

Furniture & cabinetmaking

Issue 257 • May 2017 • £4.25

DESIGN • INSPIRATION • PROJECTS • TECHNIQUES • TESTS • NEWS • EXCELLENCE

THE WOW FACTOR

Creating an
impact with
end-grain
joinery



David Barron's
tips for creating
**Compound angle
Dovetails**

Animal glue
Pros and cons straight
from the horse's mouth

Shop talk
Roy Underhill on love,
life and politics

The Wizard of Oz

Chris Vesper, setting
a new standard for
marking and layout tools

Buyers Guide

Expert tips for
starting an antique
tool collection

On test

Luban and Veritas
plough planes
go head to head



Panel Saws



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K3 winner comfort



A3 41



A3 31



A3 41 A

Planer-thicknessers/Planers/Thicknessers

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Welcome to...

... your next assignment



My quest for a slab of genuine English walnut (*Juglans regia*) took me to English Woodlands Timber in West Sussex this month. If you take pride in offering your customers a truly bespoke service where nothing is too much trouble then you'll recognise and appreciate the same quality when the boot is on the other foot. The yard staff at EWT aren't happy it seems until you're happy and if that means shifting 10 tons of timber to get to a board at the bottom of the pile, then so be it. The motivation and enthusiasm necessary to get a project off the ground is typically at its most fragile during the first trimester. For the conscientious cabinetmaker, a good birth plan is an essential part of the process. Top of your antenatal list should therefore read something like 'Make the acquaintance of a good (friendly) sawmill owner'.

These ladies and gentlemen are the unsung heroes in many a great project, whatever the maker or designer tells you. So, this month join me in sparing a thought for the people in the hi viz jackets and remember, ask questions, ask lots of

questions if you have to or else learn to deal with the consequences of just getting what you're given. The advance news is that we've got something special from EWT in our next issue that you won't want to miss.

What's in a name?

The planer-thicknesser in one of my first workshops was known as Nigel after Neil from the *Young Ones* (Google it, it's easier than explaining it). A couple of hefty joinery contracts necessitated the acquisition of a second large capacity 'Nigel', which was immediately and rather appropriately christened Big Nigel. When Big Nigel spoke everybody listened and when he'd finished speaking if he said it was flat, it was flat. I don't recall who first remarked that 'If Chris Vesper says it's square, it's square' but his layout tools are fast becoming the benchmark by which all others are judged. Chris is our featured tool maker this month and this is the first time he's let the general public into his brand new facility in Victoria, Australia. If ever a wonderful wiz there waz...

Something old something new

I know we all accumulate tools but have you ever thought about starting a tool collection? If so then you've come to the right place because this month we're starting a brand-new series aimed at guiding you through the process. John Adamson, publisher of *Antique Woodworking Tools*, will be your guide. He'll be looking at everything from how to spot a dud to identifying the best buys and where to go to find them. He'll also be talking to experts and collectors about their passion and sharing their best tips to get you started.

So, without delay let's all sit down and enjoy the usual mix of first-rate technical insight and entertainment for the discerning woodworker before clearing a space in the back room for that new tool cabinet you're going to be making.

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Furniture & cabinetmaking

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Woodworking is an inherently dangerous
pursuit. Readers should not attempt the
procedures described herein without
seeking training and information on the
safe use of tools and machines, and all readers should
observe current safety legislation.

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Front cover image courtesy of Hendrik Varju

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Don't forget there are plenty
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Institute & Forums
www.woodworkersinstitute.com



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News & Events

Contribute to these pages by telling us about matters of interest to furniture makers.

Call Derek Jones on 01273 402 843 or email derekj@thegmcgroup.com

Please accompany information with relevant, hi-res images wherever it is possible

Construction begins on the world's tallest wooden building

On 1 April, 2017 construction will begin on the world's tallest wooden building in Brumunddal, Norway – and no, this is not an April Fool! Arthur and Anders Buchardt of AB Invest AS and contractor HENT AS have entered into a turnkey contract to build Mjøstårnet, which will be over 80 metres tall with an overall size of around 15,000m². The 18-storey building will include apartments, a hotel, offices, a restaurant and a 4000m² swimming facility.

Client and investor Arthur Buchardt explained: 'The main structure is based on glulam, with slab elements consisting of a combination of glulam and Kerto, and façades as wooden elements. This is a response to the "green shift", and proof that wood is a material that can compete with traditional solutions in high-rises too, enabling climate-friendly building as long as one has the right mindset.'

Knut Alstad, marketing and development director of HENT AS, commented: 'Traditional materials in a high-tech context are the keywords here. This is a project we all will be proud of – and that we are very pleased to have developed.'

Contact: HENT AS

Web: www.hent.no

ILLUSTRATION BY VOLL ARKITEKTER, COURTESY OF MOELVEN



Mjøstårnet in Brumunddal, Norway will be the world's tallest wooden building at a height of over 80 metres

IBTC to sponsor a garden at Chelsea Flower Show



The Broadland Boat-builder's Garden is based on a replica of a 900-year-old boat

IBTC Lowestoft are creating a garden for the Chelsea Flower Show 2017 themed around a 900-year-old boat.

In July 2013 the ancient boat was discovered by Environmental Agency workers beside the River Chet in Norfolk. The boat was 6 metres long and skilfully built of oak. Wooden pegs and iron nails were used in its construction, and between the overlapping strakes moss had been used for waterproofing.

In 2015 The Broads Authority commissioned the International Boatbuilding Training College, Lowestoft to create a replica of the 'Chet boat', as it is known and this will form the centrepiece of the garden at Chelsea. The Broadland Boat-builder's Garden is inspired by both the traditional skills which continue to be taught at IBTC Lowestoft, and by the ancient landscape of the Broads itself.

The design of the garden incorporates plants that are of their time and are native to the Broadland area, such as meadowsweet, purple and yellow loosestrife, southern and early marsh orchid, frogbit, water soldiers, royal fern and crested buckler fern.

This garden draws attention to the relationship between the fragility of this precious landscape and the need to keep alive the skills of those that have shaped it.

The Chelsea Flower Show is open to the public from 23–27 May.

Contact: International Boatbuilding Training College

Web: www.ibtc.co.uk

European funding helps local SMEs recruit

Newcastle-based business James Design has employed a talented and ambitious graduate thanks to financial support from a European-funded project managed by Northumbria University.

The graduate strand of the Northumbria Enterprise and Business Support (NEBS) project aims to help 130 small and medium enterprises (SMEs) in Tyne & Wear and Northumberland find their next generation of graduate talent. Set up with support from the European Regional Development Fund (ERDF) the scheme contributes £3825 towards salary costs, and guarantees a minimum starting salary of £17,000 pro-rata for the graduates.

A recent success story is James Design and Northumbria Design for Industry graduate Tom Leslie. James Design, which designs and makes a wide variety of high quality, made-to-order furniture for business and domestic customers, recently recruited Tom as an intern through the NEBS project.

Owner Nick James said: 'The NEBS project from Northumbria is extremely useful, both for me as a small business able to take on talented staff like Tom, and for the graduates themselves looking for the right opportunity and experience. New graduates will generally have excellent design skills and capabilities, but they may not have had much industry experience. What NEBS provides is some much needed breathing space for an employer to train and develop a new recruit properly, without the financial pressure to deliver an immediate



Tom Leslie (left) with Nick James (right) of James Design

return. This is far more sustainable and can help build a more secure future for the graduates.'

Tom added: 'It can be a struggle to secure a paid internship position within the creative industries, so the support from NEBS really does open doors. Working at James Design is a fantastic opportunity, allowing me to apply my own skills and

develop my own designs. At the same time, it is giving me hands-on business experience – it's the perfect stepping stone to the real world.'

NEBS funding is open to graduates from Northumbria and other universities.

Contact: Northumbria University
Web: www.northumbria.ac.uk

BFM survey highlights looming skills crisis

UK furniture manufacturers face serious resource problems if restrictions are placed on the movement of labour to the UK from other EU countries as a result of Brexit.

A British Furniture Manufacturers (BFM) survey of companies, shows that 34% of employees are non-UK nationals from the EU. Half the businesses surveyed predicted that if curbs were placed on this source of labour, skills shortages would worsen.

Of the 50 companies that took part in the survey, 52% said they relied on the skills of non-UK EU labour. Some even suggested that any restrictions on accessing this workforce could result in moving more or part of production abroad.

Also worrying employers was having a ready supply of skilled labour to enable businesses to perform efficiently and meet fluctuating needs. There was clear concern about recruiting British workers of quality, interested in working in a factory environment.

The full report can be found at: bfm.org.uk/images/nationalitysurvey/Final--Nationality-survey-2017.pdf

Contact: British Furniture Manufacturers
Web: www.bfm.org.uk

Furniture Makers' Company to host 'Bridging the Gap' conference

The Furniture Makers' Company is organising a one-day conference to inform the UK furnishing industry about the implications of the forthcoming Apprenticeship Levy and wider educational issues affecting the sector.

The 'Bridging the Gap' conference will be held at Furniture Makers' Hall, London on 18 May, 2017.

The Apprenticeship Levy comes into effect on 6 April, 2017 and is part of the government's commitment to creating 3 million apprenticeships in England by 2020. The levy requires all employers operating in the UK with an annual pay bill of more than £3 million to spend 0.5% of the total to help fund apprenticeships.

The Bridging the Gap conference will demystify the levy and educate businesses as to how they can access the levy's funding to develop and train their workforce by working with recognised training centres and colleges.

Contact: The Furniture Makers' Company
Web: www.furnituremakers.org.uk

ACID launches online brand enforcement service

Supported by the UK Government and the Police Intellectual Property Crime Unit (PIPCU), Anti Copying in Design (ACID) is continuing its fight against IP infringement with the launch of a cost-effective brand enforcement service to help its members fight design theft online.

The time, expense and debilitating effect that blatant online infringement has on micro and SME businesses is fast becoming a real everyday challenge, especially for design-led organisations. This insidious means of design theft is difficult to challenge with the apparent lack of effective redress by some online platforms for speedy takedown.

In response, ACID has partnered with SnapDragon to provide an affordable, effective and quick system to remove links to products which infringe your intellectual property (IP) from online marketplaces at a specially negotiated member discount.

For more information, see ACID's website.

Contact: ACID
Web: www.acid.uk.com

London Craft Week

This annual event showcases the very best international and British creativity and craftsmanship through a programme of over 230 events that fuse making, design, fashion, art, luxury, food, culture and shopping.

London Craft Week's events are spread across the capital's iconic buildings, influential institutions and off-the-beaten track side streets, many of which are not normally open to the public. Likewise, the programme spans a broad spectrum from unknown makers to celebrated masters, famous designers, brands and galleries.

Events to look out for include the Inspired exhibition, which is a collaboration between the Festival of Silver and The Furniture Makers' Company held at the Goldsmiths' Centre; Design-Nation, an exhibition at the OXO Tower Gallery showcasing the work of the design collective's members; and upholstery demonstrations and workshops held by Second Sitters at the Geffrye Museum.

When: 3–7 May, 2017

Where: Various venues across London

Web: www.londoncraftweek.com

PHOTOGRAPH COURTESY OF THE FURNITURE MAKERS COMPANY



Angled desk by Matthew Burt. Matthew will be taking part in Inspired

Craft in Focus

Visitors to Craft in Focus at RHS Garden Wisley will be able to view and purchase contemporary craft and art from around 170 exhibitors while also enjoying the beautiful spring garden.

When: 27 April–1 May, 2017

Where: RHS Garden Wisley, Nr Woking, Surrey GU23 6QB

Web: www.craftinfocus.com

Gilded Interiors: French Masterpieces of Gilt Bronze

This exhibition brings together outstanding objects from the late 18th century, and introduces a frequently overlooked art form. Often designed by leading architects and modelled by important sculptors, gilt bronze was used to create beautiful yet functional objects and to decorate and embellish highly refined furniture and porcelain. This exhibition showcases luxurious artworks commissioned and owned by the wealthiest patrons and collectors, such as Marie-Antoinette and George IV.

When: 4 May–30 July, 2017

Where: The Wallace Collection, Hertford House, Manchester Square, Marylebone, London W1U 3BN

Web: www.wallacecollection.org

Spring Long Point

This trade-only exhibition is run by the Long Eaton Guild and showcases the best of furniture made in the UK, including the ranges of the Guild members themselves.

When: 8–10 May, 2017

Where: Various locations across Long Eaton, Nottinghamshire

Web: www.longeatonguild.co.uk

Woodworks@Daventry

The eighth edition of Woodworks@Daventry will feature the usual mix of woodturning demonstrators, trade stands

and competitions for the turning clubs. The event is hosted by Tudor Rose Woodturners.

When: 11–12 May, 2017

Where: Daventry Leisure Centre, Lodge Road, Daventry NN11 4FP

Web: www.tudor-rose-turners.co.uk

Weird and Wonderful Wood

Weird and Wonderful Wood is an annual experience not to be missed. Demonstrations will include furniture making, musical instrument making, displays by traditional fletchers and bowyers, chainsaw carving, hurdle making, wood turning and pole lathe turning. There will also be a working mobile sawmill on site, so if you want to bring your own tree, it can be cut for you!

When: 13–14 May, 2017

Where: Haughley Park, Wetherden, Nr Stowmarket, Suffolk IP14 3JY

Web: www.weirdandwonderfulwood.co.uk

Minerva Spring Exhibition

Minerva Furnishers Guild hosts its Spring Exhibition for Guild members this May. The show typically features approximately 70 affiliated suppliers displaying the latest designs in a wide range of upholstery, beds, dining, occasional furniture and accessories.

When: 16–17 May, 2017

Where: NAEC, Stoneleigh, 2LZ CV8

Web: www.minervafurnishers.co.uk

Made London: The Design and Craft Fair

Over 100 exceptional makers across all media will be showing and selling their work to the public at Made London; enabling conversations about techniques, inspirations and future projects. The event will be held in Mary Ward House, a Grade I listed arts and crafts building, which is well worth exploring.

When: 20–21 May, 2017

Where: Mary Ward House, 5–7 Tavistock Place WC1H 9SN

Web: www.madelondon-bloomsbury.org

Modern Twist: Steam-bent Furniture by Joshua Till

Manchester Craft & Design Centre's 2016 MMU Graduate Award winner Joshua Till puts a contemporary twist on a traditional craft with his nature-inspired steam-bent furniture.

When: Until 21 May, 2017

Where: Manchester Craft and Design Centre, 17 Oak Street, Northern Quarter, Manchester M4 5JD

Web: www.craftanddesign.com

ICFF New York City

North America's premier showcase for contemporary design, the ICFF presents the latest furniture, seating, carpet and flooring, lighting, materials, wall coverings, accessories and more.

When: 21–24 May, 2017

Where: Javits Center, 655 W 34th St, New York, NY 10001, USA

Web: www.icff.com

Clerkenwell Design Week

Clerkenwell is home to more creative businesses and architects per square mile than anywhere else on the planet, making it truly one of the most important design hubs in the world. To celebrate this rich and diverse community, Clerkenwell Design Week has created a showcase of leading UK and international brands and companies presented in a series of showroom events, exhibitions and special installations that take place across the area.

When: 23–25 May, 2017

Where: Various venues across Clerkenwell

Web: www.clerkenwelldesignweek.com

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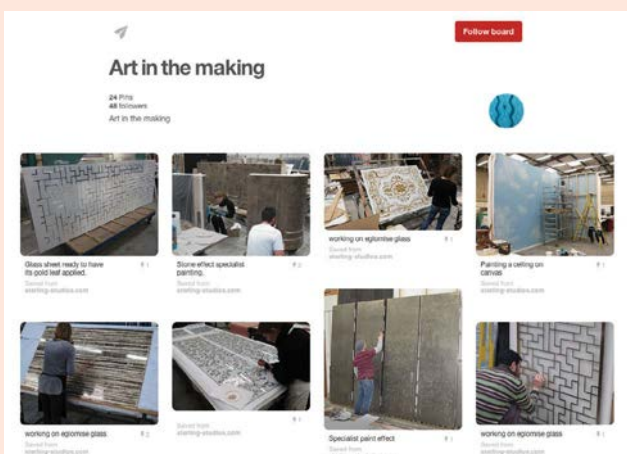
Bringing you a round-up of the best from the online world plus a selection of the latest projects from our readers

In this section of the magazine we bring together the best furniture and woodworking related content from social media. Here we'll recommend who to follow, where to comment and which online communities to join. We'll also feature readers' letters, comments from the Woodworkers Institute forum and pictures of readers' work. If you'd like to see your furniture on these pages, email derekj@thegmcgroup.com

Pinterest: Sterling Studios

This is a good place to turn when you're looking for inspiration for finishes. Sterling Studios is a specialist decorative arts company that makes bespoke, hand-crafted finishes on a range of materials.

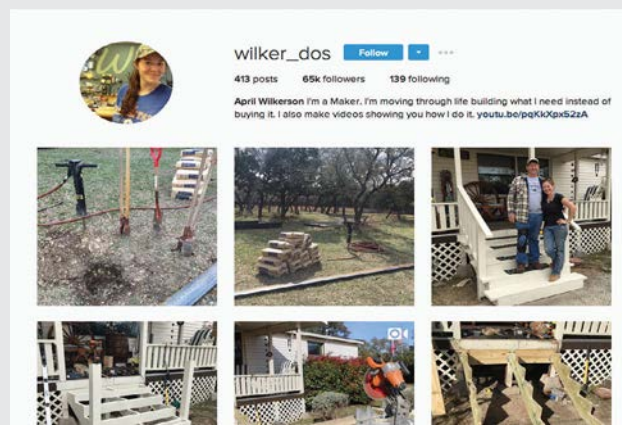
Address: uk.pinterest.com/sterlingstudios/



Instagram: April Wilkerson

April Wilkerson is a self-taught woodworker and DIY-er who has used social media to chart her education in the world of power tools and making. On her Instagram feed, you can follow the progression of her current projects through photos and short videos.

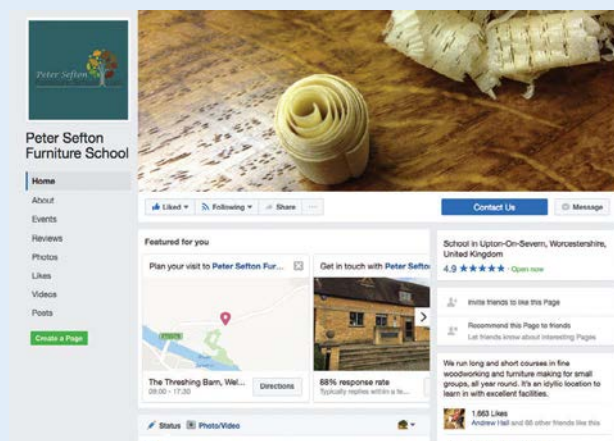
Address: [@wilker_dos](https://www.instagram.com/wilker_dos)



Facebook: Peter Sefton Furniture School

As well as updates from the busy class schedule, Peter Sefton Furniture School's Facebook feed includes general advice on timber, woodworking techniques and inspirational work.

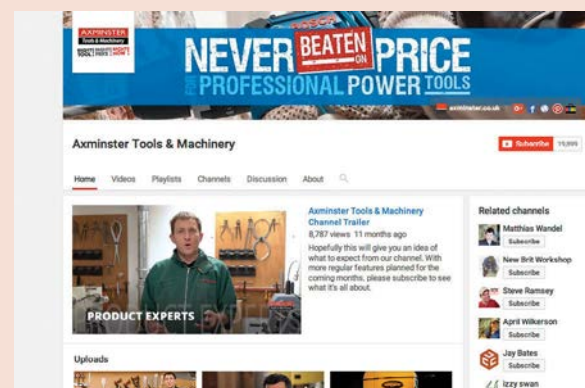
Address: www.facebook.com/Peter-Sefton-Furniture-School



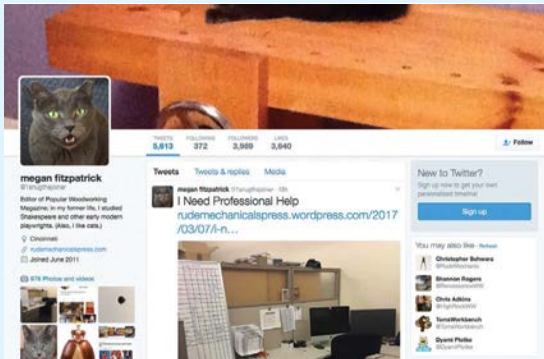
YouTube: Axminster Tools

Axminster Tools & Machinery's YouTube channel is regularly updated with demonstrations of kit and advice on woodworking techniques. The videos include the popular '30 Seconds On' series, which introduce the basics of a piece of equipment in just 30 seconds. The 'Woodworking Top Tips' videos are also worth a watch, covering subjects such as using folding wedges, accurate sawing and measuring using story sticks.

Address: www.youtube.com/user/axminstertoolcentre



Twitter: Megan Fitzpatrick



Megan Fitzpatrick, the editor of *Popular Woodworking Magazine* in the US, shares her love of woodworking via her Twitter feed. Here you'll find lots of tips and techniques and plenty of good humour.

Address: @1snugthejoiner



Blog: Inside Modernism and Destination Modernism

These two blogs are run by the team behind Modern Shows. Inside Modernism explores the kind of collectable mid-century classics that can be found at the Shows, while Destination Modernism is a travel guide of where to see modernism around the world.

Address: insidemodernism.co.uk & destinationmodernism.com



From the forum

The Woodworkers Institute forum is a great place to discuss furniture making and show off your latest projects. To join in the conversation, visit www.woodworkersinstitute.com and click on the forum button.



Memory box

F&C reader Bob Lane made this romantic memory box as a gift for his wife when they got married on 4 February. 'The project was completed in secret. The flower on the top and date inside the piece are all hand cut double bevel marquetry and the rest is hammer veneered cherry wrapping a birch plywood box, the piece is lined inside with faux suede,' said Bob.



'This is the first time I had ever attempted marquetry or hammer veneering and the piece is finished in shellac, which was another first – I must confess I wanted to try a full French polish but felt this was a safer option considering the gravity of missing the timeline completion date!' A beautiful gift that is sure to be treasured for years to come!



Laburnum 'oysters'

We loved this sphere made by reader Pete Simpson. 'Over the years, I've collected a number of small trees, mainly lilac, yew, box, maple, cherry and laburnum. The most valuable parts of these are obviously the trunk and the larger branches. Anything less than 50mm or so is usually deemed too small to be of any use and ends up as firewood. I now see this as a mistake, particularly in the case of laburnum. The end grain of wood is usually regarded as inferior but I've always loved the effect achieved with laburnum "oysters". This is a centuries-old technique of cutting thin slices from small branches, either across or obliquely and veneering them onto furniture and boxes.

This gave me the idea of a ball, later to become a lamp base, covered completely in oysters, he explains. 'I turned a slightly flattened sphere from sycamore 190mm high by 195mm diameter. Random 10mm to 36mm holes were drilled into it to various depths. Laburnum plugs were turned to fit the holes, each with the heart in the centre, and glued in. The sphere was then turned smooth again. This was repeated until the entire surface was covered in oysters. When oiled and polished, the medullary rays stand out in a starburst pattern from the centre of each oyster. This is not a quick process but an impressive effect is created from what would have been firewood.'





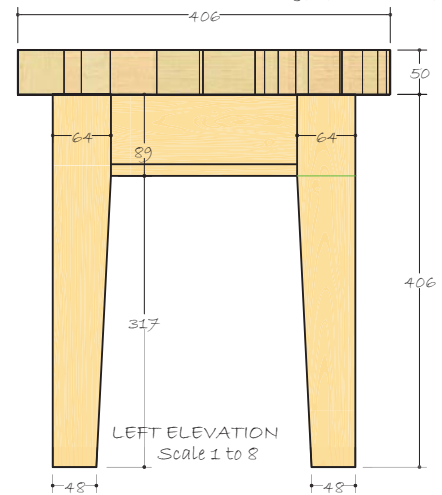
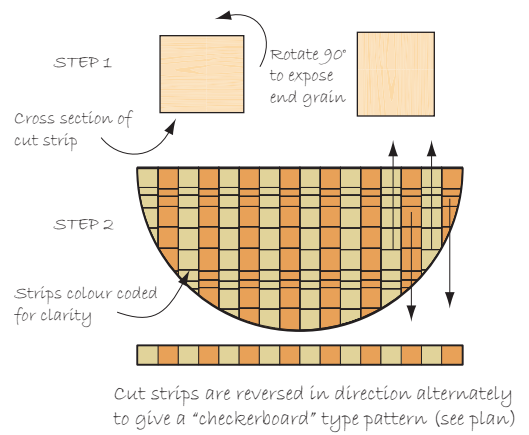
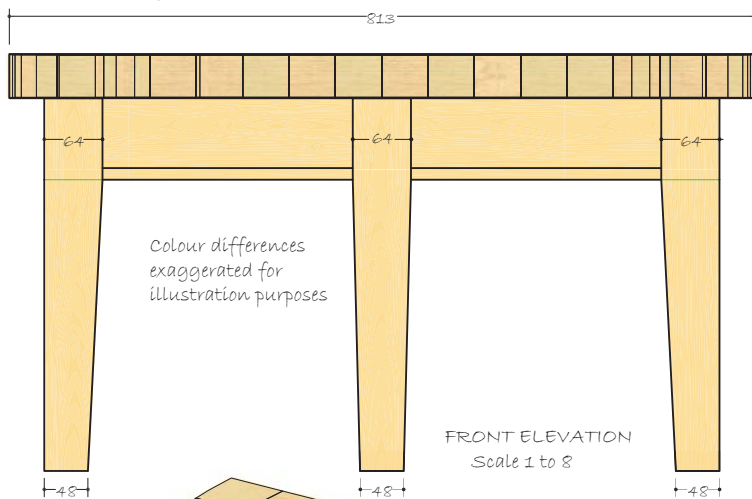
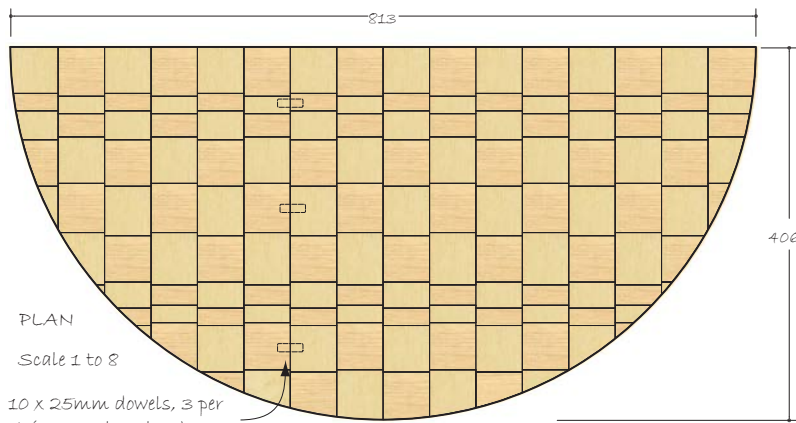
Hendrik Varju uses traditional butcher's block joinery to capture the beauty of beech end grain

End-grain end tables – part 1

I've been wanting to replace two black semi-circular end tables in our family room for a very long time which, I'm embarrassed to say, my wife and I bought at Ikea close to 25 years ago. It wouldn't be so embarrassing if they were at least made of wood, but they're plastic!

I've always liked a demilune table design at the end of a sofa, but I, of course, wanted to use wood. I built an end-grain coffee table for the same room some years ago using four species of

wood but for these end tables, I decided to use only one species – European steamed beech (*Fagus sylvatica*) – for the end grain table tops. I didn't want the tables to be too busy looking, with three of them in the same room, plus the growth rings visible in the end grain table tops give more than enough visual interest as they are. I do plan to use just a tiny piece of cherry (*Prunus avium*) decoration on the bottom of the aprons to match my coffee table, but otherwise will use beech everywhere else.



Variable width strips are glued together to form a solid board, cut into 50mm approx strips crossways, and then turned 90 degrees to expose end grain. Additionally, every other strip is rotated 180 degrees to alternate the pattern

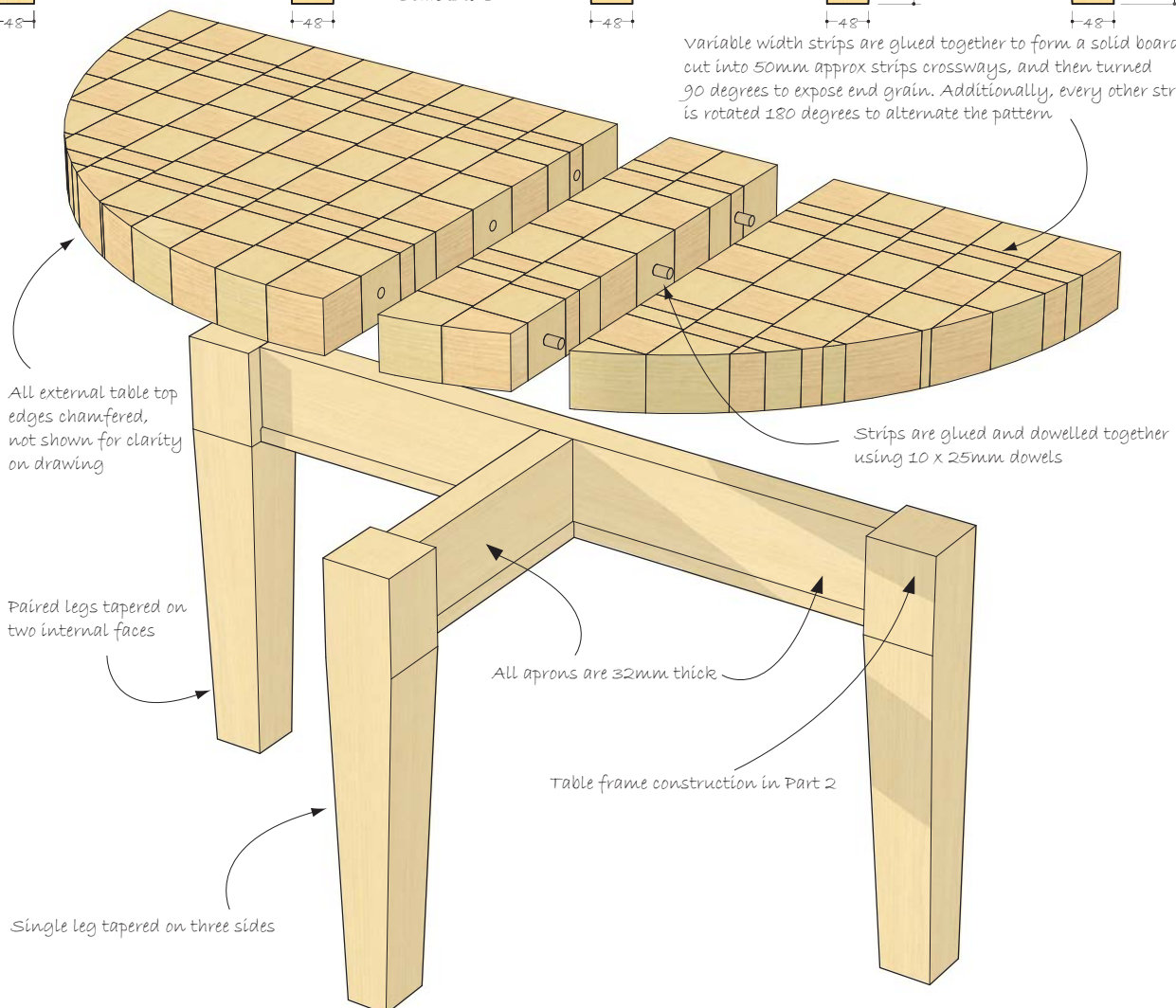


Table tops come first

I decided that working on the table tops first made the most sense as I think they are more difficult overall. There was a lot of material to mill up, two glue-ups, lots of cutting of strips, dowel joinery between the strips and even some template routing. Plus I figured that if the table tops were cut slightly off plan then I could adjust the bases when building them afterwards. So this first article covers how I built the two table tops.

The first step involves jointing and planing all the lumber to make what I call 'the long grain slab'. I milled a number of boards 51.5mm wide, aiming for 50mm wide squares in the final design, and about 1145 to 1220mm long. While the table tops would be only 815mm long in the end, there is a lot of waste involved when cutting so many strips.

The thickness can be completely random from one board to another resulting in squares or rectangles of random sizes. For ultimate randomness, you can mix in different thicknesses of stock, such as 4/4, 5/4, 6/4 and 8/4. In my case,



A thick nap paint roller makes quick work of spreading glue on the strips of wood

I had a number of large 6/4 boards in stock so I used only the one thickness. However, I still milled them all to random thicknesses

that varied from one board to the next depending on the milling loss involved when jointing and planing.

The long grain glue-up

Once milled, I turned the boards onto their edges, orienting them as if they were quartersawn. Then I glued them together as one would glue-up a workbench top. I used pairs of clamping cauls with F-clamps to keep the faces aligned, and lots of pipe clamps to pull them tight. It's important that the pipe clamps alternate from top to bottom when gluing together a slab like this to ensure it ends up as flat as possible without any excessive cupping or twist.

After the glue dried at least overnight, I hand planed off some of the excess glue that I wasn't able to remove with a putty knife immediately after the glue-up. A standard angle block plane made quick work of this. The goal is to remove glue beads that protrude from the surface. You do not need to remove every glue stain or oxidation stain (from the clamp pipes) from within the wood

because the next step with my thickness planer would take care of that.

Fortunately, the long grain glue-up turned out very flat because I don't own a planer large enough to face joint something that wide. If your glue-ups don't go as well, you'll need to at least flatten one side with a hand plane. And if your thickness planer isn't wide enough to accept the slab at all, you'll need to hand plane both sides. As long as your thickness planer is wide enough (mine is 510mm wide), you can plane the second side that way instead. In my case, I chose the flattest side (slightly concave is preferred to convex) to ride on the thickness planer bed while planing the opposite side flat. Then I could flip the panel end-over-end to plane the second side. From there, I was ready to cut the panel into strips to achieve the 'end grain up' orientation.



A wide thickness planer levels both sides of the long grain slab, saving me a lot of hand planing time



Long grain slab, crosscut into strips to be turned 'end grain up'

Cutting and joining the strips

I like to cut the panel into strips with a crosscut sled. The width of each strip determines the thickness of the final end grain slab. So if you want the table top to be 50mm thick in the end, aim for about



Each strip is ripped to ensure consistent width and defect-free surfaces

55mm per strip. I like to trim them to final width later as a ripping operation to ensure they are all identical and to remove as many saw marks as possible. When you cut the strips, only the side of the strip on the clamped side ends up a near perfect cut. When on the offcut side of the blade, you can expect the strips to bend slightly, making the cuts somewhat irregular and often burned as well. After all the strips had been cut, I ripped them to 51.5mm width, hoping an accurate glue-up would yield a final table top about 50mm thick.

The strips are then turned 90° to achieve the 'end grain up' orientation. Also, every other strip is rotated 180° (front of strip to the back of the table top) to create the staggered but mirror image rectangles for the final pattern. Watching the pattern develop before your eyes is pure joy.

Making a template

For the semi-circular top, I needed to make a template to allow template routing later and minimise sanding of the edges. I used 12mm Baltic birch plywood and used a simple circle cutting jig on my bandsaw to cut out a 405mm radius semi-circle. Leaving the plywood a little wider, I drilled a hole about 12mm from the edge that could become my

pivot point. A dowel inserted in that hole allowed me to spin the template on the bandsaw after positioning the pivot point on the jig 405mm from the right side of a right-pointing tooth on the blade.

I could sand the edges of the template easily compared to how much sanding would have been required on the table top edges

if I had cut the semi-circles to final size on the bandsaw. Freehand cutting of the semi-circles would, of course, be even worse, so a template routing approach really yields great results. I was able to sand the template's edges just by hand, but an oscillating spindle sander or sanding drum on the drill press could certainly be used.



A simple plywood jig with pivot point cuts perfect circles



Position the jig on the bandsaw table with the centre of the pivot point the correct distance from the right side of a right-pointing tooth. This sets the radius of the circle



A hole drilled in the template stock provides the pivot point. Then cut out the shape, which is slightly larger than a half circle



A short dowel provides the pivot, resulting in a perfect circle requiring only minor sanding

The end grain glue-up

When building end grain table tops or cutting boards, I've always preferred to position dowels between the strips to aid with alignment. This frees me from needing any clamping cauls at all, so I have more room for the pipe clamps. In this case, though, I had to position the dowels carefully to ensure they would not cross the area where I would later cut the semi-circular

shape. Then I drilled the holes on the drill press, using a fence and a single reference face on all strips to ensure everything would align. The dowels were 10mm diameter by 25mm long, so I drilled the holes about 0.8mm deeper than 12mm on each side.

From there, I could pound the dowels into one side of each joint and apply glue to the other side very quickly with a thick nap

paint roller. I try not to get glue in the dowel holes, as the dowels are there for alignment, not strength. Plus if the dowels were glued they would restrict natural wood movement in the panel, causing distortion and possibly cracking. Remember that an end grain slab expands and contracts in all directions except thickness and you want to allow that movement to happen as needed.



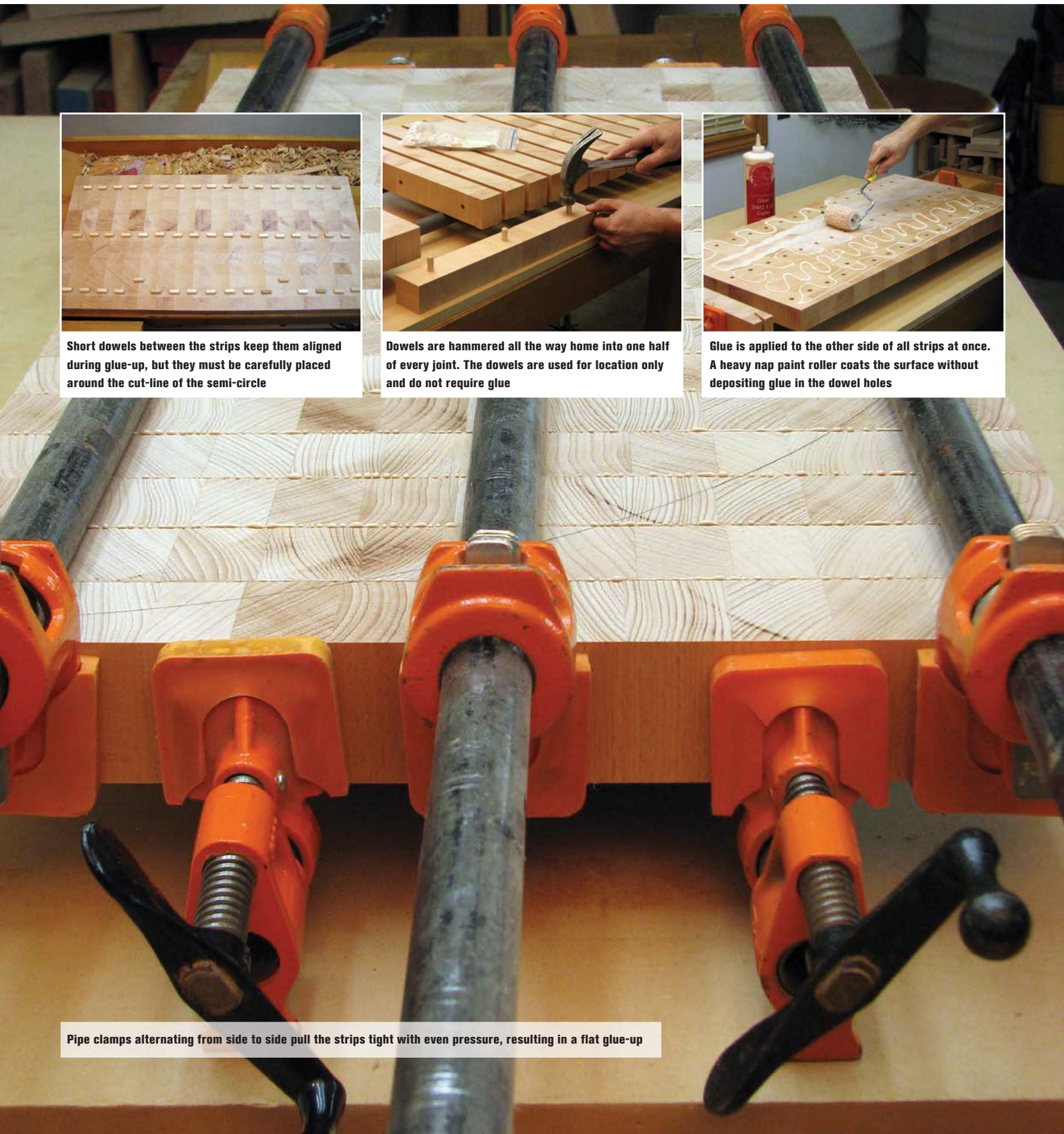
Short dowels between the strips keep them aligned during glue-up, but they must be carefully placed around the cut-line of the semi-circle



Dowels are hammered all the way home into one half of every joint. The dowels are used for location only and do not require glue



Glue is applied to the other side of all strips at once. A heavy nap paint roller coats the surface without depositing glue in the dowel holes



Pipe clamps alternating from side to side pull the strips tight with even pressure, resulting in a flat glue-up

Final shaping

After the end grain slab dried overnight or longer, I could remove excess glue with a low angle block plane and do a little more planing if necessary. If the glue-up went well, sanding alone might work fine, first with a belt sander and then random orbit from there. I could even true up the back edge of the table top with my jointer. While this constitutes crossgrain cutting, it does work.

Then I drew the semi-circular shape onto the slab with the template and cut just outside of that line freehand on the bandsaw.



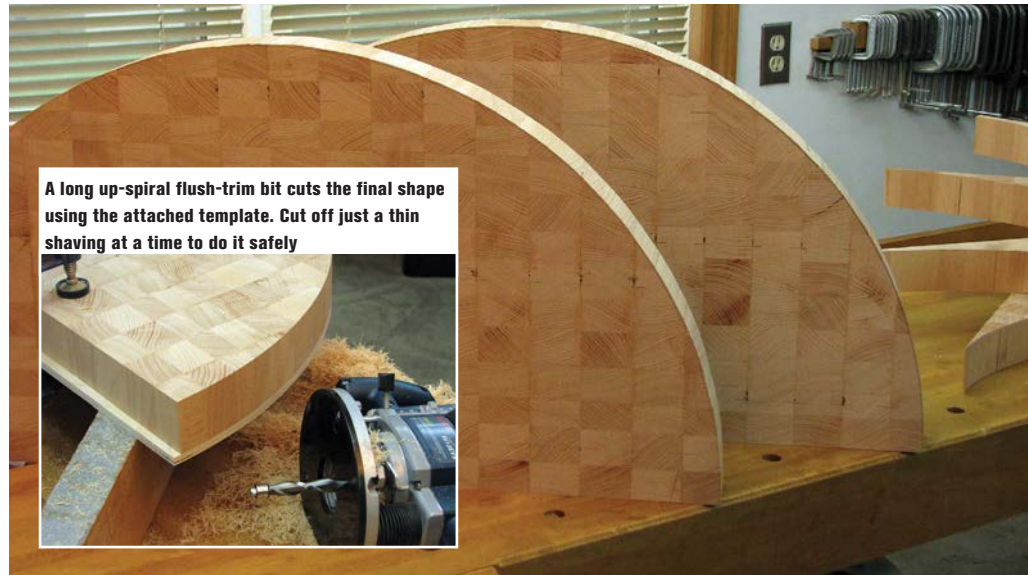
Semi-circles are cut out of the end grain slabs freehand, leaving about 1.5mm to trim later with a router

From there, some double-stick tape secured the template to the slab and a flush trim bit made quick work of final shaping. I used an up spiral flush trim bit and cut just a little at a time given the 50mm thickness of the table top. Remember that the orientation of the wood is such that this cutting is crossgrain, which cuts more easily than long grain.

A small routed chamfer around the top edge of the table tops finished them off, as well as a small chamfer on the vertical rear corners as well. I then completed the final

sanding with a random orbit sander, working my way up from coarser grits to 220 grit at the end. The edges needed to be sanded by hand, preferably sanding in the short vertical direction to avoid sanding scratches.

In my next article, I'll show you how I built the table bases and joined them to the table tops. While these tables look simple, don't underestimate the impact of an end grain table top. They are truly incredible and really showcase the beauty of nature in those growth rings.



Two table tops trimmed and ready for sanding and other details



Routing a small chamfer detail all around the table top



A palm router adds the chamfer detail to the vertical corners at the rear of the table tops



Lots of sanding is essential to a smooth, scratch free, finished product

Hendrik Varju is a fine furniture designer/craftsman who provides private woodworking instruction and DVD courses. His business, Passion for Wood, is located near Toronto, Canada. Hendrik is also the producer and host of a 6½ hour long DVD course called *End Grain Table Tops and Cutting Boards*. See www.passionforwood.com

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The incomparable master of precision

Anton Gerner catches up with legendary square man Chris Vesper

Chris Vesper is a fine tool maker, based in Melbourne, Australia, who specialises in squares, bevel gauges and marking knives. I first met Chris at the Working with Wood Show in Melbourne in the mid-1990s when he was still at school and I have followed his career ever since. Now aged 36, Chris has become known as one of the finest contemporary tool makers in the world today. Chris' tools are made with a rare combination of engineering, metal work and woodworking skills.

PHOTOGRAPHS BY ANTON GERNER

Vesper Tools

For more information about Chris Vesper's work, see:

Web: www.vespertools.com.au

Instagram: @vespertools

Come and meet Chris at
The European Woodworking Show
16-17 September
www.europeanwoodworkingshow.eu

A woodworking education

At school Chris really enjoyed woodwork and graphics and was motivated to learn as much as he could about these two related subjects. In his spare time he would immerse himself in books and magazines on woodworking and whenever the opportunity arose, visit furniture restorers, cabinetmakers and woodworkers to supplement his insatiable appetite for knowledge. By the time he was 15 Chris had already taught himself hide glue veneering, French polishing and how to cut dovetails by hand for carcass construction.

Naturally, an interest in hand tools quickly developed through a need to make his own, as he simply couldn't afford to buy them. 'I first got into toolmaking from being a self-taught hobby woodworker while still in school. I made my own router plane, shoulder plane, honing guide, dovetail gauges and marking gauges,' Chris remembers. At this stage his main interest wasn't in the actual tool making, but more so he could pursue his real interest – woodworking.

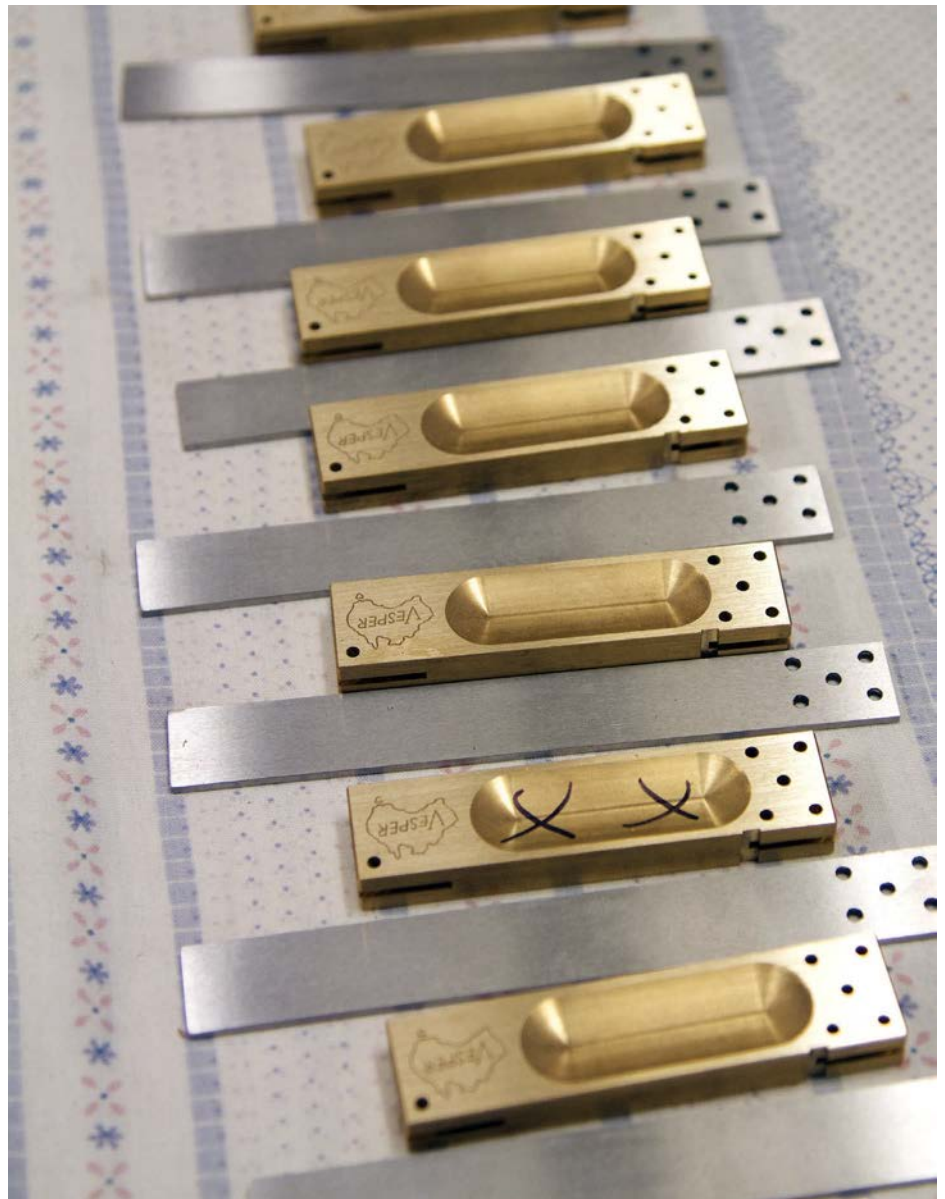
At 18 years old, after showing his unique design for a marking gauge to the owner of Baileys Toolbank in Melbourne, Chris was offered a shelf to display some of his tools in a display case on their stand at the Timber and Working with Wood Show in 1998; an event he remembers fondly as being where his toolmaking career began. 'It was a lot of fun. I took the day off school, caught the train to the show and sold my first few tools.'

After finishing school Chris started a fitting and turning apprenticeship, not with the aim of becoming a tool maker, but rather because he liked machines and machining and it seemed like a logical next step. While undertaking his apprenticeship, toolmaking for Chris became a serious hobby, where every year he would make a small batch of tools to sell at the show on the Baileys Toolbank stand.

Two years into his apprenticeship Chris switched to working for a furniture maker as a cabinetmaking apprentice, but it soon became apparent that he had more passion for finer woodwork than his boss catered for. After 18 months he returned to the familiar surroundings of the machine shop and back into fitting and turning, making components and machining parts, biding his time while he contemplated his next move. It was to be one he would never regret. He decided that what he really wanted to do was be his own boss, with his own business making tools. Aged 21, Chris spent the next 12 months working evenings, weekends and holidays building a workshop at the rear of his parent's property.

Setting up on his own

For the new workshop the first heavy machine Chris decided he needed was a bandsaw. The criteria at the time was a heavy, cast-iron machine. After six months of searching he eventually found an old 24in C frame solid cast Western & Co bandsaw, which he basically bought as a wreck and restored. Christened 'The Bandosawrus', it's still one of his favourite machines today.



Vesper Try Square components are married up individually prior to assembly

Additional woodworking equipment was added to the inventory followed by metal working machines. And rather than buy often cheaper new machines, Chris would hunt down second-hand cast-iron examples in need of refurbishing, ultimately developing a long lasting fascination with industrial history. Perhaps not surprisingly, an interest in antique hand tools followed and Chris now has a modest 'tool museum', of drawers filled with unusual artefacts and bookshelves filled with books on tools and antique machinery.

While the workshop was originally built with woodwork in mind, it quickly evolved into a tool making shop as Chris began to sell more tools. Although he only had basic machinery, he started planning the direction for his business and exactly what he wanted to make; his best seller at the time being his handmade marking gauge. Realising it was uneconomical to produce in numbers, he redesigned it for production and it became his first production product. It represented a change in thinking for Chris and a realisation that high quality tools could be made in batches without losing quality in

function, design or finish. He soon added a brass dovetail gauge and double bevel marking/carving knife to the range. The next product was a small sliding brass bevel with a low profile locking knob on the side. In the early 2000s he also made a batch of 15 shoulder planes with a cast bronze body and timber infill.

It was round 2005 when Brisbane woodworker, Bob Howard mentioned to Chris that maybe he should consider making a small double square. Chris studied the examples available on the market and set about designing his own version suitable for production. Made from 01 high carbon tool steel, this was a production item that was designed to be produced in even larger numbers than his previous tools. As all surfaces on this tool are ground square (so you can use any corner of the tool), Chris decided to invest in his first surface grinder. Throughout the years of making the double squares he has only made slight improvements to the design and is now up to version 5.0, with the blades now laser marked in-house.

A eureka moment from the past

In 2006, while trying to improve the design of his bevel gauge, Chris came across a sketch of a locking mechanism for a bevel by I. J. Robinson, first patented in the 1870s. Realising its potential, Chris set about prototyping his own version of a similar mechanism and settled on a design that remains unchanged today and is the basis of his now famous bevel gauge.

Chris made working finished prototypes of the bevels in 2007 and took them to all the woodworking shows around Australia and to the first Woodworking In America in Kentucky, USA, where there was huge interest and many orders were taken.

Suddenly he found himself in a scenario that's all too familiar with many successful small businesses; a full order book but no means of production. The ensuing months were given over to creating an efficient production line. Over the next few years as the bevels sold well, Chris was repeatedly asked to make try squares so in 2009 he started work on his first prototype incorporating his unique support tab. The feature enables the square to sit on the edge of the workpiece unsupported. It's a brilliant idea if you ask me!

As with the bevels, he made several prototypes and demonstrated them around the woodworking shows, to much acclaim and another full order book. Ever the perfectionist, he decided to refine the support tab just before going into production. The decision required him to invent new production processes and unique specialised tooling while all the time demand for his squares and bevels grew and the order book kept filling. The first batch of bevels were delayed by almost a year and in that time he found himself in the enviable position of selling bevels and gauges much faster than he could make them. Looking back he estimates it took him nearly three years to catch up and fill his orders.

Expansion

By 2012 Vesper Tools was showing signs of outgrowing the workshop Chris had built almost 15 years earlier. With plans to get a CNC milling machine, Chris wanted to bring some of the component work currently outsourced (such as brass knurled locking screws) back in-house, he needed more space. In order for his business to grow he started looking for larger premises and in late 2016, after months of preparation, renovation and purpose fitting out, Vesper Tools moved into a new factory. The much larger space has enabled Chris to work more efficiently than ever before and enabled him to take on staff, as up until this point he has worked almost exclusively on his own. The move has already started to pay off, with Chris rapidly catching up on his months of back orders was caused by the factory move.

I recently visited the new Vesper World Headquarters (as Chris likes to call it) and as I looked around the new space, it was evident that the same level of detail in Chris' tools had been put into the new workspace.



Tooling for production

Everything has been considered in terms of layout, workflow and future expansion. On the day I visited, Chris was working on some beautiful matched sets of squares, some of which had rosewood (*Dalbergia* spp.) infills.

The timber infills in Chris's tools are machined to such tight tolerances that they have to be kept in a dehumidified, climate-controlled room prior to gluing into the tool. Finished tools are also stored in this room.

Chris now offers various models of his tools, including some which feature rare and often highly figured pieces of wood. 'I get to play with some really amazing timbers and to see the finished result is incredible,' he says.

Now making much larger batches of tools than when he first started, I asked Chris if he ever gets bored of the repetition. 'It's all very well to be able to make one-offs of some

beautiful item, but to be able to make 10 or 100 of the same item, all consistent and all to the same quality level, is actually very difficult to achieve. If you think you are good at making one, then try making 500. That is tricky and a huge challenge to me.'

In recent years Chris Vesper's tools have been talked about on forums, blogs and on various social media. He has also received many glowing reviews from professionals and peers alike and as such they can be found in the best workshops around the world.

I don't think I've ever met another maker of anything who is so focused on their craft, so obsessed about quality, detail and finish as Chris Vesper. All this of course shows in every aspect of his work. To put it simply, Chris Vesper's tools are just exceptional. I would go so far as to say they will be future heirlooms.



Milling stock for another batch of precision instruments



The next batch of infill Try Squares awaiting inspection prior to final assembly



Etched and ready for storing in the humidity controlled stock room



Exotic hard wood infills



Chris, squaring up to the challenge

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The Quangsheng 043 plough plane



A TALE OF TWO PLOUGHS

Kieran Binnie puts two modern planes to the test



Price & availability

- Workshop Heaven stock the Quangsheng 043 plough for £139.50 www.workshopheaven.com
 - The Veritas small plough is available from Classic Hand Tools with one cutter for £141.46 or with a set of five imperial cutters for £181.56 www.classichandtools.com
- All prices correct at the time of writing

The Veritas small plough plane

A plough plane is an essential addition to the hand tool woodworker's tool kit, and allows grooves and rebates to be cut to precise depths and widths with ease. Although for many years plough planes were found on every workbench, and offered by a number of manufacturers, they are significantly less common now – perhaps due to the popularity of power tools for grooving tasks. As a result, until recently the way to buy a plough plane was to take a risk on a second-hand tool, and hope that the previous owners had cared for it. Fortunately, the recent handwork renaissance has prompted Veritas and Quangsheng

to develop very different interpretations of the plough plane.

The Luban 043 plane is the product of a collaboration between Workshop Heaven and Quangsheng to update the celebrated, yet long out of production, Record 043 small plough plane. In contrast, the Veritas small plough is an original design and draws on all the hallmarks of previous Veritas hand planes. In short, these are two very different tools, although available at a remarkably similar price point (see box for price and availability), which makes a head-to-head test very exciting. I was fortunate enough to borrow examples of both tools for an extended test drive – here are my experiences.

A Chinese re-imagining

The Quangsheng plane has the appearance of a thoroughbred traditional plough. Taking the Record 043 plough as a starting point, Workshop Heaven proposed a number of design changes, starting with a cast stainless steel body in place of the iron body of the original. The most noticeable improvement on the original is hollowing the previously solid handle to form an elegant 'open bow' tote.

A removable rosewood (*Dalbergia* spp.) auxiliary fence is fitted as standard, and this provides a generous surface area of 150mm long by 35mm wide. The fence is secured to the plane body by two large knurled thumbscrews at the fence end, and two smaller set screws on the plane body. The depth stop is also locked down with a thumbscrew. The blade clamping mechanism fits in the plane

body under pressure of the included thumbscrew, and slackening the screw allows the clamp to be removed from the body. A thoughtful thumbprint-shaped impression on the side of the plane body allows the blade and clamp to be held in place under finger pressure while tightening the screw.

One of the most interesting inclusions is the kerfing blade, inspired by the Kerfing Plane in Tom Fidgen's book *The Unplugged Woodshop*. This saw blade fits to the plane body with two thumbscrews that feed into a clamping plate. The plane can then be used to saw a kerf around wide boards to provide a path of least resistance for resawing. Eight irons – four in imperial and four in metric sizes – complete the package.



The Quangsheng 043 is an updated version of the celebrated Record 043, designed in conjunction with Workshop Heaven



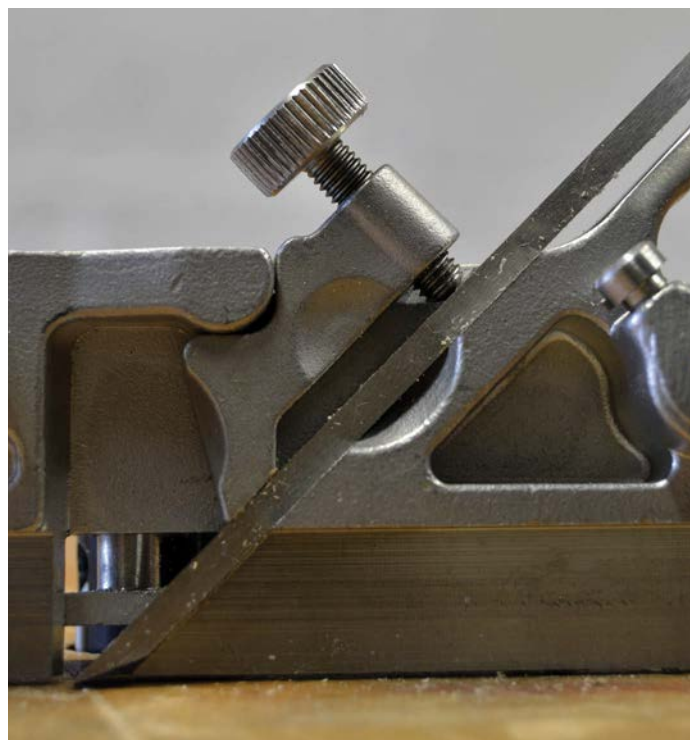
Knurled thumbscrews lock the fence in place



The kerfing blade attachment



Set screws secure the fence posts at the body of the Quangsheng plough



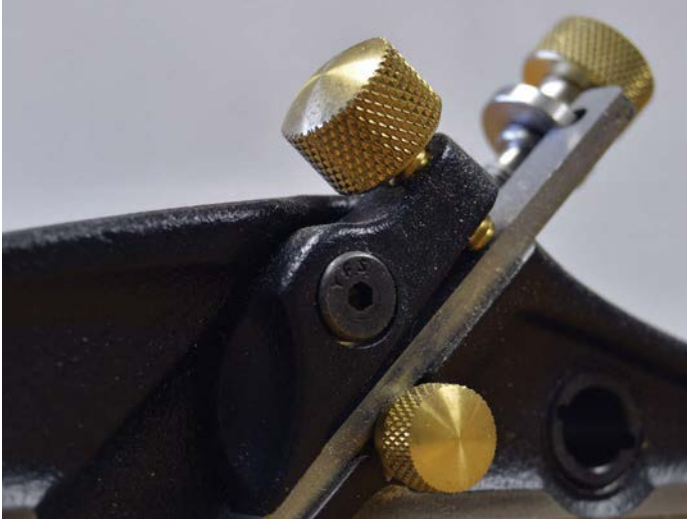
The Quangsheng plane uses a single-point clamping system, but the thumb indentation makes fitting an iron easy

The modernist Canadian

In contrast to the Quangsheng 043, the black textured finish and space age lines of the Veritas plough are decidedly more modern in feel, and will be instantly familiar to anyone who has used a Veritas plane before. The Veritas plough features a fence measuring 171mm long by 19mm wide, which can be fitted with an auxiliary fence if required, and is locked in place using the same brass router style collets found on the Veritas skew rabbet plane. The depth stop has a nicely rounded leading edge to avoid marking the workpiece, and is secured with a knurled brass thumbscrew. Unlike the Quangsheng plough, Veritas secures the blade against the plane body in two directions: against the bed by a large thumbscrew through the blade

cap, and against the side of the plane by a brass clamping screw. A finely geared screw adjuster advances or retracts the blade to adjust depth of cut, while an open wooden tote finishes off the plane.

Like Quangsheng, Veritas have taken the opportunity to add to the functionality of the plough plane, and Veritas now manufacture a range of beading cutters and tongue blades for use with the small plough. An optional conversion kit is also available, which allows the Veritas plough to use blades of 12mm and wider. The Veritas plane retails with either a single 1/4in iron, or for an additional premium a set of five imperial irons. A full range of imperial and metric sized blades are available, as is a tool roll to hold the various irons.



The Veritas plough uses a two-point clamping system to secure the plane iron



Testing the Veritas small plough plane

In use

The standard of fit and finish on both planes was good. The Veritas plane showed the quality of manufacture and attention to detail that I have come to expect from their planes. The cast stainless steel body of the Quangsheng is beautiful to look at, and has been polished to just the right level to make handling it a wonderfully tactile experience. Attention to detail on the Quangsheng plane could be a little better in places, particularly the holes for the kerfing blade clamp plate, which were clogged with metal shavings from tapping the holes, but this was a small issue that could easily be improved in the future.

Some plough planes can be a little fussy to set up, but both of these planes performed well straight out of the box. Fitting an iron and setting depth of cut for each plane was straightforward, although the Veritas had a slight edge in terms of ease of fitting the blade, thanks to the two-point clamping system and the depth adjusting mechanism. That being said, there was not much in it and setting up the Quangsheng was hardly difficult. Over the course of prolonged testing using oak (*Quercus* spp.), pine (*Pinus* spp.) and yellow poplar (*Liriodendron tulipifera*) both planes demonstrated that they could cut clean grooves easily and without any blade chatter.

The key feature of any plough plane is how easy it is to lock the fence in place so that it does not shift during use. Both planes use different mechanisms to achieve this, with quite different results. The locking collets on



Using the Quangsheng kerfing blade



Ploughing grooves in yellow poplar

the Veritas plane do not lock tightly enough under finger pressure, and require use of either a pair of pliers, or a strap wrench – I use the 'Nut Saver' strap wrench made specifically for Veritas collets by Welsh



Locking the Veritas fence in place using a Nut Saver by Bern Billsberry

tool maker Bern Billsberry. With the collets adjusted tightly the fence was rock solid in use and there was no risk of any inadvertent slippage. In contrast, finger pressure was sufficient to cinch down the thumbscrews on

the Quangsheng plane. However, although there was no danger of the fence of the Quangsheng plane slipping laterally, even when fully tightened there was a little play in the fence mechanism on the vertical axis



The open bow handle of the Quangsheng plane was too tight for me, but may suit woodworkers with smaller hands

which resulted in the fence tilting as it was introduced to the workpiece. This made starting a clean groove more testing than it should have been, although once the groove was established the fence held true. This is



I found the Veritas tote more comfortable, but other users may have different experiences

a concern that could be easily addressed, and would significantly improve the reliability of the tool. The depth stops for both planes locked well and did not slip during my time working with either plane.

In terms of comfort, the fences on both planes featured a gentle curve that supported the off-hand palm and was very comfortable even over extended periods of use. The Quangsheng handle felt comfortable across the palm, but my hands were a shade too wide to fit comfortably within the bow – even with a three-fingered grip it was a bit of a squeeze. My hand span is average width according to Skelton Saws (or small if you ask Bad Axe Tool Works), so those with larger hands may find the Quangsheng 043 handle to be a little tight, but woodworkers with smaller hands may well find the Quangsheng handle to be perfectly shaped. The Veritas tote was instantly familiar from the Veritas skew rabbit plane that lives in my tool chest.

The kerfing blade attachment for the Quangsheng plane worked well and I found myself looking for excuses to use it. Taking several light passes is necessary to establish a clean kerf, and forcing the blade to take too heavy a cut can result in a ragged cut which encouraged the fence to drift away from the edge of the workpiece, although this is no fault of the tool and was entirely expected. The resulting kerf has been nicely judged, and the saw plate of my 1900 era Disston D8 rip saw dropped right in for a much more pleasant resawing experience. I can envisage the Quangsheng kerfing blade to be a real boon for woodworkers who do a lot of resawing by hand.



The Quangsheng plane's kerfing blade leaves the ideal kerf to drop in a handsaw for resawing thick boards

Different strokes

Both of these planes are capable tools that can perform all of the usual grooving tasks asked of a plough, and either would make a good addition to a tool kit. In many respects they are neck and neck, and ultimately choosing between them is going to be a matter of personal preference, particularly when it comes to handle comfort.

A plough plane lives or dies by its fence, and the inclusion of a larger auxiliary fence by Quangsheng is a welcome touch. In the course of my time with both planes the only real concerns I had with either related to their fences. The Veritas fence cinches down tight, providing you don't rely on finger pressure to lock the collets. On the other hand, the more traditional locking mechanism of the Quangsheng plane will lock under normal finger pressure, but even when locked in place the fence exhibits some vertical play, which can make starting a clean groove frustrating.

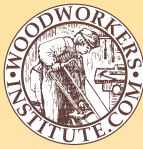
For some users it is likely to come down to what extra functions the planes can offer – those who do a lot of resawing would no doubt find the kerfing blade of the Quangsheng plane to be very attractive. For others, the beading cutters and tongue and groove blades of the Veritas may tip

the balance. In short despite their foibles, either plane will do the job asked of it. The question is which foibles you as user are happy to live with.

The author would like to thank Workshop Heaven for the loan of the Quangsheng 043, and Classic Hand Tools for the loan of the Veritas small plough plane. *F&C*



Comparing fence surface area – the Quangsheng auxiliary fence (left) is shorter but deeper compared to the Veritas fence (right)



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John Lloyd Furniture School

John Lloyd introduces us to work from students at his furniture school

For me, it's always been about the hand-skills. When I decided to be a furniture maker I wanted to use my hands to make exceptional things from wood – I wanted to be a craftsman. Today hand-skills are still at the centre of everything that we do at our workshops and school in the heart of Sussex, they are the foundation upon which everything else is built.

The first 12-week term of a long course here is practically machine-free, we are teaching craftsmen and women to be confident in their skills and abilities and giving them an in-depth understanding of wood and all of its many foibles and eccentricities, we must know how this remarkable material likes to be treated if

we are to get the best from it. An in-depth understanding of techniques and materials, old-school and cutting edge, all form a vital part of the initial training, this together with a possible 55 hours of bench time each week and a maximum of six students, means that the acquisition of new skills is rapid and efficient. Combine these skills with training on our up-to-date machinery and you have the perfect balance for a fulfilling and viable furniture-making career.

More than 25 years of running a successful business and almost as many years teaching and writing about woodworking and furniture give me the perfect platform for running a school that encourages, and allows, people of all ages and from all walks of life to realise their

potential to make beautiful things from wood. Teaching is an important business and not something that I will entrust to anyone else, student numbers are kept small and personal attention is maintained at a high level.

Separate workshops on-site create a lively and supportive environment where former students are busy building successful businesses, designing and making exceptional pieces of furniture – these workshops never fail to give huge inspiration to both me and my current students.

This is a showcase of the remarkable work being produced in these workshops.

To learn more about training with John Lloyd or to arrange a workshop visit, go to: www.johnlloydfinefurniture.co.uk

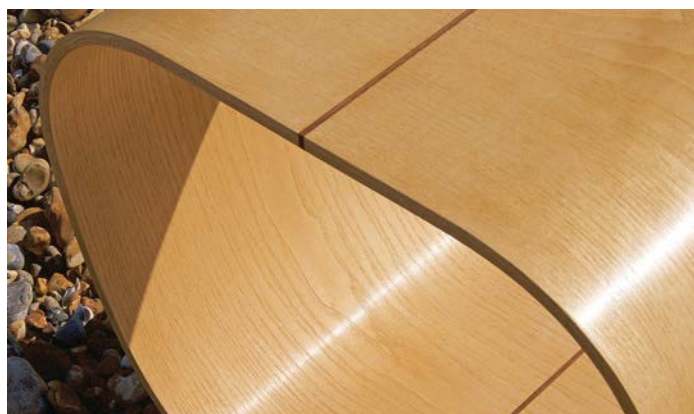


Chris Hinks

'While I was studying music at university I decided that I wanted to do something that was more hands-on, practical and creative. I had previously done product design at school where I learnt basic woodworking skills. I found John Lloyd Fine Furniture offered me what I was looking for, a creative outlet and a chance to learn traditional hand-skills, which has given me the knowledge and confidence to design and create furniture.'

'This ash (*Fraxinus excelsior*) side table was inspired by 1970s retro furniture. I wanted to explore techniques that would allow me to easily reproduce the side table. So I experimented with laminating using layers of veneer pressed in formers and steam bending for the edging. I wanted the table to be functional yet modern and have a very organic form that would draw people's attention.'

For more about Chris Hinks, see: www.brightwoodfurniture.com



Ash side table by Chris Hinks

Kuristo DeMans

'After working in the model making and antique toy restoration industry for many years, I undertook intensive training with John in fine furniture making and antique furniture restoration. Under John's excellent tuition I developed my hand skills in traditional cabinetmaking and carving to follow my passion for creating and restoring furniture.'

'I enjoy the varied challenges that working with furniture provides. From creating a bespoke or period-specific copy, to seamlessly restoring a jigsaw puzzle of damaged parts to their original glory, no two projects are the same.'

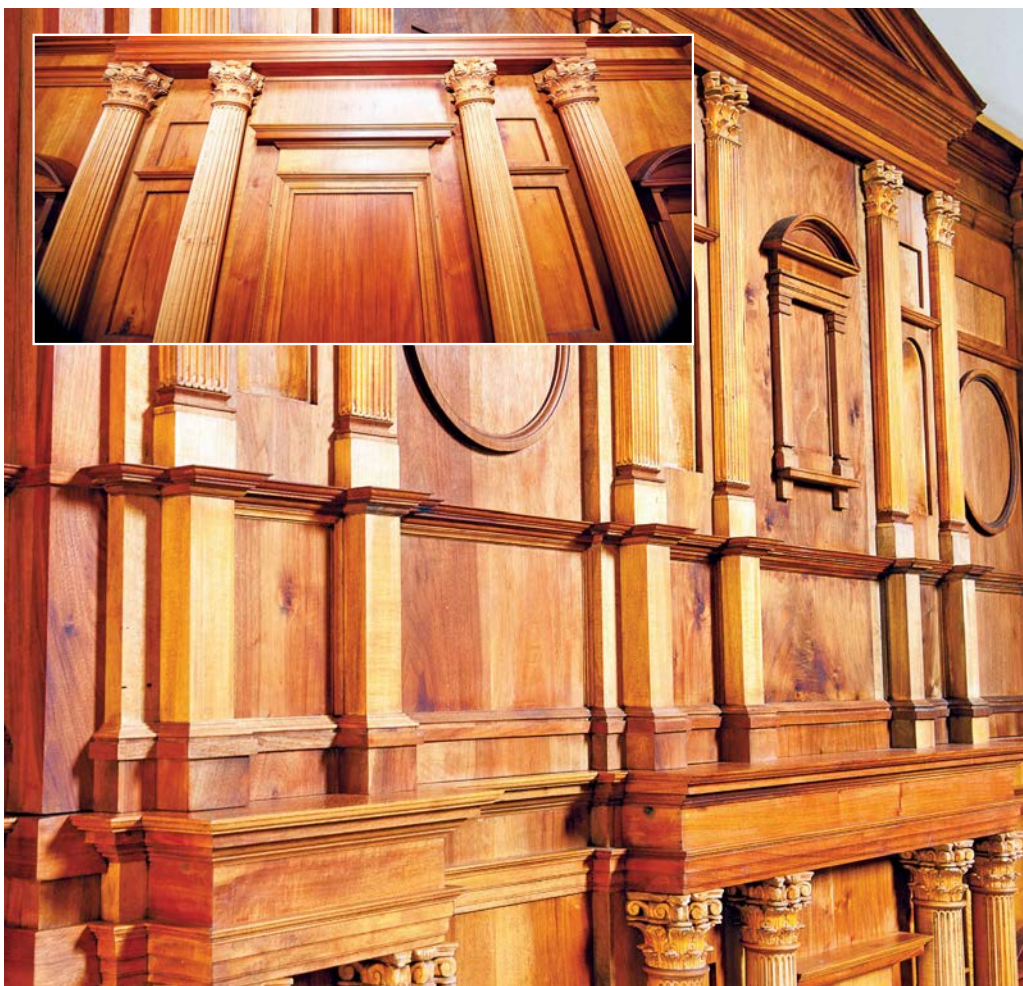
'Recently I was commissioned to create a replica of Michelangelo's intricate model for the facade of the church of San Lorenzo in Florence. Following an hour's visit to the original to take photographs, I created this 3-metre long model using many of the same carving and moulding techniques used to create the original piece nearly 500 years before.'

For more about Kuristo DeMans, see:
www.kuristodemans.com

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Kuristo Demans' replica of the façade of San Lorenzo, Florence



Easy chair in English oak with Danish cord seat and back by Martin Spencer

Martin Spencer

'My work takes inspiration from the "organic functionalism" of Scandinavian design, where I have lived and worked.

'I make only bespoke chairs. In my pieces, I aim to combine the organic form of wood with the functional requirements of comfort, practicality and purpose. Chairs are there to be touched, felt and used. I landscape the contact points; the arms, the back rest and the seat and contrast these with the harder structural

components. I keep the design simple, exclude unnecessary detailing and remove any wood that is not needed. The aim is for elegant, simple, organic furniture that celebrates the meeting of wood and individual.'

For more about Martin Spencer,
see: www.martinspencerchairs.co.uk



Arm chair in English ash and walnut by Martin Spencer

Matthew Paré

'I finished training with John back in 2013 and since then have been putting the classical skills and techniques I learnt into building Petrel Furniture. I make elegant contemporary pieces of furniture exclusively using British woods. Working to commission and for interior designers I have developed a reputation for pared back elegance and crisp work.'

'This whisky cabinet was a private commission. I choose English walnut (*Juglans regia*) and walnut burr, to evoke the caramel and smoke flavours within a fine whisky, and matched the grain throughout the cabinet into one seamless flow.'

For more about Matthew Paré, see: www.petrelfurniture.com



Whisky cabinet in English walnut by Matthew Paré

Peter Hunter

'Studying Product Design at university made me realise how much I enjoyed working with my hands. What attracted me to the course with John Lloyd was the individuality expressed in the students' work as well as the fine craftsmanship displayed. The course allowed me a lot of creative freedom supported by thorough understanding of the fundamentals and expert guidance.

'For my final project of the course I wanted to challenge myself; to do this I angled the sides and front of a fairly simple cabinet by five degrees. The outside is a practice in flowing grain, across drawer fronts and around the mitres of the carcass. The inside houses traditionally fitted drawers with compound angle dovetail joints.

'The bookcase, commissioned for a beautiful Victorian house needed to feel grand. To achieve this I looked to classical architecture for inspiration and proportions. Using European walnut gives the piece a very warm feel. I used European walnut burr for the pillars, these are polished to a very high sheen to provide a textural contrast. The herringbone back is made from hand-cut bog oak veneer and provides a contemporary twist to quite a traditional piece.

For more about Peter Hunter, see: www.hunter-furniture.com



European walnut and bog oak veneer bookcase by Peter Hunter



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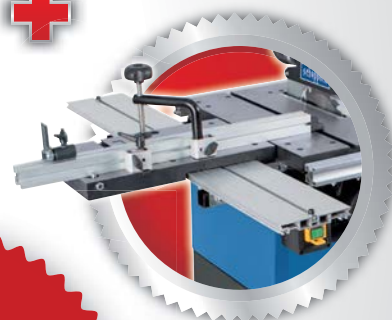


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Blog extract

Pegs and 'Tails

Jack Plane's mixture of wit, wisdom and first-hand experience will leave you in no doubt as to why your workshop is not complete without the miracle of nature that is animal glue

There's certainly no shortage of online content for woodworkers out there but how do you know if the tips and advice you follow is worth the pixels it's projected on? To help you navigate your way towards good solid reliable information *F&C* are teaming up with the best bloggers we can find to build a list of sites you can trust. This month we're featuring one of the most entertaining and informative

writers we've come across. Jack Plane is the author of *Pegs and 'Tails*; a regular forensic discourse about the development and construction of British and Irish furniture during The Long Eighteenth-Century (1688 to 1820 – the pegs and 'tails eras). Jack's sharp eye for detail is matched by his even sharper wit, making a potentially dry subject an absolute joy to discover. In this extract, Jack considers the virtues of animal glue.

Glue, not adhesive

Cabinetmaker's glue, also known variously as bone glue, hide glue, pearl glue, Scotch glue and most appropriately, animal glue, is all just collagen, rendered down from leftover bits of cattle and retired thoroughbreds. My preferred nomenclature is 'horse sauce'.

Horse sauce is the stuff of boys' comics – it's brown, viscid, highly tenacious and will stick your archenemy to the spot as required.

There is a plethora of sites on the internet covering the scientific particulars of animal glue and extolling its virtues, so I won't venture too far down those paths, however I feel some discourse is warranted here.

It's not the fact animal glue has held the few discovered pieces of ancient Egyptian furniture together for millennia that I champion the use of the stuff, rather it's the convenience (when set up for frequent use), its two-stage setting and its reversibility that I applaud. Plus I've grown to relish its sweet smell upon opening the workshop door of a morning.

Horse sauce can do everything modern woodworking adhesives (they're not glue – glue is sticky!) cannot achieve. Animal glue can be used to rub-joint carcass and drawer bottom boards together, corner blocks into long case clock cases and drawer stops into chests of drawers. Animal glue sticks on contact, can still be repositioned if desired and won't creep when dry. There are few, if any, modern wood adhesives as strong as animal glue, yet it's fully reversible with plain water and a little heat. My use of horse sauce will therefore spare me the hatred and expletives from the mouths of future generations of antique furniture restorers.

Modern wood adhesives have a shelf life. Horse sauce (in its dry form) will keep indefinitely. Even after activation with water, surplus glue can be kept refrigerated or frozen for... well, at least as long as I've owned a fridge!

If you're still not sold on horse sauce, or even tempted to investigate it, then let me entice you further: horse sauce may be modified (using common household and horticultural substances) to be waterproof, infinitely more elastic (to create coriaceous canvas for making tambour doors, etc.) and slower setting (for those jobs that normally turn the air blue, like gluing up a Windsor chair in one go – glue waits for no man). Even the simple addition of a little extra water will slow down the set time. It's that flexible.

If, for some reason, you don't employ an unpromising eight-year-old boy to come in to work an hour ahead of you to prepare the day's glue in a cast-iron pot on top of the workshop stove, then there are other, significantly more convenient ways in which to prepare animal glue.

During my career, I've had a selection of electric glue pots; some better than others. One brand (the one that seems to be currently available from most woodworker's shops) lasted about a month – the spun aluminium inner pot developed numerous pinholes.

The glue pot I now use in my woodworking renaissance is nothing more than a perfect little thermostatically controlled wax pot,



'Horse sauce' has always been a fitting subject for humour

apparently used for bikini waxing – though why they don't make the bikinis from waterproof fabric to begin with, I just don't know.

There's one final benefit of horse sauce I've found invaluable but has gone unmentioned elsewhere. When gluing up, say, a large set of dining chairs, rather than wasting time and effort cleaning up the glue squeeze-out from around all the joints, set the chairs on the floor and let Workshop Dog lick all the joints

clean. The savings in expensive dog food can be considerable!

The efficacy of animal glue

'Hot hide glue is all right, but it's water soluble and won't last.' I have had it up to Pussy's bow with the raft of misinformation regarding hide glue on internet fora and in newsletters, etc. from people with little to no experience of it, who perpetuate

PHOTOGRAPH BY JACQUES MORGAN/SHUTTERSTOCK



The ancient Egyptians used animal glue in their furniture, such as this casket found in Tutankhamun's tomb

myths and untruths about the stuff.

Why should you listen to yet another blogger and his rhetoric? Well of course you don't have to; though I believe my qualification (virtual daily use of animal glue for 40 years) affords me at least some credence.

Animal glue, whether asinine, bovine, caprine, equine (hence horse sauce – my preferred appellation), leporid, or cervine, ovine, piscine, porcine – bone, hide or skin, is indeed soluble in water and that is one of its greatest assets. Dry animal glue is first heated in sufficient water to make it brushable, however – and this is the noteworthy part – when the majority of water has evaporated from the glue (the glue is set and 'dry'), it can, with a modicum of effort, be dehydrated/rehydrated, permitting the repair or repositioning of components.

I think when some people say 'animal glue is water soluble' they mean it's not waterproof. That is true of unmodified animal glue (it can easily be made waterproof), but its most widely used competitor, polyvinyl

acetate adhesive (PVA or 'white glue'), is not waterproof either.

As any furniture restorer can attest, veneers or furniture glued with animal glue can be disassembled quite easily with steam/hot water and mechanical assistance, but even tepid water alone takes a considerable time to soften the glue to the point that the bond is compromised.

Although animal glue was known to the ancients, virtually every piece of furniture made since the mid-1600s was stuck together with animal glue and thousands of antiques dealers and their customers around the globe are quite happy with the results thank you very much!

Humid weather will not cause a room full of antique furniture to suddenly (or slowly for that matter) slump into a pile on the floor. Even roughly constructed 19th-century 'country pine' furniture survived the hot caustic stripping tanks of the 1970s intact (all right, a few drawers might not have survived the nightmare solution, but it was never fine cabinetwork to begin with).

PVA vs animal glue

I began a simple experiment in April 2012: I took a 610 x 355mm piece of 2mm-thick mahogany veneer and glued it onto a 19mm-thick pine board (actually two boards rubbed together). I applied unadulterated animal glue to one half of the veneer/board and PVA to the other and then hammered the animal glue side and crimped the PVA side.

The unsealed veneered board lay outdoors on top of a stack of timber for 12 months, during which time it was baked in 42°C sunlight, drenched with rain and crapped on – not by me I might add! The PVA more or less gave up after a few months, but the animal glue held up quite well – at least it has largely kept the veneer in contact with the board.

Recently, following 12 hours of steady rain (after which I observed pooled water on the animal glue side), I checked the trial board and the exposed animal glue at the edges of the veneer was tumescent, but even pushing with some force, I couldn't insert a pallet knife more than 5mm between the veneer and the board.

And while my tongue's warm... I would like to clarify one point: hides and skins are initially boiled to release collagen, but at no time should animal glue be boiled or the protein chains that afford the glue its strength will break down. To prevent rapid degradation and to ensure long life, the working temperature of animal glue should never exceed 60°C.

'...virtually every piece of furniture made since the mid-1600s was stuck together with animal glue and thousands of antiques dealers and their customers around the globe are quite happy with the results thank you very much!'

The dismantling and reassembly of glued joints

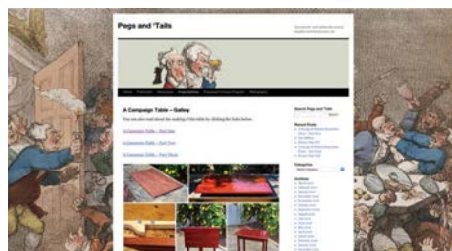
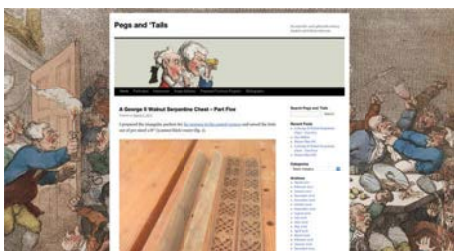
Animal glue is mildly hydrophilic, which alone enables it to maintain its adhesive property. Glue that has been utterly deprived of humidity will become brittle and subsequently fail. Luckily for those who restore glued articles, this same action can be replicated chemically.

Alcohols are hydrophilic in varying degrees (methanol has the highest affinity for water, though ethanol rates a very satisfactory second) and restorers and furniture-makers normally have a supply of 'dry' ethanol on hand for making spirit varnishes.

Ethanol dehydration can be employed to reduce animal glue to a crystalline state, breaking its bond and thereby permitting

dismantling of a loose or damaged joint. Ethanol is injected into the joint with the aid of a syringe whereupon the glue progressively relinquishes its moisture – often accompanied by a crackling sound – as the alcohol wicks its way in. The addition of a little tension and an audible crack will let you know the joint has been broken.

Further pulling, wiggling and possibly tapping of the joint is usually required to persuade the now granulated glue to crumble away. Larger chunks of crystalline glue can either be chipped or scraped from the open joint; however it's not critical, as any residual glue will be rejuvenated with the application of fresh hot glue when the joint is reassembled.



Formerly from the UK, Jack Plane is a retired antiques dealer and self-taught woodworker, now living in Australia. To read more of his blog, visit: pegsandtails.wordpress.com



Weathered test board; animal glue on the left and PVA on the right



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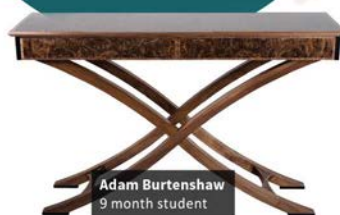


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Stack marking – part 2

Robert Paul Gurney continues his series on marking and measuring techniques

If you could take your marking and measuring method directly to your hand and machine tools, you could reduce marking in all but a notional way. There is a way of doing this that is also exceptionally accurate and it involves using the stack marking method discussed in *F&C 254*. Stack marking can work directly with the setting of your tools just as it works with your marking knife and gauges. With finely tuned tools, you can produce exceptionally accurate cuts.

Mitre saw

The mitre saw's main operation is cutting boards to length, which means setting stops. Setting accurate stops makes this machine a precise cutting tool. The 'stack' helps make this possible.

The 'stack' could be used to set stops between the blade tooth and stop but you risk indexing the 'stack' to the wrong part of the tooth or, worse, chipping a tooth. The better way is to make a test cut. The test is done with the stop set further away from the blade than your intended cut. The workpiece should lie face down with its face edge against the fence. Make sure the 'face end' sits against the stop.

Once you make your test cut you can set a temporary stop against the freshly cut end. This stop becomes a reference point against which you will place the 'stack' and then reset the original stop. With this stop set you can remove the temporary stop and the 'stack' and make your cut.

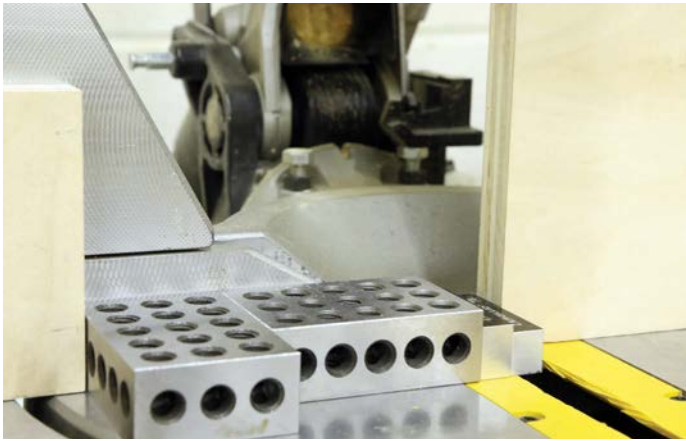
If you start by cutting your longest pieces first you can place a partial 'stack' against the

stop for the next shortest piece and repeat this for ensuing shorter cuts. If your first board was cut to 350mm and you want to cut a board to 280mm, you would place a 70mm 'stack' against the stop and make your next cut.

Clamp your work in as many ways as you can, for safety and to avoid any movement during cuts. The actions you take for precise cuts lead to better safety.



Original stop to the left of the blade and temporary stop set to the right of blade



Resetting original stop with the 'stack'



Partial 'stack' for shorter cuts

Tablesaw

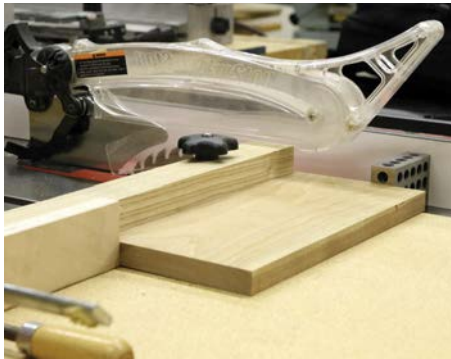
In the same way that the 'stack' is used with the mitre saw, it can also be used for crosscuts on the tablesaw – with one difference. Since a crosscut sledge should, for safety's sake, not span the blade, it isn't possible to set a temporary stop as you did with the mitre saw.

The solution is to place a machinist's block against the freshly cut end and slide the fence against this block. You now have a reference surface against which you can set your 'stack' and reset your original stop. As with the mitre saw, you can add a partial 'stack' to cut shorter pieces.

Rip cuts on the tablesaw can be a hit-or-miss process:

measurements using a tape measure or the scale on the fence rails are questionable. To use the 'stack' to make accurate rip cuts with the tablesaw you will need another tool: a mitre slot calliper holder. These aren't very expensive, in fact you could even make your own.

To do this, start by ripping a board wider than you want. Place the end of the dial calliper (in the holder) against the freshly cut edge and lock it. This is the reference against which you will place the 'stack' and thereby set your fence. In this case, you can rip your boards to width in any order.



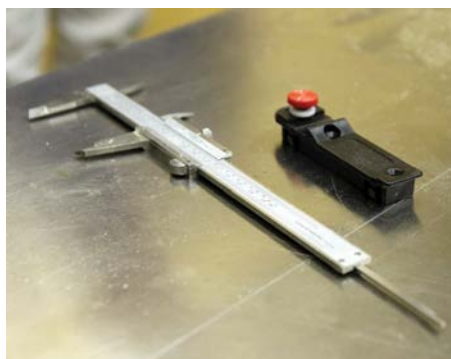
Machinist's block used as temporary stop



Final stop position with 'stack'



Partial 'stack' being used on the tablesaw



Mitre slot calliper holder



Indexing the test cut



Using the 'stack' to set the rip fence

Pillar drill

Drilling holes at precise locations is not easy – even with a pillar drill – and drilling holes at multiple locations is far more difficult. When you also have to drill, countersink and tap at each location, the difficulty is manifold. A simple, inexpensive addition to your tool kit – plus the 'stack' – can solve all these problems.

That item is a precision drill rod. A precision drill rod (unlike a plain rod) is ground to a precise diameter. That diameter

should be 10mm, as you'll find out soon. It should be around 150mm long.

When you are drilling at multiple locations, the sequence of setting up your pillar drill becomes very important. It starts by setting the table at the approximate location. Having to change the table for every operation is a large part of the reason for drilling inaccuracy but that won't be a problem, as you'll see.

After setting the table approximately, set

your fence position and your stop. Once you have the fence and stops set it is time to set the final depth of the hole. To set the fence and stop in the correct position, place the drill rod in the chuck so it's just above the table. Locate the fence and the stop by placing the 'stack' between them and the drill rod. This is the distance from the edge of your workpiece and the centre of the drilled hole.

The reason for the drill rod being 10mm is because it's easier to subtract 5mm – half the drill rod diameter – from your intended dimension. If your hole position is closer than 5mm from the edge there is a trick you can use. Place a machinist's block on the opposite side of the drill rod and calculate your 'stack' from there. If you wanted to drill a hole 3mm from the edge of a board, then you would place a 7mm 'stack' against the machinists block and set your fence against that.

Like the saws you can set your stops and fence to their furthest position and set a partial 'stack' for subsequent locations. This works well for the aforementioned multiple

hole locations. Plan things so your face edge, side and end are against the table, fence and stop.

If your stops have to be set outside the realm of your drill table, it's a simple matter of using a longer fence. A piece of wood clamped to the underside of the fence can temporarily support the 'stack' and the workpiece.

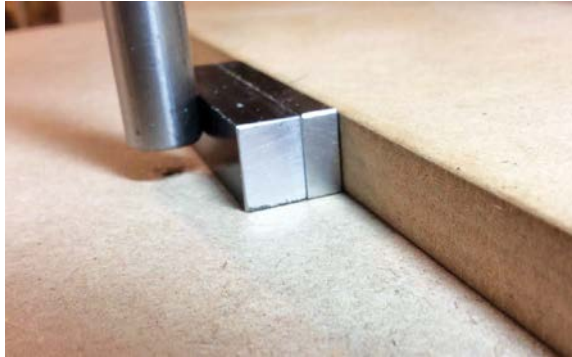
Setting the final drill bit depth is the final step and the 'stack' can help with this. After removing the drill rod, loosely chuck in your drill bit and place your 'stack' under it then tighten the chuck. If your workpiece is 20mm thick and you want a 15mm-deep hole then place a 5mm 'stack' under the drill bit.

Re-setting your countersink after each operation can be very troublesome. Any minuscule change in its depth setting and the countersink isn't concentric with the hole. By using the 'stack' to take a measurement under the countersink you can accurately repeat this setting each time for subsequent countersinks.

When I want to drill a through-hole, I don't drill all the way through, it saves the drill table and prevents tearout. This means using a 1/1000in (or metric approximation) brass shim under the drill bit spurs. After you've done all your drilling, it's a simple matter of removing the tissue-thin remainder with the drill bit held in your hand.



10mm precision drill rod



Using the 'stack' to set the pillar drill fence



Using the 'stack' to set the stops



Dealing with holes near the edge



Setting the hole depth with a 'stack'



Setting the hole depth for through-holes

Hand tools

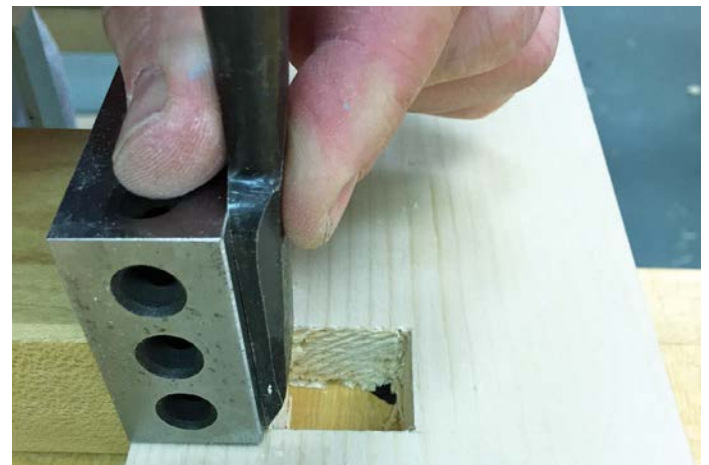
Hand tools can be tentative tools. We take a shaving off here and a shaving off there, as we cautiously approach our knifed line. It can be a very satisfying process or it can be a little time-consuming and error-prone. The 'stack' can be used to pare these shoulders in a very direct manner. The trick is to use your machinist's block in the 'stack'. Make it the last in the line – the one against the shoulder.



Precision paring along the workpiece

You can now pare against the block to get an accurate and perpendicular shoulder. It may not always be possible to clamp this block, but it will help if you can find a way.

In the next article I would like to discuss using the 'stack' with one of the most powerful joinery tools, the router and also some of your joinery tools. *F&C*



Precision paring along the grain

hand tools and wood chisels specialist

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Compound angled dovetail box

David Barron uses two simple jigs to put a whole new slant on your dovetailing

Following on from my last box project in *F&C 256*, which featured angled ends, I've decided to tackle a box with four sloping sides and compound dovetails. The actual saw cuts themselves aren't that much harder to execute than normal dovetails but it's the preparation and layout that needs close attention. As with the last project, making both horizontal and vertical support boards is recommended; this time I chose to go with a 9° angle. When considering the angles and dimensions, it's worth remembering that compound angles reduce the area of the base on all four sides, so it can end up being much smaller than you may think. Also the visual effect makes the angles appear greater than they actually are, so choosing a smaller angle is a good idea, somewhere between 6 and 9° is about right.

With this box I've produced a tapered, curved lid with sides to match, and a simple pivot hinge. The woods chosen are bird's eye maple (*Acer saccharum*) for the sides and Brazilian mahogany (*Swietenia macrophylla*) for the ends. The lid is rippled sycamore (*Acer pseudoplatanus*) with some colour running through it. Often rejected by instrument makers, this wood is much cheaper than the pure white variety and in my view far more interesting.

The sides are left taller to be shaped later and the front and back are different heights to accommodate the tapering lid. This variation in heights is not a problem as all the measuring and marking will be done from the bottom of all four sides. Rather than have a half pin top and bottom, as is usual, I decided to have full pins. This meant they could all line up and match, although there are five pins at the front and only four at the shorter back.





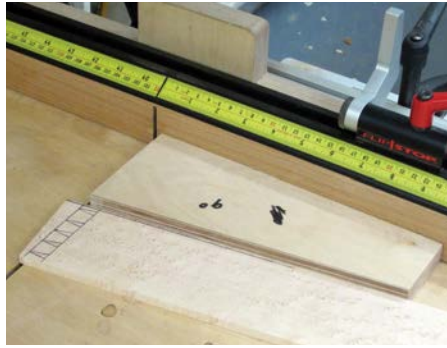
To successfully complete all the joinery for this project you will need to make a pair of matching 9° supports, a flat one for trimming the ends of the boards and a wedged-shaped one to help create the top and bottom edges



Instead of cutting all the angles at the beginning, I find it much easier to layout when the tail boards are cut to length but left with square edges and ends. After the angle and baseline have been marked in pen, a conventional dovetail square can be used to mark out the tails. Note the allowance at the bottom for the material that will be lost when the 9° angle is planed

Before assembly

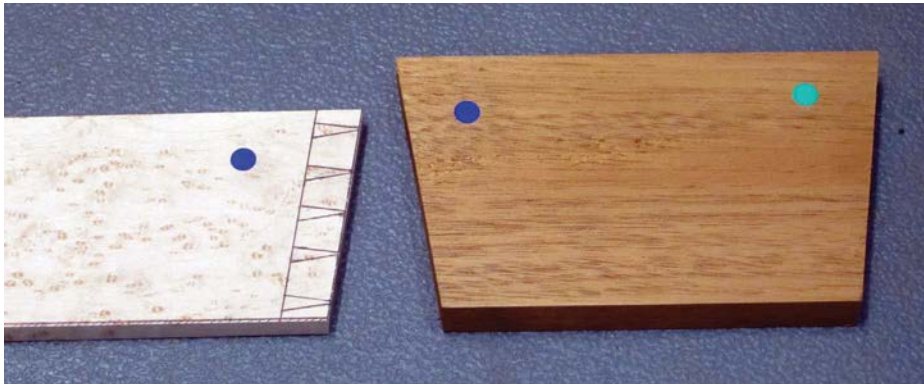
The holes for the pivot pins in the side pieces were made on the drill press using the vertical support board to keep them horizontal. The holes need accurate marking so that they line up and the lid pivots freely and evenly. The finished lid thickness at the back is 8mm so the holes were marked 4mm in from the rear and 4.5mm up from the top of the back. The extra 0.5mm provides a small clearance so that the lid doesn't bind in the closed position. I find the Inca T square with 0.25mm increment holes very useful for the marking. I used a (3mm) lip and spur bit to mark the intersection by hand, before



The sides of all pieces are cut to the line on the tablesaw using the horizontal support board



The top and bottom of each piece are angled at 9° (using the vertical support) on the shooting board. Check and double check here as it's easy to plane the angle the wrong way!



With the angles cut it's a good idea to mark the components with coloured dots that correspond with their mating part. Be consistent with your labelling and apply the dots to the same face for each piece

using the same bit in the drill press. This gives the best chance of the bit centring.

Before gluing up I like to enter all the dovetails a small amount just to be sure all four corners are going to engage; don't forget to include the base! Then glue can be added and the dovetails can be knocked home.

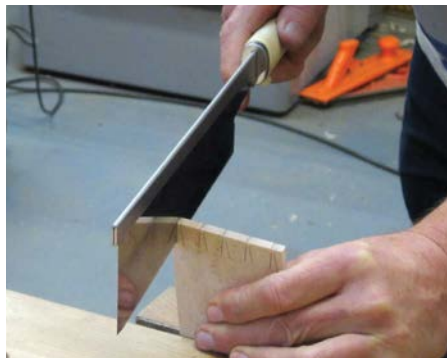
The lid needs to be tapered by 9° on all four sides and this is done on the shooting board with the vertical support placed beneath the workpiece. I leave the lid over width and plane the two sides until a tight, even fit is achieved. The back is then planed flush leaving the front edge until the hinges have been installed.

Installing the pivot hinge

Before clamping up the lid I slide a strip of veneer along the back edge, which represents the 0.5mm clearance that was allowed for in the marking. With the back of the lid flush with the rear edge and the lid held firmly in place the hole in the lid can be made using the hole in the side as a guide. Insert an overlength pin in the first hole for registration before drilling the hole on the other side.

A small amount of rounding on the bottom back edge of the lid should allow it to pivot freely. Material is removed carefully from the back edge until the lid tilts 9° past 90 and lines up with the back edge in the open position.

The lid is removed for the curved shaping to be done. Start with the concave inside and finish the topside after, that way the lid supports itself for both operations. I used a curved bottom plane for the inside and a flat one for the outside curve, finishing through the grits with sandpaper until a smooth, fine, tear out free finish is achieved.



For a good fit the tails must be cut exactly to the 9° marked on the end grain. In order to concentrate on this I like to angle the board so that the actual cut follows the line down in a vertical plane. Tilt the board one way for one side of the tails and then tilt it the other way to create vertical for the other side

Finishing touches

Using the over-long pins the lid can be fine-tuned for an even fit across the front edge and then the curve on the sides can be marked. I marked it so that the sides stood about 1mm higher than the lid. This was sanded down to the line on the disc sander, using the vertical support board to hold the box at the right angle, changing to 240 grit for the final fitting. I added an extra base to create a small shadow line below the sides while adding weight to counteract the lid. Everything was sanded to 320 grit and finished with four rubbed coats of quick drying melamine lacquer. An hour later it was cut back with 600 grit Abralon pads to a smooth matt sheen.

With the messy stuff done it was time to line the box. I chose bottle green pig suede which is my default colour as it seems to



The end grain saw cuts are marked at 9° parallel with the bevelled edges. Setting a bevel gauge using the vertical support board is the easiest way to translate these lines. The base lines are scribed in the normal way using a cutting gauge or wheel marker



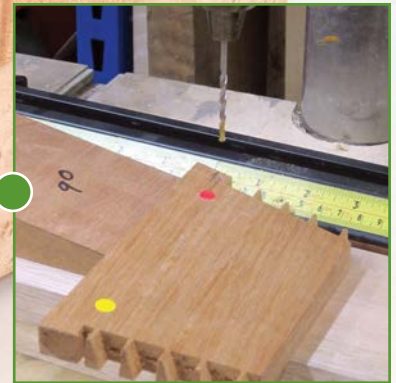
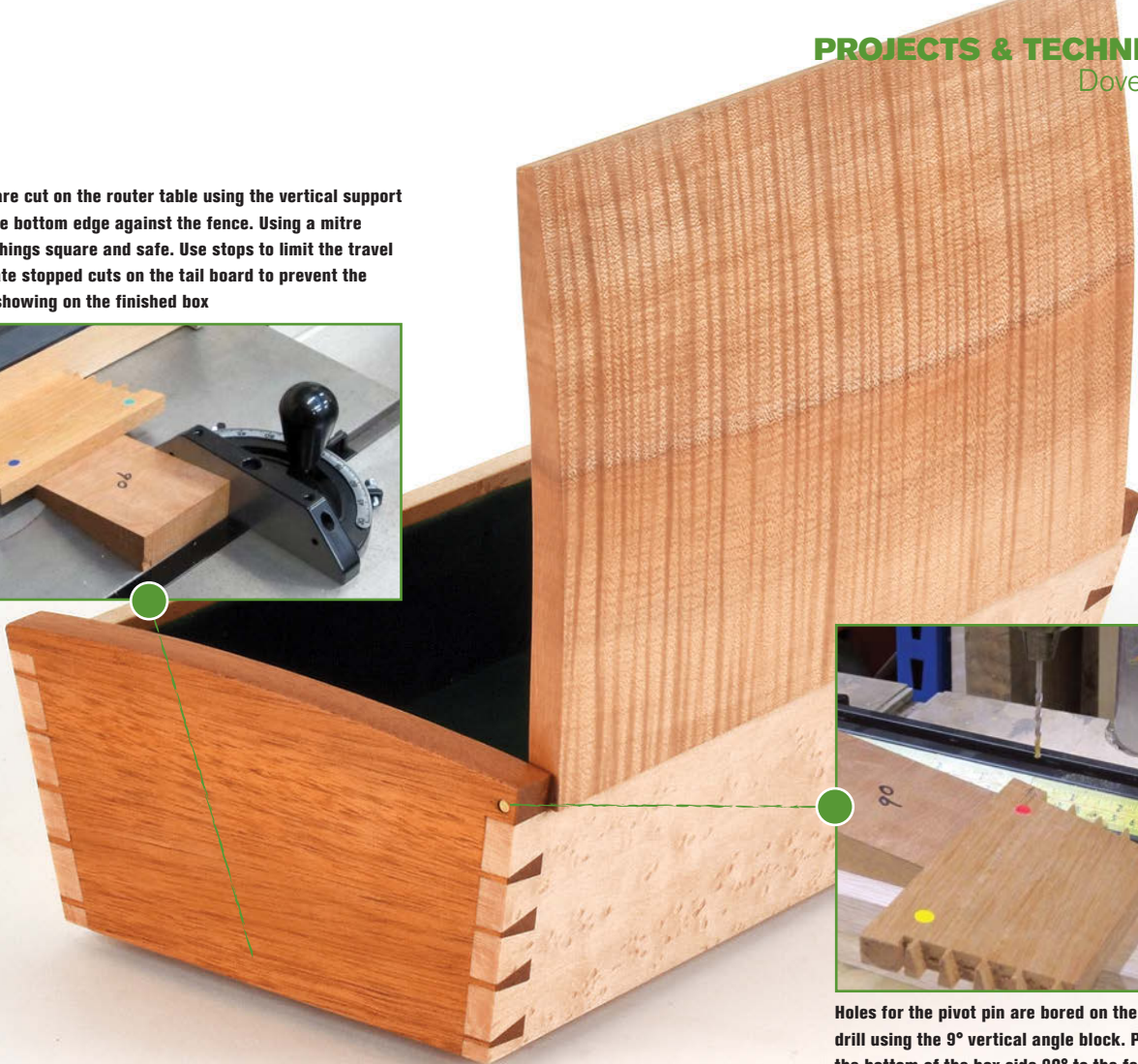
With the tails all cut and cleaned out it's time to mark the pins. Although it's a compound angle, the two boards are actually at right angles to each other so the setup in the vice is quite straightforward. The only thing to take care with, is aligning the bottom two edges exactly, so that when the grooves for the bottom are cut (using the same edge), they all line up

go with everything. The base was padded using 5mm-thick foam, cut on the bandsaw and stuck onto card. The angled sides were folded over thin 200 gsm card and stuck down with double-sided tape.

The last job was to cut the pivot pins to length so they could be slightly recessed in the sides. The ends that showed were sanded using 240 grit on the disc sander for a nice sheen. I added a dab of superglue into the holes in the lid which retain the pins leaving them to pivot freely in the sides.

All the angles and curves meant this project took a lot longer than a normal square-sided box and it needed my full attention throughout. The result is pleasing and I feel it was worth the extra effort.

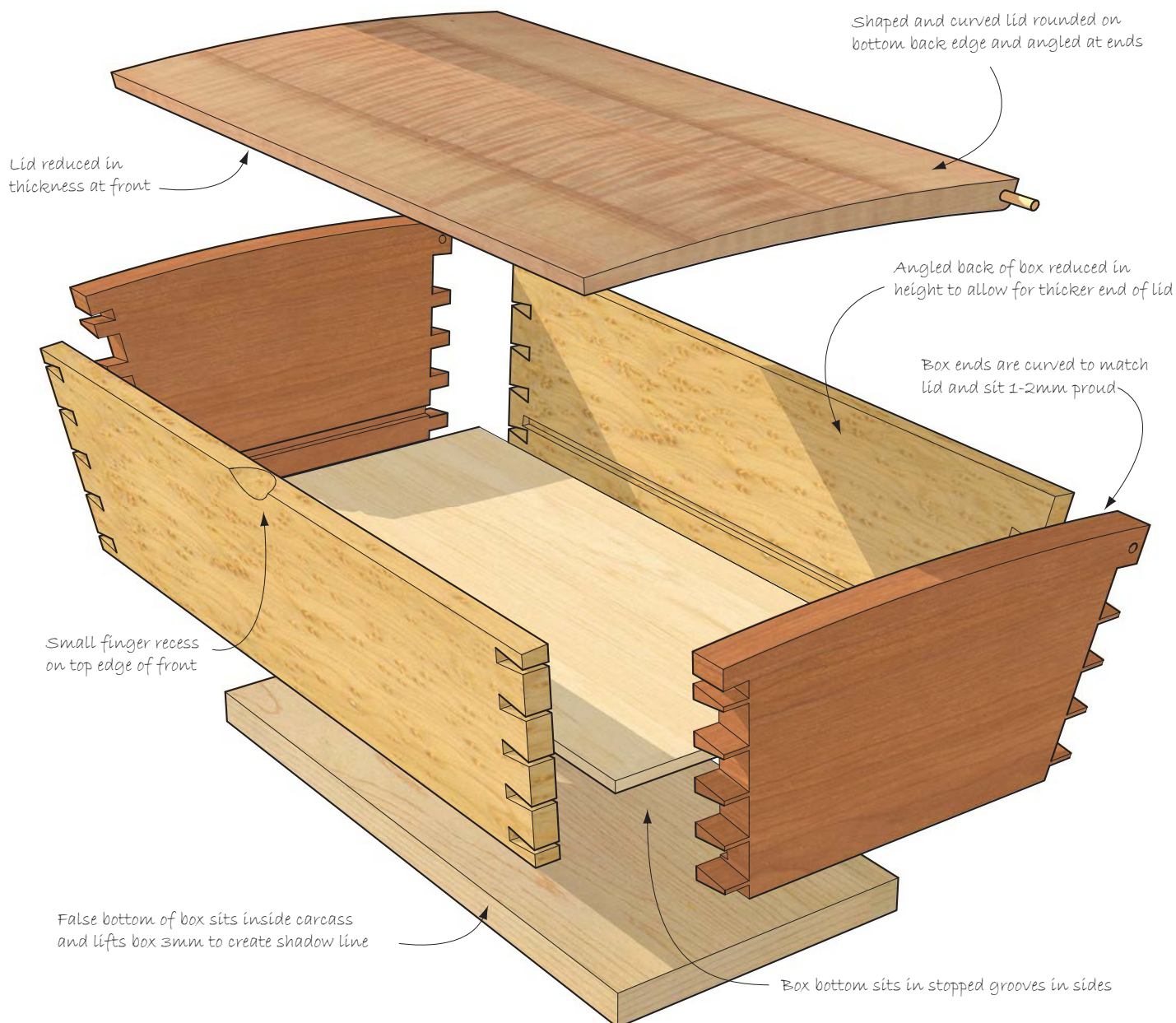
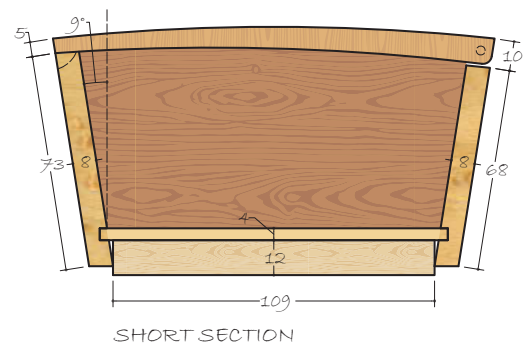
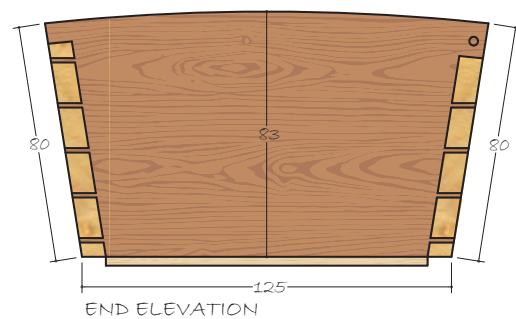
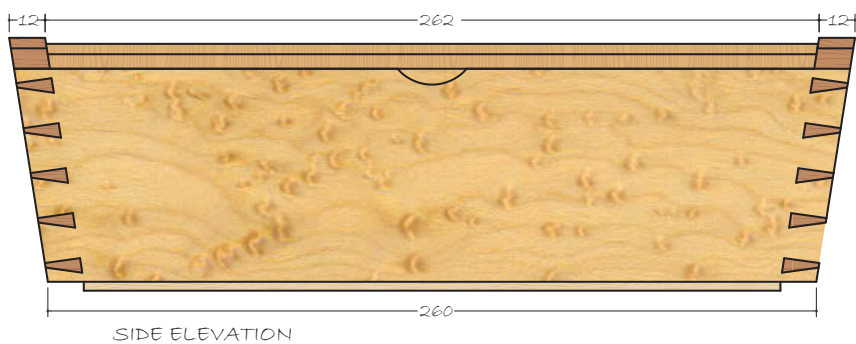
The grooves are cut on the router table using the vertical support board with the bottom edge against the fence. Using a mitre guide keeps things square and safe. Use stops to limit the travel and thus create stopped cuts on the tail board to prevent the groove from showing on the finished box



Holes for the pivot pin are bored on the pillar drill using the 9° vertical angle block. Position the bottom of the box side 90° to the fence



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DESERT DREAMS

How creating a special box convinced David Waite to follow his dream and turn professional

How many of you dream about becoming a professional furniture maker, yet play it safe and stick to being a bench weekend-warrior only? I know I certainly did! The more hours I spent behind my computer working for a multinational corporation, the faster the years slipped away and I got no closer to achieving my aspirations. All this changed in 2016, after an inspirational course at a leading UK furniture school in the Lake District, where I designed and made a beautiful yew (*Taxus baccata*) and ripple sycamore (*Acer pseudoplatanus*) box.

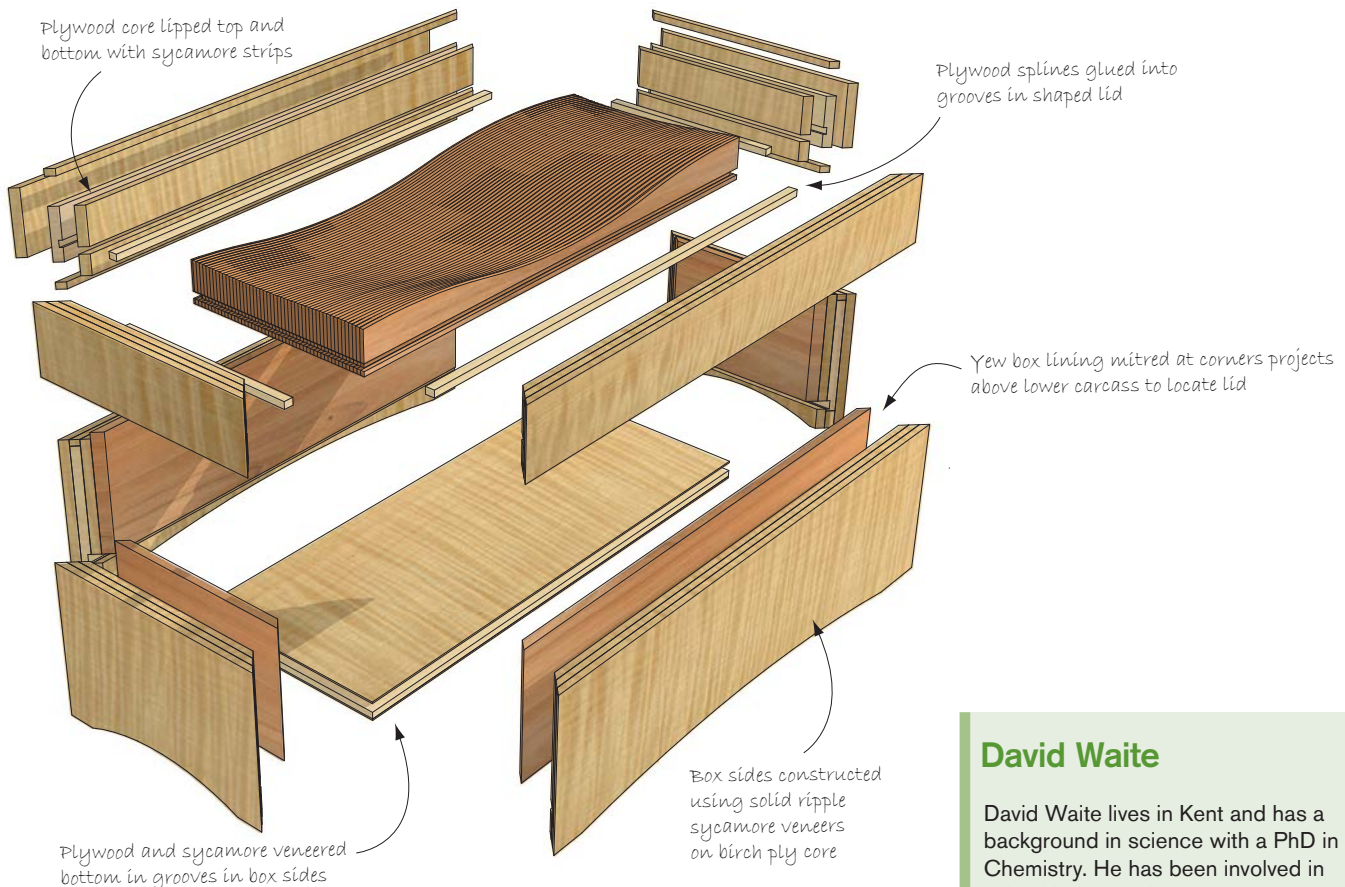
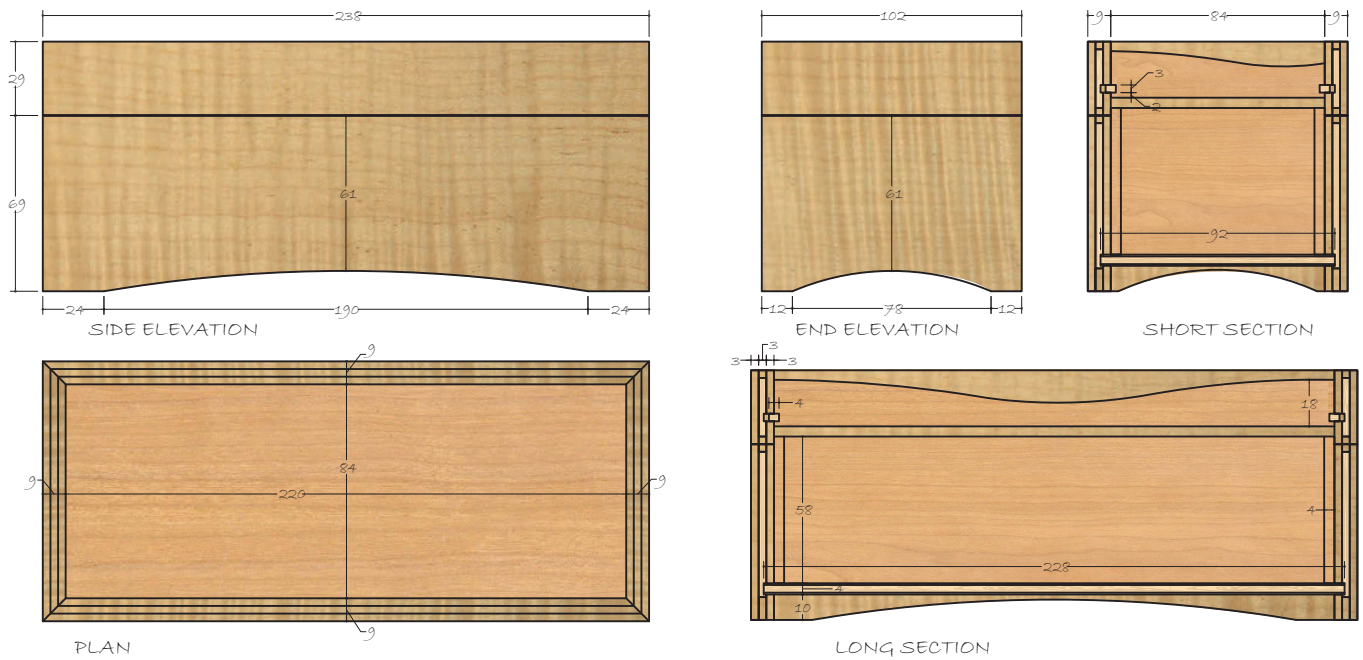
I have always had a passion for woodwork; it was one of my favourite subjects at school and it's something I have continued to pursue as a hobby throughout my adult life. Over the years, the numerous pieces of furniture delivered to friends and family have always been met with great appreciation and

complimentary words to the effect of 'wow... you should be doing this professionally!' While flattered, in the early days I doubted that I had the skills and ability to make the grade as a professional.

This started to change as I signed up for several different short courses at leading furniture schools in the south of England. The positive feedback I received at these schools made me realise that my practical knowledge and skill level were already close to semi-professional standard. However, the turning point came at Christmas 2016, when I decided to postpone the dreaded 'return to work' blues, instead travelling north to the Lake District to spend two weeks at Waters & Acland Furniture School under the expert mentorship of their head designer Will Acland and their master craftsman and head tutor, Graham Loveridge. After demonstrating that my sharpening and hand skills were up

to Graham's exceptionally high standards, he and Will put their heads together and challenged me to come up with an original box design that I could make in the five days that I had remaining at the school. I was thrust a battered cardboard box full of bandsawn yew veneer off cuts and a few short pieces of solid sycamore that were left over from a previous commission and told: 'see what you can do with these!'

As I looked through the remnants, what struck me immediately was the myriad of colours found in the yew ranging from deep violet to fiery orange and red. I quickly envisaged sticking the yew strips together on end, to show off the vivid colour variation across the stack of veneers to form a box lid. I thought a three-dimensional element could be added to the lid by shaping wave patterns into the alternative veneers strips. Things really became exciting when a test bundle



of the undulating strips was then skewed at an angle, resulting in an amazing smooth and continuously changing undulation effect.

The sculpted yew lid was offset by stunning, highly figured ripple sycamore, cut into veneers and used on the box sides. The sides were mitred at the corners to ensure clean lines that did not detract attention from the wood colours and figure. The whole effect reminded me of sand dunes in the desert, and the amazing ripples and flowing curves that can be found when mountains of sand are shaped and sculpted by the wind.

Making the Dune Box proved to be a real catalyst for change within me. The confidence I gained from being able to create my own unique design and rapidly execute it to the very high standards demanded by a professional workshop finally persuaded me to take the plunge. I returned only briefly to my corporate job to work my notice period and I am now enrolled on a one-year designer-maker course, with the aim of generating additional pieces for my portfolio ahead of launching my own business in 2017.

David Waite

David Waite lives in Kent and has a background in science with a PhD in Chemistry. He has been involved in scientific research for over 20 years prior to enrolling on a one-year designer/maker course at Waters and Acland (www.watersandacland.co.uk).

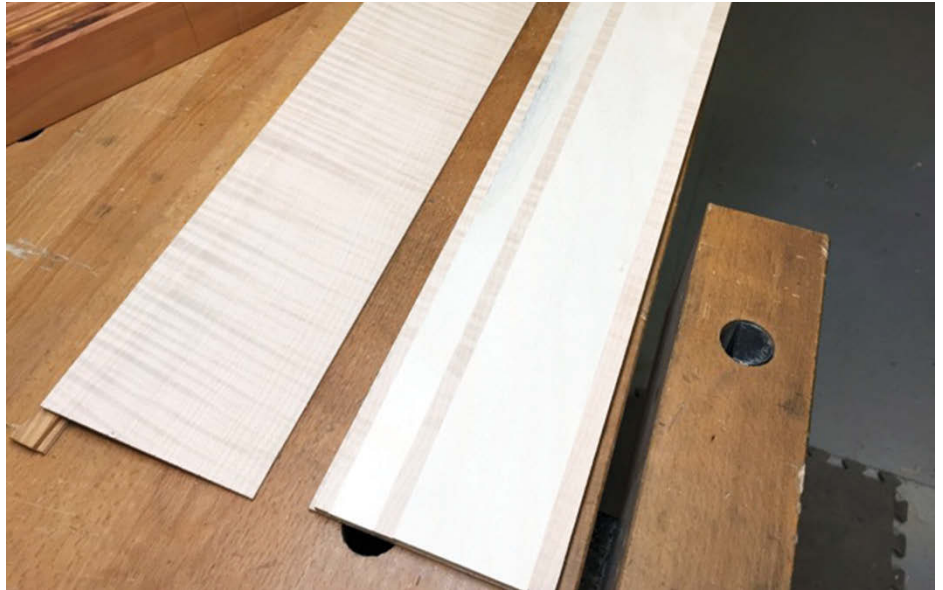
Over the coming months he will be writing a series of short articles for *F&C* capturing his observations and experiences while on his journey to try and become a professional and setting up his own fine furniture making business.

You can follow David's day-to-day activities via his Instagram account: **@fourlimesdesign**

Box construction

The solid ripple sycamore offcut was bandsawn into veneers and edge lippings and then passed through a wide belt sander. Two lengths of birch (*Betula* spp.) ply were then lipped on one edge only with a third piece of wider sycamore joining the two unlipped edges together to form a single length that was used for all the side components.

Once glued in place, the lippings were planed flush with the core. The bandsawn veneers were then stuck to the lipped ply core and left in a bag press overnight before again being planed flush to the top and bottom lippings. Two grooves were then machined into the side stock material to receive the box base and lid using a spindle moulder. The sides were dimensioned to length and mitred using a tablesaw. The box base was made from ply and more of the sycamore veneer.



Ripple sycamore veneer ready to be stuck to ply core glued with sycamore lipping using a bag press

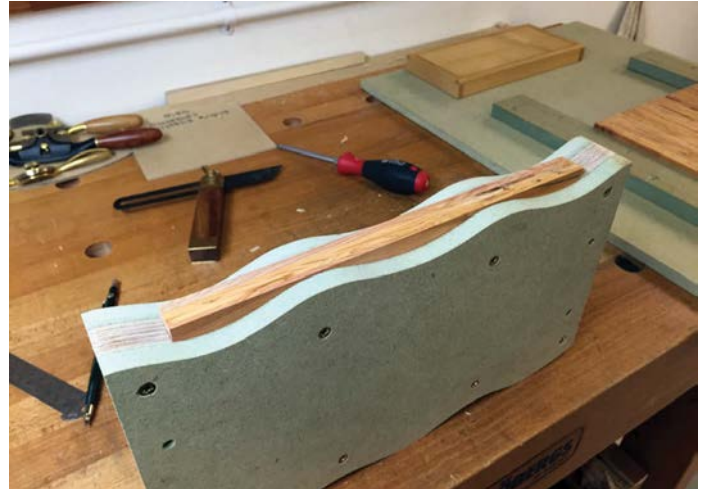
Lid construction

To create the sculpted lid, a jig was made to allow bundles of veneers to be held and shaped at the same time. Firstly, a wave-shaped master template was created in ply and then transferred to two pieces of MDF. These were then screwed together with spacers sandwiched between them to create a jig holder for five stacked veneers. Bundles of veneers were then shaped in the jig

using a bearing guided straight cutter in a hand-held router. Once cut, the veneers were covered in cascamite glue, arranged on end and skewed to achieve the desired continuous three-dimensional undulations before being cramped. The stuck lid was planed and scraped clean and then dimensioned to final size before a groove was cut into each of its edges.



The MDF jig assembled



The jig holding a bundle of five veneers



Routed yew strips



The box lid glued and dimensioned



The box and yew slips ready to be assembled

Box assembly

Ply splines were first glued into the edges of the yew lid. The box base and lid were then glued into the grooves cut into the top and bottom edges of the box sides and the box mitres glued and cramped to ensure everything was kept square and tight.

Once glued, the box lid was carefully separated from the body using a bandsaw cutting carefully into the middle of the solid sycamore that has been sandwiched between the two ply cores. All sawn edges were carefully planed square and flat. Internal box slips were bandsawn from an additional piece of yew, planed to final thickness and then carefully fitted to the box's internal dimensions using a freshly sharpened plane and mitred shooting board for final adjustments.

Finishing

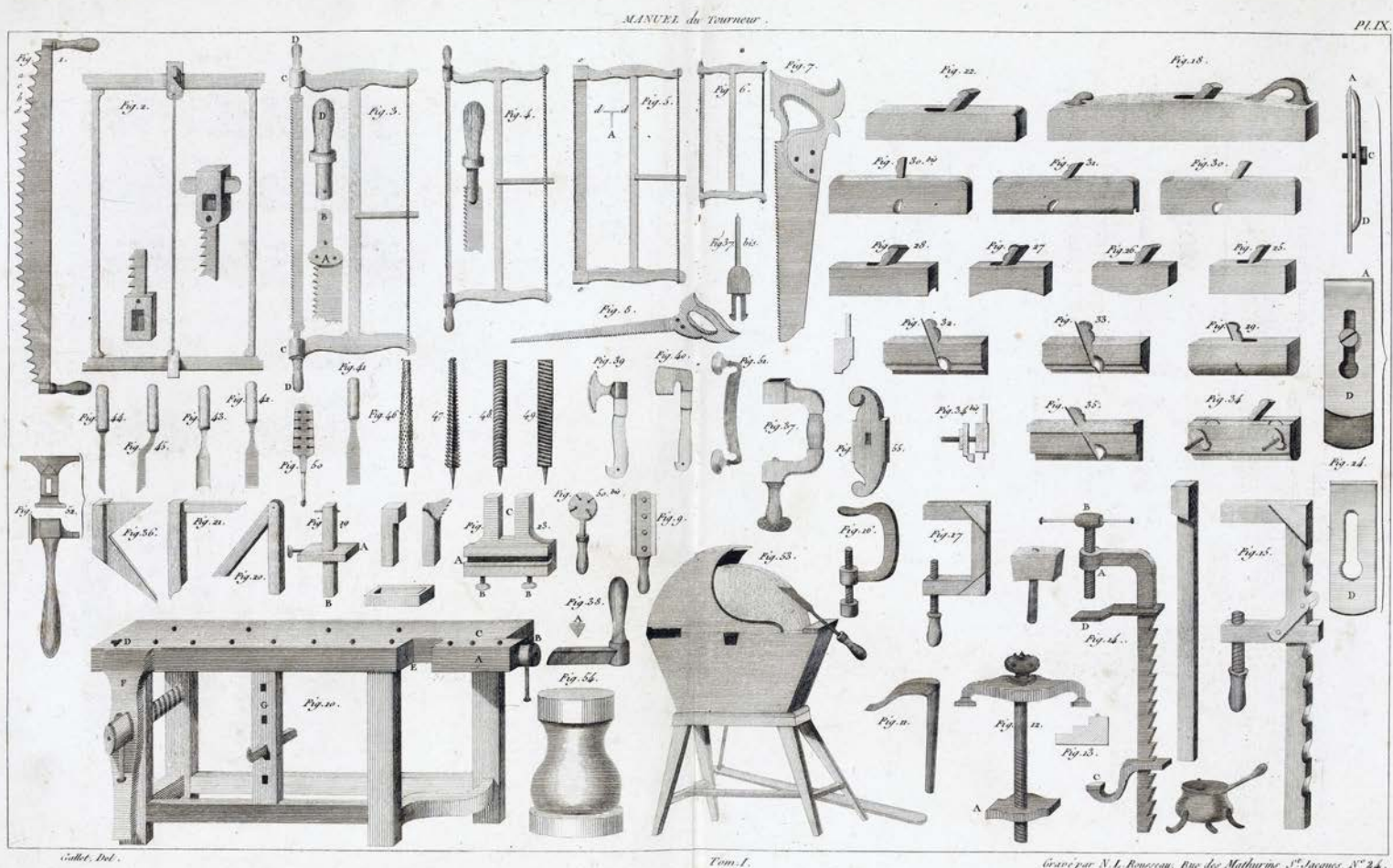
The box's external faces were carefully sanded to a 320 grit finish and then three coats of Danish oil were applied to bring out the colouration of the yew lid and the ripple in the sycamore sides. The internal surfaces of the box were sealed with Renaissance Wax and buffed to a glass finish.



The finished box

VINTAGE TOOLS: gathering ideas for a collection

In the first of a new series, John Adamson looks at the long history of tool collecting



Double page (plate IX to vol. I) from Hamelin Bergeron's *Manuel du tourneur*, Paris, second edition, 1816. Bergeron was a dealer 'A la flotte anglaise' [At the sign of the English fleet], 15 rue de la Barillerie [now the boulevard du Palais], on the île de la Cité, Paris

Collecting is a time-honoured activity that defies definition. Whether it is akin to the acquisitive instinct of the magpie taking bright objects and hoarding them, or has something to do with delight in gathering artefacts for their beauty, their function or their worth, mankind has been enthralled by the collecting of things old and new for a very long time.

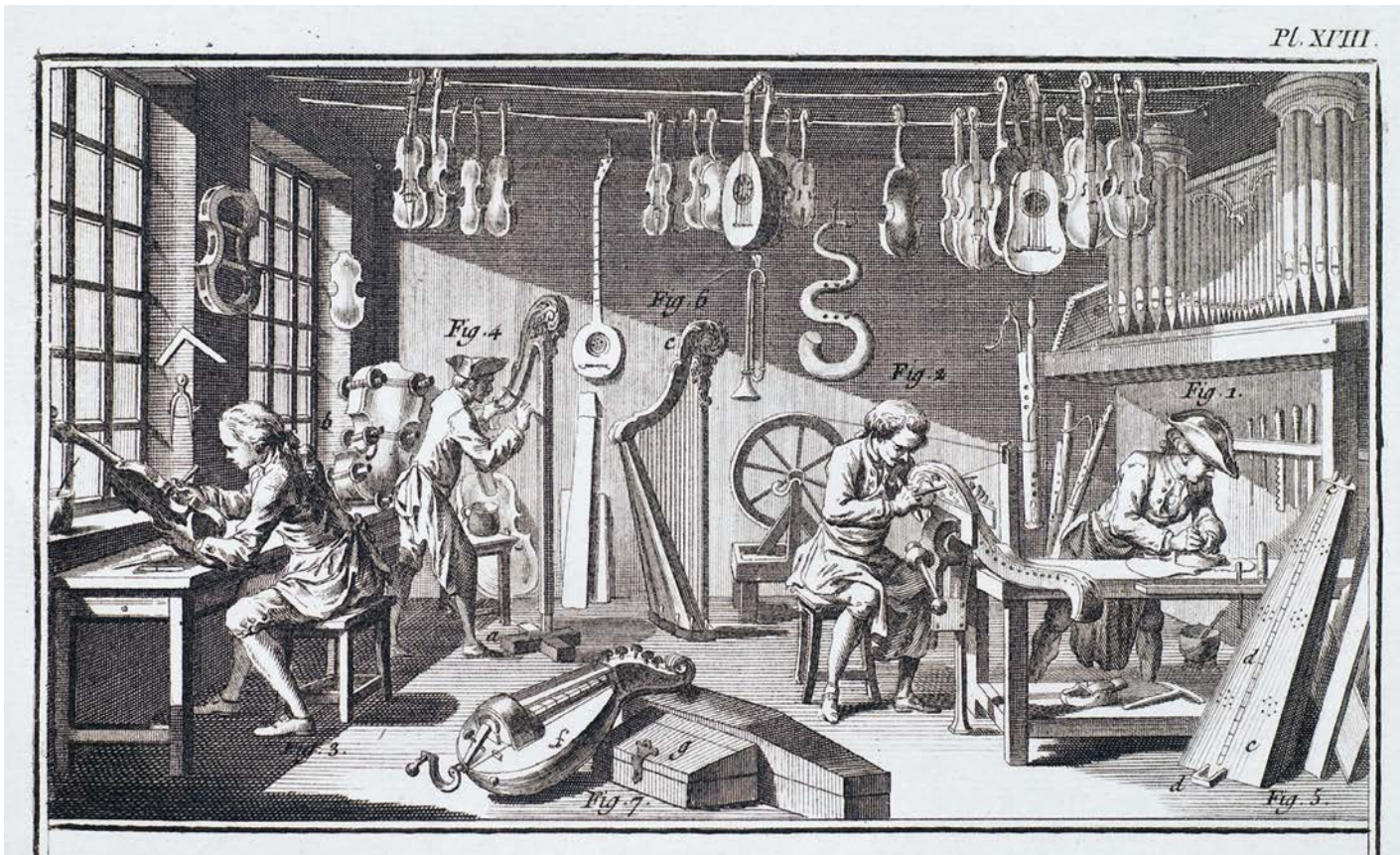
The Greek and Roman civilizations encouraged private collecting; in the Renaissance, it was a princely pursuit and a mark of status; in the 17th century, aristocrats and gentlemen prided themselves on their cabinets of curiosities in which they kept a medley of items, natural, man-made and often exotic, while in Paris Cardinal Mazarin was skilfully amassing one of the greatest

art collections of his time. Against the background of the Enlightenment, collecting in the 18th century became increasingly ordered; it was more the fruit of scientific discussion, of investigation and of aesthetic considerations and less that of mere curiosity. This, too, was the age of the Grand Tour, when well-to-do young men crossed the Channel and made their way to Italy to steep themselves in culture and bring back quantities of works of art and mementos. By the 19th century, however, there was an unparalleled predilection for material clutter, which coincided with the foundation of many museum collections designed to edify the general public.

Through the ages, private collectors have found pleasure in gathering the objects of their choice. This may be the fun of sleuthing; the

thrill of the hunt; the possession and handling of things of great beauty; even the daring notion of collecting items that are either out of or not yet in fashion. In the process such collectors have often acquired a connoisseur's eye and built up significant expertise in their chosen field.

Collectors of antique and vintage hand tools are no different. And yet in one particular way they are, for instead of focusing on found natural objects or on finished artefacts, they are amassing examples of implements crucial to the fashioning of man-made items; they are garnering things that have been, still are – or have the potential again to be – fundamental to man's development as artificer. Therein lies an added fascination.



Detail from 'Lutherie, Ouvrages et outils' [Stringed-instrument-making, wares and tools], vol. 5 (plates), plate 18. This illustration from Diderot and d'Alembert's *Encyclopédie* depicts a luthier's workshop. A craftsman on the far right may be seen planing the table of a stringed instrument

The earliest tool collectors

'The woodworking tools with which man, from the beginning of the Iron Age, constructed his shelter have been the chief agents of civilization.' It was with these bold words that the *New York Times* one September day in 1929 began its review of Henry C. Mercer's newly published book *Ancient Carpenters' Tools* and brought to the notice of a wide readership what was probably the very first book devoted to antique tools and their collection, a book that would become a classic and go through several editions over the coming decades.

Fascination with tools is not something new, however; it goes back to the remotest times. On the walls of caves are stencilled outlines of human hands (at Santa Cruz in Patagonia, for instance), setting before the spellbound gaze of cave dwellers a persistent reminder of the most fundamental of all tools, the hand itself. Sensitive, flexible, prehensile, the hand could grasp stones to knap others to make cutting implements; it could wield primitive tools to shape antler, bone, skins and wood.

Yet, surprisingly, there is scant evidence of tool collecting until modern times. To be sure, artists and writers down the ages have often depicted or described tools to celebrate their significance or explain their use. Pliny the Elder, for example, writing in the Roman period, likened the shavings escaping from a hand plane to the tendrils of a vine. John the Fearless, Duke of Burgundy, adopted the plane as his own emblem. We can see him portrayed in 15th-century manuscript illustrations wearing

a magnificent dark-blue cloak embroidered with many golden planes, or else seated on a throne that is draped with a red cloth again dotted with golden planes beneath a canopy of the same cloth. Albrecht Dürer, in his 1514 engraving *Melencolia 1*, depicted a smoothing plane among other tools at the feet of the allegorical figure. In Nuremberg, Joost Amman illustrated his book of trades in 1568 with a set of woodcuts of craftsmen

at work – among them various workers of wood – with descriptive verses underneath each picture penned by the mastersinger Hans Sachs.

Books on tools

With the spread of literacy and education and the publication of handbooks, the general public became ever more curious about the trades and the tools they used.



Cueva de las Manos, Río Pinturas, Santa Cruz, Patagonia, Argentina. These stencilled outlines of hands were painted between some 13,000 and 9000 years ago. The hand, prehensile, flexible and sensitive, was crucial to man's development and to his ability to make tools

Books such as Joseph Moxon's *Mechanick Exercises* (1703) and André Roubo's *L'Art du menuisier ébéniste* (1774) (now being partially reissued in English by the Lost Art Press, Kentucky) shed light on tools and techniques and aroused much interest. Diderot and d'Alembert's monumental *Encyclopédie* (1757) provided a fund of knowledge in limpid prose on the state of the art across the trades.

In the late 18th century and in the first half of the 19th, there were three great published authorities on tools and their use: in 1792, L.-E. Bergeron first published in Paris his elegantly illustrated account of woodturning and described in detail the tool kit of a turner (*Manuel du tourneur*); the prolific Scottish writer Peter Nicholson compiled across a span of years numerous books on aspects of building construction and furniture design including *The Practical Cabinet-Maker* (1826); and Charles Holtzapffel of the Holtzapffel dynasty issued the first volume of *Turning and Mechanical Manipulation* in 1843, with a further two volumes completed after his death by his son John Jacob.

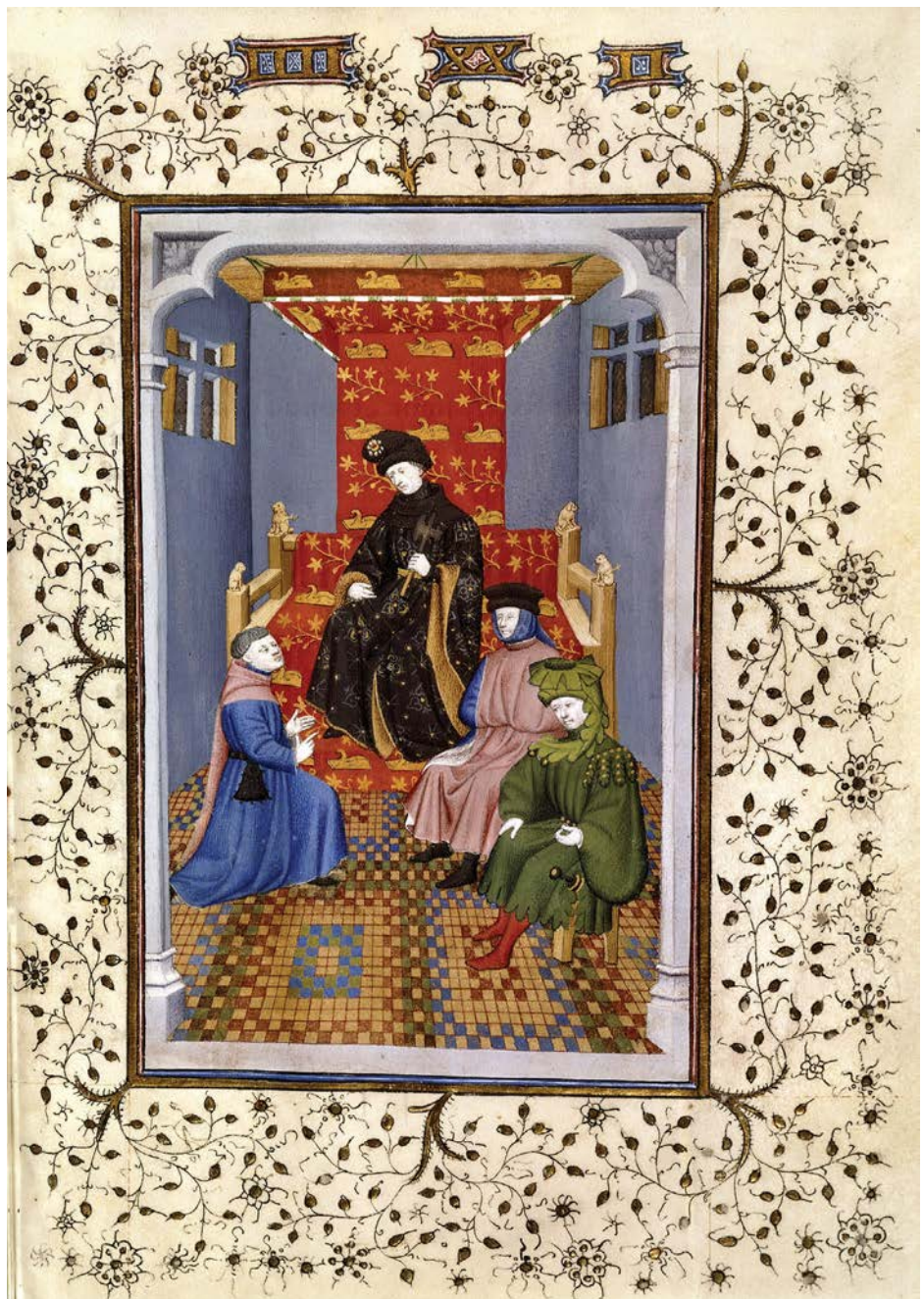
The world's fairs, beginning with the Great Exhibition in London in 1851, enabled the masses to see the practical arts for themselves alongside the panoply of tools that manufacturers put on display. Meanwhile, aristocrats and gentlemen were beginning to show interest not merely as collectors of tools but as amateur practitioners also. Through much of the 19th century and well into the 20th, for example, the London tool-making firm of Holtzapffel taught members of the public the art of woodturning in a bid to reach the amateur as well as the professional woodworking market.

Oddly enough, no reference work of comparable importance came out in the late 19th century to chronicle the frenzied inventiveness and industry taking place in the tool-making world at that time on both sides of the Atlantic. Instead, as tools began to be made commercially so trade catalogues were brought out by their makers. Although targeted at craftsmen, they are one of today's rich sources of information for collectors.

The revival of handcrafts

One reaction to the increasingly automated production of tools and the growth in mechanical tools was embodied in the Arts and Crafts Movement, which harked back with nostalgia to a bygone era of handcraftsmanship. The archaeologist Henry C. Mercer, who was patently influenced by the movement in the United States, set about studying the hand tool and its history. He gathered together an important collection of early tools for which he founded a museum at Doylestown in Pennsylvania. His 1929 book *Ancient Tools* was in effect a landmark publication, signalling the beginnings of concerted efforts to gather antique tools and information about them.

It is interesting that the United States should seemingly have been the first nation in the West to be gripped by a widespread passion for tool collecting. Perhaps this was owing to the huge reverence Americans



John the Fearless, Duke of Burgundy (1371–1410), seated on a wooden throne over which is draped a cloth embroidered with his emblem of planes in gold

subconsciously bestowed on tools because of their indispensable role in the building of America. The preservation and restoration of buildings in Williamsburg, Virginia, funded by John D. Rockefeller Jr, begun in 1926 is a case in point. This laudable work in turn brought further awareness of construction methods and of the tools used by craftsmen in the 18th century, ultimately leading to the creation of a major holding of early woodworking tools in the DeWitt Wallace Museum of Decorative Arts at Colonial Williamsburg.

Societies and associations

Tool-collecting societies began to spring up across the nation. There was a thirst for more knowledge and for opportunities to share and exchange ideas. In 1933 the Early American Industries Association was founded in Northampton, Massachusetts, to foster interest in the traditional trades

and crafts of early America, and in 1942 incorporated as an educational association. The first issue of its journal *The Chronicle*, published in 1933, gave a lead review to Henry Mercer's book.

Originally an affiliate of the EAIA, the Mid-West Tool Collectors Association was founded a generation later in 1968. Now a wholly independent body devoted to 'studying, preserving, and sharing knowledge of tools', it will be celebrating its 50th anniversary in 2018. The association's name belies the fact that it has a membership spread across the United States, as well as in Canada and overseas. Its journal *Gristmill* first saw the light of day in 1974, and many of its members have contributed to the wide array of material published on tool collecting.

Brown Tool Auctions of Watervliet, Michigan, founded more than 30 years ago, held its 50th international antique

tool sale and auction in March this year. Since 1997 it has joined forces with the Fine Tool Journal, a learned journal set up around the same time 'to spread knowledge of hand tools of all trades and crafts, with the primary focus on woodworking'. Other American auction houses have entered the market in recent years as have several specialist dealers like Jim Bode Tools or Patrick Leach's Superior Works.

Tool collecting in the UK

Only after World War II did tool collecting in the United Kingdom begin in earnest. Between the wars the fortunes of many tool manufacturers, among them top makers like Holtzapffel, Mathieson, Preston and Spiers, were already sadly waning; and even Norris finally met its demise in the 1950s. A welling up of nostalgia for finely wrought tools coincided with the publication by G. Bell of William Goodman's seminal work *The History of Woodworking Tools* in 1964. Bell's subsequent publication of Goodman's ambitious *British Planemakers* in 1968 made available for the first time in systematic form a trove of information about the hitherto unsung makers of all manner of planes across the land.

After the war, it was the deep and scholarly interest shown by the English engineer Ralph Salaman in the tools of several trades that led to the publication by Allen & Unwin of his highly respected *Dictionary of Woodworking Tools and Tools of Allied Trades* in 1975, with a second edition revised by Philip Walker, the tool collector and dealer, coming out in 1990 with Taunton Press Inc. in the United States. Rather like Mercer in Pennsylvania, Salaman's own tool collection was eventually made available to the public. In his case it was bought by the St Albans Museum Service, Hertfordshire.

After Christie's opened a new sale room on the Old Brompton Road in South Kensington in 1975, this leading firm of auctioneers, spotting the burgeoning market for old tools, decided to hold a series of tool sales. Later, in collaboration with the publishers Phaidon, it brought out *Christie's Collectors Guides: Woodworking Tools* compiled by Christopher Proudfoot and Philip Walker in 1984. The book, providing a historical account of the tools and techniques used to manipulate wood, was a fitting sequel to Walker's 32-page gem: *Woodworking Tools* (1980).

The British collector Roy Arnold, who worked in publishing in the United States, was instrumental in strengthening the bonds between tool collectors on both sides of the Atlantic. Back in the United Kingdom, he began dealing in tools in partnership with Philip Walker, publishing a sale catalogue *The Traditional Tools of the Carpenter and Other Craftsmen* in 1966, followed by a series bearing the same name in the 1970s, all with a scholarly dimension, and then set up a small publishing business in Needham Market, Suffolk, through which they published a second edition of *British Planemakers* in 1978. In collaboration with

Astragal Press in the States he was later able to distribute third editions of both *British Planemakers* (1994) and *Salaman's Dictionary* (1997). This collaboration also led to the publication of Jane and Mark Rees's informative *Tools: A Guide for Collectors* (Roy Arnold, 1996, second edition 1999). In the Salaman tradition, Daniel Boucard brought out his commendable *Dictionnaire des outils* in France in 2006.

Philip Walker was one of the hundred or so founder members of the Tools and Trades History Society (TATHS) established in 1983 and became its first chairman. The society published the first issue of its journal *Tools & Trades* that same year. The Museum of English Rural Life, Reading is now home to the society's library. Ken Hawley, the Sheffield collector was another founder member. His vast collection was to become an official museum in 2002 and is now housed at the Kelham Island Museum, Sheffield.

David Stanley began tool auction sales in 1980, holding his first international sale of antique woodworking tools at Kegworth, Leicestershire, in 1983. He was greatly helped in building American connections by the late Don Wing, a collector and dealer in Marion, Massachusetts, who was passionate about 18th-century English plane makers and the remarkable output of the Holtzapffel family. David Stanley and his son Ian will be holding their next international sale on 30 September, 2017.

Starting a collection

There are myriad ways to build up a tool collection today. Having touched on some of the dealers and auctioneers, and on some of the books worth consulting, I should like to conclude with a few thoughts on what to collect. At one end of the spectrum is the encyclopaedic collection like the one built up over some thirty years by David Russell and culminating in the publication of his historical survey of woodworking tools in the West (*Antique Woodworking Tools: Their Craftsmanship from the Earliest Times to the Twentieth Century*, 2010). At the other end,



The archaeologist Henry Chapman Mercer (1858–1930) was one of the first serious collectors of hand tools

a collector may choose to focus on a maker or a tool type or the output of a particular period or range of periods. Those with a love of technological history might opt for series of tools that show the development of mechanisms such as the adjuster for the cutter on planes, or seek out tools linked to particular patents. Some collectors may be drawn to tools of exquisite design or gracefulness. Some tools which have been lavishly decorated may enter the realms of folk art and attract another kind of collector. The possibilities are endless, but there are of course constraints of budget, of potential availability of the tools targeted, of how much time can be devoted to the hobby. There are pitfalls as well. As for other collectables, there is always the risk of coming across items that have been tampered with and are meant to deceive. They may have a fake maker's mark or parts harvested from different tools to create something 'new' and supposedly scarce.

A wonderful aspect of many antique and vintage tools is that they are still in working order or can be made so relatively easily. For some collectors such tools are not acquired to be put in a showcase but are bought to be proudly used at the workbench.

Lay the foundations for your new collection

- 1 Keep it simple to start with and set clear parameters either by maker, object, age or even set a limit to the value of each acquisition.
- 2 Make it a habit to record the details of each find such as where, when and how much each item cost.
- 3 Take photographs of each item and consider introducing a searchable reference system to aid with research and comparisons in the future.
- 4 Collect trade catalogues and journals to help identify and date your finds. Photograph or scan them where possible to avoid unnecessary handling.
- 5 Consider the benefits of buying from a reputable source as provenance will add value and maybe even a little kudos to your collection
- 6 Become a member of a group or society, like TATHS for example, and share information about your interest or latest find. Your passion may not be to everyone's taste but kindred spirits make willing scouts and may well direct objects to your door.
- 7 Visit existing collections such as the Hawley Collection in Sheffield to increase your base knowledge
- 8 Attending auctions in person is a great way to get up close and maybe even handle rare tools.
- 9 Learn about the processes that were used to make the tools in your collection.
- 10 Learn about the objects that your tools were designed to make.

What does Brexit mean for business?

With their feet firmly planted in multiple business sectors, *F&C* questions whether the UK furniture industry and all its suppliers are sitting comfortably

Just when we thought the speculation and prevarication was over, the Supreme Court overturns the Brexit appletart with its decision that the Government cannot trigger Article 50 to leave the EU until Parliament has voted on the matter. While the ruling was not entirely unexpected, it nevertheless adds to the general air of uncertainty and confusion surrounding Brexit that had only recently begun to ease.

Britain has been in limbo since last June's seismic decision to quit the EU. It had been given its first indication of how Brexit is likely to shape up, when Prime Minister Theresa May revealed her action plan in January, dousing any hope of a 'Brexit lite' with her announcement that the country will plan to leave the single market after Article 50 is triggered in March. The Supreme Court's judgment in late January meant that legislation had to be fast-tracked through the Parliamentary process and the Bill passed with little opposition and no amendment to the 12-point Brexit plan for the UK to begin exit negotiations shortly thereafter.

The country's small businesses which have only just begun to assimilate what the CBI referred to as the 'changed landscape' will now have to assimilate what the White Paper outlines on such issues as quitting the single market, controlling migration and workers' rights. May's blueprint for taking the country out of the EU was initially greeted with a mix of relief and fresh concerns from business and entrepreneurs. It brings clarity of direction, but also raises the prospect of a voyage into the unknown. But while business has been on tenterhooks since last June, Brexit is not the only cause of anxiety for those running small and medium-sized enterprises (SMEs). A number of other issues are likely to rear their heads over the course of the next 12 months.

Life after Brexit

SMEs have been largely optimistic about life after Brexit. Although the referendum result sent Sterling into a nosedive and a 31-year low, nearly half of those SME leaders quizzed in the second half of last year did not expect any negative impact from Brexit. Research by CitySprint for smallbusiness.co.uk found that 68% said they felt either as confident or more so of their business prospects than they did in the preceding 12 months. Research by international law firm Gowling further predicted that SMEs were going to be the fastest growing segment of the UK economy in the run-up

to 2020, increasing its contribution to UK GDP by 18% to £335bn by then. Bigger companies are expected to grow by 8%.

This air of confidence has persisted after May's January speech. Mike Cherry, the national Chairman of the Federation of Small Business (FSB) commented that his constituents were looking for a 'bold and ambitious' free trade agreement with the EU. He said: 'One in five FSB members export. This could be doubled with the right tailored business support from the Department for International Trade along with new free trade agreements with the fastest-growing markets in the world.' But he sounded a word of warning. 'Global trade will only flourish if the free trade agreements prevent additional barriers, such as cost and paperwork.'

Mr Cherry outlined the importance of ensuring any future system enabled companies to tap into a foreign pool of talent should they need to. 'Any future system must help small firms to easily recruit the right person, for the right job, at the right time,' he said.

His concern was echoed by Ann Francke, chief executive of the Chartered Management Institute. 'It is inevitable that the number of foreign workers coming into the UK will fall after Brexit, so we need to invest heavily in homegrown talent now to ensure that we have the skilled workers capable of plugging the gaps.' Her observation will resonate with those companies, especially those in the building sector, that are already struggling to find sufficiently skilled staff. As the building sector is inextricably linked to the furniture and fit-out trades, workshop owners should be paying very close attention.

The shortage led Jeremy Blackburn head of policy at the Royal Institute of Chartered Surveyors to say: 'A loss of access to the EU's skilled workforce has the potential to slowly bring the UK's property and construction sector to a standstill. That means unless alternative plans are put in place, we won't be able to deliver the thousands of homes needed to solve our housing crisis.'

For many businesses Brexit has meant an immediate uplift in fortunes thanks to the pound's precipitous fall. Robert Allen, a hotel owner from South Lanarkshire with 10 employees said, 'One of the positives of a weaker pound is that it makes us more affordable as a holiday destination for tourists.' Tony Hague, chairman of the Manufacturing Assembly Network in the West Midlands also welcomed Sterling's fall in becoming more competitive; 'We've

picked up in excess of £2m of new orders from Germany, Poland, Holland and the US.'

But for each company which has benefited from the pound's slide, another has found it punishing the bottom line. Ian Baxter is Chairman of an East Midlands freight company. He said, 'The biggest part of our business is exporting to the EU. As we have a lot of costs in Euros and most of our income is in pounds, we've been impacted by the decline in the value of Sterling. These extra costs will have to be passed on to our customers.'

Taxing times

The Government's plans to have all tax returns filed in digital form by next year has thrown many small companies into a flurry of anxiety as they will soon be facing fines for non-compliance. HMRC is also expecting companies to make quarterly rather than annual returns. Recent research by accountancy software provider FreeAgent found that 43% of SMEs were unaware of changes that formed part of the Making Tax Digital initiative. Of those that did know about digitisation, 86% felt under-prepared to comply. HMRC claims that quarterly filing will enable companies to keep up to date with their financial affairs and that digitisation is vastly simpler and more efficient. The Federation for Small Businesses points out that compliance will demand a level of technological nous that is beyond many small business owners and make excessive demands on resources and time. HMRC, however, promises support for any firms struggling with the digital tools, that would also help to minimise any mistakes. HMRC promises that an extra 1.3 million small businesses with modest turnovers will be exempt from digital record-keeping and quarterly updates in addition to the 1.6 million that already escape the requirements.

The National Audit Office has also joined calls for additional support by saying that the Government must do more to inform SMEs of what they need to do to comply with the digital tax requirements and that it has failed to fully estimate how much it could cost small companies.

SMEs could be forgiven for distrusting the taxman's motives. Last year it was revealed that HMRC had raised an extra £489m in corporation tax by targeting SMEs, leading to complaints by some that they are being picked on. Roy Maugham, a partner at accountants Hacker Young said: 'HMRC appears to be aggressively going





after small businesses as “easy pickings” and it’s possible they will look to accelerate investigations next year and beyond, rather than going after big enterprise.’ Mr Maughan contrasts this with well-publicised examples of Starbucks, Amazon and Google, which have engineered favourable tax structures. He points out that corporation tax inquiries impose a far greater financial burden on SME profits than corporate giants because they do not have the resources to respond to them and have to take time out of managing their business to respond effectively to them. A spokesman for HMRC insists that the taxman ‘enforces the tax rules impartially, irrespective of the size or structure of the business,’ and denies any suggestion that the Revenue regarded SMEs as ‘soft targets’.

Higher minimum wage

Last year’s changes to the minimum wage was a thorny subject for SMEs with many warning of the risk of job losses and a cutback in hiring. From April 2016, the minimum salaries for the over-25s rose

from £6.50 to £7.20 an hour, rising to £9 an hour by 2020. An FSB survey when the pay levels were introduced last April found that one in four employers had cut staff hours as a direct result. FSB’s Mike Cherry says: ‘The rate of the national living wage should be set at a level the economy can afford, based upon economic and not political priorities.’

Companies are having to meet the additional cost out of profits rather than cutting costs or making other efficiencies. Charles Cotton of the Chartered Institute for Personnel Management (CIPM) says: ‘The only sustainable way to pay for the NLW is through increased productivity, yet many SMEs simply don’t know how to raise their game. We need to see a Government business strategy dedicated to helping SMEs.’

SMEs in the hospitality, retail and social care sectors are most vulnerable. Companies in other sectors where salary levels are already higher will not be affected so badly and may well see revenues grow as customers have more disposable income as a result of the increase.

Pension auto-enrolment

One issue that continues to bedevil small companies is that of auto-enrolment of employees into company pensions. From this April every company, regardless of size, must have implemented this legal requirement and the Pensions Regulator is prepared to take a robust approach to enforcing it. Claims that a company was not aware of the requirement, or incapable of rolling it out will cut no ice.

Pandle’s Lee Murphy says: ‘Pension providers’ software is not up to par on where it should be. This means we’re spending a lot of time just on software issues, which is costly. We have clients that have missed deadlines. They have fines of £400 and when we appealed on the basis it was all new to them the appeals were rejected. I think this is a very harsh stance by the Regulator.’

Auto-enrolment was flagged by managers as a significant hurdle, with some admitting they felt they were being bullied. Jill Barnes, Exemplas chief executive, told smallbusiness.co.uk: ‘One of the biggest challenges was the impact that the legal requirement for an auto-enrolment pension scheme will have on already stretched time and finances.’

Mr Murphy explains: ‘Pension deductions and contributions can complicate a business’s bookkeeping, especially if they are a micro-business.’ He believes that the Government should relax the current levels so that auto-enrolment kicks in when companies have five employees or more and earn above £20,000 per annum.

‘It is inevitable that the number of foreign workers coming into the UK will fall after Brexit, so we need to invest heavily in homegrown talent now to ensure that we have the skilled workers capable of plugging the gaps.’

Kit & tools

Having trouble sourcing the right tool for the job? Here's a selection of new and essential equipment for the workshop

All sterling prices include VAT, correct at time of going to press



Tension on

£77

Tension off

MINI TEST Knew Concepts 8in Lever Tension Saw

The acquisition of a new Knew Concept jewellers'/coping saw is hardly ground-breaking news these days such is their reach and reputation, and thoroughly well deserved it is too. I bought the 8in version of their entry level saw around four years ago. It's seen a lot of action and the ultra light weight has helped a lot of folk gain the much needed confidence to tackle dovetails. But surprisingly in that time I've only changed blades a handful of times! How so? Well, you could argue that I'm either extraordinarily good with a coping saw perhaps or that I'm just plain stingy but, I've a hunch it might be something to do with an obsessive fascination with de-tensioning. Every time, and I mean every time, the KC saw comes out we go through a little ritual; jam the end of the saw against the edge of the bench, lean in, do up the tensioning nut and lean back. Hey presto, a perfectly tensioned blade. Yes, it's really that simple. When it's time to hang the saw up for the evening we do the same little dance in reverse. I've no clear evidence that the two are related but if it ain't broke (or breaking) don't fix it.

Ask me how I came about my newest and replacement KC saw and you'll be sworn to secrecy but what I'm happy to share is that it's the newer Lever Tension model. The manufacturer's blurb suggests the improvement is there to make blade changes quicker. Great, that's probably saved me about two and a half minutes in total over the last four years. Now I'm not complaining as every little helps but I do think they're missing a trick. If you're not blessed with having surgeon's hands or just like to throw your money around then the KC Lever Tension saw is not for you. If as I suspect you have or enjoy neither then you should at least try one out.

If you are going through blades at a rate of knots there's a couple of other things you may want to try out. Firstly try the Pegas skip tooth blades for cutting thicker stock (about 12mm and over) and a higher tooth count continuous tooth pattern for cutting thinner stock. Secondly, although these blades will turn on a sixpence you can reduce the amount friction when making a sharp turn by removing the sharp corners on the back of a new blade. Just instal the blade as normal, apply some tension then use a fine metal file or some other suitable abrasive to round over or de-burr the back. A good technique is to never stop sawing while making a turn. Finally, make sure the workpiece is well supported. On thin material position the teeth to cut towards the support and not away from it.

Contact: Classic Hand Tools
& Workshop Heaven
Web: www.classichandtools.com
& www.workshopheaven.com



Veritas Wile plane hammer

Making fine adjustments to plane-blade position is easier with the right tool, and few can compare to the finely made plane hammers of Richard Wile, a hobbyist woodworker from Nova Scotia, Canada. Veritas' hammer is machined to have the same elegant proportions as Wile's design, giving it a weight and balance that feel right in the hand. The small brass head, only 16mm in diameter and weighing 85g, allows precise, delicate adjustments to the blade. The torrefied maple end flares out to a 21mm diameter face to distribute the force of strikes. This face is slightly belled with rounded edges to help avoid marring your plane. The handle, also made from torrefied maple, is 277mm long. An excellent fine hammer with many uses around the shop, this is a tool that is as pleasing in the hand as it is to the eye.

Contact: Lee Valley & Veritas **Web:** www.leevalley.com



IRWIN QUICK-GRIP corner clamp and edge clamp

IRWIN's QUICK-GRIP One-Handed Bar Clamp Accessories provide added versatility and functionality to traditional one-handed bar clamps – allowing you to do more. The corner clamp converts a One-Handed Bar Clamp into a corner clamp for easy clamping of 90° angles, while the edge clamp can be similarly used for easy clamping of trim and edging.

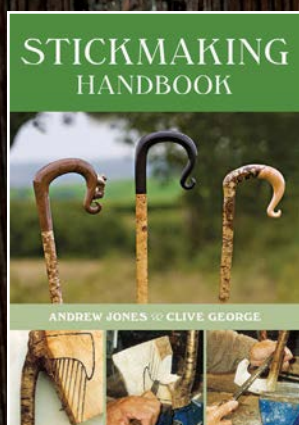
Contact: IRWIN **Web:** www.irwin.com

Record Power WG250 Wet Stone Sharpener

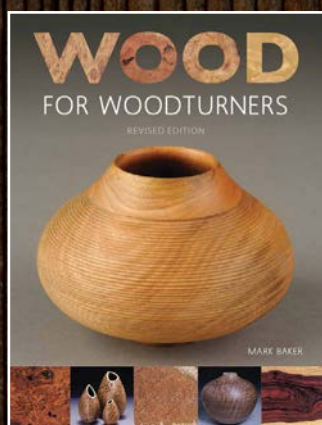
New from Record Power is the WG200 8in Wet Stone Sharpening System. It's a compact and easy-to-use machine that comes with a number of accessories, including a straightedge jig (ideal for plane blades and chisels), a stone grader, angle finder (to determine the original angles of blades) and an angle setting gauge to ensure accurate application of the tool to the stone. The WG200 is currently available as a package deal with the WG250/K Diamond Truing Tool.

Contact: Record Power
Web: www.recordpower.co.uk

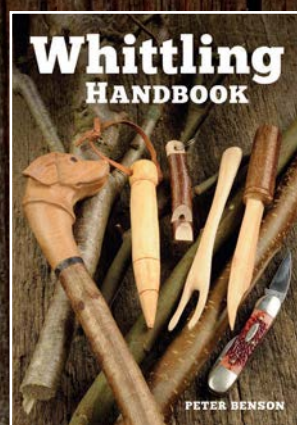




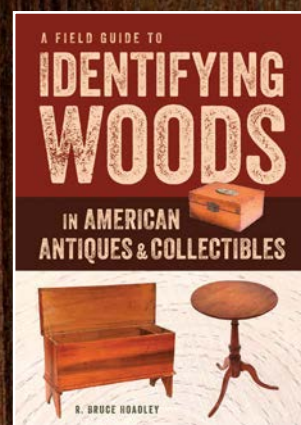
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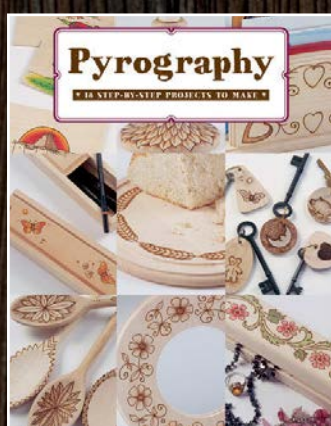
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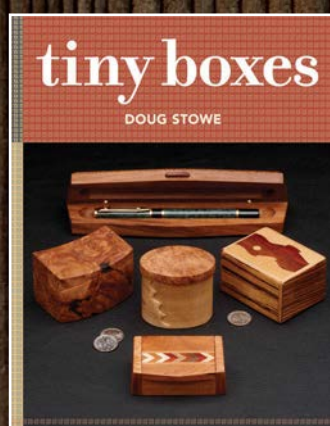
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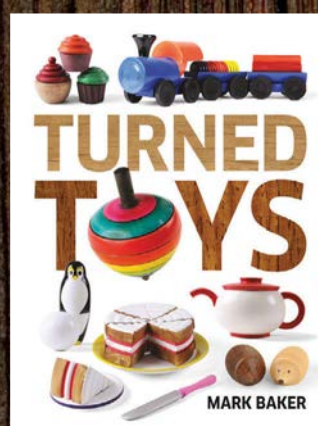
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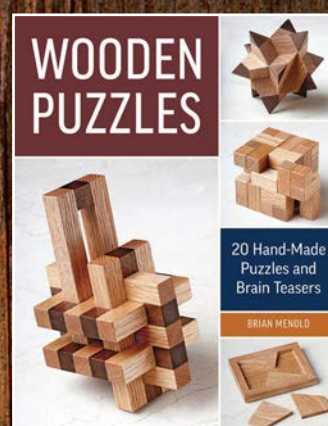
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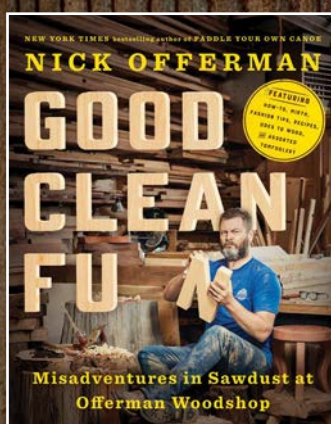


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Out & about: Victoria and Albert Museum

This month we visit one of the world's leading art and design museums

One of London's best-known museums, the Victoria and Albert Museum houses a permanent collection of over 2.3 million objects. Here you can pore over some of the world's greatest examples of textiles, fashion, photography, ceramics, jewellery, glassware, sculptures, paintings and, of course, furniture.



History

In 1851 The Great Exhibition of the Works of Industries of All Nations was held in Crystal Palace in London. It was an exhibition of culture and industry and its aims were to make works of art available to all, to educate working people and to inspire British designers and manufacturers. The Great Exhibition was a huge success and the following year, profits from the Exhibition were used to establish what was then known as the Museum of Manufactures. This new museum began to build up a collection of decorative arts from around the world and from all periods of human history.

In 1899 the museum's current home was built and it was renamed the Victoria and Albert Museum in honour of Prince Albert's enthusiasm for the project. Over the years, the collection has continued to grow as the museum has acquired more historical objects. The V&A is also committed to contemporary design and works to support and collect the work of modern designers.

The success of the 1851 Great Exhibition led to the establishment of the V&A



PHOTOGRAPH BY EUGENE HENRIQUEZ, COURTESY OF SHUTTERSTOCK

What to see

The V&A holds a stunningly diverse collection of furniture spanning six centuries of creation. The collection includes many examples of British and European furniture as well as examples from East Asia, South Asia and the Islamic Middle East.

Highlights include the Great Bed of Ware (see page 72), Maharaja Ranjit Singh's golden throne (1820–30), the Yatman Cabinet, designed by William Burges and made by Harland & Fisher in 1858 and Japanese lacquered furniture from the 1851 Great Exhibition, as well as modern pieces such as a storage unit designed by Charles & Ray Eames for Herman Miller Furniture Co., in 1949–52 and the Sketch Chair, designed by Front, Sweden and printed by Alphaform in 2005.



The British Galleries in the V&A

The Great Bed of Ware



The Great Bed of Ware is one of the treasures of the V&A's collection

One of the museum's best-known objects, The Great Bed of Ware is a carved oak (*Quercus robur*) four-poster bed believed to have been made in Ware, Hertfordshire in about 1590. The bed is over 3 metres wide and can accommodate four couples... although it's thought the bed was made as a tourist attraction for an inn in Ware. The bed

became so famous that it was mentioned in Shakespeare's 1601 play *Twelfth Night*, as well as several other plays. The headboard and posts are covered in the initials of visitors who wanted to leave their mark.

The Great Bed's decoration is typical of the late Elizabethan style with its elaborate carvings of acanthus leaves and strapwork.

There are human figures carved on the headboard and the underside of the tester, which would originally have been painted.

The Great Bed of Ware can be seen in room 57 of the British Galleries but you can also see a 'video tour' of the bed on the V&A's website: www.vam.ac.uk/content/articles/t/the-great-bed-of-ware/

V&A Museum of Design Dundee

The V&A Museum of Design Dundee, due to open in 2018, will be Scotland's first museum dedicated to design, telling the story of Scotland's design heritage and bringing the most important international exhibitions from the V&A to Scotland. It is being developed by Design Dundee Limited, a new organisation established through a partnership between the V&A, Dundee City Council, the University of Dundee, Abertay University and Scottish Enterprise.



The V&A Museum of Design Dundee is due to open in 2018

Where else to see... design museums

Cooper Hewitt National Design Museum
New York, USA
www.cooperhewitt.org

Triennale di Milano
Milan, Italy
www.triennale.org

Danish Museum of Art and Design
Copenhagen, Denmark
www.designmuseum.dk

Vitra Design Museum
Weil am Rhein, Germany
www.design-museum.de

Information for visiting

Address: Cromwell Road, London SW7 2RL

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Charges: Free admission to museum, some exhibitions and events have a separate charge

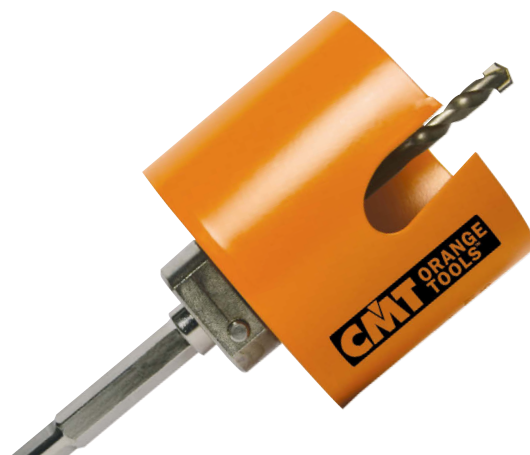
Information correct at time of publication, check the Victoria and Albert Museum website before making your visit



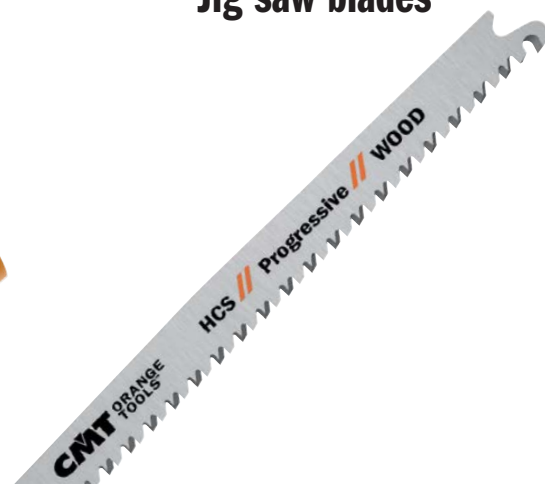
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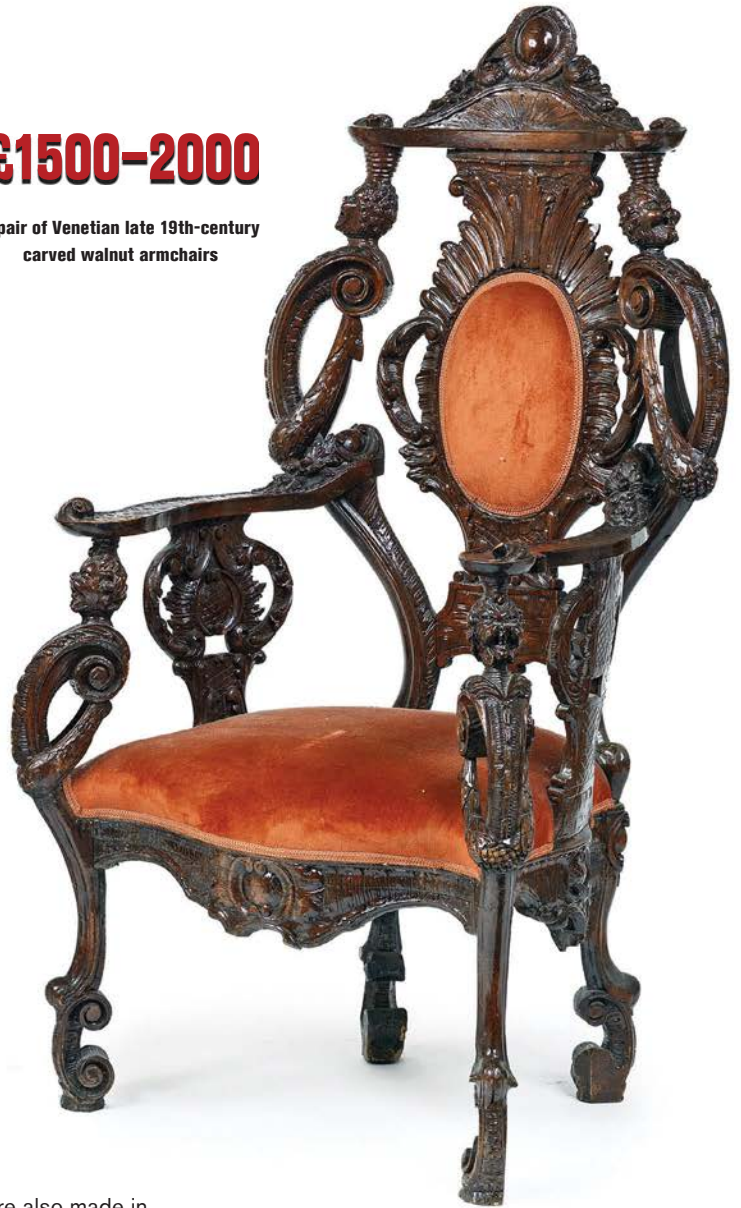
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UNDER THE HAMMER: walnut furniture

This month we look at a selection of Italian furniture
from Bonhams' European Collections auction

£1500-2000

A pair of Venetian late 19th-century
carved walnut armchairs



The items in this month's Under the Hammer were all part of Bonhams' European Collections auction, which was held in London in December 2016. All of these pieces are made from walnut (*Juglans regia*), a timber that has long been prized by Italian furniture makers.

The pair of elaborately carved armchairs were made in Venice in the late 19th century. The oval upholstered backs are flanked by scrolled uprights and headed by grotesque masks above acanthus leaf and floral carved arms and serpentine upholstered seats. Their ornate style is typical of Venetian furniture. The chairs measure 660mm wide x 570mm deep x 1310mm high.

The credenzas were also made in the late 19th century in northern Italy. They have rectangular tops with canted corners, above a pair of panelled doors. Each piece measures 1280mm wide x 600mm deep x 930mm high. The term 'credenza' derives from the Italian word for 'confidence' and the development of this item of furniture stems from the tradition during the Middle Ages and Renaissance of having a servant check food and drink for poison before serving it to their masters. This gave them the 'confidence' to eat it. The servant would taste the food at a sideboard, which became known as the 'credenza'.

The third lot is an 18th-century walnut

prie-dieu cabinet. 'Prie-dieu' comes from the French for 'pray God' and these cabinets were designed with low surfaces for kneeling on and narrow fronts surmounted by a rest for laying books or elbows while praying. This example has a short drawer above a cupboard door and the hinged kneeling platform. It measures 780mm wide x 560mm deep x 930mm high.

The final lot is a small Tuscan panchetta seat made in the 18th century. It has a carved back above a moulded plank seat and measures 980mm wide x 320mm deep x 950mm high.

£625

A pair of North Italian walnut credenzas



£250

An Italian 18th-century walnut prie-dieu cabinet



£400-600

A small Tuscan 18th-century walnut panchetta

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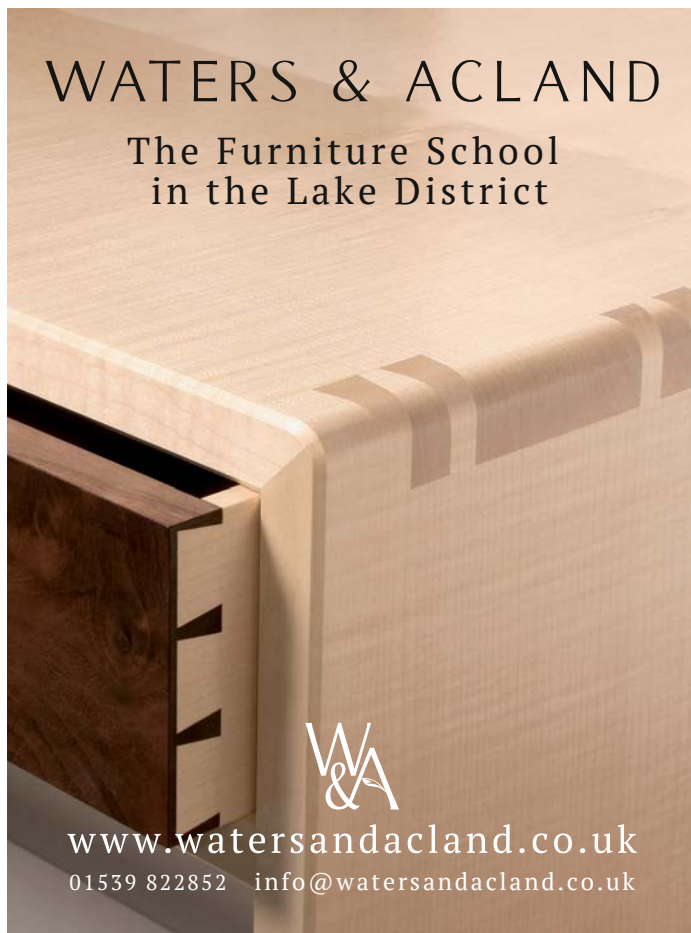
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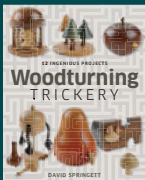
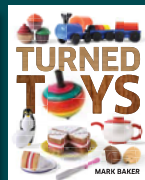

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Shop talk: Roy Underhill

As the presenter of *The Woodwright's Shop* Roy has taught and inspired woodworkers around the world for more than 37 years

Am I right in thinking you have a background in the theatre?

Yes, but I come by it in the most honourable way. I followed a girl that I was interested in into a classroom where they were rehearsing a school production of *Rosencrantz and Guildenstern Are Dead*. That led to a university degree in directing, but I spent far more time in the scene shop making things such as the gargoyles for Dracula's castle and the swords for *Henry V* than I did producing Pinter.

Do you hail from a long line of crafters or performers?

I am a TV woodworker, and I like to think that I learned my craft from my great-uncle who was a radio woodworker in the 1930s. It might seem difficult to present a woodworking programme on the radio, without the visuals, but he quickly learned that he never had to actually make anything! All he had to provide were the proper sound effects as he described the process, and the listeners did all the building in their imaginations. I do like to think about this great-uncle, but sad to say, I do believe he is imaginary as well.

When did you get the bug for making things without electricity?

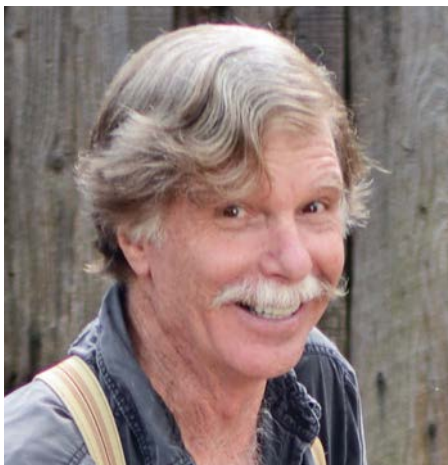
In the early 1970s I was living far, far off the grid in a commune in the mountains of New Mexico (still following that same girl around). In a rare visit to the city I encountered a collector of vintage tools who had an 1874 Barnes foot-treadle powered table saw. I was stunned! The energy crisis and the new environmental awareness were hard upon us, and here was a human-powered (alcohol-powered to some) table saw from 100 years ago! To me, it looked not like the past, but like the foundation of a better future.

Still learning?

More than ever – because I teach so often. If you regularly work with classes of 10 amateur woodworkers – who read all the magazines, all the blogs, watch all the online videos – every gap in your knowledge will be rudely exposed. I have learned more in the last seven years of teaching at my school than I did in the two decades previous when I was just on my own.

What do we need to do to encourage more people to pick up tools?

We are just the latest to take up the challenge of keeping the craft alive. Joseph Moxon lamented the decline of persons 'conversant in the handy-works' over three centuries ago, and wrote his 1678 book *Mechanick*



All about Roy Greatest success to date

I started *The Woodwright's Shop* over 37 years ago, swinging an axe and making chairs and chests out of trees. It was an easy success, because it connected with something deep in everybody's soul. I can ask any crowd of people, 'Who here is descended from a great woodworking ancestor?' and everyone can raise their hand. Now I have a school where I teach traditional woodworking and have the great pleasure of putting well-worn vintage tools in the hands of a new generation of woodworkers. So, as for my greatest success, I must admit I have maintained my enthusiasm and even become somewhat optimistic! What more could anyone ask?

Have you worked anywhere else in the world
Filming *The Woodwright's Shop* has taken us all over Europe and Great Britain as we explored the roots of American woodcraft. Some favourite places have been the Weald and Downland Open Air Museum, the tools and artifacts from the Mary Rose and the Welsh Folk Museum.

Tell us a little bit about home life.

I live in an old mill over a waterfall, and it's a good thing that I like mending things, because decay never sleeps in a timber building perched over running water. A typical day, after returning from teaching at my school, might involve shifting massive wooden beams to support an endangered wall, searching below the waterfall for any uprooted trees that came downstream in the last flood, or making replacement casement windows for the miller's cottage up the hill. After that, it's dinner and a glass of wine or two with the girl from the drama class. Not so bad, now that I think about it.

Exercises specifically to encourage more people to make things. Like Moxon, I believe that teachers with a generous and supportive spirit for newcomers are as important in the continuing tradition as the hard-core artisans who preserve the highest standards of the craft. We need both.

If I could offer you a part in a West End play what would it be?

I asked the girl that I followed into the drama class this question. Apparently I am too old for Hamlet, not enough of a warrior for Henry, but perhaps bedraggled enough to make a go at Willy Loman from *Death of a Salesman*.

Describe your most memorable 'eureka' moment in the workshop.

A teacher is always searching for the most succinct way to express the essentials of the craft. Muhammad Ali inspired a motto that sums up what I most need the students to grasp about working with hand tools: 'Saw like a butterfly, plane like a bee!' It's a constant challenge to get the students to lighten up on the saw and to shoot through with the plane. Discovering another tool to get this into their heads and hands is a diamond treasure.

If you could trade the workshop for an alternative career what might it be?

Seriously, the state of democracy in the US is so dire that anyone with a care for our future has to go into politics. There – I said it! Our electoral boundaries have been so manipulated that our votes no longer count. I want to save the world through hand-tool woodworking, and if I can't do that, my only ethical undertaking would be joining the struggle to restore democracy in America.

What haven't you got time for?

Whingeing. We don't have that word in the US, but it seems we have plenty of what it refers to.

Is there a particular period or genre that you're drawn to?

To appreciate traditional 'American' woodworking is to appreciate the world. All the different cultures that converged in this land of magnificent timber adapted to the new environment, but kept their connection to their own traditions. Where I live, we can trace the African, Anglo and German influences manifested in perhaps the best wood that the planet has ever seen. That said, my first love is British woodland crafts and I would rather be making a proper Sussex hay rake than just about anything.

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