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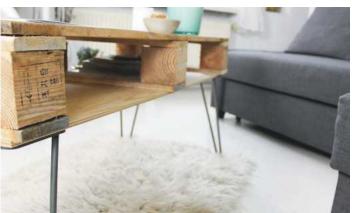












## Welcome

Well, another month has passed and once again, my eyes have been further opened to the wonderful world of woodworking and what a fantastic and thriving community it is. I feel privileged to be a part of it and exposed to so many amazing people who are so eager to share their work and thoughts with us. Even though I didn't have the opportunity to visit Port Townsend in Washington myself, it was a pleasure to speak to the man behind the school striving to preserve the tradition of hand tool woodworking and whose mission is to "inspire a lifelong passion for craftsmanship through education in woodworking and traditional building trades." Tim Lawson helped to set up the Port Townsend School of Woodworking and has gone on to establish a community like no other. And the answer to their success? A shared love of woodworking, a passion for helping each other and problem solving along the way. It all seems so simple, doesn't it?

#### **Turning tenacity**

While I know I do love to bang on about the youth of today and how they are the key to ensuring that woodworking skills are passed on to future generations, that is actually the reality. Apologies if I sound like a broken record but this is what needs to happen, and I was thrilled again this month to be presented with the work of a young turner whose passion for the craft knows no bounds. Barrie Scott visited 'Matt's Shed' and wrote a fantastic article on how, despite being just 17-years-old, this young lad has been well

and truly bitten by the woodturning bug. He's a clever so-and-so and as well as winning his fair share of prestigious awards, also knows how to make his own tools! Matt Underwood sings the praises of the AWGB's Youth Training programme and how this helped him to develop his skills, pushed him to enter competitions and learn from some of the top turners in the field. One thing's for sure – this turner has a bright future ahead of him.

#### Congratulations all round

I'd also like to take the chance to wish Felder a very happy 60th birthday, a company which is certainly growing with the times, and also congratulate Royal Leamington Spa College student Philipp Stummer on winning his prestigious Medal for Excellence. We featured his 'Hemisphere' cabinet back in *GW*302 and it was obvious to me that he was a class act, so congratulations to Phillip!

And before I go, I'd just like to remind everyone that this magazine is yours as much as it is mine. I love hearing from readers, so please, if you have anything to share or any ideas on how we can make *GW* even better, do please let me know. Let's nurture this wonderful community and remember to always keep an eye towards the future. **GW** 

Enjoy!

Tegan

Email tegan.foley@mytimemedia.com



**Andy King** Technical Editor



**Dave Roberts**Consultant Editor



**Phil Davy** Consultant Editor

We endeavour to ensure all techniques shown in Good Woodworking are safe, but take no responsibility for readers' actions. Take care when woodworking and always use guards, googles, masks, hold-down devices and ear protection, and above all, plenty of common sense. Do remember to enjoy yourself, though



## June 306 • TOOLS • PROJECTS • TECHNIQUES • ADVICE



#### **PROJECTS**

#### 24 Rainbow wood cutting board

Noah Weinstein shows you how to make good use of scrap pieces of wood lying around the workshop with his colourful chopping board project

#### 38 Start 'em early!

Andy Smith builds a workbench for his son using pallet boards for the main structure and small posts for the legs

#### 62 Reclaim it!

Marie Vaubel and Nastja Mohren from the DIY team at DaWanda work together to create this stylish and functional pallet coffee table, which can be made in under three hours

#### 72 Mirror, mirror

Carrying on with his Mission-style theme, this month Phil Davy sets about making a mirror frame to match

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Les Thorne takes three identical bowl blanks, then turns three different shapes, each with a different base. He shares his experiment with us here

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Carrying on with his series, Michael Huntley moves on to discussing the interesting part of the build: the roof



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Brodie Neill of Made in Ratio used CNC techniques to create a striking, stackable chair

#### 48 Preserving the tradition

The Port Townsend School of Woodworking is committed to passing on the living tradition of woodworking and instilling the values and practices of fine craftsmanship, sustainability, and creative expression within their students

#### 58 Lots of veneer in 'ere!

Andy King visits Freed Veneers and discovers that there's a lot more to veneer than meets the eye



#### 54 60 years of Felder

This year sees Felder celebrating its 60th birthday, so why not visit the UK headquarters yourself to take advantage of some great anniversary deals and to see these fantastic machines in action

#### 66 'Matt's Shed' extreme woodturning

Matt Underwood is a tenacious young turner eager to push the boundaries of the craft and the limits of his lathe, as Barrie Scott discovers

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## Bosch announces five new multi-cutters with universal Starlock accessories mounting system

Bosch is introducing five new models to its range of professional multi-cutters. There are three professional corded tools: the GOP 55-36 Professional, GOP 40-30 Professional and the GOP 30-28 Professional and in the professional cordless range, the GOP 18V-28 Professional and GOP 10.8V-28 Professional.

All tools are equipped with the new Starlock accessory mounting system, which has been developed by Bosch collaboratively with Fein. Starlock is a uniform standard mounting system, which allows users to snap accessories quickly and easily onto their oscillating power tools, thus reducing downtime. Using this system, Bosch makes it possible to change accessories tool-free and quickly within only three seconds.

#### **Different classes**

The five new models fall into three performance classes: **Starlock, StarlockPlus** and **StarlockMax**. These classes are used to help select accessories that match the machine's power – for increased longevity of both tools and accessories. Starlock tools have 32 accessories to choose from; StarlockPlus increases this to 36 and StarlockMax offers the widest range of 48 accessories.

All Starlock accessories are also backward compatible with existing oscillating power tools. Starlock offers unique new accessories including precision plunge saw blades and sanding fingers.

#### **Corded models**

The GOP 55-36 Professional is in the StarlockMax performance class. With a power of 550W, it is the most powerful tool in its class, designed for working on demanding tasks, such as creating recesses and slots when renovating roof trusses.

The GOP 40-30 Professional, with a power of 400W, is in the StarlockPlus performance class. It has a smaller oscillation angle for precision,

and thanks to an integrated LED light, it is ideal for working in darker areas; for example, when installing kitchen base cabinets.

The GOP 30-28 Professional, also in the StarlockPlus performance class, has over 300W of power. It has many flexible uses; for example, for routing joints on wall and floor tiles in renovation applications.

#### Cordless models

The GOP 18V-28 Professional cordless multicutter, a StarlockPlus tool, provides almost the same power as the GOP 40-30 Professional, just without a cord.

The 10.8V tool, the GOP 10.8V-28 Professional, is in the Starlock class and is recommended for small adaptations; for example, sawing down that last troublesome corner so that a built-in cupboard fits exactly into an alcove.

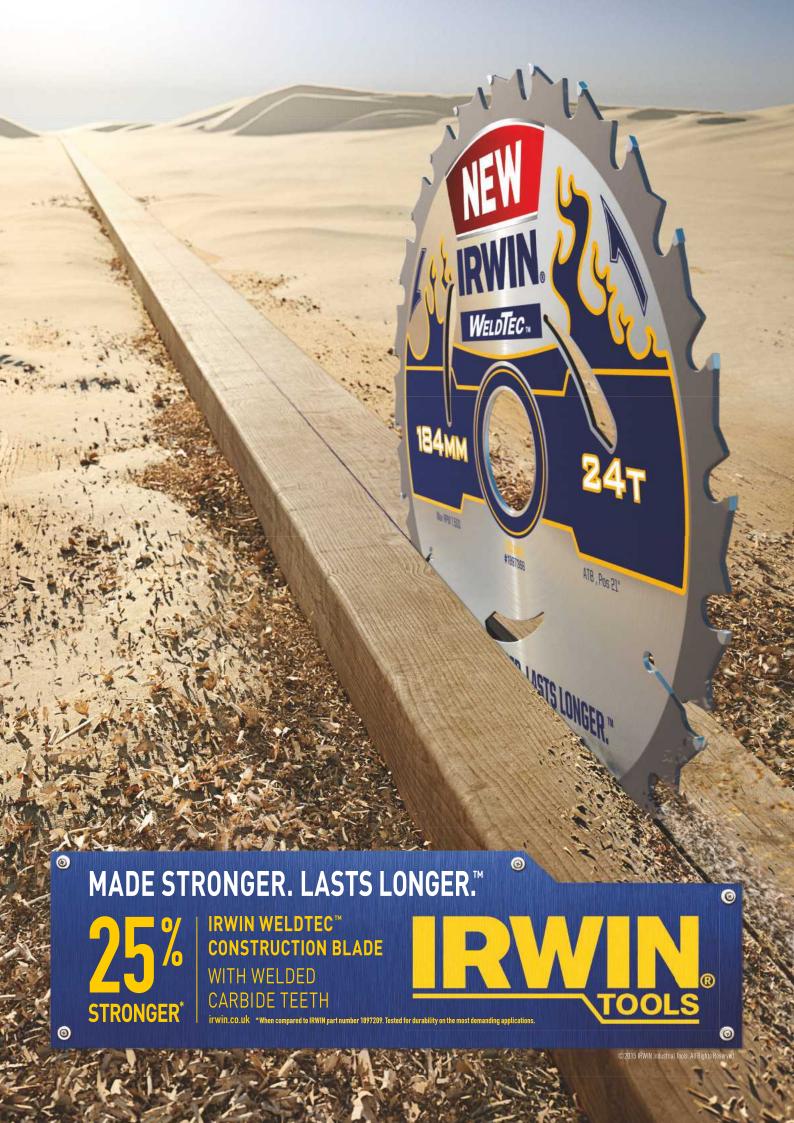
The cordless multi-cutters provide tradespeople with a great deal of flexibility. They are both fitted with a brushless EC motor, which is robust and requires no maintenance.

#### Innovative 'Snap-In' system for tool-free and quick accessory change

The GOP 55-36 Professional and GOP 40-30 Professional multi-cutters and the GOP 18V-28 Professional cordless multi-cutter stand out due to their new 'Snap-In' system. 'Snap-In' functions in a similar manner to a ski binding: put the accessory in position, press the Starlock mounting system onto it and the process is completed – you can get started immediately. To release the accessory, all you have to do is press the lever on the tool head.

The Bosch GOP 55-36 Professional, GOP 40-30 Professional and GOP 30-28 Professional multi-cutters are now available from specialist retail outlets. The GOP 18V-28 Professional and GOP 10.8V-28 Professional cordless versions will follow in autumn. Each Bosch multi-cutter will be provided in a box with a Starlock accessory of the relevant performance class or as an L-Boxx version. Prices start from £94; see www.bosch-professional.com. GW





### Makita introduce slide battery for growing 10.8V tool range



Makita has launched a fresh 'CXT' range of 10.8V tools featuring a new slide battery as an addition to their current 10.8V tools featuring the cluster style batteries. The new 10.8V Lithium-ion slide battery, similar to the market leading 18V Li-ion battery used in the heavier tool range, has multi-contact terminals to ensure stable contact, even under extreme work vibration conditions. The slide battery fits easily into the tools and new chargers and has the same high level of structural strength as well as having built-in protection to

prevent overload or over-discharging.

The tools are supplied with 2.0Ah batteries with a 4.0Ah version available as an optional accessory purchase. These new slide batteries have protection overload circuitry, will operate down to -20°C and have a four-stage LED fuel gauge indicator. Complete tools are delivered with the standard DC10WC charger while from the accessory range the DC10SA charger has a fan cooling system that cuts charging time to just 30 minutes for the 2.0Ah battery. The new 10.8V slide battery is fitted to the latest 'CXT' range of tools, which includes a combi drill, drill driver, impact driver, reciprocating saw and 85mm circular saw.

#### DF031D drill driver

This drill driver is a two-speed drill capable of driving a 10mm bit through steel and a 21mm bit in wood. The DF031D will run up to 1,700rpm, has 18 torque settings for fixing in addition to drilling; variable-speed control trigger and electric brake. The 1/4 in hex chuck simply slides back to fit and lock the bit. Weighing just 1.1kg, and with ergonomic soft grip, LED job light and belt clip, this compact but powerful drill driver is ideal for installation and precise assembly operations.

#### TD110D 10.8V CXT impact driver

Now with 110Nm this impact driver has 20% more torque than its predecessor and up to 3,500 impacts per minute capable of driving an M10 high-tensile bolt. This outstanding power output can be attributed to the new motor design and also the direct drive from motor to chuck in this small, powerful tool. Weighing just 1.2kg, and with similar features to the drill driver, all of the new 10.8V slide battery machines have full battery protection circuitry to protect the battery and the machine from overload stress.

#### **CXT** reciprocating saws

Two versions of the CXT reciprocating saw are available. The IR103D has tool-less blade change while the JR105D has screw fixing for the blade, which enables the jigsaw blades to be used. Both have 13mm length of stroke and run up to 3,300 strokes per minute enabling cutting of 50mm diameter pipe or 50mm-thick wood. All 10.8V tools are supplied with the new slide-type 2.0Ah batteries or as body-only units.

The new Makita HS301D CXT 85mm circular saw can cut to 25.5mm deep, or to 16.5mm, at maximum 45° blade angle, which will run up to 1,500rpm. With narrow motor body and robust base frame, this is a well balanced cordless circular saw ideal for all installation operations.

The latest two-piece 10.8V kits from Makita feature the impact driver paired with either the drill driver, or combi drill, supplied together in the robust Makpac case with charger and two 2.0Ah batteries.

Prices start from £172.80, see www.makitauk.com for more info.

#### New home for **Good Woodworking** back issues

Since we all miss an issue of GW from time to time, it's good to know that you can plug any gaps in your collection by making use of our Back Issues



service. Traditionally this was operated via www.myhobbystore.co.uk; however, there's now a brand-new place to find them – at www.mags-uk.com. Simply sign in on the home page then select 'Good Woodworking' via the Titles or Publishers (MyTime Media) listing on the menu bar. Add what you want to the cart, proceed to the checkout, pay, and await speedy delivery, direct to your door, without even breaking a sweat! It couldn't be easier.



#### **Art in Action 2016**

Every July up to 400 artists, crafters, performers and musicians gather together in Waterperry Gardens to demonstrate their skills and show their work. Taking place from 14–17 July, this year's Art in Action event allows you to watch the potter pot, the painter paint and the sculptor sculpt. You can ask the masters of the arts of

jewellery, textiles, woodworking and glassblowing about the secrets of their craft. In the ever popular Practical Classes section, you will be able to have a go yourself at the art or craft of your choice with the guidance of an expert teacher.

When you need a break, there is a great selection of food and drink available and the beauty of the famous

gardens is also there to soak up. The Market, with over 100 designer-makers, is also there should you be looking for that special gift.

In 1977, 51 artists and musicians took part in the first Art in Action and 14,000 visitors arrived. Today, Art in Action welcomes approximately 25,000 people over four days. Visitors come to learn, buy and enjoy the exhibitions, classes and performances. To find out more, see www.artinaction.org.uk.

**Axminster Trade Series** PS315 panel saw This new panel saw from Axminster has been designed for the small trade workshop or keen home furniture

features a high torque 2.8kW input induction motor, a deep section cast-iron table, fully welded heavy gauge steel chassis and a cast-iron rip fence holder. The good sized cast-iron main table is fitted with a cast-iron extension table making a combined surface of 820 × 800mm, plus a further steel plate extension gives a total working surface of 1,260  $\times$  800mm.

maker. The saw

A heavy gauge cast-iron rip fence holder and deep section alloy fence rail is included. The 1,600mm sliding table is smooth running, fully adjustable to be true to the table and blade, and gives a travel of 1,300mm through the blade.

A cross-cut support table, with a telescopic support arm, can be positioned anywhere along the side of the sliding table and has a telescopic fence 1,200-2,200mm long, enough for full-size boards.

This can easily be removed without tools for storage if required.

A powerful 2.8kW input 1ph high torque motor drives both the cutting blade and a scoring blade. The size of the cutting blade can be a choice of 254 or 315mm. without removing the scoring blade. The split scoring blade is easy to adjust through the table top and can be retracted below the surface when not required. Smooth acting blade controls with position locks, efficient dust extraction and an easily adjustable rip fence all make this saw a joy to use.

The saw is supplied with a 315mm Axcaliber TCT fine cut main blade, split scoring blade, a rear feed-off table, small mitre fence, an edge shoe and table support legs. Please note that a 16A supply is required. For the latest pricing, please visit www. axminster.co.uk.

## **Speedeck® – The quick fix for decking installation**

Easy Innovations has just launched Speedeck® – the essential new decking tool. It puts an end to the tedious and time-consuming method of positioning and fixing decking boards one at a time. Now woodworkers and DIY enthusiasts can simultaneously position and fix multiple boards quickly and safely, resulting in reduced installation time.

Lightweight, durable and easy-to-use Speedeck® partitions up to five boards at a time with perfect gaps, saving valuable time, money and energy. It keeps hands safely clear of nailguns and enables the user to install decking boards in less than half the normal time, so will pay for itself in the first hour.

Available in sizes to suit boards from 90-145mm Speedeck® retails at just £23.94 and is available from most good builders merchants and DIY outlets nationwide. For more info. see www.speedecktools.co.uk.









#### COURSE DIARY

Summer is so close we can almost taste it, and there's some great courses on offer to boot!

June

1 Bandsaws \*

6 & 30 Pen making \* (30)

9-10 Adirondack chair \*

13 Pyrography – Ben Beddows

16 Woodturning refresher

17 Sharpening with Tormek Woodturning \*

22-23 Beginners' routing \*

30 Kitchen door/jointing

\* Course held in Sittingbourne, Kent Axminster Tools & Machinery Unit 10 Weycroft Avenue Axminster, Devon EX13 5PH Tel: 08009 751 905 Web: www.axminster.co.uk

12-15 An introduction to picture framing 17–19 Marquetry techniques

West Dean College West Dean, near Chichester West Sussex PO18 0OZ Tel: 01243 811 301

Web: www.westdean.org.uk

6-10 French polishing & modern hand finishes

11-12 Wood machining

John Lloyd Fine Furniture

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18 Chair making – part 1 24 Beginners four-day course

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Web: www.christribefurniturecourses.com

8 Timber decay & its treatment

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12 Carpentry – build your own project

15 Intro to woodcarving

The Goodlife Centre 122 Webber Street, London SE1 0QL Tel: 0207 760 7613

Web: www.thegoodlifecentre.co.uk

New spindle sander from Jet

This very versatile machine has many uses in the trade workshop. The JOSS-S spindle sander by virtue of its name oscillates up and down while rotating at 1,400rpm, ensuring that the abrasive is not continually exposed at the same point, thereby reducing burning and creating a better quality of finish. The stroke is some 38mm long and is driven by worm drive gears working in an oil-filled gearbox.

The large cast-iron table gives adequate support to nearly all types of work, has a 90° positive stop and can be tilted to a full 45° if required.

The machine is supplied with 10 metric bobbins all with sanding sleeves attached and the bobbins fit with a taper into the main drive shaft of the machine. The sleeves are spirally wound to ensure that they have no bump where the join is; they are more expensive than simple belts but they do leave an excellent finish on nearly all materials.

The machine is floor standing with feet and

has no castors or wheels. If the machine needs to be moved on a regular basis, the manufacturer recommends the purchase of a mobile base unit (product code 708118).

A fine dust extractor is recommended to work alongside this machine. The sander is supplied with table insert, service tools.

100mm dust extraction outlet and sanding spindles, 6, 9, 12, 19mm, plus rubber drums of 25mm. 38mm, 50mm, 75mm and 100mm. It comes with a price tag of £1,278. For more info, see www. brimarc.com. Please note that prices include VAT and are correct at the time of publication but may be subject to



#### Hitachi Power Tools launches new 18V brushless bandsaw

Hitachi Power Tools has launched the CB18DBL 18V bandsaw, featuring a brushless motor for greater power on-site and quicker cutting time than ever before.

The powerful CB18DBL 18V bandsaw has been designed for ease of use and operator safety. The LED worklight illuminates the blade edge or work material for use in dark areas, and the guide plate is adjustable from 20mm to 45mm to match the work material width.

The 3.6kg of weight is evenly distributed with the battery and motor placed on opposite sides of the tool and the handle positioned near the centre of gravity, reducing user fatigue and

increasing control. The bandsaw also has a soft grip handle, a remaining battery indicator, an ambidextrous safety switch lock and large saw wheels for improved blade life and quick and easy blade replacement. The soft start motor also increases control and safety by reducing kickback when starting the motor, allowing for greater control.

The CB18DBL is available as a 'body only' tool and can be powered by all of Hitachi slide batteries from 1.5Ah to 6.0Ah.

Prices start from £230 for the body-only model; see www.hitachi-powertools.co.uk for more details

#### **Furniture crafts student Philipp wins** prestigious Medal for Excellence

Local furniture crafts student Philipp Stummer has been awarded a Medal for Excellence from the City & Guilds Group in recognition of his exceptional talents.

Philipp, from Leamington, was recognised for his outstanding work towards his Level 2 Furniture Making course at Royal Leamington Spa College – he is now studying for his Level 3 qualification under course leader Jamie Ward.

While studying, Philipp has set up his own business, EarthWoodCrafts, and is also working with furniture maker Armando Magnino on a project for the Shakespeare Birth Place Trust.

During his time at the college, Philipp has also won the college's Andrew Varah Award for the outstanding furniture-making student as well as the Gordon Russell Award. He also exhibited



at the Young Furniture Makers Exhibition at Furniture Makers' Hall.

To find out more about courses on offer at Royal Leamington Spa College, see www.warwickshire.ac.uk/courses.

#### **OFFCUTS**

Anglia Tool Centre's brand-new showroom in Oxford is now open. Located on Peterley Road just off the eastern bypass of Oxford, they stock an exciting range of products from leading power tool brands, including Makita, DeWalt, Milwaukee, Bosch, Festool, Trend and many more. Like their other showrooms, there is now a demonstration area in store so you can try power tools before buying. Each product is price matched with their online prices at www. angliatoolcentre.co.uk, ensuring you always get the best deals possible

West's Wood Fair, from 18–19 June, is an event featuring the many interesting ways in which wood is used. Exhibitors include trade stands selling timber and other wood-related items and demonstrations such as hurdle-making and chainsaw carving. During the event there will be heavy horses pulling a wooden pole-wagon, and Adam's Axe Men, the country's best known lumberjack display team, will be in the arena to thrill and entertain. You can join in with activities such as axe throwing and archery; to find out more, see www.westswoodfair.co.uk

Duchy Timber in Cornwall has added a new design to its popular range of solid wood gates. The new Escot gate can be used for driveway or field entrances and is made from sustainable, locally sourced, kiln-dried Scandinavian redwood at Duchy Timber's sawmill in Lostwithiel, Cornwall. Available in sizes from 3-12ft, Duchy Timber's expert carpenters can also adapt it to meet exact requirements. See www.duchytimber.co.uk

#### Saw sharpening for beginners

Chris Tribe is delighted to be working with Shane Skelton of Skelton Saws to present a new course, which takes place on 2 July. A traditional hand saw maker and saw doctor, Shane has both restored and sharpened some of the oldest and most valuable saws in the world. During this one-day course he will teach you the basic skills that will enable you to approach saw sharpening with greater confidence, as well as guiding you towards the best tools for the job.

Saw sharpening is a skill that is often overlooked, and which has been largely lost over time. Most of us tend to shy away from sharpening our own saws, yet it is a task that is paramount to the performance of the saw. A good quality saw that is correctly sharpened produces effortless, accurate joints. This course is both a practical demonstration and an



explanation of the fundamental processes in saw sharpening; it covers the following elements: jointing, spacing, forming, setting, sharpening, test and correction.

For more details about the course, call Shane on 01723 448 202 or email **skeltonsaws@gmail.com**.

#### The Craft & Design Experience 2016



This event returns to Henley On Thames from 24–26 June and over 160 of the very best British contemporary craftspeople have been selected to show and sell their work direct to the public.

View demonstrations to obtain an insight into the creativity and skill involved in creating the work, or why not participate in one of the various workshops where you will be able to experience different areas of craft, design and art for yourself.

A great day out for all the family just a short stroll from Henley on Thames, this year's event also presents 'INSPIRED' – a collaborative exhibition of the UK's very best furniture makers and silversmiths.

Save £3 on tickets by ordering in advance of the show and receive a free full colour show guide. To find out more, see www.craftexperience.co.uk.

Send your adverts to: tegan.foley@mytimemedia.com

#### FREE READER ADS

#### MACHINERY Apollo wood lathe -

Professional model. Spindle – 2MT; tailstock – 2MT, swivel headstock, variable-speed and reverse; 240 electrics; 8in swing over bed; 14in outboard; 42in between centres. With four-prong drive, small faceplate, toolrest, heavy-duty centre steady and two chucks; £395 OVNO 07816 371 694 (Northumberland)

#### Record Bandsaw BS400

as new, depth of cut – 12in; width of cut – 16in; £500. Hegner Multicut 52 variable-speed, in excellent condition; £300 01777 870 309 (Newark)

**Coronet Minor M6 lathe** plus chisels and some accessories, with

new control switch; £130 ONO 01189 573 669 (Reading)

Multico 9<sup>1</sup>/2 in planer with thicknesser attachment, two blade cutterblock, 2HP motor cast-iron bed, plus DeWalt chip extractor; £250

07881 971 737 (Devon)

Jet JSSG-10 wet sharpener

with profile leather wheel and cloth cover and a further nine accessories; £210 ONO. Axminster mortiser BM785 with metal stand and wheels, <sup>1</sup>/<sub>4</sub>-<sup>1</sup>/<sub>2</sub> bits and sharpener set, plus dovetail bit <sup>5</sup>/<sub>8</sub>-<sup>1</sup>/<sub>2</sub>; £230 ONO **01293 406 056 (West Sussex)** 

MISCELLANEOUS Chisels, planes, gouges, dividers, drills, screws (in boxes), picture framing, cupboard doors/shelves, hinges, vice, saws, various wood, and more. Open to offers 01162 783 264 (Leicester)

Carpenter's marking gauges

(2), brass and rosewood; £35, plus Stanley No.505 combination plane with set of blades; £55 **0208 641 4238 (Surrey)** 

Workshop timber clearance

- hardwoods and softwoods, plus some boards; £100 the lot **01767 640 624 (Beds)** 

Old woodworking tools including Slater, Ibbotson, Preston, Marples and Spear & jackson; phone for details 01628 625 836 (Maidenhead) A selection of clifton planes for sale: No.4; £130; No.5; £140; No.4¹/₂(brand-new); £155; No.6; £160. Buyer collects

07818 410 591 (County Durham)

A complete range of woodworking tools and equipment used for violin, guitar and cabinetmaking, all of which are in excellent or like new condition. Phone for further details 01672 520 020 (Marlborough)

Good Woodworking magazines, Nos 1-177, inclusive; £50 ONO – buyer collects 01460 394 234 (Somerset)

Four Good Woodworking binders, in good condition; £15 (01902 762 188) Wolverhampton



A cut above the rest

This impressive machine leaves a premium finish and despite a few areas for improvement, would be ideally suited to a busy workshop where the three-year warranty would prove to be a big bonus for all potential customers

xminster's new kid on the block has a different approach to the usual cutterblock found on traditional planer/thicknessers, dispensing with knives in favour of individual rows of cutters – 14 per row – and in four sets, so it's essentially a four-knife block.

It immediately has the advantage of a premium finish, especially with a feed speed of 5m per minute and a 4,800rpm block, equating to around 3.8 cuts per millimetre; the average is normally around 2.4-2.8 cuts per mm.

#### **Multi-cutter block**

Alongside, the cutter rows are arranged in a slow helix around the block giving a sheer cut as it addresses the work, which again helps in gaining a premium finish, especially on grain patterns that are prone to tear-out.

Each individual cutter has four edges allowing

any damaged ones to be rotated or swapped out in seconds, and there's no problems in setting the height as they self-locate, so down time for cutter maintenance is minimal.

It also makes life far easier when dealing with a nick in a blade, with just the damaged ones needing to be spun or swapped rather than



Individual cutters are arranged in a slow spiral to give a sheer cut

sending a whole set away for re-grinding.

There is a cost implication in having this block, however; a standard three-knife version is available at £1,349.95, but to opt for this

multi-cutter block will set you back a further £450.

If you don't need the extra capacities there's also a smaller 260 × 190mm machine available in both cutter formats, saving £400. There are additional benefits with the multi-cutter block, however: noise levels are lessened in use, especially

on harder timbers where the sound tends to resonate more, and alongside, less power is needed to drive the block.

Further to this, if you've ever used timbers such as pine where the shavings can be quite voluminous from a standard knife block, these individual cutters make the shavings smaller and therefore compact more into the extractor, meaning less downtime in this area as well.

#### In use

It seems like it's all 'win, win' at the moment, and it is backed up by a solidly built all-steel welded fabrication for the base cabinet with heavy cast-iron tables for the surfacer as well as a central ram-driven thicknessing table.

The thicknessing table is a beast of a casting, deep and solid, and sitting atop a central column lift that's like an elephant's leg, it is solid enough to hold its position without the need to lock it off, although there is provision for this if needed.

The adjustment for thicknessing height is sweet and fluid, and there's also a lever to disengage the drive rollers when you are working the surfacing function.

The tables are hinged to lift away to the back of the machine for easy access to the power switching and thickness adjusters, and to prevent any inadvertent dropping back when planing, simple gravity stays drop into place when the beds are raised to keep them securely in their 'up' position.

I do have a niggle here, borne of my love of the old-fashioned 'over/under' planers I was taught on where everything stays on board as you work, and that's having to take off the fence to deploy the tables for thicknessing work. It is pretty painless, though, only needing to slacken one Bristol lever to slide it forwards and lift away,



Cutters are self-setting and swapped with a Torx driver

and with a couple of built-in storage hooks at the back of the machine for the fence once removed, it keeps things neat and tidy when you do so.

The feed rollers are comprised of a serrated infeed and steel outfeed, and with the beds swung up out of the way, access for general maintenance to the block or rollers is excellent, as is the access when feeding timber through the thicknesser – I'm beginning to swing my allegiance towards the lift up beds over my preference of old-fashioned over/unders, especially as this one is very easy to swap between modes!

A built-in extractor hood pivots through to enclose the block, activating a micro-switch as it does so you can work on the block with the machine automatically protected by this switch.

In surface mode the fence locks very firmly into a basic looking dovetailed casting, but it needs to be no more than this; being able to hold its position without flexing is the prime target and it does this without qualm, as does the heavy aluminium fence extrusion itself.

Bristol levers lock the settings for position across the block as well as the tilt of the fence for bevelling, with adjustments to set stops for 90 and 45° positions.



Adjustments can be made to the fence stops for 90 and  $45^{\circ}$  positions



The surfacer depth of cut adjuster is at the back of the machine



The built-in extractor hood hinges in to place to cover the block

#### **Great finish**

You can cut up to 4mm per pass in surface mode and with an overall bed length of 1,380mm, there's plenty of support for joinery work, such as door stiles.

Setting the depth of cut is a slight downside for me, as the adjuster is on the back side of the machine while the indicator is at the front, which means you have to reach under the infeed bed or over the top of the fence while squinting at the front to see how far you've adjusted. It's not a massive problem, however, and the design of the machine puts the bulk that houses the bed hinges, table adjusts and so forth at the back, but an adjustment alongside the indicator is a simpler operation when you need to do so rather than having to have a gibbon-like arm to get things altered!

But it's all about the finish and performance and it more than comes up trumps here. I had a 300mm-wide test plank of poplar at my disposal, and I've found it can be quite woolly on occasion when machined (although not as woolly as Donald Trump's comb over!) Running over the surfacer was a breeze and I found the machine was very quick to knock off the high spots ready to go through the thicknesser.

Checking the finish from the surface mode,



You have to remove the fence to use the thicknesser function



Both beds lift away on spring-assisted hinges



There's a fold in handle on the thicknesser to stop it getting hit

it was silky smooth, with no hint of cutter ripple or tear-out. It will take up to 2mm per pass in this mode, and I set it to pretty much maximum here to see if the finish suffered as a result. Again, no cause for concern here; I was left with a premium finish and holding it to the light there was no sign of any cutter marks at all – either as a ripple across, as is the case with standard knives – or tracking lines in the length from the individual cutters.

The slight radius of each cutter, along with its spiral design, gives each cutter a sheer angle that doesn't start with a leading point so the finish is super-smooth, with overlapping cuts as each cutter comes into play.

The finish achieved is certainly more than good enough to go straight to painting without sanding, and if a gloss lacquer or polish is being used, a mere flash over with a fine abrasive would certainly get it in the right ballpark if it isn't close enough already.

#### Conclusion

This is undoubtedly an impressive machine given the premium finish it leaves on the work, and at a price that stacks well in its favour against others of its class.

The individual TCT cutters give fast turnaround



A couple of brackets keep the fence stowed safely on board



These simple gravity catches drop in to hold the beds up safely



A substantial central ram controls the rise and fall of the table

for nicks and chips, coupled with edge retention of 10 times that of a normal HSS knife, which provides the cutters with a potential  $40\times$  work load in comparison with standard knives - a great advantage for the trade user, and with a three-year warranty for a trade-rated machine, it could earn its keep very quickly indeed in a busy workshop. Definitely worth looking at if you're in the market for a professional planer/thicknesser, which you can rely on to get the job done, and well.  $\mathbf{GW}$ 

#### THE GW VERDICT

#### Pros:

 Sheer cutting action; superb finish; easy swap cutters; quiet operation

#### CONS:

 Surface adjuster is at the back; fence has to be removed for thicknessing

RATING: 4.5 out of 5



With the beds up there's excellent access to the thicknesser



The superb finish from the cutters is ripple and blemish-free

#### Specification:

Motor: 3kw
Power supply: 16amp
Cuts per minute: 19,200
Cutterblock diameter: 70mm
Cutterblock speed: 4,800rpm
Feed speed: 5m/min
Cutters: 56 × TCT spur cutters
Length of table: 1,380mm
Max depth of cut – planer: 4mm
Max depth of cut – thicknesser: 2mm

Max planing width: 310mm Max thicknesser capacity: 225mm

**Overall L × W × H:** 1,385 × 705 × 1.000mm

Min extraction airflow required: 1.500m<sup>3</sup>/hr

**Weight:** 272kg

Noise Level dB @ 1m: 89

- Typical price: £1,799.95
- ▶ Web: www.axminster.co.uk

### **Star performers**

If you do a lot of work in hard-to-reach areas, these Chicago brand spanners will be right up your street. Not only are they built to last but they also come with a lifetime guarantee to boot – superb!



Toodworking isn't always about sharp tools and snug fitting joints; there are occasions when we have to use bolts, and in some instances, in inaccessible places. Each spanner has a combination of two different nut sizes it will fit, with a 10 & 12mm, 13 & 14mm and 15 & 17mm configuration.

#### Slip head action

So what sets them apart from any other spanner out there? Well there are ratcheting ring spanners that save lots of time, which are no good in restricted areas such as the recess a worktop holt sits into

These spanners are open-ended for easy alignment with a nut or bolt, but also have a ratcheting type action, which is actually a spring-loaded hinged or pivoting head that

as you set it to run the nut tighter or looser by switching its orientation, engages like a standard spanner, but as you pull against this action, the head disengages to ratchet or slip back, ready to move to the next tightening or loosening motion.

The slip head action engages and disengages at 30° increments that allow a nut to be tightened or released in a very restricted or enclosed space, turning the spanner over accordingly to tighten or loosen, but there is a downside: this function needs a certain amount of resistance to do its stuff.

Releasing a tightened nut is fine, but tightening up needs enough pressure to allow it to slip over to the next flange on the nut, but I found that spinning a nut on and applying finger pressure was enough to get the first nip to work and then slip to the next position.



In its working position the spanner sits around the nut to apply pressure



It's in tight spots such as beneath worktops where these really excel

#### Specification:

- Material: 17-4PH hardened stainless steel
   Sizes: 10/12mm, 13/14mm & 15/17mm
   Weight: 280q
- Typical price: £49.95 for a set of 3
- ▶ Web: www.chicagobrand.co.uk

#### **Excellent quality**

The quality of these spanners is excellent and they are powerful as well: I found I could lean on them hard to get a really tight fixing without any sign of slippage.

The sizes available are limited in their range, starting at 10mm through to the biggest at 19mm or from  $^3/_8$ in to  $^{13}/_8$ in in the Imperial range with the double-ended slip head set of three as reviewed, or in sets of 10 with a slip head and fixed head configuration.

#### Conclusion

Averaging at just shy of £17 per spanner you may think it's a high price to pay, but these come with a lifetime guarantee, and in the case of restricted and hard-to-reach working areas, I'd pay double just for the 10mm one!  $\mathbf{G}\mathbf{W}$ 

#### THE GW VERDICT

PROS:

Superb for restricted areas; high quality manufacturing; lifetime guarantee

CONS:

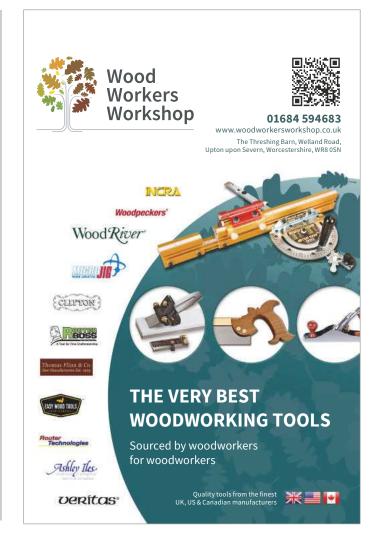
Needs enough nip on the nut or bolt to allow the head to slip

RATING: 5 out of 5



email: admin@johndaviswoodturning.com

www.johndaviswoodturning.com



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Tel: 01264 811070



## Bad to the bone

Superbly constructed, sharp and perfectly set, these saws can be built to your own personal specification

t's always a joy to pick up a saw that feels right, and the old boys who plied their trade decades ago had that as a given; attention to detail was a way of life when the trade was dominated by hand tools.

You can follow the timeline of the cost cutting dumbing down of hand tools, and hand saws especially, where the beautiful, elegant handles gave way to more and more clunky slabs and while some of the flourishes on handles are not really necessary, the actual grip is, if you are

to enjoy using a saw on a daily basis.

#### **Premium saws**

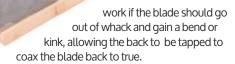
So the renaissance of premium saws is a welcome return to the days of old, which leads me on to introducing Bad Axe Toolworks.

The name comes from the Bad Axe river where they are based in Wisconsin and each saw medallion bears the date 2009, so they are new to the tool arena, but that's long enough to turn out a belter of a saw, and if attention to detail makes for a good product, then Bad Axe wins hands down.

There's also an option to order a saw to your own requirements, which allows you to choose the timber for the handle, the size to suit your own hand, the material for the back and also the colour of the split nuts to complement the back.

You can also opt for a rip file, a crosscut or hybrid filed tooth configuration, the hybrid being a cross between rip and crosscut whereby the pitch of the teeth is steep, similar to a rip pattern but eased back by a few degrees. It is also filed in a crosscut style where the fleam is kept to a tighter angle than standard crosscut fleam, so you can rip well and also crosscut cleanly.

Whatever your choice, the same parameters are adhered to; most importantly for me being the folded back or spine, which gives two advantages: the first being weight to aid sawing, but more importantly, the chance to do remedial



#### In use

Having had a chance to try out three saws in the Bad Axe range, the hybrid filed tooth pattern is a great compromise – I always kept my first tenon saw filed in a similar fashion to allow me to get the best of both worlds from it.

The Bad Axe versions work beautifully in either stock orientation and are not 'grabby' when starting the cut; they track cleanly as the cut progresses.

They are also hand-filed and sharp as a tack and there's always a chance of a high tooth to upset the applecart and jar the saw as it cuts but not a sign of this across all three saws that I tried; these are filed superbly well.

Outside of my general test cutting I bashed out a quick and dirty set of through dovetails and it's in such areas of fine joint cutting where the comfort of a saw handle becomes more evident, as you can concentrate on the joint rather than how the saw handle feels.

However, despite all the options to stylise the saw if you so wish, it looks like Bad Axe are sticking with a couple of handle designs in the closed and open or pistol styles with no talk of handle 'hang', which is probably no bad thing!

There's often talk of the 'hang' of the handle in saw discussions whereby the angle of the handle in relation to the spine is altered during manufacture to give a slightly different action as you work. While a range of saws set side by side would perhaps give you an indication of



The medallion bears the Bad Axe legend fitted to the beautifully finished handle



The superbly set and sharpened teeth can be altered to suit your requirements



Each saw cuts and tracks perfectly; these are very sweet saws to use!

what the hang achieves when used against one another, for me I'm more of a believer in the actual sharpness and correct setting of the saw as an essential. I don't think I could really tell one hang to another on an individual basis if my life depended on it, but I could certainly tell if a saw was in need of a bit of file work or the set was too excessive or not enough, and you quickly adapt to a saw that is of good quality in the handle department, which these certainly are.

#### Conclusion

Bad Axe are making top-end saws to traditional standards and that can only be a good thing! If there's a downside, they are a small company and demand is increasing so there may be a waiting period, especially if you opt for your own specification. Alongside this there's a price difference accordingly, but that's to be expected. **GW** 



Two basic handle designs are available but you can choose the timber if you wish



Attention to detail includes soldiered saw nuts for the handles

#### Specification:

- Handle design: Pistol or closed grip options
   Handle timber: Available in a variety of species
   Back: Folded in a variety of finishes
   Tooth style: Can be filed
  - to suit your preference

    Spine: Hot blued steel
- ▶ Typical price: £200-£230
- ▶ Web: www.workshopheaven.com

#### THE GW VERDICT

- **PROS** 
  - Superbly constructed; sharp and perfectly set; can be built to your own specifications
- CONS:
  You might ne

You might need to wait for one as demand is increasing!

RATING: 4.5 out of 5





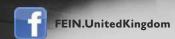
It makes tool changes possible in just **3 Seconds**. At the same time, it guarantees a perfect fit for accessories and therefore maximum power transmission. Resulting in even more work progress in every application.

FEIN. Unverwüstliche Elektrowerkzeuge.











Going with tradition

This new range of hardpoint saws from Draper are set in the traditional manner and the triple-ground option is definitely worth looking at if you want to achieve a guick and accurate cut

ith hardpoint saws a dominant force in the woodworking world, it's always going to be difficult to break the grip of brands like the jack saw – the trade favourite for years – and it needs something of equal stature or with a different angle to gain that advantage.

#### Various options

This new range from Draper features seven different options. Taking a more traditional route there's a double-ground tooth pattern with first and second fix hand saw options along with a tenon saw, and also a shorter first fix toolbox saw.

Alongside there's a triple-ground option in first, second and toolbox configurations. The first and second fix versions in this pattern were with me for review along with the tenon saw.

Each saw has a coloured handle so you can quickly identify it against others in the range and they all have comfort grips with the handles having useful angle profiles for marking 90 and 45° cuts using the back of the blade, with the exception of the tenon saw, as it has a canted position to gain more bite in the cut due to the way in which a tenon saw makes its cut.

#### Tenon saw

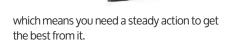
The tooth design on this 300mm long 12tpi tenon saw is needle-like but with a peg tooth uniformity, which although sharp, I found was quite slow in cutting and lacked the aggression of a more commonly raked tooth with more bite.

The back of the saw is stiffened with a thin metal spine that does a decent enough job but offers no extra weight, but that's much the same as other hardpoint saws on the market.

There is some flex when the saw is pushed hard or you accidentally twist it in the cut and it jams,



Close-up of the double-ground tooth style



I'm still quite old school when it comes to back saws, favouring high quality resharpenable options, especially for more accurate jointing work, but this one will get you by as a generalpurpose model for the toolkit, especially if you need to work with composite materials, such as MDF, where the hardpoint always wins.

#### **Hand saws**

The first and second fix options have 8 and 12 points per inch respectively and are available in either 500 or 550mm blade lengths. However, the triple-ground tooth design makes it a different ball game for cutting in comparison to the double-ground tenon saw. Initially they seemed a tad dull for a new saw but once the protective lacquer had worn away, the first fix saw zipped through my test stock of  $150 \times 50$ mm softwood with ease.

The first fix saw also made light work of ripping work in the same stock, which puts them up there



Close-up of the triple-ground tooth style



The double-ground tenon saw doesn't cut as aggressively in hard or softwood



The first fix saw cuts quickly in rip and crosscut work on thicker stock

#### THE GW VERDICT

▶ PROS

Traditionally set, 1mm-thick blades; triple-ground cut is very quick

CONS:

Tenon saw a little too flexible; doubleground tooth isn't as quick in the cut

RATING: 4 out of 5

with any quality hardpoint on the market. However, I have to say that I'd like a bit more blade projection beneath the handle to allow a fuller stroke through the cut, as I felt this was lacking.

#### **Traditional setting**

There is one attribute that the Draper has that sets it apart from other hardpoints out there, which makes for a far better cut in my opinion. These Venom saws are set in the traditional manner so that each tooth, no matter what saw, is set; whereas the likes of the jack saw and others work on a skip set method where only a pair of teeth are set, then a couple left unset, and so on.

I've found that these saws are overset on the teeth to compensate for the unset ones and it leaves a bigger kerf than necessary.

These Draper saws, on the other hand, have a finer set, which supports the saw plate correctly and gives a fine kerf and that alone is a major benefit in my eyes.

However, this finer set does mean, in the case of the

second fix saw, that it needs dry stock to prevent binding. Trying a crosscut on the  $150 \times 50$ mm test stock that had been outside for some time found it soon binding in the cut.

Shifting over to some skirting and 12mm MDF, the resulting cuts were sweet and left a very clean finish and in this area the finer kerf and support of the blade can result in better fitting of joints with little additional work required.

#### Conclusion

The RRP of the saws puts them in a higher price bracket than the likes of jack saws, which may not work favourably even with the unique tooth set, but triple-ground profiles tend to cost more than standard 'jack' types, and there are promotions going on now that puts them in a similar price bracket and therefore, in the case of the triple-ground profiles especially, well worth a speculative punt to see if you like a traditionally set hardpoint saw. **GW** 

#### Specification:

- Blade types: First & second fix, toolbox & tenon
   Tooth styles: Triple-ground & double-ground
- Blade lengths: Tenon: 300mmFirst & second fix: 500 & 550mmToolbox: 350mm
- Rigid high quality 1mm carbon steel blade
- Lacquered coating to reduce friction and prevent corrosion
- Ergonomic comfort grip handle reduces fatigue
- ▶ Typical price: From £4.96 each
- ▶ Web: www.drapertools.com

## First aid for your blade

This nifty little sharpener ticks all the boxes and works brilliantly with its various different options – it's a toolbox must-have



he tag line of 'first aid for your blade' should give you some idea of what the Lansky Blademedic sharpener is all about. The dinky little pocket-sized tool has a variety of options to get any knife back in working order. And if you do have a nick in your blade, the Blademedic can deal with that as well as refreshing an edge.

#### **Tool options**

You have four main options with the tool: firstly, for blades with straight or curved profiles, a pair of angled carbide hones that are used to deal with a very dull blade to redress it, or for a blade with a small nick or



The ceramic rod keeps a fine cutting edge on the blades

two that needs sorting. These hones are pretty aggressive, literally peeling steel off of the blade as you pull it through, so it's more a last resort if you don't want to pare away your blade and reduce its lifespan accordingly; if you look after your blade and hone regularly this feature should only be needed occasionally and with a few light passes.

Moving on to the ceramic angled hones, the edge of your blade can now be pulled through with a much finer steel removal to bring it to a sharp edge.

Both the carbide and the ceramic hones are angled to 22.5° to give an inclusive 45° angle to your blade so you can move from the carbide to the ceramic to retain the same profile, keeping the angles consistent.

Serrated blades are equally well catered for with a ceramic and diamond option available. The diamond hone hinges back into the handle when not in use, held with a small magnet and deploys easily, held in place with another magnet. The fine taper works well with multi-sized serrations and cuts quickly to pull a dull edge back into shape and will also give a coarser edge for aggressive cutting. The front of the tool also has a rod of ceramic with a triangular profile. The serrated blades can be pulled over this profile to fine-tune the edge once it's been established.

#### Conclusion

I found the Blademedic excellent in resurrecting a knife I had neglected, giving it a keen edge in only a few swipes through the angled hones. The serrated blades are not quite as swift if the individual serrations need some diamond work, but the results are equally good. While the diamonds are unlikely to be top-end Shirley Bassey grade and last forever, at £13.20 for a very well made multi-option hone that slips in the pocket alongside your favourite knife, I love it! **GW** 



A very dull blade can be quickly dressed using the carbide hones



The tapered diamond hone is ideal for serrated blades as well as normal ones

#### Specification:

- Hones: Ceramic, carbide & diamond
- ▶ Typical price: £13.20
- Web: www.blades.co.uk

#### THE GW VERDICT

- Multiple honing options; compact
- CONS:

  None that I've found

RATING: 5 out of 5



## Building designs from the heart

**Tony Morgan** finds out more about woodworker and furniture maker **David Anderson** who loves to wile away the hours in his new workshop

ome years ago, when David Anderson was a late adolescent trying to figure out what he was doing in college, he had one of life's sudden "aha" moments: "I was an undergraduate thinking of teaching mathematics but the teacher I was observing was dreadfully uninspiring. I was encouraged to try something else," he explains, so he decided to observe the woodworking craft he had grown up with. "As I walked through the door of the workshop, it hit me like a bolt of lightning: this is what I should do."

Soon afterwards, David was back home heading for the workshop in which he had spent many long hours as a boy building things; the same 'shop his father had constructed to nurture his woodworking hobby.

After earning an industrial education degree in 1977 at Oregon State University, David began a career teaching primarily woodworking that lasted for 30 years. While thoroughly enjoying teaching, he found life even more fulfilling in developing his design and woodworking skill sets on the side. His personal

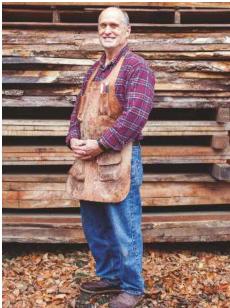
woodworking also inspired his students. "I designed and built commissioned pieces for folks on the weekends and during the summer. I found it to be an addictive passion partially fuelled by the heightened interest and availability of information on crafts that began during the mid-1970s," he says. Chuckling, David says: "People identified me as a teacher who did woodworking on the side, but I was really a woodworker who taught."

#### Upping his game

Today, David is retired from teaching, but his passion for woodworking continues unabated and he loves creating designs that express what's in his heart. Unlike some woodworkers who make a living building things that other people want, David designs and makes things that he feels compelled to make.

He was able to do this quite successfully when he made his living as a teacher because it allowed him the freedom to pursue making his own unique designs and distinctive creations.





ABOVE: This woodworker's apron pocket contains all manner of handy tools

ABOVE RIGHT: David Anderson, who gave up studying maths to become a full-time woodworker Presently, however, his focus is on dining room furniture. While fully functional, his dining sets can also be described as poetic and pleasing to the eye. Consider his dining chairs, for instance: the front legs flow gracefully from the floor to join the back legs at the crest; this enables each side of his chairs to form a distinctive wishbone design.

David's chairs are strong and unusually comfortable. People frequently comment that they enjoy sitting in them because, unlike most dining chairs, they provide substantial lumbar support.

Most of David's creations are fashioned out of black walnut, his wood of choice, but he's also worked with oak, ash, and even Douglas fir.

#### A lesson learned

David discovered early on that anyone seriously interested in woodworking has to learn that wood moves as the humidity changes. He knows that when he makes a solid wood dining table and puts it in a customer's home, it's going to expand and contract with the seasons. So creating designs that respect that property and making sure the wood is at the correct moisture level during construction is critical. He recalls a time back in the '70s when one of his earliest commission pieces was a dining table: "The classic error on a dining table is to glue boards together edge

RIGHT: Steam-bent components for David's pieces of furniture



to edge and then put a piece across the end with the grain running at 90°. The length of the board that goes across the end won't change, but the width of the other boards will. So I delivered the finished table to the customer's home and they were very happy with it, but several weeks later they called me. The end board had fallen off and come loose. I brought it back to my workshop and glued the end back on and added some extra pieces to hold the end on securely but not allow for grain expansion. 10 years later, they told me the table had cracked or 'antiqued itself.' I learned this lesson the hard way!"

For that reason, he believes a moisture meter is critical when working with wood: "I have a Wagner pinless meter; it's my go-to tool and the first thing I grab when I'm handling timber. It's very easy to use: you just slide it across the surface and quickly get an average reading for the board's moisture content. Another plus is that you never have to worry about putting holes in the wood. That's a clear advantage."

#### A wonderful blessing

Besides crafting furniture in his new 2,400sq.ft. workshop, David also operates a sawmill and a timber kiln. He normally works alone, but calls on a few friends to help him when he runs the mill.

David says he builds furniture full-time to supplement his retirement, but he also does it for the sheer joy it brings him. He savours the time spent working in his 'shop, and because he alone is responsible for every stage of the production, he says he can keep his standards where he wants them. "Woodworking is a wonderful blessing," he confides, "my wife of 34 years died in 2013, but I have this wonderful home nestled on six beautiful acres and the opportunity to pursue a craft that's much appreciated."  $\mathbf{G}\mathbf{W}$ 

#### **ABOUT THE AUTHOR**

Tony Morgan is a senior technician for Wagner Meters, where he serves on a team for product testing, development, and also customer service and training for moisture measurement products. To find out more, see www.wagnermeters.com

## Rainbow wood cutting board



#### **TOOLS REQUIRED**

Table saw

jointe

Planer

Router with roundover bit and round-nose groove bit

Router table

Clamps

Cauls

Glue brushes

Palm sander

Various scrap pieces of wood (see opposite for explanation)

Elmer's Carpenter's Wood Glue MAX Food-safe finish such as mineral oil or butcher's block oil and rags Noah Weinstein shows you how to make good use of scrap pieces of wood lying around the workshop with this colourful chopping board project

inding ways to use up scrap wood in the workshop is always a fun challenge. This scrap wood cutting board is a great project because it's made from a wide variety of different kinds of wood that are all various different sizes – which is to say, it can be made with virtually whatever you've got lying around. The multi-coloured

boards work and look great in the kitchen, but the basic process of making the striped stock material can be applied to virtually any woodworking project for a colourful outcome.

The key elements to this project are using a good waterproof, kitchen friendly glue, such as Elmer's Carpenter's Wood Glue MAX, and adding in a few bold and colourful woods like purpleheart (purple) and padauk (red) to really make the boards pop with colour.

#### **Tools & materials**

I'm a bit of a hoarder when it comes to materials and supplies, so it's no surprise that my workshop is filled with a lot of offcuts that perhaps other people might just throw away. It turns out that all these odds and ends actually have some real value for making small projects, such as jewellery



boxes, thin strips for inlays, or joined together to form larger boards. The woods that I chose to use were basically just what I had lying around from other projects. The cutting board contains maple, walnut, mahogany, padauk, purpleheart, cherry and sapele (Pic.1). I've found that one wood to stay away from using in a cutting board is a deepgrained oak – the pits allow for food to build up and they are harder to clean. How much wood you will need depends on the size of cutting board that you're making. I always think that it's a good idea to prepare more wood than you think you'll need because sometimes there are sections of scrap material with knots or blemishes that end up not being suitable. To be perfectly clear, when I say 'scrap wood' I mean scrap hardwoods. And at no point should you attempt to make a cutting board out of a composite material such as plywood or MDF, or out of any timber that's been treated in any way, such as pressure treated timber, for example.

#### Joint an edge

If your scrap wood is already dimensioned, skip this step. If it's got rough edges or faces from the

mill, you'll need to joint and plane them first. Use a jointer to prepare one edge; this creates a straight edge which you can use later to push against the table saw fence to make a straight cut (**Pic.2**). It is generally the first step that is done with any raw timber.

If you have a face that needs to be cleaned up, run the face of the board over the jointer as well. If your board face is wider than your jointer bed, you can cut it into a smaller piece (remember, you've now got at least one straight edge to cut against), or, use a variety of tricks by making a sled for your planer to hold the wood as it runs through, directions for which can easily be found online. Do this for all of your scrap pieces. In the end, they should all have at least one clean edge and at least one clean face.

#### Plane the face

Next, take the already dimensioned face and place it face down onto your planer bed, then run the piece of wood through the planer (**Pic.3**). Do this with all of your boards that you are using, even if it already has two smooth faces. This will make all of your wood the same thickness. I try to keep my >



STEP 2. Use a jointer to prepare one edge; this creates a straight edge, which you can use later to push against the table saw fence to make a straight cut



STEP 3. Take the already dimensioned face and place it face down onto your planer bed, then run the piece of wood through the planer



STEP 4. Placing the previously jointed edge against the fence, cut strips of random width

cutting boards as thick as possible so they have heft, and resist warping from exposure to moisture. With that in mind, plane your scrap wood as little as possible. If you have one or two boards that are thinner than the rest, save them for another project, since planing all of your wood down to that minimum thickness wouldn't be worth it. Try to keep the boards at least 16mmthick, and ideally, 20mm-thick, or more.

#### **Cut into strips**

This step is kind of fun – how often do you get to make 'random and creative' cuts on a precision tool like a table saw?

Placing the previously jointed edge against the fence, cut strips of random width from your boards (Pic.4). Don't make any strips that are too thin (less than 12mm, for example) but vary them randomly over a range of widths. There's no right or wrong here. If you like many stripes in your material, cut thin strips; if you want fewer strips to glue up, cut wider ones. I cut a whole variety of different sizes with the small ones being around 20mm and the wide ones at around 64mm.

#### Lay out cutting boards

Once the strips are all cut, arrange them according to your tastes (Pic.5). I like putting walnut next to maple for nice contrast, and using the padauk and



STEP 5. Once the strips are all cut, arrange them according to your tastes



than the maximum capacity of your planer, glue the strips together

purpleheart sparingly so that when it does show up, it really pops. Make the cutting board whatever size you like - mine is pretty big because I like to have a lot of room when I chop. If you've only got a small amount of scrap material, think about making a cheese board or picnic board. Or, make one large blank and cut them down into four smaller boards and give them as gifts. Lots of options here. Whatever dimensions you decide to make your board, glue them up as two separate halves that are no wider than the maximum width that your planer can accommodate since it saves a lot of sanding time if you can simply run the cutting board halves through the planer.

My planer can't take much more than 305mm, so I arranged the strips into the large cutting board that I wanted, and then split that into two groups right down the middle to keep them both narrower than 305mm.

#### Glue strips together

Separating your cutting board strips into two groups, no wider than the maximum capacity of your planer, glue the strips together using Elmer's Carpenter's Wood Glue MAX (Pic.6). I like using the MAX version because it's waterproof, which is very important since these cutting boards will definitely be coming into contact with water when they get washed after use.

Lay a thin bead of glue down on each of the strips and use a chip brush to spread the glue evenly along the strip. Clamp the strips together and use some hearty pieces of wood as cauls to keep everything in line. Let the strips sit overnight and repeat this process for the second batch of strips.

#### Sand & plane again

When you remove the clamps you should now have two panels, each half the width of your cutting board. Use a palm sander with a rough sanding pad to quickly remove the biggest glue marks on the wood. Then, run the two boards through the planer, taking off as little material as possible on each of the faces to remove the remaining glue marks (Pic.7). The boards should now be perfectly flat on both sides. When they come out of the planer, you can really for the first time get a preview of how nice your cutting board will look.

#### Glue two parts together to form one large board

Glue the two boards together using the same technique of squeezing out a bead, spreading the glue evenly with a chip brush and finally clamping overnight using cauls to keep everything aligned (Pic.8), as mentioned in the previous step, to



STEP 7. Run the two boards through the planer, taking off as little as possible on each of the faces



STEP 8. Glue the two boards together and clamp up overnight using cauls to keep everything aligned



**STEP 9.** Alternatively, you can use a circular saw and straightedge instead of a sliding mitre saw to cut off the uneven edge

form the full-sized cutting board. Remember, the resulting glued board won't be going into the planer and will have to be sanded by hand, so take extra care when clamping to clean up squeeze out with a wet rag and a scraper. It's easier to clean up wet glue than to sand off the dried stuff. Switch to a longer clamp if you have to for this glue-up since the board is starting to get pretty large.

#### Sand again & trim to size

Use the palm sander to take off any glue marks and trim the ends of the board to the same length. The cutting board I made was too wide to fit in a table saw sled or my sliding mitre saw to trim the edge, so I used a circular saw and straightedge instead to cut off the uneven edge (Pic.9). Note that this will set the length of your board, so pick something that's nicely proportioned to the width and make the cut. This can be a good time to think about whether or not you'd like the board to fit into the sink. I have a few cutting boards that fit entirely in my sink. I use these for cutting meat so they can be completely submerged and thoroughly washed. The board that I am making here, however, is significantly larger than the average cutting board, but I still wanted it to be able to drain into my sink. The answer here is to make at least one dimension, the length or width, and in this case the width, less than the largest

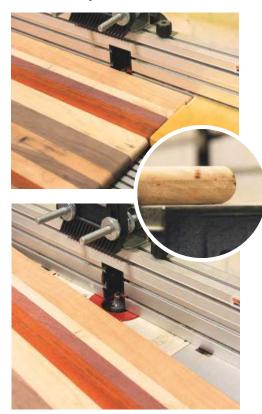
dimension of your sink so at least you can wash the board at an angle in the sink and not make a mess – well, that's the theory!

#### Roundover edges

I rounded over the top and bottom edges of the cutting board with a roundover bit in the router table (**Pic.10**). Using a roundover bit with a bearing and the router table fence as a backup makes this job very easy. Use a sacrificial follow board to prevent any tear-out.

#### Rout the juice groove

I like to add a groove to one side of my cutting boards to collect the juice that accumulates so that it doesn't make a mess on the worktop. Put the router into the plunge base attachment and fit it with a rounded groove bit. While there are many ways to cut a juice groove, including using the router table again with stop blocks, or the router with an edge guide, the easiest way for me is to fit the router with a simple pattern bushing and follow a rectangular piece of masonite cut to size as a template (Pic.11). Size the template to the specific size of your cutting board, taking into account the offset of your bushing and groove bit that you use. I used painter's tape to hold the pattern board in place while I cut the groove into one half of the board. I then spun the board,



STEP 10. Round over the top and bottom edgeswith a roundover bit fitted in the router table

#### **Project: Rainbow wood cutting board**

switched the tape carefully to the other side, and finished cutting the groove. The plunge base is essential here because it allows you to plunge down into the wood to start the cut, and not have to come into the wood from the edge. Depending on the size of your groove, cut it in one, or two passes, removing a conservative amount of material each time – better to make two easy passes than one deep, slow pass, which could result in burn marks in the groove from when the router was strained. Additionally, I don't like to make my grooves too deep because they become hard to clean, and it's unrealistic that my cutting board juice groove will ever have to accommodate say, one cup of liquid.

Be careful coming around the corners of your template, as this is the hardest part. To make the

corners easier, simply round the corner of the pattern template on the belt sander just a little; this will make rounding the corner with the pattern bushing much easier than going around a sharp 90° turn. Thanks for the tip, Dad!

#### Finish sanding

With all of the woodwork done on the cutting board it's time for the final sanding. Sand the board using a random orbital palm sander with finer and finer discs until you reach 220 grit (**Pic.12**). I like to put items to be sanded on an expanded mesh foam pad so that they stay firmly in place.

#### Apply food-safe finish

The final step is to apply a food-safe finish such as mineral oil or butcher's block oil (**Pic.13**). I like

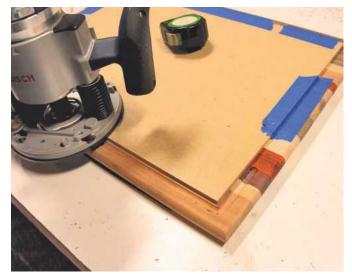
using a food-safe gel varnish because it's easy to wipe on and off and results in a nice satin shine. Make sure whatever finish you decide to use penetrates your wood well, and that you apply more than one coat if possible. The wood will be exposed to a lot of moisture if you use it frequently, and keeping the finish in good condition is your best protection against warping from water damage.  $\mathbf{G}\mathbf{W}$ 



STEP 12. Sand the board using a random orbital palm sander and work through the grits



STEP 13. Finally, apply a food-safe finish such as mineral oil or butcher's block oil







STEP 11. While there are many ways to cut a juice groove, the easiest way is to fit the router with a simple pattern bushing and follow a rectangular piece of masonite cut to size as a template



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# Choosing & using hand saws for furniture making

Carrying on with his beginners' series, **John Bullar** moves on to discussing hand saws and how these are used and chosen by furniture makers to complete their every day work

In this part of the series we will look at how furniture makers use hand saws in their everyday work, and how you can go about choosing hand saws that will be suitable for furniture making.

Here are a few bits of terminology before we get stuck in. By 'hand saws' I mean small hand-held saws that are worked by arm power rather than electricity. The slot made by a saw blade is known in furniture maker's jargon as a 'kerf', or more simply a 'saw cut'. Sawing along the grain of wood is called rip-sawing while sawing across the grain is called cross-cutting.

#### Taking control

To see how hand saws are used we will be looking at real examples in the furniture-making workshop. However, the plan is to concentrate on getting to grips with general use of various hand saws rather than specific details of joints, etc. We will come back to those later in the series.

In the hands of an experienced maker, hand saws give tight control of the angle in each dimension and the speed and depth of cut. This sort of control can be fairly quickly learned on the job but even so, most of us find things can go wrong when we are learning a new skill. So with this in mind, it is worth practising cuts against marking lines at various angles on scrap pieces first.

#### Different hand saws

Larger workshops have machines to do the initial sizing and large-scale sawing – even so, the furniture makers there generally use small hand saws a great deal for detailed shaping, one-off joints, etc. Smaller workshops may rely more on suppliers to do the initial sizing or use a power saw for rough work, but again they use hand saws for the fine details.

There are many types of hand saw. The most commonly used type is the back saw, which is sometimes described as a 'tenon saw' if it is large or a 'dovetail saw' if it is small. Back saws are among the most

important tools for a furniture maker. Other hand saws are various types of frame saw and larger panel saws, which tend to be used less nowadays.

#### A straight start

It is quite common for a saw cut to go wrong at the start. Either it starts in the wrong position or at the wrong angle or else the saw judders and jumps to a new position soon after starting. The solution to this is to guide the blade against the finger of the left hand until the teeth have worked themselves into a groove (**Pic.1**). Note that for left-handed people, everything can simply be reversed and the right fingers are used to guide the start of the cut (**Pic.2**).

At the start of the cut you need to take a close-up view while moving the blade slowly. Take most of the saw's weight in your hand



PIC 1. The way a saw cut starts is most important – it needs to be clean without any judder, in the right position and at the correct angle

and pull it gently towards you while making the initial groove in the wood surface.

#### Staying in-line

Having established the starting groove you can apply progressively more muscle power. >



PIC 2. Here a left-handed furniture maker uses a bench hook to guide a wide saw cut. The hook is designed to be used on either side while the saw is held in the left hand and the right fingers are used to guide the start of the cut



PIC 3. Once the cut is under way, the furniture maker stands back from the bench, providing room for the arm to sweep back and forth in a straight line



PIC 4. Tight, awkward cuts may require the saw to be tilted sideways as well as cutting down to an angled baseline. This takes a good deal of concentration to keep both angles in control



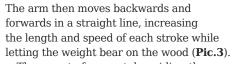
PIC 5. By keeping the head centred with one eye above either side of the blade, you can watch that the saw does not deviate from a straight line



**PIC 6.** When making deep cuts, such as for this joint, the saw blade is continuously guided to stay tight against the waste side of the marked line



PIC 7. Here the wood is held down on a simple guide known as a bench hook while making a wide saw cut for the shoulder of a joint

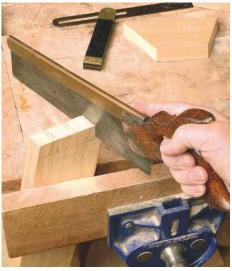


The secret of accurately guiding the blade is to never let it get out of control in the first place (Pic.5). While it isn't possible to make large changes of direction with a deep saw blade, you can make tiny corrections on each stroke; these ensure that the saw never leaves a straight line. At first this requires a good deal of concentration, but over time becomes automatic, even for awkward joints (Pic.4).

If you are cutting a piece of waste away you need to allow for the width of the saw cut itself, so position the cut on the waste side of the marking line (**Pic.6**).

#### **Grips & guides**

The wood must be firmly gripped to stop it moving away from the saw or swivelling

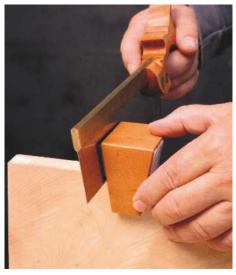


PIC 8. Sometimes it can be helpful with complex joints to clamp the wood at an angle so the saw cut remains vertical

while you are cutting it (**Pic.7**). Sometimes the wood can conveniently be clamped in a bench vice. The vice is versatile because it can be clamped at various angles (**Pic.8**).

Often a vice will get in the way of the saw so other grips must be used. The wood can be hand-clamped against a simple guide known as a bench hook. This is simply a short wooden board with a batten screwed across under the near end and over the far end. The lower batten hooks onto the front edge of a work bench while you press the wood to be cut against the upper batten.

Jigs that help hold the wood in place sometimes can also be used to guide the saw blade; the carpenter's mitre-box is a



**PIC 9.** A handy magnetic guide can be useful for sawing occasional angled joints

classic example of this. Furniture makers tend not to use these, however, as they are limited in accuracy.

#### Angle guides

There are some magnetic guides available that will steer the saw blade when pressed against the wood for jobs such as cutting dovetails. While they do not prevent the saw from deviating from a straight line, they help establish a starting position and angle (**Pic.9**).

#### Japanese saws

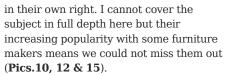
Japanese saws are very different from Western ones and a specialised subject



PIC 10. Japanese back saws have a different The blade is hooked into a slotted back, which has a wooden handle bound on



PIC 12. The Japanese back saw blade is thin and very suitable for sawing fine joint details



Japanese saw blades have their teeth reversed compared to Western ones so they cut as you pull the saw towards you rather than as you push it away. The big advantage of this is that the blade is held in tension so it can be made thinner without flexing. The disadvantage is that you cannot see the side of the wood that is being cut first and the side of the saw cut you can see has rougher edges so guiding the blade is a little trickier.



PIC 15. The teeth are hardened to keep their sharpness while making them brittle and the blade disposable



PIC 11. A traditional saw can be sharpened with a three-cornered Swiss file, being careful to maintain the angle and height of each tooth



PIC 13. Disposable saws are rather coarse for fine furniture making and because of the hardening the teeth cannot be adjusted



PIC 14. The saw-set is a tool designed to keep the teeth slightly bent over to alternate sides; this prevents the blade from jamming in its own cut

#### Hardtooth saws

The teeth of many Japanese saws as well as low-cost Western varieties are hardened by electric induction heating. This is obvious to look at by the blue-black colouration of the teeth (Pic.13). While these saws cannot be adjusted and tend to produce a rough cut, they do cut quickly and hold their sharpness for a long time. Hardened teeth are particularly useful for manufactured boards, such as MDF or marine ply, which quickly blunt conventional saws.

#### Panel saws

Panel saws or toolbox saws, as they are sometimes known, are basic long straight-bladed saws intended for ripping or cross-cutting panels. In the past separate rip saws and crosscut saws would have been used with different angles of teeth for each. Nowadays both have been largely replaced by machines. Even a small workshop at the end of a garage can usually accommodate a bandsaw, and this will rip through boards of any length.

#### Sharp teeth

Individual saw teeth are shaped to act like little knives slicing through the wood grain and chisels scooping away chips of wood. The remaining depth of the saw blade supports the teeth and helps locate them for a straight cut. If the teeth were simply filed from a flat blade the steel would jam in the wood, so teeth are alternately bent slightly to either side to widen the saw cut and thus prevent jamming.

Saws may either be low cost disposable type or expensive cabinetmaker's saws that will occasionally require sharpening and adjusting. Some traditional cabinetmakers sharpen and adjust their own saws (Pics.11 & 14). Alternatively, they can be sent away to specialists known as 'saw doctors' for this.

#### Frame saws

If a saw blade is to be used for cutting curves it must be narrow so it does not jam in its own saw cut. Being flexible, narrow blades require a sturdy frame to pull them in tension while cutting. Large wooden frame saws still have some uses (Pic.16) but the more commonly used frame saws are small metal coping saws and fret saws (Pics.17 & 18).

Unlike a hacksaw, coping saws are normally held with two hands clasping the handle with the fingers from one hand hooked over the near end of the frame (Pic.19).

The ability to reach into narrow slots and remove waste makes the coping saw a useful tool even if you never intend to produce any curved work (Pic.20).

#### Start furniture making: The fundamentals



PIC 16. Frame saws are the traditional cabinetmaker's tool for making curved saw cuts. Moving on from this rather crude looking stringtensioned wooden device, steel framed coping saws and fine fret saws will fit into places no other saw can reach



PIC 17. The blade can be removed from a frame saw to pass it through a drilled hole



PIC 18. The plain ends of a fret saw blade (behind) are clamped into the frame while the pegged ends of a coping saw blade (in front) are hooked in place



PIC 19. Frame saw blades can be guided to follow tight curved or complex joints like this or on decorating features

#### **Batch work**

Hand sawing is the sort of task that you can get into the swing of. Setting up a single piece of wood, marking it out, lining up the saw and following through to the bottom of the cut - all these take a good deal of care and concentration. However, repeat the task and it becomes easier. Also a series of similar saw cuts made one after another are far more likely to be consistent and match each other (Pic.21).

For these reasons it is always helpful to try and organise similar components into a series of batches.

#### **Conclusions**

If you are planning to get involved in furniture making or have already started, a decent quality back saw (probably a small tenon saw) is a wise early investment. Ideally, go to a supplier where you can feel the fit of the handle in your hand and the balance of the tool's weight. Sight down the back and the blade to make sure they are straight. Good furniture making tools are not cheap, but if you look after them many will last a lifetime. It is always worth buying quality tools if you can. GW

#### **NEXT TIME**

In issue 308, John will look at how furniture makers use chisels. He will examine the different types of chisels used for chopping and paring fine woodwork



PIC 20. Even on simple joints the coping saw provides a useful way of removing chunks of waste



PIC 21. Where a large number of similar saw cuts need to be made, lining them up as a batch saves time and improves accuracy



# TABLE WIDTH EXTENSION & BASE UNIT

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- Sturdy parallel guide / ripping fence and mitre gauge

SPECIFICATIONS		
Dimensions L x W x H	1430 x 1000 x 1060 mm	
Saw blade Ø	200 mm	
Table size	530 x 400 mm	
Table size with extension	530 X 1000 mm	
Table height	870 mm	
Cutting depth at 90° max.	60 mm	
Cutting depth at 45° max.	44 mm	
Motor	230 V~	
Input	1100 W	



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# Start 'em early!

Andy Smith builds a workbench for his son using pallet boards for the main structure and small posts for the legs

y grandfather got me into woodworking when I was just five-years-old and ever since then I have been hooked! I love creating something out of nothing, making an old thing new or using a discarded piece of wood to create a beautiful piece.

I work primarily with reclaimed wood, such as pallets or barn wood, because they are readily

available and I love the symbolism behind them. My two-year-old loves to work with me in my workshop. I found him a workbench at a car boot sale but he quickly outgrew the plastic toy. I knew it was time for a real wooden workbench with real tools! I gave it to him for Christmas and he loved it: it's sturdy, all wood and has some extra room so he can grow into it. I hope you enjoy making it as much as I did! GW



### WHAT YOU'LL NEED

About nine pallet boards A small planter log or post for the legs

Plywood scraps

Polyurethane finish





STEP 1. The base – My plan was simple: to make a small pallet workbench. To start you just need to make a small plywood base. I had some leftover scraps of landscape timber from a sandbox I built that made perfect legs. They were flat on one side so I ran them through the planer so it would be sliver-free. I cut the legs at 483mm and then put a 381 × 737mm piece of plywood on top of the legs. The 483mm makes it a good height for my son but yours may have to be taller or shorter. The 381 × 737mm was the size of scrap plywood that I had. It is a very good size and looks proportional. Once the base is done, it's on to the back of the workbench



STEP 2. The back – The back is the same size as the base. I cut two pieces of  $19 \times 89$ mm board for the back support. I cut them at 533mm and screwed them onto the back of the legs. You can then screw the back onto the supports and you're ready for the pallet boards





# Project: Child's pallet workbench



STEP 3. Pallet boards - When I want a pallet project to look really nice, I run them through the planer. You have to take all of the nails out so you don't ruin your blades. Make sure you run all of the boards through the planer the same amount so they are the same thickness. Next, run the boards through the jointer so they will fit together without large gaps. Place on the bench so you can see how they fit. If you have too much overhang, you can rip one of the boards so everything fits well











STEP 4. Trim & rip boards - I think the key to making a pallet project really great is the small details. It's the little things that show you made it out of pallets because you're creative,

not because you're cheap. I ripped a pallet board to 38mm for a trim piece, then I started to lay the planed boards. There is overhang on both sides so you can move the pallets around to show the best grain. Once you have it where you like it, cut to size and use a brad nailer to nail the boards in place before moving on to the next step





STEP 5. Screwdriver shelf - I used two of the scrap pieces of pallet to make a small shelf. Just use the brad nailer to nail together and then attach through the back with the same nailer. I used a Forstner bit to drill six small holes to fit my son's screwdriver set



STEP 6. Middle shelf – When I stepped back and took a look at what I had done so far. I knew it needed more, so I decided to add a shelf in the middle, which filled that space very well. I just cut a piece of plywood the same dimensions as the top, 381 × 737mm, then I cut out the corners so they would fit around the legs. I used some scrap wood and screwed to the inside of the legs to hold up the ply. Then to make it look nice and add some strength, I put a trim piece all the way around with the brad nailer



STEP 7. Poly – I used a water-based satin PU finish that I really like. I applied two coats and sanded in between. The poly is low odour and dries really fast; it also adds protection and just a little shine. Once you've applied your choice of finish to the workbench, that's it! This fun little project has already provided my son with many hours of entertainment and he seems to really like it. Of course, you can alter the dimensions to suit your personal requirements – just have fun making it!





# **KSS Circular Saw Series**

The most comprehensive crosscut saw range in the world

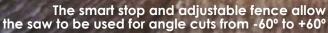
Mafell AG have a full range of their Multi Function 5 in 1 saw systems to suit all equirements. From the KSS300 which is ideally suited to the flooring industry to the KSS60 & KSS80 which have a bigger depth of cut and are ideal for roofing and cutting Jack Rafters easily & accurately.

All saws will allow the user to perform Crosscuts, Mitres, Compound Mitres, Plunge cuts and Rip cuts.

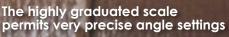
Three models are also available as cordless versions.













Model	Crosscut at 90°	Cutting depth at 90°	Cutting depth at 45°	Angle cuts	Available in Cordless
KSS300	300mm	40mm	27mm	-45° to +60°	Yes (18v)
KSS400	400mm	49.5mm	38mm	-60° to +60°	Yes (36v)
KSS60	408mm	61mm	47mm	-60° to +60°	Yes (36v)
KSS80	370mm	82mm	55.5mm	-60° to +50°	No



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# Roof structure

Carrying on with his series, **Michael Huntley** moves on to discussing the interesting part of the build: the roof

oofs are the interesting part.
They have to slope, in order to shed the rain and as soon as you slope things, the angles get interesting. There are, of course, lots of complexities but all I am going to do is talk about 'simple' roofs.

Roofs consist of rafters raised up at an angle. The rafters meet at the ridge and from the 18th century onwards there is usually a ridge board. If you nail two rafters on the wall-plate to meet a ridge, whether jointed or nailed at the top, there is a tendency for the feet of the rafters to push the wall-plates apart. This spreading force is counteracted by fixing ties and ceiling joists, thus creating a triangle (see Fig.1). The whole assembly of rafter and joist is called a roof truss. In Pic.1 I am working on a part completed shed roof. I am standing on a solid bench even though it may look unsafe! In Pic.2 you can see all the rafters in place.

## Rafter design

Nowadays, computers and calculators can do all the trigonometry for you. Prior to the easy availability of calculators, roofs were designed and rafters cut using published roofing tables or a roofing square. Prior to those, roofs were designed on a 'framing floor'. This was a large flat surface, where the sections of the roof could be laid out full-size or in scale. Nowadays you can do this on a sheet of hardboard (Pic.9). Lay out in chalk half the span (known as the 'run of the rafter') and the rise above the top of the wall-plate, and you can then chalk in the rafter. From that you can mark out the notch where the rafter goes over the wall-plate. This notch is called a 'birdsmouth'. You can also draw out the overhang and the plumb cuts full size. That one sheet of hardboard and a bit of chalk makes everything easy!

# Roof design & coverings

So far I have talked about a parallel-sided building with equal rafters on either side. That means that the end walls are boarded or bricked up to the ridge in a triangle shape called a 'gable'. You could, if you feel adventurous, give your roof a 'hipped' end; that means that the side walls have sloping rafters as well. I'm afraid it is beyond the scope of this article, however; for that you will need to read the very comprehensive



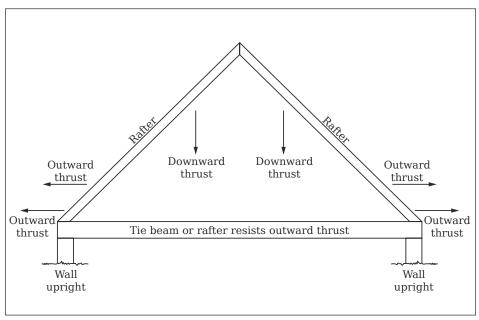


FIG 1. Drawing of basic roof truss



PIC 1. Getting the first rafters and the ridge set up is always the difficult part if working on your own



PIC 2. The end of the day with a range of rafters all in place

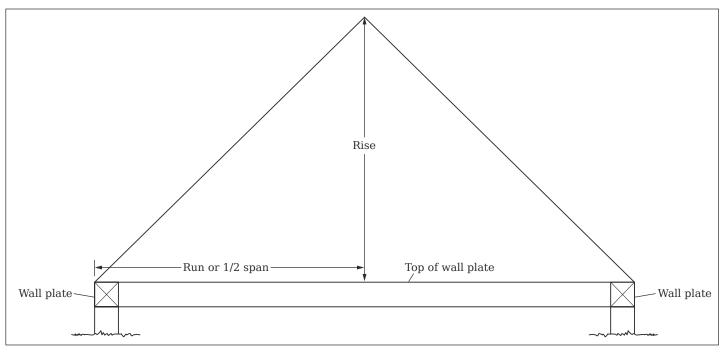


FIG 2. Drawing showing run and rise

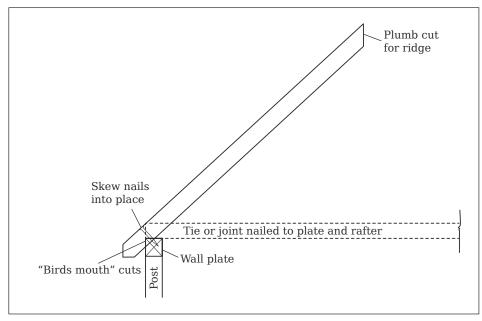


FIG 3. Drawing showing the plumb and seat cuts

 $Roof\ Framing\$ by Marshall Gross (ISBN 0-910460-40-X).

Once your rafters are fixed, you will need 'underslater's felt' and then battens. These days you could also use breathable membrane under the battens. Your roof covering could be slates, tiles, shingles, synthetic versions of these, or corrugated roofing sheets. The spacing of the battens will vary according to the size and overlap of the roof covering. The basic rule for tiling is that at any point the tiles should be two thicknesses. That means that each tile covers part of the one below and the tile above covers part of the first tile. It is a tad complicated until you see it in action, so best do some research first.

# Wall coverings

For small structures the traditional cladding is 'waney edge' or 'feather edge' cladding.

Waney edge has the bark and the profile of >

# Historical timber-framed buildings

This month's historic building at Weald and Downland Open Air Museum is Pendean Farmhouse (**Pic.3**), originally built around 1609. If I could build an historic replica house this is pretty much what I would want to build – not too large but adequate for a small-holding.

This building is described as a 'Yeoman's farmhouse'. It has two stories and is built from mortised and tenoned framed walls with a central brick chimney. The cill beams rest on a dwarf random masonry wall with bricked infill panels above to the lower storey. The upper storey has wattle and daub panels between the frame posts. This therefore requires diagonal wind braces at the external corners.

There are three downstairs rooms, a kitchen, parlour and a dairy. It was then extended in the mid-17th century to have various 'outshots' for baking and other farming activities. Although the central fireplace, serving both downstairs rooms and one upstairs room, was a modern feature for the time, there are also medieval features such as the unglazed windows (Pics.4 & 5). The two upper rooms are open to the rafters (Pic.6), which saves materials and gives a nice lofty feel, but this means debris could fall on you when you're in bed and doesn't do much for heat conservation. Pics.7 & 8 show replica furniture from the correct period set in the rooms. Note the shutter in the bedroom window.



PIC 3. Pendean Farmhouse, Weald and Downland Museum, circa 1609. My favourite timbered house

Photograph courtesy of Weald and Downland Museum



PIC 4. Diamond mullion windows in the Pendean Farmhouse, reconstructed from evidence on the original timbers Photograph courtesy of Weald and Downland Museum

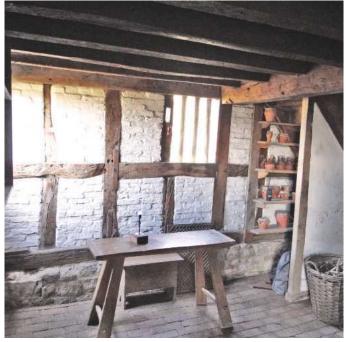


PIC 5. A lattice screen, probably to deter animals and birds from entering the dairy Photograph courtesy of Weald and Downland Museum



PIC 6. An interior view of the central chimney, which was advanced technology at the time!

Photograph courtesy of Weald and Downland Museum



PIC 7. Detail of the ground floor interior with some furniture and crocks Photograph courtesy of Weald & Downland Museum

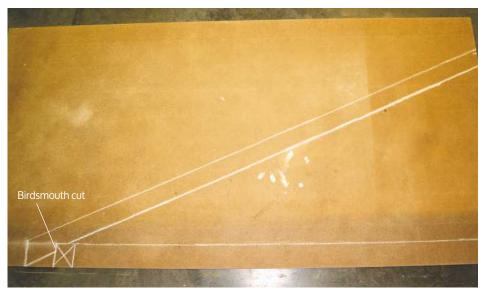


PIC 8. A bedroom – note the shutter for the window. The mattress is supported on stout cords tightly threaded through the side rails, said to be the origin of the phrase 'sleep tight'

Photograph courtesy of Weald & Downland Museum

the trunk of the tree left on it. Feather edge is cut to a straight edge all round. Feather edge is also tapered: the thin bit goes at the top with the 90° corner at the back.

When you unpack the boards make sure you keep them all in the same alignment so that you don't have to keep checking the end section of each board! Fixing is



PIC 9. Use a sheet of old hardboard, such as this one with random paint splashes on it(!) to lay out the 'run and the rise'

by galvanised or stainless steel nails to prevent rust marks spoiling the appearance of the boards. Some dense timbers will need pre-drilling before you start. The feather edge can arrive very wet and if you fix it in a hot dry season it may warp and cup. The boards will shrink and you should allow an overlap of about 30mm. On long runs, joints should be staggered. You can improve wind and water resistance of your building by fixing breathable membrane before fitting the cladding.

Edges and openings can be made neat by butting the boards up to vertical corner battens. These are best fitted first, so that you can cut to exact lengths - this is when a chop saw is really helpful! Your final task might be to apply an exterior sealant to the cladding, but you could avoid this regular maintenance task by having chosen a more water-resistant timber in the first place. Look on the Timber Research and Development Association website (www. trada.co.uk) for details of their information leaflets or get advice from an experienced timber merchant. GW

# **Buildable sheds**

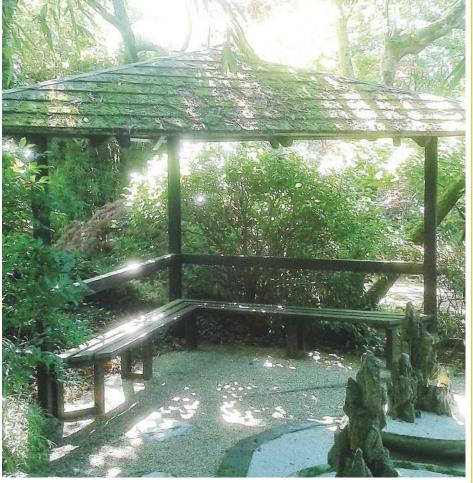
Some more examples of interesting buildable sheds I have found around the country



PIC 10. A garden centre plant shelter, but a simple structure that could be a shelter for outdoor green woodwork, chairmaking, or boat-building



PIC 11. The wide range of buildings and other woodwork that are present in my own garden



PIC 12. A simple Japanese-style garden shelter. This is challenging because the whole thing is held up on three posts

he Alpha chair, made by Brodie Neill of Made in Ratio, is a solid wood, all-purpose stackable chair produced using the latest production technologies of shaped wooden furniture. Through the Alpha chair, Brodie has explored the use of CNC techniques as a high-production tool rather than a prototyping technology. Additionally, the design utilises digital sculpting, taking away the reliance on moulds. By adopting contemporary digital processes of design and manufacture, the Alpha chair takes on a smooth appearance in contrast to the more traditional joinery of chair design where each element is exposed.

The Alpha chair takes its name from its A-shaped back, formed from legs that extend upwards to meet at a high backrest, intersected by the seat. "The A-shape and the inherent triangle that it creates gives the complete chair structure a solid base to work from," Brodie told *Dezeen* (www.dezeen.com).

# **CNC** technology

"Through advancements in technology the CNC process is becoming more readily available for production and no longer limited to just prototyping, tooling or even limited editions," he commented.

He also told *Dezeen* that the digital model of the chair's curvaceous body was designed using computer software that enables a 3D form to be manipulated on screen; this allows the operator to digitally sculpt each wooden element complete with its jointing detail direct from a fluid 3D digital surface. Once the information is sent to the CNC machine, it is capable of carving different sections of the chair individually from wooden blocks, which is an incredible feat. Once all of the sections are carved, each element is fixed together so the curves align, with the aim of creating the effect that the whole chair was sculpted from one large piece of wood.

# **Organic influences**

The structure of the chair is designed to create an organic, almost seamless appearance, where all of the elements meld into one another. Taking inspiration from forms found in nature, in particular the sinuous lines of whale vertebrae, Brodie's design beckons to be touched and most importantly, used, such is its tactile appearance. The chair is available in both ash, ebonised ash and walnut versions and was launched at a site-specific installation during last year's Milan design week. **GW** 

**Designer:** Brodie Neill **Maker/manufacturer:** Made in Ratio **Dimensions:** 530mm long × 440mm wide × 810mm high Wood species: Solid ash, solid ebonised ash and solid walnut Produced by: Ameico Web: www.ameico.com

# **MADE IN RATIO**

Brodie set up his brand Made in Ratio to provide a sales platform for his self-produced furniture. His previous products have mostly been sculptural limited-edition furniture pieces, but he is now employing the CNC technology to mass-produce the new items.

Creating boundary pushing pieces, the brand was forged from a desire to take exceptional ideas from inception to production by embracing experimental processes. Working alongside some of the finest craftspeople in Europe and championing time-honoured materials, Made in Ratio's products are imbued with the spirit of innovation.

We can't wait to see what Brodie comes up with next! You can view more examples of his work here: **www.madeinratio.com** 











The chairs are stackable



The ebonised ash version



Back detail of all three varieties



# Preserving the tradition

The **Port Townsend School of Woodworking** is committed to passing on the living tradition of woodworking and instilling the values and practices of fine craftsmanship, sustainability, and creative expression within their students

eralded by Chris Schwarz as "perhaps the most gorgeous setting for a woodworking school I have ever visited," the Port Townsend School of Woodworking is situated in Port Townsend itself, a small Victorian seaport town nestled on the shores of Puget Sound, approximately two hours by ferry and road from Seattle. With a mission statement of preserving the ancient tradition of hand woodworking and its associated skills, the School offers year-round weekend, one-week, two-week and 12-week courses on woodworking, cabinetmaking, furniture making, historic preservation and traditional woodcrafts, taught by an impressive line-up of faculty members, including the likes of Garrett Hack, Jim Tolpin, Bonnie Klein and John Marckworth.

# Setting the scene

I spoke to founder and executive director Tim Lawson, he himself a graduate of the Intensive Furniture Making course at the Center for Furniture Craftsmanship in Rockport, Maine. I discovered that Tim used to in fact live in the UK, but the decision to move to the USA was made for him when the company he worked for offered him a position in Massachusetts: "I was single; it was an easy decision to accept a relocation package and the offer of assistance to get a green card," he explains.

Going back to Tim's interest in woodworking, he tells me that he builds sculptural furniture using a mixture of techniques, including steam-bent double tapered laminations; coopered sections (double curved pieces made of solid wood) and traditional joinery. All joints and



# FOUNDATIONS OF WOODWORKING: 12-WEEK INTENSIVE PROGRAMME

This course drills deep into the basics, beginning with a firm foundation in understanding wood as a material and incorporates introductory training in a wide range of techniques. Students go away with an in-depth experience of hand tools, practice applications of joinery methods and understand practical planning for designing and executing woodworking projects. The curriculum focuses on imparting skills through a series of projects designed to build on one another in techniques and complexity. Students learn the essential skills, tools and mindsets of the traditional joiner and topics covered include: the nature of wood; joinery; wood as a design medium; material preparation; smoothing and finishing; handling tools and design and layout

### PROJECTS COVERED:

- Three-legged stool from a tree
- Layout tools and bench fixtures
- Joiner's tool tote
- Chisel chest
- Frame and panel chest









ABOVE RIGHT: Dan Packard's dragon's head - part of the carving and marquetry syllabus

**ABOVE LEFT: Puget** Sound, Washington

OPPOSITE LEFT: Commons at Fort Worden

**OPPOSITE RIGHT:** Building 315 at Fort Worden State Park

most surfaces are shaped by planes, rasps or by spokeshave and the final blending done with either card scrapers or by sanding. "I use a wet rubbed oil/varnish finish to create a lustrous satin look that pops the grain and feels wonderful to the touch," he comments.

Tim got married in 1994 and found he had room to set up a workshop in the new home. A good friend of his had a door company in Boston and gave Tim a wonderful set of tools that reignited a love of woodworking that he hadn't felt since he was at school. "The workshop at my house was well equipped but I knew I needed training to do what I could imagine. I quit working for my company in 2000 and took the 12-week intensive course at the Center for Furniture Craftsmanship." Tim went on the course dying to make Shaker furniture and got a "bad

attack of curves" in the second week and never looked back. He returned to working in the technology industry in 2002 and finally left when he moved to Port Townsend in 2004, where he went on to become a furniture maker.

### **Band of brothers**

At this point you're probably starting to get an idea of how the School was established. Tim tells me that the seed of the School was planted in the first week of his move to Port Townsend. Here, he met Jim Tolpin and they talked about Port Townsend being the perfect place to start a woodworking school, what with its deep traditions of woodworking, good furniture makers in town, strong maritime trades, superb local timber yard, sources of local wood, and like Camden, Maine,

## FOUNDATIONS OF WOODWORKING STUDENT TESTIMONIALS

### On Foundations:

"The course is amazing in giving you a base, and from that base you can go in a lot of different directions in woodworking"

# On expectations:

"I was surprised by the first three weeks and how intense the pace was. But I also found that I really enjoyed that, and learned so much more than I had anticipated"

### On passion:

"Time chasing my passion and dreams in woodwork is the first time in years that I have once again truly been myself, living with a joy and curiosity that I thought had long been lost"

is a Victorian seaport in a stunning location with a thriving tourist industry.

Fast forward three years to the beginning of 2007 and Jim Tolpin, John Marckworth and Tim acknowledged that it was time to start planning the School. "The three of us covered a wide range of experience: Jim - the author, philosopher and explorer; John - the cabinetmaker and special projects guy; and me - making the arty furniture but with a strong enterprise and software background." The perfect trio were about to join forces in founding a School that would go on to inspire a life-long passion for craftsmanship through education in woodworking and traditional building trades.

Going back to the notion of the importance of the preservation of tradition, Tim reiterates that this is something that underpins the whole ethos of the School, one which is shared by all staff. In Tim's words, it is "the tradition of understanding how to use your hands and understanding the material through the feedback that hand tools give you. I think that the advent of ubiquitous power tools (big and small) led to the relegation of hand tools, which were given a back seat. A good craftsman with hand tools can achieve a high level of efficiency building a single piece but needs to adapt to power tools when producing multiples. It's about finding that balance," Tim comments; "something that filters down from the staff to the students."

It transpired that the School would quickly gain in popularity and today, students travel from as far as Ukraine, the UK, Scotland, Germany, India and Israel to learn and develop their skills. In terms of establishing their faculty members, Tim comments that they were lucky in that several of the instructors contacted them to enquire about teaching but in most cases, the three reached out in a bid to develop a team with a rich diversity of skills - one which has worked perfectly.

Today, the School serves nearly 350 students each year to pass on traditional skills from knowledgeable and committed instructors.

When asked to explain his role at the School today, Tim comments that as executive director he is responsible for the day to day running; supporting and mentoring the staff; working with the Board (the School is registered as non-profit); creating the environment where the School can succeed: working with management of Fort Worden (where they're based): local government; other non-profits; local companies, and other partners. He also does a lot of work with potential students and keeping in touch with alumni. "The School is growing and we're adding space and staff in the next year," he tells me.

# The workshop

The School's warm, welcoming workshop is located in Building 315 at Fort Worden State Park, a World War I era military base now operating as a cultural centre, continuing education facility, and outdoor recreation area. Originally built as the power station for the fort, the station was decommissioned and has since been renovated into a specially dedicated hands-on classroom work space. "The bench room and a machine/milling room are divided into two spaces; this keeps dust and noise from millwork contained while creating a healthy, relaxed environment for students to work in while at their benches."

Each student gets the opportunity to work at a sturdy, professionally-built workbench equipped with a set of sharp, professional bench tools. Although many of the tools are new, a number of them include beautifully restored vintage hand tools, all of which are in good working order. The workshop is also steward to a well preserved antique moulding plane collection



On hand tools:

"For me, the course built a hand tool confidence... I feel like it will be more valuable for me to integrate the machines into my hand work rather



**WINTER 2013 GRADUATION** Aliina Lahti **Bobby Bowen** Cedar Knoll David Stansbury Kacie Guthrie Kevin Karl Lindsey Byers Rob Campbell Robin Pecknold





by planemaker D. P. Sandborn and a library of woodworking books and magazines, so the students have all the tools and materials around them to produce work of the best possible standard.

### Courses

The courses offered by the School are generally very broad in terms of subject matter and Tim comments that they often find students applying to do multiple courses. Some students dive really deeply into all aspects of hand tools and furniture making, whereas others will cross over into carving and turning. "I think woodworking is a continuum - just different ways of thinking about making," Tim comments.

The 'Foundations of Woodwork' course, which runs intensively for 12 weeks, is designed for those who already have a passion for woodworking and can devote three months to learning. As Tim explains: "We're committed to passing on the living tradition of woodworking, rooted in techniques that create lasting results and instilling the values and practices of fine craftsmanship, sustainability, and creative expression."

Other courses on offer cover subjects such as cabinets and mouldings, carving and sculpture, digital fabrication, toolmaking, woodturning, wagons, woodworking and women, furniture making, as well as many others.

I asked Tim if there were any success stories behind students who've studied at the School and he informs me that they've seen graduates of their 12-week Foundation Course walk out of the door into jobs. "It's a little too early in our development to claim great successes but we're very encouraged with the reception our graduates receive," he says.

Although some of the courses do use power tools, the majority of them are largely focused on hand tools. Tim says that this is partly due to the fact that the machine

room in their current facility is too small for more than three students to work safely on the machines. However, the School is in the throes of adding a new bench room and machine room with a lot more space that will enable them to increase the diversity of what they teach.

In terms of deciding upon course subject matters, both staff and students are encouraged to make suggestions. If an instructor has a real passion for a topic and can help them recruit for a class, then they'll try it out. Although a bit of a marketing challenge. it can take several tries before a class succeeds.

I was both surprised and excited to discover that the courses on offer appear to attract students from all ages and backgrounds, so does Tim think the School is helping to make woodworking more approachable to all? He jokes that their students fall into the four 'Gs': 'Geezers' - those coming up on retirement or who have retired, who are probably their biggest group; 'Geeks' - people from high tech or high intensity jobs who need an absorbing and challenging break; 'Gals' - about 20% of their students are women; the School offers the Woodworking for Women course and they work hard to make their classes as inclusive and friendly as possible; and 'Gen X'rs, or Millennials': "We see folks who have gone through a college education and are looking for meaningful 'good work'. These folks are looking for a balance in life blending with a low impact, sustainable lifestyle. I'm very impressed with most of the young people who have taken our Foundation Course," he says.

Generally, each course has a minimum of six and a maximum of 10 students, so class sizes are small, which helps to ensure focused learning and this one-on-one time increases the quality of learning for students: "When you can look at how a student is holding themselves and the tools, you can get into a great conversation about body position, which

### On community:

"Feeling like I've stepped into a community of people who are really devoted to this has been amazing"

### On place:

"I love comina to the Fort everyday. I don't know how many time's I've walked Bunker Hill or gone down to the beach. It's just a cool place to have a traditional woodworking school"

### On problem solving:

"I appreciated the diversity of styles... you really start to understand that there are always options; this is improvisational a lot of the time. You have your tool kit and you have to figure out what to do with it to make it to the end goal"









**FALL 2014 GRADUATION** Abigail Cummings Ben Wise Billy Rogers **Grant Lair** Krista Lessner Lou Regele Mike Taylor Peter Bonyun Sam Green





muscles to use, etc. You can see if they are responding to the feedback from the tool. We view that as a major differentiator for the school - engaged and gentle personal interaction."

The one thing that strikes me from browsing the website is all of the student's happy faces: these are people who are obviously incredibly passionate about learning, but they understand that it's OK to have fun with it and bounce off their fellow course mates. Surely learning should be fun and with woodworking, that is no different.

# **Continued growth**

Browsing online, it's clear that there's a woodworking course for everyone at the School. Tim tells me that the aim is to expand the range of vocational (longer) courses on offer and to resume teaching historic preservation. In spring of last year, the School began offering courses in Building 304. Previously home to the Windows Restoration project in 2010 and the Porch Furniture project in 2015, they are currently working to transform it into their second school building for expanded programming.

In terms of future growth, in spring this year the School received a second teaching space that will allow them to do more machine-orientated woodworking and add a second tier of vocational programming. The space will also allow the School to undertake projects like the Porch Furniture project that creates furniture for the historic buildings at Fort Worden.

All in all, the future looks bright for this woodworking school and we wish Tim and the team every success for their future growth. GW





**FALL 2015 GRADUATION** Andy Herron Ali Malone **Bradley Schaff** Corey Tocher Dee Jernigan Josh Stranahan Kathrvn Suslov Katie Stone Mike Grodem Steve Ford





# **FURTHER INFO**

To find out more about the School and the wide range of courses on offer, visit www.ptwoodschool.org

# HAND TOOL WOODWORKING

These classes are developed and designed by Jim Tolpin and teaches traditional techniques, refined by his experience, for the selection, use, sharpening and maintenance of hand tools; joinery; furniture making and finishing

# **HAND PLANE ESSENTIALS**

This element of the course covers tuning, sharpening and restoration of hand planes as well as how to accurately dimension and smooth stock





# **HAND SAW ESSENTIALS**

Learn the fundamentals of using a hand saw: instruction on selection. technique, sharpening, and the restoration of old saws



### **BY HAND & EYE**

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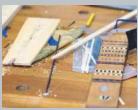
# HAND CUT DOVETAILS

Learn precision sawing and paring joints to fit as you discover this classic joinery technique



# **DECORATIVE DETAILS**

This course, taught by Garrett Hack, covers delicate string or line inlays, larger surface inlays such as panels, making and inlaying patterned bandings, and using non-wood materials such as silver and shell. The course almost entirely covers hand work





# **COURSES ON OFFER**

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# 60 years

This year sees **Felder** celebrating its 60th birthday, so why not visit the UK headquarters yourself to take advantage of great anniversary deals and see these fantastic machines in action

t was 60 years ago that Johann Felder, together with his wife Gertaud, founded Felder as a company. Johann Felder junior created and worked in his workshop, in his parents' home. In the same year, 1955, they were already presenting the first Felder woodworking machines at trade fairs all across Austria.

Strong, down-to-earth and always ahead of the times - with traditional values, pioneering machine concepts and high quality products the machine engineering company developed in the following years from being a specialist for combination machines only to a complete supplier of professional woodworking machinery for workshops, business and industry. With one of the largest ranges in the industry, Felder customers are now able to get everything they need all in one place from one supplier.

# Growing with the times

60 Years later, the Felder Group has around 400 employees at the company's headquarters in Hall and is classed as one of the worldwide leading suppliers of woodworking machines for hobby, business and industry. There are more than 200 sales centres in 72 countries selling over 150 models from the Hammer, Felder and Format-4 brands.



Workers at the Felder factory back in 1956

In 1997 Felder brought the new brand Hammer to life and it soon asserted itself with high quality yet affordable woodworking machines proving highly successful against cheap products from the Far East. The success enabled further expansion of production and assembly in 1999. The new assembly hall No.2 increased the capacity by 30%.

Format-4 was introduced in 2001 as the premium brand for the highest requirements in business and industry completed the product range of the Felder-Group in the professional segment. In the years to follow the product range was expanded to include CNC processing centres, edgebanders, beam saws and heated veneer presses.

# Anniversary promotions

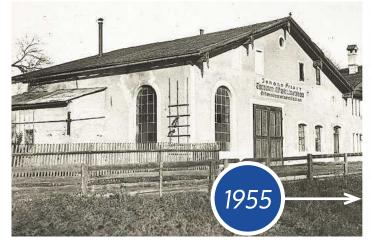
Felder products have always stood for maximum quality, innovative strength and consequential development. These exact features have been selected as the company's motto for the Spring promotions in this anniversary year and they have put together a range of special machine models and promotions. The exceptional 'Johann Felder' special models offer numerous outstanding highlights ensuring perfection in woodworking at a one-off, low price. Additionally, the company are also celebrating with numerous tool and accessory sets offers.

# Visit Felder

Why not pay a visit to Felder's UK headquarters and take a look at their extensive showroom, or walk through it online by visiting https://goo. gl/maps/JFgffheUw4r. GW

# **FURTHER INFO**

To find out more about Felder UK, see details below Tel: 01908 635 000 Web: www.felder-group.co.uk





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# **Charnwood's New BS10P Bowl Sander Package Deal**

The package deal includes our Deluxe Woodturners Bowl Sanding Kit with 20 velcro discs of varying grit sizes, supplied in a beautiful storage case.

The bowl sander is used to effortlessly sand pieces whilst they are still mounted being sanded, with only a light press. on the lathe. Set the lathe running and then use the foam pad to sand to a fine finish, even with intricate shapes.

# Don't get burnt fingers, use a bowl sander!

The handle of the sander has a soft foam grip for extra comfort and control during long periods of use. The head can be adjusted to any angle to find the perfect position for accessing more complex designs.

The four foam backed, velcro faced sanding pads are a push fit into the head, so no tools required. The soft foam backing allows the pad to change shape and take the form of the piece

Using velcro backed sanding discs has the huge advantage of being able to quickly change the disc and work down to fine grit sizes. Velcro discs can be re-fitted and re-used many times across many projects.

Supplied with 2 x 50mm diameter velcro pads, 2 x 75mm diameter velcro pads, spanner for adjusting head angle, 10 x 50mm diameter velcro backed discs (2 of each grit 60, 120, 180, 240 & 400), 10 x 75mm velcro backed discs (2 of each grit 60, 120, 180, 240 & 400) and presentation case.

The package retails at £54

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# StandSafe® are giving five lucky readers the chance to win a full workwear outfit from their StandTuff®range

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# StandOut range

StandSafe®'s StandOut range carry these qualities over to their other Hi-Vis items. Garments such as the new to market Hi-Vis joggers, unique Hi-Vis hoodies and heavy-duty trousers offer even more choice for workwear clothing. Being practical and durable while providing superior comfort, both StandSafe®'s ranges can kit you out completely without breaking the bank: all the gear you need from work studio to work site.

The prize for five lucky readers includes one WK011 flannel shirt (choice of navy or red), a pair of the ever popular WK010 black contrast pro holster pocket trousers, plus a WorkWear WK012 clip belt and WK025 protective knee pads.

# How to enter

Visit the website: www.getwoodworking.com/ competitions, and answer the question below:

# Question: Which other brand is part of the StandSafe range?

A) StandOff

B) StandTuff®

C) StandBack

Five winners will be drawn from all correct entries. Closing date is 24 June 2016.

Only one entry per person; multiple entries will be discarded. Employees of MyTime Media Ltd and StandSafe® are not eligible to enter this competition







# OTHER ITEMS IN THE NEW RANGE INCLUDE...



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WK020 Contrast **Work Shorts** 



WK003 Cordura **Work Trousers** 



WK026 Contrast Lite Work Trouser



WK009 Softshell **Jacket** 



WK014 Flannel **Bodywarmer** 



# Lots of veneer in 'ere

Andy King visits Freed Veneers and discovers that there's a lot more to veneer than meets the eye



ABOVE: Freed HQ, the place where beautiful, rare and more commonplace veneers abound!

LEFT: One of the many racks of veneers, each loaded with stunning examples



here's an advert running on TV at the moment that takes great pride in its slogan "there's no veneer in 'ere!" Although commendable, it doesn't necessarily mean that in building from solid timber you get top quality workmanship, or even the best timber. The implication that veneer is somehow inferior is a misnomer and veneers have long been used to get the best from a tree either in revealing beautiful grain patterns or in gaining the maximum yield. It's definitely a very valid part of woodworking and while sheet stock is readily available from specialist suppliers, it can be limited to common species.

### Multiple uses

Look towards the high end of the market and spectacular timbers, grains and burrs are typically used; top of the range cars, boats, aeroplanes, office boardrooms, high class stores, and of course, furniture are all areas where a quality veneer is commonplace, but the actual species may not be. This is where specialist veneer suppliers Freed Veneers, who also trade as The Wood Veneer Hub, have made their mark. You may not have heard of them, but chances are you've seen their veneers in the flesh or on TV in a show that involves one or more of the many areas outlined above. And if you're anything like me, you just have to run your hand over a stunning piece of timber when you see it, which in all likelihood, would have been a veneer supplied by Freed.

I visited their warehouse, situated on the outskirts of Leighton





LEFT: A whole range of matching edgebandings are available

ABOVE: If you prefer a traditional look, burl veneer is stocked in all manner of species...



ABOVE: ... while the more adventurous can go for one of the many composite designs

**RIGHT:** Contemporary colours and natural timbers are all part of the range



Buzzard, Bedfordshire to meet up with founder and owner of Freed Veneers, Laurence Freed, to get the lowdown on the company and their background.

# **Building a business**

Laurence started out in the wood business back in 1977 and began his wood apprenticeship with a company called William Mallinson & Sons based in East London. From there Laurence learnt all about the various wood species and the grading of all the different logs being shipped in from all over the world. Being an ambitious guy, Laurence pointed out that he loved introducing new veneers into the various sectors that he covered and was quite dynamic in his approach to work. This dynamism has led to an extensive travel itinerary and has meant that Laurence has worked for, and with, a multitude of wood veneer companies scattered across the globe.

By clocking up the air miles, Laurence was keen to state that this often enabled him to be in and out of various mills and warehouses, meaning he could snap up the gems and special veneers before they had been shown to anyone else.

In 2000 Laurence started up Freed (Veneers) Ltd in Leighton Buzzard, with his main focus being the automotive industry. This is still a very large part of his business today and he is proud to have Rolls-Royce Motor Cars, Bentley Motors and Jaguar Land Rover among his list of customers. Laurence has also since been able to expand his operations, which now include supplying bespoke



The Peel & Stick range is currently very popular and available in a decent range of species...

furniture, aircraft and marine industries all over the world. Apart from the highly figured burls and sliced veneers, Laurence has built a partnership with a supplier so that he can offer coloured, smoked and engineered veneers.

# Web development

With the business expanding Laurence employed Gavin Campbell in 2001. Being from a retail background, Gavin is very customer service focused and having Gavin on board allows Laurence to be out of the office more sourcing veneers for the various customers.

In 2012 Laurence's son Callum joined the business. Callum had been at Brighton University studying civil engineering but was very keen to join the family business.

Callum's main focus was to work alongside Gavin learning the various veneers but at the same time building and developing The Wood Veneer Hub. Laurence said: "We wanted to create an easy to use website, which was uncomplicated to navigate and which would appeal to a whole range of sectors, from DIY to manufacturers." Within three months, Callum, with the help of Harry Conquest, had built the first website. Harry's background was in web development so it wasn't long before the site was up and running taking orders. Always striving to achieve the best and yet at the same time trying to see the website from a customer's point of view, The Wood Veneer Hub as you see it today was recreated and launched in 2013. Laurence pointed out his desire to utilise the internet and make the

website very easy for visitors and customers to navigate, going on to comment that "the feedback we've received certainly gives us the impression it is. We have to ensure we cater for all age groups because of the diversity of products we now sell - we never know if the next phone call or online order is for a skateboard kit or a veneer pack; that's the best thing about this job. We love the interaction with our customers whether that's over the phone or the customer visits. On many occasions, customers have called us and booked a visit because they are after a certain look or colour and we always try our best to help them; we will even email pictures beforehand if required, and on one occasion veneer was even purchased using Facetime!"

Laurence goes on to tell me that they also encourage customers to send in photos of where the veneer has been used and add these to the blog section of their website: "It's always a buzz to see what our products have been transformed into."

## Peel & Stick range

From my own point of view, it's always nice to speak with people who are so passionate and enthusiastic about their business, and in Laurence and his team you get that and then some. While I was there I was given the lowdown on all the veneers and products they stock, and that includes tools to do the job so you can get top quality advice on the timbers, as well as great knowledge on how to prepare and lay the veneers.





LEFT: ... and once on the substrate, pressure is applied with a 'J' roller for a good bond

**BELOW:** Gavin was keen to point out that it isn't just sliced or peeled veneers that are available!

ABOVE: ... it just needs the backing paper pulled back ready for application...

BELOW: You can also buy starter packs if you want to have a go at a smaller project





Although traditional veneers will always tend to muster the best workmanship and high end use, Laurence pointed out: "We have a huge range of natural veneers but our current best seller is our Peel & Stick range. These are real wood veneers, which have had an adhesive back applied; they can be used for a multitude of purposes but the main selling point is the ease of use."

I had a quick go myself to see if it was as good as it seems, and it is pretty foolproof! It's easily cut to size with scissors and as long as the substrate is free from dust and is clean, simply peeling the backer partly off to make the initial alignment and then peeling the remainder and flattening into place delivers first class results. A quick run over with a 'J' roller to ensure any air is pushed out and the bond is superb.

# Highly prized

But of course, outside of the more traditional veneers, both decorative thinner ones to the more durable and thicker construction veneers for higher traffic areas, it's the exotics that have the 'wow' factor. The warehouse is racked out with thousands of leaves of veneer, and while some can be purchased at a snip, others are highly prized. Gavin showed me some white ebony; a contradiction if ever there was one if you accept that ebony is predominantly black. This is a pale creamy timber with highly streaked black contours, and speaking with Gavin about its value, he informed me it costs around £90 per sq.m!

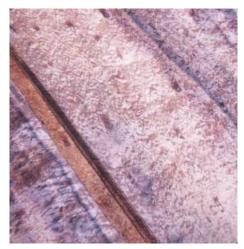
Thinking that was enough to make me faint, he then went on to tell me that a pallet of highly prized koa veneer had just come in. This was a commissioned purchase and the Hawaiian tree it came from is sought after for its beautiful grain patterns and finish once polished. If you thought the white ebony was expensive, this one is around £250 per sq.m! By my guess, that pallet was holding around £200,000 worth of veneers...

# Something for everyone

Despite the obvious areas such highly prized veneers are destined for, Freed Veneers have their feet firmly on the ground and will sell the smallest of veneers to the hobbyist looking to make a trinket box, to customers working for multi-millionaire clients and taking vast amounts. No customer is too big or too small.

Best of all, if you don't want traditional burls, quartersawn or other fancy natural veneer, there's a whole range of contemporary coloured ones, engineered boards with composite construction and much more beyond. Chances are, if you have something in your mind's eye that you'd like to make but are struggling to think where to get the particular veneer or material to achieve that unique look, Freed Veneers will hold it or will be able to get hold of it.

So at Freed, "there's lots of veneers in 'ere" and looking at the stunning images where they are used (some examples are shown below) and their portfolio of clients, this is definitely testimony to the use of veneers in both traditional and contemporary settings. GW



Alternatively, how about this fabulous Hawaiian koa at £250 per sq.m...



Freed Veneers are used on the interior dash and panels of this Rolls-Royce







STEP 1. Materials – You will need three pallets for this table, but you can adjust the number depending on your needs. The hairpin legs are 360mm long



STEP 2. Preparing the pallets - Pick the best looking pallet and leave it as is. For the other two, remove the top board



STEP 3. Removing the tops - Alternatively, you can remove the top boards with a saw. Then, cut all the boards to the same size and nail (or screw) the pallets together





STEP 4. Attaching the legs – You can add a wooden board to the bottom of the table, then screw in the hairpin legs. Sand the entire surface of the table to avoid getting splinters later, then apply a coat of varnish if you wish



# PALLET WOOD SAFETY

For some great tips on how to tell whether www.1001pallets.com/pallet-safety

# **FURTHER INFO**

To see more DIY projects and tips from DaWanda, visit their website: http://en.dawanda.com





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# 'Matt's Shed' Extreme woodturning

**Matt Underwood** is a tenacious young woodturner who is eager to push the boundaries of the craft and the limits of his lathe, as **Barrie Scott** discovers

-year-old Matt Underwood from Worcester was first bitten by the woodturning bug at the age of 11. Despite now being an A-level student, he finds time to produce prolifically, exhibit at craft shows, sell his goods at local art markets, supply a recent substantial order of purpose designed stair spindles for a local joinery company and win two awards in the Worshipful Company of Turners' competition.

He is not, however, in it to make money or, he says, a career. What comes across on meeting him is the driving force of his fascination with timber, turning and the equipment he uses and designs. He also has an engaging inclination to not get too cheesed off at mistakes, while acknowledging the lesson learnt, and in fact laughed while pointing out the shelf of fragments where he had turned too finely and the occasional workpiece had parted company with itself along with a dent in the wall sculpted by a flying fragment.



LEFT: The Statesman 280 lathe – 0-2,800rpm, three-phase and bought second-hand



LEFT: Matt's wand. There is no physical support, no hidden wires; the thin end is not supported in a hole in the upstand, it is in mid air. How does this work?

### In the blood

'Matt's Shed', also his business name and Facebook page title, is in his parents' garden. Much of his timber comes from the nearby farm of his grandfather, once a reader of *Good Woodworking*, I'm told. He has a stack of great









CLOCKWISE FROM ABOVE LEFT: A somewhat hazardous rooty piece

Demonstrating a part home-made hollowing tool

The piece that won the 2014 Worshipful Company of Turners' 'Freeform' award

Hollowing tool with adapted toolrest hunks of horse chestnut, elm, apple and recently an oak came down, which has taken him off on an interesting exploration of the timber around the base and roots of the tree.

Matt's father is an engineer and has a well equipped fabricating workshop nearby. Matt has made good use of this fortunate resource. He has produced his own hollow form tools to get inside large workpieces and has also acquired a purpose-built extension for the bed of his substantial three-phase Statesman 280 lathe - theoretically he could work on pieces up to 2m long!

Acquiring a stack of ancient oak construction timber recently took him off on something of a diversion from turning. Some of that old oak can be stone-hard but using a beast of an engineering-quality radial arm drill, he was able to make a line of 75mm holes (bottle sized) in a selection of the oak to make wine racks. Some of them, stood on end, are high enough to be built in to one of the timber-framed farmhouses and cottages not uncommon in the area. An appealing feature for refurbishment projects!

# Youth training

His Worcester school teaches design and technology including woodturning, but the general nature of the course does not allow for specialisation. There is a small lathe set up for students, which Matt makes use of for basic functions. They are not, however, Matt remarked, allowed to use split timber for safety reasons. This is currently an area of interest for this young turner as indicated by some of the photos of his recent projects - and the fragment shelf in his workshop!

A major asset in his learning years has been the AWGB - The Association of Woodturners of Great Britain. The membership for juniors, Matt says, is free. Taking advantage of their Youth Training programme, Matt has attended a series of training days. The classes cater for

groups of four to six trainees. Lathes are installed and professional turners, usually volunteers, will work with two students each. It is also possible to buy one-to-one tuition with a professional for a day. Through this Matt encountered the professional turner Stuart Mortimer, who is well renowned on the turning scene for his wonderfully intricate spiral pieces that have to be seen to be believed. The AWGB encourages its students to apply for the Worshipful Company competitions. The piece for which Matt gained a prize in 2014 in the 'Ray Key Special Youth Competition' for freestyle work is a sophisticated piece in contrasting timbers, comprising a pot featuring a finely crafted spiral lid. Studies in spiral turning have been a study of Mortimer's, one of the country's top turners, and for us non-turners it looks to be among the most advanced and exacting work, especially for such a young craftsman.

### Blemishes & breaks

The pieces of oak root, currently in the 'Shed', ravaged by time and the elements have a feast of opposing multi-directional grain. This is especially pronounced around blemishes and breaks in the timber where it has healed itself in the way grain around a knot becomes a lot more interesting despite the problems it might cause. While trying to avoid getting too lyrical, such grain features reflect all the patterns of nature. They are not unlike the human fingerprint, or the ranging contours of mountainous country seen from the air. These are the realms Matt is currently delving into for hollow form work - and where the word 'extreme' comes in. The breaks and splits in the timber can shatter dramatically but the results in exploring the grain can be stunning. Matt is experimenting with techniques of holding together gaping splits with hand-fashioned copper staples, which need to be painstakingly navigated around with the turning chisel.

# Art or craft?

Matt also raised the question, 'can woodturning be classed as art?' The art or craft debate is too long and involved to get into here, but artists I have known are distinguished by their constant effort to master techniques and explore the subject. They rarely consider projects to be actually finished; the individual piece of work is just part of the journey as a whole. This is how they express themselves and financial profit is not the goal. Matt's approach and fascination to me reflects much of this. He is eager to try things out, ranging from the finest of works to battles with eccentric crude tree trunks. He has been told he could charge more for his goods, but he says he just wanted them out of the way so he can get on to the next thing! He expresses a humility in his work despite his achievements.

His intention is to study product design at degree level. I will be following his journey through turning with interest and am eager to see what this will bring to his new trade. GW

## **FURTHER INFO**

Matt's Facebook page: www.facebook.com/Mattshed Youth Training with the AWGB: www.awgb.co.uk/ youth-training

The work of Stuart Mortimer: http://stuartmortimer.s411.

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# New upgraded W020 Heavy Duty RouterTable NEW UPGRADED MODEL FOR APRIL 2016

feather boards, to hold the work down against the table top and the front feather board to hold the work up against the fence. Using this method edge mouldings can

safely be cut onto small pieces such as beading or picture frames. There is also a scale mounted into the table to act as a guide when setting the fence.

The new centralising jig allows you to set your router accurately into the middle of the aperture within seconds. It also holds the router in place whilst you set the clamps underneath the table so you no longer need 2 pairs of hands! The new design of router clamps is ideal for users who want to regularly remove the router and then refit it without losing the settings, saving time and effort.

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# AROUND THE HOUSE with Phil Davy



pparently moving house is said to be one of life's most stressful events, though not having experienced this for more than 30 years I'm just discovering if there's any truth in the statement! For woodworkers this situation can present a double challenge, as uncertainty usually extends to the workshop, too. Will the new shop be large enough (probably not), or will I need to build one from scratch? And what about the neighbours? For many woodworkers I guess the workshop may be more of a priority than the home, though perhaps we wouldn't dare admit this! By the time you read this my cottage should be on the market. I'll keep you posted about that workshop...





**A:** You don't say whether you intend to fit single or double glazing. Depending on the location of the door, single glazing is obviously cheaper, though panes over a certain size will need to be toughened glass. Whatever you choose, rebates can be the same dimension for both, though you'll need to adjust bead thickness to suit the glass. Assuming the door will finish at 44mm-thick, typical rebate size is about 25mm-wide (to allow for double-glazed units) by 15mm deep. By contrast, a traditional casement window rebate is 15 or 16mm wide × 8mm deep.

There's always been some debate about which side glass should be installed. On a traditional casement window the rebate is on the outside, so glass can be bedded and face putty applied. This is arguably more weatherproof and looks neater from indoors. On an external door things are not so obvious, where glass is usually held in place with beading strips. If these strips are on the outside they may look neater, but consider potential intruders; strips can be levered off relatively easily to gain access. So, I always make sure that beading strips (and rebates) are inside.

You can use either linseed oil, putty or glazing silicone when bedding in. If you choose to use obscured glass, make sure the more heavily textured face is on the inside of the door. Just think of the window cleaner!



# BOOK REVIEW Great Big Toy Trucks

I'd guess that most of us have been asked to make a toy or two at some stage, whether we've ever had kids or not. Although we may be reasonably proficient woodworkers, it doesn't necessarily follow that we can dream up and build a specific toy from scratch. This book is actually aimed at



the novice woodworker, though you wouldn't guess it from the finished photos, which show nine delightful projects. The loaders, tractors, trucks and cranes featured will probably appeal to kids of all ages, whether we're constructing them or playing with them.

Each project has a full cutting list (Imperial only), with plenty of simple line drawings for virtually every component. Several templates are provided for each toy, with enlargement percentages included for photocopying. There are sufficient photos without being overwhelming, with a handful of tips scattered among the pages. Neufeld uses a mix of hardwoods, contrasting nicely with the birch ply more suited for many parts where grain strength could be a problem. These are tough toys, not delicate models simply to be admired and shoved on a shelf. I particularly like the chunky wheels and tyres, made without a lathe but on a bandsaw and disc sander.

Some toys crafted from wood tend to look somewhat homemade, with poor finishing and design obvious problems. Follow the plans in this book and there's a good chance you'll end up with something that not only looks amazing, but will provide entertainment for years to come. And not just for the kids...

# THE GW VERDICT

- RATING: 4 out of 5
- PUBLISHED BY: Taunton Press
- PRICE: £17.99
- WEB: www.thegmcgroup.com

# **SPRING PROJECT – MIRROR FRAME**

TAKES: One weekend

**TOOLS NEEDED:** Marking tools, block and bench planes, drill and bits, drill stand, router and bits, straightedge, sander, jigsaw, pocket hole jig

# Mirror, mirror

Carrying on with his Mission-style theme, this month **Phil Davy** sets about making a mirror frame to match

o accompany the coat rack built in *GW*305 it made sense to make a hall mirror in the same style, especially as they would both end up in the same part of the house. American Mission furniture generally featured highly figured oak, and for this project I managed to source some rather nice quartersawn European timber. Sometimes you come across such a board when sorting through a stack at the timber yard; often it's a case of being in the right place at the right time.

You can, of course, make the frame any size you like, though normally I would have based dimensions around the Golden Section, the classic ratio for rectangles. This time, though, I'd spotted some mirror offcuts at my local glazier for a fiver a time and decided to make the frame to fit the glass. At 6mm-thick the mirror isn't exactly lightweight, but to save weight you could use 4mm-thick glass. You may need to add a backing panel of thin ply or MDF if you do.

For a simple hardwood frame there are several



STEP 1. Mark out and saw the rails and stiles, allowing 6mm extra in width for planing components to size



STEP 2. Check the fence is square, then plane all the face sides and edges. Next, thickness the stiles and rails to 20mm

joints that are suitable, depending on your expertise and tools available. Traditional stub mortise & tenons are strong and straightforward, though not nearly so easy to cut in oak as in softwood. Bridle joints would work well and you could drawbore the tenons, adding pins from a contrasting wood to highlight the feature. I avoided biscuits simply because the top rail is too narrow for the No.20 size. Use smaller No.10 size biscuits and there's not really enough strength in the joints. Short on time and with a heavy piece of glass to support, I decided pocket hole screws would be most appropriate. Traditionalists may see this method as cheating somewhat, but once the mirror is on the wall, who'll know? All you need to concentrate on is trimming both top and bottom rails dead square.

The mirror is embedded in silicone adhesive around the inner rebate. Make sure you use a specific mirror glue for this task and wait for it to cure overnight before fitting the frame to the wall. Even when cured, the adhesive remains elastic, so if there's movement in the wood the glass will not be affected. For concealed fixings I routed keyhole slots in the rear of both stiles. After drilling a 13mm clearance hole for the screw head, rout a 6mm straight slot to the same depth, which in this case is 15mm. Then swap to a dovetail cutter, plunge to the depth of the clearance hole and advance it along the slot. Make sure you reverse the procedure and only release the router plunge once the bit has reached the screw hole again. Because of the weight of the completed frame, I used size 5.0 screws to hang it on the wall. GW



STEP 3. Trim the two rails square using a finely-set bench plane in conjunction with a shooting board



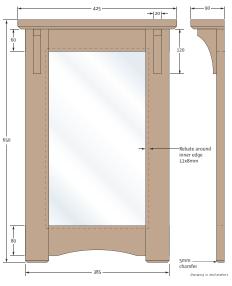


Fig. 1 Mission mirror



STEP 4. Laying out the components will help you decide how figure and grain patterns are displayed to their best



STEP 5. Using a pocket hole jig such as the one shown here, drill both ends of the top and bottom rails for the fixing screws



STEP 6. It's easiest to cut the 8mm deep rebates for the glass with a router mounted in a table



STEP 7. Next, using a chisel, begin to square off the rounded ends of the rebates routed along both stiles



STEP 8. Draw a curve on the bottom rail by springing a steel rule between two offcuts cramped in place



STEP 9. Saw the curve just on the waste side of the line and clean it up on a sanding drum



STEP 10. Rout 5mm chamfers around the lower ends of the stiles and along the top shelf



STEP 11. Brush on PVA glue, cramp to a flat surface and screw rails and stiles together



STEP 12. Once the glue has dried, saw off any protruding horns and trim flush with the aid of a bench plane



STEP 13. True up the surface of the frame, checking for grain direction. If the wood tears, switch to using a cabinet scraper



STEP 14. Check stiles and rails are flat with a straightedge, then sand the frame



STEP 15. Mark the position of the shelf. This can either be pocket-screwed or biscuited to the frame



STEP 16. Next, drill 13mm clearance holes for the screw heads, then rout 6mm dovetail slots alongside these

#### SPRING PROJECT - MIRROR FRAME (continued)



STEP 17. If you choose to joint with pocket screws, glue plugs into the recesses. When dry, saw the plugs flush



STEP 18. Apply glue to the top of the frame and cramp the shelf in place. Fix with pocket screws or biscuits



**STEP 19.** Cut a pair of matching support brackets and tidy up their curves on the sanding drum



STEP 20. Glue the brackets to the stiles, checking that each one is central. Masking tape reduces glue clean-up



**STEP 21.** The shelf can now be screwed to the brackets. Drill and counterbore holes, inserting plugs after fixing



STEP 22. Dampen the oak and lightly re-sand. Finish the mirror with two coats of oil, followed by wax



STEP 23. Apply a thick bead of mirror fixing silicone around the glass rebate. Don't skimp on this



STEP 24. Lower the glass into the rebate and gently apply pressure all the way around the edge

#### **OUT & ABOUT**

#### WOMAD WORKSHOPS

With summer hopefully around the corner, keeping everyone occupied during the school holidays is often a challenge. With literally hundreds of festivals held across the UK each year, finding one that entertains adults and kids alike while providing a diverse programme of inspiring music can be tricky. Tracking down an event that includes some unusual woodwork is even tougher. Womad (World of Music, Arts & Dance) is undoubtedly one of the more family-friendly music festivals, with plenty to keep youngsters distracted from their smart phones for more than a few minutes.

#### Climbing times

Set in the grounds of Wiltshire's Charlton Park, a magical arboretum outside the main arena gives them the chance to explore the treetops. Equipped with helmet, harness and fully roped up, they can shin up a lofty tree under careful supervision of the guys from Tree-Climber (www. tree-climber.co.uk). Recreational tree climbing is becoming increasingly popular in Britain, with similar activity down the road at Westonbirt's annual Treefest event. And thankfully, not a chainsaw within earshot...

#### Woodland creativity

Dodging the frequent showers at last year's event, I stumbled across some fantastic



woodland creativity. Various workshops from kora building (see *GW292*) to spoon making and chair bodging is not something you find at most music festivals. I've been to countless woodworking and outdoor shows, but it was exciting to watch what was going on here. Not surprisingly, musical instrument making was prominent, with unique stringed objects constructed mostly from forest material, limited in design only by the shape of the timber and





A willow fence partly built









The festival has a wealth of creative workshops

Try your hand at spoon carving...

... or a spot of chair bodging





A selection of outdoor gamelans at ground level are inviting for smaller children

ingenuity of the maker. On simple but beautiful instruments such as this even the tiniest scraps of wood can be used. Down at ground level, a handful of outdoor gamelans looked great fun for children to bash out a tune.

So, if you fancy some rustic woodwork with a constant supply of extraordinary world music, give Womad a try. It runs this year from 28-31 July, but remember to take your wellies. For further info, visit www.womad.co.uk. GW



All sorts of tiny scraps can be used to make these wonderful instruments



Womad has its fair share of unusual instruments!



Most power tool manufacturers seem to be extolling the virtues of brushless motors these days, with Ryobi being no exception. Unlike a conventional brushed motor, one without brushes creates less resistance and better performance. This new combi drill has been added to the extensive 18V One Plus range and is set to give a few industrially-rated drills a run for their money. Ryobi claim up to 20% more power and 40% longer run time over its brushed-motor predecessor, which sounds impressive.

#### No lightweight

combi drill

It's no lightweight tool, weighing 1.76kg with a 1.5Ah battery fitted. Step up to a 5.0Ah power pack and this increases to 2.06kg. Fortunately there's



The 5.0Ah power pack bumps the total weight of the tool up to 2.06kg



The variable-speed soft-grip trigger, with standard push-through forward/reverse selector above



A ring of blue light is emitted around the chuck



Fitted with a tough, metal chuck, maximum bit capacity is 13mm

plenty of textured, soft-grip rubber enclosing the handle and beyond, so it's really comfortable to hold. In fact, ergonomically the R18PDBL is spot-on. When not in use, the combi will sit solidly on a work surface without fear of toppling over and snapping a bit. Brushless motors also mean that power tools are becoming more compact, making the R18PDBL's overall length (from rear to chuck tip) just 201mm. Certainly an advantage when working in a confined space.

#### Nifty settings

The variable-speed trigger is also soft-grip, with a standard push-through forward/reverse selector above this. Speed range is from 0-440 and 1,700rpm, while the percussion function provides up to 7,040 and 27,200bpm. Squeeze the trigger and a white LED worklight is activated at the bottom of the tool, remaining on for five seconds after release. Beneath the LED there's storage for a double-ended hex screwdriver bit, which is included.

If you like a bit of bling then you'll probably love the various blue LED indicators visible when you pull the trigger. Selecting low or high speed via the slider on top will light up either a 1 or 2 icon. You move between hammer, drill or screwdriving mode by moving a pointer button, which also illuminates. Once set for screwdriving, a ring of blue light is emitted around the chuck, which looks pretty cool. It means you only have to glance down at the tool to check if you've selected the correct drill or screwdriving function for the job, something that's easy to get wrong with some drill/ drivers. Electronic torque control offers 10 settings, with a system that memorises your last setting, just like a mechanical method. Maximum torque is a very respectable 60Nm – better than some professional tools.

#### Limited capacity

Fitted with a tough, metal chuck, maximum bit capacity is 13mm. If you're used to drilling tiny holes with a cordless drill you may be disappointed, as the Ryobi's triple jaws will grip a 2mm bit but nothing smaller. I often pre-drill holes for pins and small nails in hardwoods, with a 1.5mm bit a favourite size. So, a second tool would be needed in this case.

#### Conclusion

I've been using this combi for several months now, swapping between Li-ion 1.5Ah, 4.0Ah and the new 5.0A battery. It's an extremely competent all-rounder, more than capable of most drilling and screwdriving tasks around the house and workshop. In percussion mode performance was similar to a corded drill in stone and brickwork. I tested torque by driving  $5 \times 70$ mm screws into softwood, then hardwood without any pre-drilling. Countersinking them flush into very dense English oak was a bit of a struggle, but that's hardly surprising. In fact, the Ryobi coped extremely well.

Like most Ryobi products there's no storage case included and the R18PDBL is sold bare, so you'll need to invest in a battery if you've not yet joined the One Plus community. So an excellent, powerful mid-range tool that's set to turn a few heads as well as masses of screws. GW



The triple jaws will grip a 2mm bit but nothing smaller

#### THE GW VERDICT

- RATING: 4.5 out of 5
- **MADE IN: China**
- PRICE: £129.99 (bare)
- SPEED: 1,700rpm
- **VOLTAGE: 18V**
- WEB: www.ryobitools.eu





### Letters & Makers

Letter of the month



This photo demonstrates the way most saws are filed nowadays, with the file at 90° to the blade but skewed to give a crosscut profile



There the file handle is dropped to file uphill and make a needlepoint tooth for a cleaner cut, but this involves more work and tends to blunt easier when it hits harder knots, etc.

#### Saw sharpening masterclass

Dear Tegan,

I have just read Andy King's article about sharpening hand saws. I have a question for him and would be very grateful if you could pass it on. My question is this: I hand sharpen quite a few saws as part of my job. It appears to me that some modern saws (I believe I have found Spear & Jackson and Disston saws like this) are sharpened as rip saws even though only being 10tpi and thus more like a crosscut in size. Is this possible? It is obviously easier and cheaper to sharpen a saw as a rip rather than as a crosscut, and a rip will cut across the grain, whereas a crosscut does not do ripping well. Any comments?

#### Luke Wiseman

Hi Luke,

In response to the query, I would say that it may well be the case that previous owners are taking the less troublesome route and rip filing the teeth as this is easier than traditional crosscut filing.

It could also be the case that the saw(s) have been to the saw doctor for a re-cut but not a sharpen – that

normally involves a simple re-stamping of the teeth through the machine, which leaves the saw ready for filing and the end user may not have bothered to sharpen it, or simply kept the teeth in a straight across rip file for ease.

You're right that 10tpi teeth are normally crosscut filed as they are panel saws, but it could also be that whoever owned the saw(s) may have been taught traditional joinery methods to cut mortise & tenons by hand on bigger joinery, such as full-sized doors.

#### Ripping the tenon cheeks

I was taught to rip the tenon cheeks with a panel saw to get a finer finish and minimise the amount of work needed to get a fine fit, but with a crosscut filed saw (as was the order of the day in my youth – hardpoints hadn't been invented – honestly, they hadn't!) because they were needed for other work as well, they stayed crosscut filed but someone may have decided to rip file for such work to get a quicker cut while still keeping the finer finish, but I'm guessing here rather than being 100% sure!

#### A dying art

Saw filing is certainly a dying art; I was taught at college as a 16-year-old apprentice and even then

it was becoming rare, and it's one of those things that some adapt to easily whereas others struggle and can never seem to master it — I knew plenty of people in my class of apprentices who couldn't do it, and I've met plenty of tradesmen beyond, and some a lot older than me who couldn't get to grips with it, either.

If you understand how to set a saw up properly for different materials where fleam, rake and pitch all play a part, it can become more complex, but it's rare that all three are invoked nowadays, or even back then, and that includes by me, but I have done it regularly as needed, and I did show how to do it in the mag. But losing one of the three parameters allows me to use a different method to traditional teachings that were taught to me by a college technician and I've used it ever since, and it now seems to be gathering a bit of a cult following with a few US gurus promoting or using the same method, which permeates down and is now mentioned quite regularly on forums as 'being the way so-and-so does it', like it's a new thing - I was obviously 38 years before my time, and the guy who taught me a further 30 years beyond! Andy King

#### Loving the new look

Hello Tegan,

I just received the third issue of my subscription today, *GW*304, and my first impression when I opened it was that it is much nicer. The layout and typeface are both very good. Well done. Best wishes, **David Moody** 

Hi David,

Thanks so much for your kind comments re the redesign.

I have to say that I've been lucky enough to have received a resoundingly positive response, which makes my job all the more enjoyable. As I keep saying, if there's anything you'd like to see in the mag that we're not currently featuring, email me (tegan.foley@mytimemedia.com) and let me know. Similarly, if you've got a project idea you'd like to share or a hot tip you're itching to let other readers know about, get in touch. After all, GVV belongs to everyone and we all have a say in making it as interesting and enjoyable as it possibly can be.

Tegan Foley



#### One to watch: Russell Evans

Russell founded Henry Edward Furniture around four years ago, originally setting up a small workshop in his parents' garage. Having his own workshop gave Russell direction, purpose and an opportunity to hone his skills in an independent environment, not only as a cabinetmaker but also in wood machining and maintenance.

In 2013 he won joint first in the Triton young woodworker competition, which boosted his confidence enormously, and the prize money helped him to invest in better equipment. "The feedback I received from other professionals also encouraged me to keep designing and making," he says.

Moving into a house with a bigger workshop allowed Russell to set up a more professional space where he now works making bespoke furniture to commission and also for local boutiques. "As well as designing and making my own projects, at quieter times I enjoy restoring older machinery, bringing it back to life and up to modern standards. Most recently, I finished a 1950s Union Graduate lathe that I stripped back and

completely rebuilt," he tells us.

As a young designer-maker, Russell aims to improve his skills by eventually attending one of the many excellent specialist furniture and cabinetmaking schools. You can see more of his work here www.henrvedwardfurniture.co.uk. Congratulations to Russell and we wish him the very best of luck for the future.



Japanese-style hall table in pippy English oak



Rippled maple shoe box

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# A tale of three bowls

**Les Thorne** takes three identical bowl blanks, then turns three different shapes, each with a different base. He shares his experiment with us here

've had this idea for an article in my head for a long time, but haven't have the opportunity to put it into practice until now. Here, I'm going to take three identical bowl blanks, then turn three different shapes, each with a different base. Then, to cap it all off, I'm going to put three different types of finish on them. Doing something such as this is a great experiment, as you'll be able to assess which one suits the timber best.

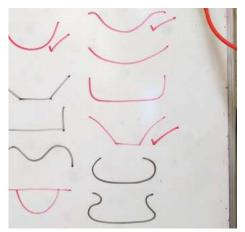
In the USA you hear a lot of turners using 'wipe on poly' to get a good high-end finish on their work. After some research, I came

across a polyurethane product called Woodoc. I happened to be working next to them in Ireland last year and got into a discussion about it and they gave me some product to try. There are very few products available to hobbyists of this nature so this is an ideal project to try them on. I thought long and hard about what sort of timber to use, but in the end I decided on oak as this is the type of timber this particular finishing product is specifically aimed towards.

The shapes I decided on are a couple of stalwarts and one I had wanted to do for ages, just to see if it worked well.



STEP 1. The timber I used had been left over from a production job. You'll need to use blanks of European oak measuring around 150  $\times$  75mm-thick. The cans of finish used are gloss, satin and matt



STEP 2. Next, draw some shapes on the board. I have probably turned all these in the past; the good ones by design and the bad ones by accident. Having these on the wall will give me a good discussion point when I am teaching in the future



STEP 3. Once the blank is mounted on the screw chuck, true up the faces with the bowl gouge. Use a pair of dividers to mark out the diameter of your chucking spigot; this needs to be as small as you can get away with



STEP 4. Each one of the bowls will be remounted and the chucking re-turned, partly because it finishes the bowl nicely and partly because the point where the chuck comes into contact with the oak can turn black due to a reaction with the tannin in the oak



STEP 5. Form the spigot with a parting tool and then clean up the area around it with a light pull cut using the gouge. This first bowl will be round-bottomed so the spigot will be totally removed in this instance



STEP 6. A 10mm bowl gouge is perfect for removing the majority of the waste from the bowl. As you can see, the wings of the tool have been ground back to allow me to remove the timber using a pull cut



**STEP 7.** The finishing cuts are made using a 6mm bowl gouge. This tool, unlike its bigger brother, has a more traditional straight-across grind, and this makes it suitable for the push cut



STEP 8. As you can see here, the push cut with the bevel rubbing will give a superior finish; this is partly due to the bevel rubbing but also the fact you are taking much lighter cuts



STEP 9. I thought that it would be fun to use three different sanding techniques as well, just to keep the theme of the experiment going. I used a Simon Hope rotary sander: the rotation of the bowl turns the sanding head, which leads to very few scratches developing on the surface



STEP 10. Once the outside is turned, grip the spigot in the chuck and turn out the inside. I like to turn it down to a series of steps; this keeps the bulk of the material in the centre for stability purposes



STEP 11. The thickness of the bowl is going to be about 8mm, but as it gets thinner, vibration will become a problem. If you are confident enough, supporting the outside of the bowl with your fingers while cutting will solve this problem



STEP 12. You can use your fingers as a guide to determine the evenness of the wall thickness but when you get deeper, switch to using figure-of-eight callipers. The reading off the inside is transferred to the other end



STEP 13. When you get deeper into the bowl you may find that you begin to lose control of the tool; this is normally because rubbing the bevel of a tool with a standard 45-50° angle is almost impossible. Try grinding a tool to 60° just for the finishing cuts



STEP 14. Here you can see how the tool is used: the flute of the tool is more upright than normal and the tool goes in the bowl almost horizontal; it will not cut huge amounts at a time but will be easily controlled



STEP 15. After I'd finished the bowl I decided that the rim ought to be rounded over; this would be almost impossible to do with a tool as the vibration could break the bowl, so I chose to sand it using a piece of 100 grit abrasive; this isn't cheating, just the best technique to use



STEP 16. Now to remove the spigot off the bottom of the bowl. If you have a lathe with a swivel head you must make sure that the centres line up; the best way to do this is to mount a piece in the chuck, turn a dimple in the end and align the centre to this dimple



STEP 17. I have a drum chuck on the headstock. The paper in the bowl will just stop the rubber marking the bowl. However, too much protection could cause the bowl to bounce when you are cutting it



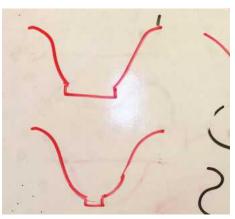
STEP 18. Turn away the foot and try to carry the shape of the bowl all the way round. Take off as much as you dare and then remove the last bit by hand, sand the bottom down to 400 grit and then you have your round-bottomed bowl



STEP 19. The completed round-bottomed bowl



STEP 1. The second blank is going to be the ogee bowl. This is a curve shaped somewhat like an 'S'. The first step is to roughly mark where the concave part will be



STEP 2. The size of the spigot is all important to this piece. Here you can see that if you have too big a foot you will get far less of a curve on the finished shape. Try experimenting with drawing shapes as I've done here; it's a great exercise in developing your technique



STEP 3. Once again, the 10mm bowl gouge is used for the majority of the shaping. As you are working, look at the top profile of the bowl, then you will be able to see your desired shape appearing as you turn



**STEP 4**. Due to the tightness of the curve at the top of the bowl, I recommend using a micro bevel tool as it will fit nicely into the shape. It's a small tool but as the toolrest is close to the work, the cutting edge is well supported



STEP 5. I decided to hand sand the bowl by just holding the abrasive onto the revolving work. The end-grain on oak can be a bit problematic as you can see here – just give the problem areas a sand with the lathe switched off and you should achieve a pleasing result



STEP 6. The shape on the inside of the bowl will follow the outside. The curve is best worked down in stages. I like to finish the tooling on each section before moving on to the next part



STEP 7. The safest place to hand sand the bowl is in the 6 o'clock to 9 o'clock area. Start with a coarse enough grit to remove any tool marks before moving on to the finer grits. Each bowl is going to be sanded to 400 grit

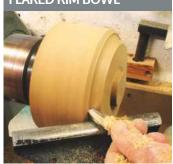


STEP 8. The ogee bowl is going to have a decorative foot, so remount the bowl and cut away all the marks left by the chuck. This is how I finish the majority of my bowls



STEP 9. The completed ogee bowl

#### FLARED RIM BOWL



STEP 1. Number three on the lathe. Here I am push cutting the whole of the shape as it is the best cut for this particular shape. Swivelling the headstock will give you better access to the wood



STEP 2. The last bowl is a bit of an experimental one for me; you see this shape a lot in glass and ceramics but not so much in wood. I think that I might now add it to my demonstration repertoire as I really like it, although I'm not sure anybody else will!



STEP 3. The last sanding method is the one I use mostly when turning bowls. Power sanding is the way that most production bowl turners finish their work



STEP 4. Here I decided to put a flat on the bottom of the bowl; quite a leap of faith for me as I spend a lot of my life trying to get my students to achieve nice flowing curves in their bowls. Using the 13mm skew as a scraper will work perfectly



**STEP 5.** The punctuation point between the side walls and the bottom is all important here. I personally think that this implies that it's meant to have a flat bottom rather than bad workmanship!



STEP 6. The bowl is remounted as before. On this bowl I decided to remove the foot to leave a flat bottom, which is completed using the signature gouge. Make sure that the base is slightly concave



STEP 7. After removing the last piece of waste with a chisel, sand the bottom. I am using the sanding pad in a power drill but you would achieve more control using the pad on the pillar drill and offering the bowl up to it



STEP 8. The completed flared rim bowl



brushes, three stirring sticks and three pairs of gloves all prepared, as I didn't want to contaminate any of the finishes. An important thing to note is that you want to stir these finishes rather than shake the cans



STEP 2. All bowls should have three coats, cutting back between the first and second with a Nyweb pad as wire wool could get into the grain of the oak. I didn't cut back between the second and the third as the finish was so good



STEP 3. The completed trio of bowls

#### **CONCLUSION**

I learnt a lot from this project. The rotary sander worked best on the outside of the bowl but power sanding worked best on the inside. You can end up with such a diversity of bowls even when starting with blanks that are the same. In my eyes, matt and satin surfaces look better on the oak than gloss, but that is just a personal preference. Find out more about Woodoc finishes here: www.woodoc.co.uk

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### Next month

GW307 on sale 24 June





**WILD WOOD:** We find out more about Roy Gollop of Lyme Bay Carvings and his unique driftwood sculptures



MAGNETIC KNIFE STRIP:
Noah Weinstein uses 'rainbow'
hardwood to make this useful
kitchen gadget



SMALL STRUCTURES:
Michael Huntley takes you through the steps for building a typical garden workshop

## The historical uses of timbers

Knowing the historical uses of timber is very relevant to the modern woodworker and we can learn a lot from the findings of woodworkers of old, as **Michael Huntley** describes here

efore the days of electricity, timber was worked by hand. Woodworkers knew precisely which timber was best for which application. Timber was also capable of being shaped. This was of high significance before the introduction of synthetic materials, which are moulded to make many everyday items. The list of items that were made out of timber, prior to the late 19th century, is very long. I thought that it might be of interest to list some of the uses to which specific timbers were put by our ancestors. But then once I started it, the list just went on and on...

#### Oak

Used to make ships for the navy. Oaks were specially planted in the 17th century just for the navy. The shavings from the timber were used for tanning leather.

#### **Ash**

Used to make carts and carriage work. Still used for Morgan and Morris Traveller vehicles. Ash bends well and is shock-resistant. It was also used for tool handles and oars.

#### Elm

Used for coffins and water-pipes because of its resistance to damp; wheel hubs because of the interlocking grain; bellows, because it is slow to catch fire; as well as ladders and bows, if yew for longbows was not available.

#### **Beech**

Used for kitchen utensils because it is a blonde wood and doesn't stain.

#### **Sycamore**

Also used for kitchen utensils and is also said to have antiseptic qualities.

#### **Birch**

The bark is used as a writing surface and for canoes; sap is used for medicinal purposes; timber is used for plywood of course but also



for skateboards and model aircraft due to its strength to weight ratio.

#### Cherry

Used for wood-blocks for printing.

#### **Poplar**

Used to make clogs and matches.

#### Alder

This timber is capable of being stained as a substitute for mahogany furniture.

#### Willow

Most commonly for cricket bats, but also used to make clogs. Willow bark contains salicin, which is chemically very close to aspirin and has been used as a herbal medicine throughout the years.

#### Lime

The part beneath the bark, known as the bast, was used to make rope from about 6,000BC.

#### **Hickory**

This timber is great for making handles.

#### **Thorn**

Used to make briar pipes and walking sticks.

#### Horse chestnut

This is the 'conker' tree, not to be confused with sweet chestnut, which is used for chestnut paling fences. The horse chestnut is said to have insect repellent properties and is used on the Continent for the linings of wardrobes and chests of drawers (as are cedar and sandalwood).

#### Hazel

Used to make wattle and daub for building and thatch spars.

#### Hombeam

Ideal for making gear cogs and tool handles.

#### Knowing the material

You may wonder how this information affects you, a 21st century woodworker. Well, knowing that poplar is good for clogs might just help you choose a better timber for making the feet on a toolbox, or knowing that elm was used for hubs might help you decide what to use for making a wooden trolley toy for the grandchildren. We are far too used to assuming that timbers were used randomly – they weren't; they were precisely chosen by men with a knowledge of the strengths and weaknesses of the material. **GW** 

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