 Due to regulations, the candle can't come into direct contact with the timber. The brass candle cup used here requires a 22mm hole – 'V' blocks will allow you to drill an accurate hole; just wind the wood onto the spinning drill

4 Once the hole is drilled, you're ready to start turning. The base is held on a screw chuck. True up the bottom with a pull cut or use a scraper to remove any ridges left by the gouge

5 Ensure the base is slightly concave; this will allow it to sit on its outer edge. If you don't do this, the candlestick will be unstable

6 In order to turn the top detail, you need a way of turning it around. Create a dovetail chucking recess in the bottom to suit your chuck. If you make this 3mm deep, it can be filled with a piece of hardboard before applying the baize

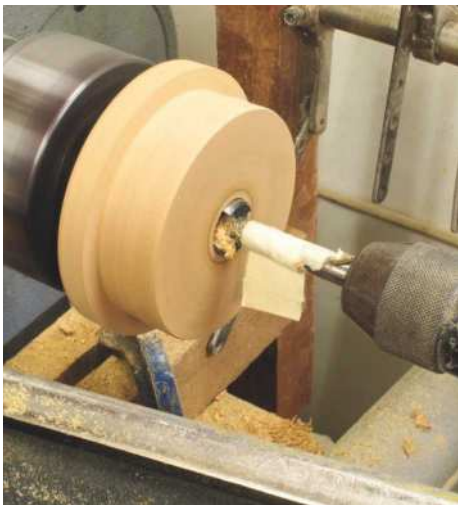
7 This is one of my copying fingers set up on the base's diameter. When the right amount of timber is cut away, the finger falls down

8 The bottoms of both bases are completed with the same diameters. Doing the job in stages means that you don't have to keep swapping between chucks, etc. which makes the process more efficient

9 To achieve good copies, the sticks need to be the same height. Measure the base's thickness so that this measurement can then be transferred to the other one(s)

10 Using the template, transfer all relevant details onto the blank – both the face and side. If possible, use a hard pencil such as a 4H; this will give you a crisper line

11 Just like turning a bowl, the majority of the timber is taken away using a 13mm bowl gouge. Here I'm just refining a right angle detail with the round parting tool

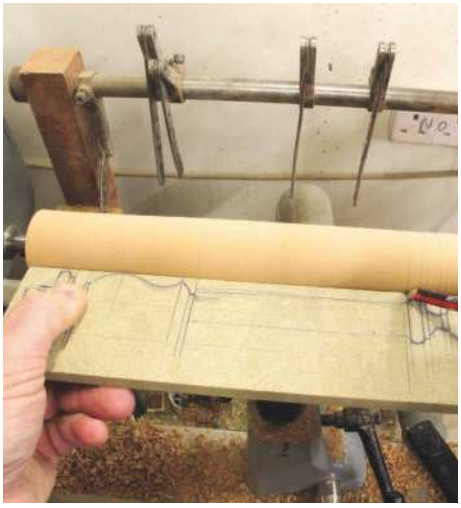


12 The stem hole is drilled on the lathe and masking tape used as a rough depth guide. A 25mm hole seemed to be about the right size, but as you'll see later, if you go too big this will cause some problems

13 Rough the base to shape with some pull cuts using the long-grind bowl gouge. Next, switch to the micro bevel tool and cary out a fine finishing push cut

14 Rounding over the base's bottom section will be aesthetically pleasing. The timber's grain is going in a different direction to that of spindle work, so the tool works up the bead rather than down it; this will afford you a superior finish

15 Once you're happy with the shape, it's time to turn the candlestick's twin. A good way of seeing how accurate you are is to put them 'nose to nose', as shown here



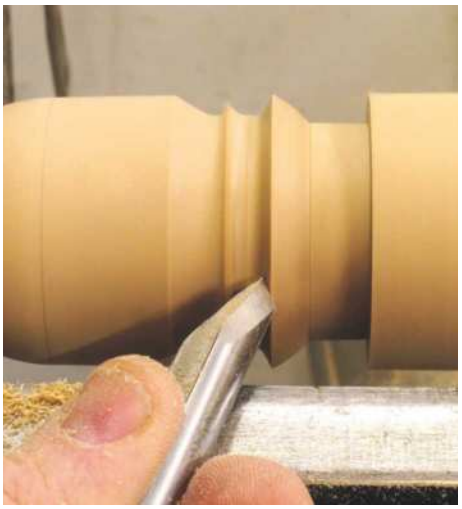
16 Once you're happy with the bases, mount the stem between centres, make it round using a spindle roughing gouge, then mark out the detailing on it by referring to the template

17 Cut a spigot to fit into the base. Make sure this is accurate; a set of Vernier callipers will give you a more precise measurement than the figure-of-eight variety

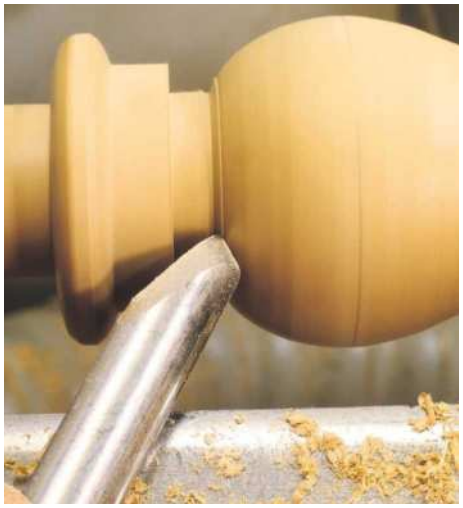
18 Let the shaping begin. Always design a piece within your capabilities: a simple design turned well is always better than an ornate shape turned badly. Keep your detailing crisp and smooth throughout

19 Some people see the skew chisel as the ultimate turning tool. Here I'm using a 10mm round version to cut this bead at the top, but switch to a gouge if you're more confident using that particular tool

20 The point where the stem fits into the base is one of the most important aspects to get right. I add 10mm to the diameter of the base's top and transfer this to the stem as my bottom bead diameter



21 The next two photos show the importance of getting the tool in the correct position to make the cut. The gouge's bevel or cutting angle is at right angles to the work; this gives an almost undercut look to the top

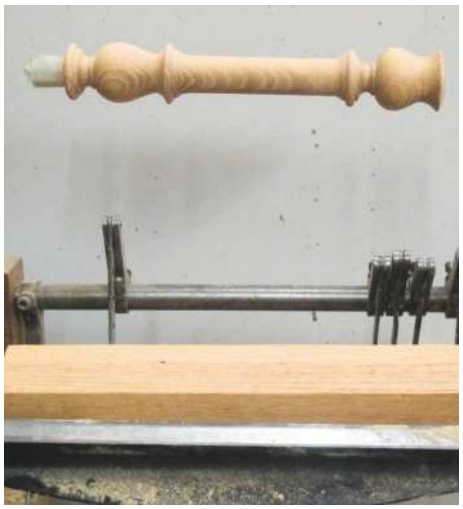


22 The bottom or swell on the ogee shape is turned once again with the gouge; the bevel rubs as the tool is moved to the left. You can see that the tool's flute is completely closed at the end of the cut

23 The skew chisel is a great tool for carrying out planing cuts. Try and put the minimum amount of pressure down on the tool's bevel or you risk ending up with vibration marks on the stem

24 When the first one's finished, set the copying fingers up onto the major sizes; this makes the whole turning process much more efficient. Just keep removing wood until the fingers fall off

25 Sand up the stem and when you have a parallel detail, as shown here, it'll be more efficient to stop the lathe and sand that area along the grain's direction; this should prevent any unsightly radial scratches appearing on the surface



26 When starting on the second one, it'll help to have the pattern in view – here I suspended the piece behind the lathe. A quick glance up will show you that the shape is matching the first one

27 In the past, before I had these fingers, I had to have lots of callipers set to different sizes. The worst thing that happened was picking up the wrong pair by mistake!

28 Here they are, all finished and ready to critique. Despite being as careful as possible, there's a 1mm discrepancy in height, which doesn't sound much but does show

29 The first candlestick is going to be finished using a traditional beeswax/carnauba mix paste wax. The timber surface is first sealed with an acrylic sanding sealer, then lightly sanded, wax applied, and finally buffed to a soft sheen

30 The second candlestick is going to have the paint effect applied. Firstly, wet the timber with water from an atomiser bottle; this will allow you to slow down the burning process

31 Using a gas torch, lightly burn the surface – as the timber is wet, you're less likely to remove all the shape. The burning will remove some of the timber's softer growth as well as softening detail, thus mimicking the desired ageing process

32 The use of a liming or soft brass brush will remove all the leftover carbon deposits. I have two of these brushes so I don't mind one getting contaminated with black

33 Spray the work with ebonising lacquer, then apply the liming wax. The wax should be liberally spread all over the surface, paying particular attention to working it into the grain

34 Using a shoe brush with a little paste wax applied, remove the excess liming wax. Working across the grain will prevent you from removing too much of the white

35 With the lathe running slowly, use a piece of Nyweb pad – equivalent to '0000' wire wool – to complete the liming process. I like to apply fairly hard pressure to achieve the desired effect before applying a couple of coats of clear gloss lacquer

36 The completed candlestick pair should look something like this

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Coming up in the next issue...

The Woodworker & Good Woodworking April 2023 edition – on sale 17 March

ALMOST FORGOTTEN

Johnathan Swann introduces us to a number of UK heritage craftsman and discusses the importance of passing on these skills to the next generation or face the risk of them being lost forever

WIN!

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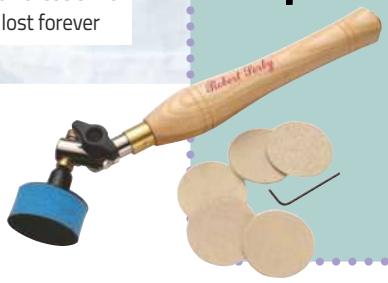
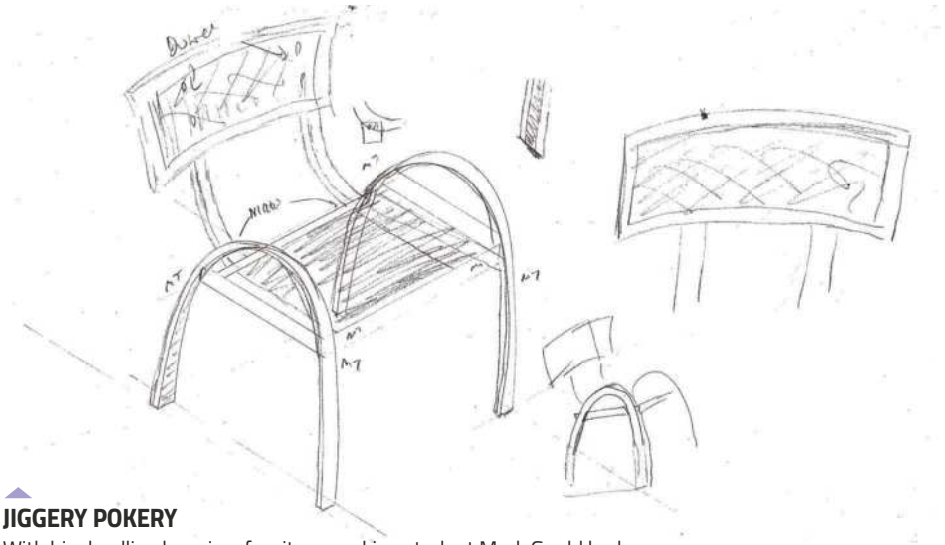
1 of 2 Robert Sorby Sandmasters



An essential part of every turner's tool kit, the **Robert Sorby Sandmaster** is supplied with five different abrasive grit pads and features an articulated head, which allows you to access even the most difficult areas. See inside the issue for further details

LARGE VASE ON A SMALL LATHE
Owning a small lathe doesn't have to limit the size of project you turn. Here, Les Thorne offers a clever solution that will



JIGGERY POKERY
With his deadline looming, furniture-making student Mark Gould had to design and construct a jig before he could start on his exam chair

PLUS ▪ Gate leg table restoration ▪ Abbotts Living Wood – green chairmaking ▪ Mallet & cutting gauge The miller's tale ▪ Tormek grinding wheels range ▪ Strengths & uses of wood ▪ Oak garden tray Round window ▪ Wooden phone holder ▪ William Morris – master of crafts

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Quantity of oak and Afromosia veneers: Afromosia – 2.1m × 140mm; self-adhesive oak – 2m × 300mm, plus various smaller pieces; £25
01322 664 388 (Kent)

Tormek 2000 – precursor to the T-8, with the same basic features – in very good condition; only £150. Also, WoodRat WR5 – also in very good condition; £150
01386 4300 43 (Chipping Campden)

Large sheets of bamboo veneer – 0.6mm thick; some cracks due to fragility but much of it shouldn't pose a problem. Available in the following sizes: 895 × 2,040mm; 270 × 2,200mm & 345 × 2,200mm; £30 – collection preferred but can potentially post if necessary
07986 597 274 (Cardiff)

Sedgwick planer/thicknesser – 12 × 9in, 50in table, cast-iron, single-phase, heavy-duty machine, not heavily used, in great condition; £1,250 – buyer collects
07976 352 408 / 01707 331 834 (Herts)

Scheppach 2010 table saw with sliding table & side extension; £275
07940 704 570 (Lincoln)

Bosch GOF 2000 CE professional router – unused; £125. Also, antique Stanley 50 plough plane – boxed; appears to be unused; £100
07836 585 984 (Derby)

Piece of elm – 76 ×14 × 2in; selection of hardwood turning blanks in various sizes; different sets of Victorian staircase spindles – call for further details and prices
07833 988 071 (West Yorkshire)

Rexon 5in thicknesser – in good condition; £50. Also, Wolf drill stand – unused; £30 – buyer collects
07794 288 250 (Leeds)

Record PT260 twin blade planer/ thicknesser – good condition; includes base cabinet & push pad; £275 – buyer collects
01884 821 603 (Devon)

Hobbies treadle fret saw – circa 1948 – in good condition; collection only
01580 891 021 (Kent)

Record Power DX500 dust & chip extractor; floor-standing – 85l capacity; £50 – selling due to lack of space
01908 510 618 (Milton Keynes)

Wadkin EQ spindle moulder – a serious industrial quality machine – two spindle speeds (v-drive belt), cast-iron body, table & fences. Net weight: 610kg – spring pressure, 5Hp motor, 150 × 450mm fences, 1¼in top piece; selection of tools including a pair of Oertli panel-raising cutterheads, adjustable & fixed groovers, spacers, serrated cutterhead, rebate heads, plus assortment of pre-profiled cutters. Can be seen working – manufacturer's machine leaflet available on request. Buyer to arrange removal from workshop & transport; £2,500 or sensible offers
01507 533 421 / 07848 829 335 (Lincs)

Axminster AWVSL 1000 lathe – no chuck – with 10 various chisels, tailstock chuck and Axminster CH39FE magnetic light; £450 (ONO)
01892 770 921 (Cheshire)

Spear and Jackson & Lloyd Davies Sovereign saws – 22in & 8in – plus planes & four other tools; £35
07836 585 984 (Bakewell)

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Tyre for Tormek 2000/T8 drive wheel, or complete drive wheel
01793 771 898 (Wiltshire)

Kity combination machine (or similar) – must feature saw, planer, mortiser, spindle moulder, etc. Carriage paid
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Australian-made Symtec woodturning lathe; in sound condition; must be complete with toolrest – excellent price paid
01454 260 395 (Berkeley)

Three-jaw chuck for mortiser attachment Kit K5. Attaches to planer cutterblock with left-hand thread – both 12mm
01302 817 889 (Doncaster)

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01572 723 976 (Rutland)

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TAKE 5

Fantastic examples of marquetry and inlay along with a wonderful selection of exotic and native timber species, all used to great effect in this month's selection

1 Hand-carved orchid in muiracatiara wood – 310 × 150mm – by Domingos Edral – **@domingosedral**

2 Bedside table with drawer – part of a set of two – European cherry decorated with marquetry detail using various dyed and natural veneers – by Beatriz Zuazo – **@entrevetas**. The drawer slides on wooden guides and incorporates a stop on the same guide to prevent it from falling when removed. Table surface – 350 × 310mm; height – 530mm

3 Lidded finial box by John Leinemann – **@brokenbowstudio** – African blackwood finial, black walnut legs and an applewood body. The black rings on the lid are burnt in with line wire

4 Walnut cabinet with tamo, mappa, burr walnut, fumed eucalyptus and bocote veneers, contained in a web of quartercut walnut. Oil finished marquetry and lacquered structure, by Rick Knopke – **@rick_knopke**

5 The 'Luna' key cabinet, by Ed Johnson – **@edjohnstudio** – walnut, cherry and maple, made using his own Murano circular and semicircular veneers. The gradient has been carefully selected, starting at the core. Inside the cabinet, three rails hold the specially made key rings with space at the bottom for a wallet or mobile phone. The piece also houses a mirror for those final checks before leaving the house

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