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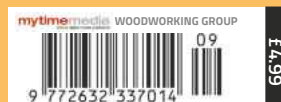
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Welcome

Many regular readers will be familiar with my tales of travelling to Cornwall to see my family, but unfortunately, due to lockdown and travel restrictions, I've not been able to visit for nearly a whole year. I was supposed to be going at the end of March, but this coincided with services being cancelled, so although I managed to receive a full refund on my train ticket, it sadly meant that my trip was delayed by nearly four months.

Countryside escape

I'm sure I'm not alone in having struggled through the lockdown period and experiencing a sense of isolation. Needless to say, I was overjoyed to be able to escape Brighton for a week (although I've been doing my best to make the most of the beautiful scenery on my doorstep), but still, a change is as good as a rest, and I was very eager to get away for a while and experience the peace and quiet of the tranquil Cornish countryside.

One of my favourite parts of the train journey is just gazing out of the window at the glorious rolling fields, livestock, trees, streams and farmland, while reading a good book and enjoying a spot of lunch. It was so refreshing to leave the city and take the pressure off.

During my trip from Exeter, I passed several craftsmen in lay-bys selling wonderful chainsaw-carved sculptures, and the expertise on show was really quite impressive. There was a great selection of carved creations, as you can see, and I was particularly drawn to the horse, which would look fantastic in any garden or outside space.

Woodland walks & equine friends

During my time in Cornwall, I went on many woodland walks and runs, and it was amazing to be immersed in nature for a little while. Crackington Haven, near Bude,

has a fantastic hidden woodland, which I have been visiting for nearly 30 years. During this time, the trees have matured and it is now a green oasis full of wildlife, with streams and an assortment of wild flowers. I was the only person walking there too, so it was especially serene and peaceful. Just what I needed!

Another highlight of my trip was horse riding with my niece on the coastal footpath, which I have to admit was a slightly daunting experience at first! However, once I got the hang of things and relaxed a little, I was having a great time and my equine friend, I'm glad to say, was very well behaved and happy to go at a steady pace.

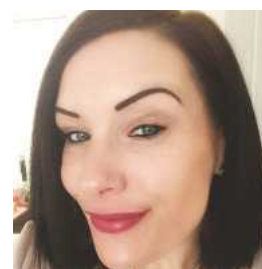
Serving the community

I came back to many lovely emails and letters from readers commenting on the magazine and how important it has been to them during this difficult period. It's fantastic to know that, despite these trying times, we are still able to serve you and through the magazine and our online social media platforms, engage and support one another, sharing photos of pieces made and also seeking advice and help from other like-minded woodworkers.

We endeavour to make the magazine as best as it possibly can be, and we thank you for your continued support and well wishes, especially during the last few months. Please keep in touch and let us know what you've been making, what we can do to improve the publication, and together we can make *The Woodworker* better than ever!

Tegan

Email tegan.foley@mytimemedia.com



Tegan Foley

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Phil Davy

Technical & Consultant Editor

60 SHARP END OF THE BARGAIN

In this in-depth article, Mike Darlow looks at sharpening angles in general, grinding equipment, honing, the three popular types of grinding jig, as well as how to sharpen the main tool types

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 details on how to enter



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Inveterate collector Robin Gates finds the answer to life's little curiosities in the July 1911 issue of *The Woodworker*

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Don't miss out on the opportunity to be part of this fantastic new award, which champions UK furniture making talent while celebrating the life and work of the late Alan Peters OBE

ON THE COVER 48 Tipping the balance

Choosing to make furniture and wooden objects that are different and unique, just like we are, Fernanda Nunez' furniture making style focuses on traditional craftsmanship that often combines modern methods with striking visual effects, finds Martin Pim-Keirle

66 Back in the workshop and every day feels like the first day of school!

Tom Fraser, Principal of The Chippendale International School of Furniture, is excited to welcome students back to the school after months of lockdown and discusses plans moving forward, following government guidance

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From the humble beginnings of a domestic garage, Neil Stevenson, Owner and Managing Director of NEJ Stevenson Ltd, has grown the company to remarkable heights, albeit facing some challenges when he started, as Axminster Tools & Machinery's Lillie Filtness discovers in this article

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Despite the lovely weather, it's great to see that woodworkers are still busy in their workshops! We hope you enjoy this month's selection of wooden wonders, specially selected from Instagram



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Join Zac Matchett-Smith as he makes a custom-built desk in maple and ash complete with hairpin legs, all in time for his girlfriend's 30th birthday

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Peter Vivian comes up with a novel design for his take on a traditional Mancala board

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Inspired by the vivid colours of the cenote lakes in Mexico, Les Thorne creates a textured and airbrushed bowl that incorporates greens and blues to simulate the effect of deep water

86 Follow the rainbow

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



42 Start-up diary – part 3: making the most of lockdown

With lockdown scuppering plans for his fledgling business, Simon Frost decides to focus on setting up an online shop for small products, organising the finances of his business, and making a piece of bespoke furniture for his partner

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In light of the current Government restrictions on social distancing and for the safety of visitors and staff we have now taken the decision to **POSTPONE** our show until October 2021.

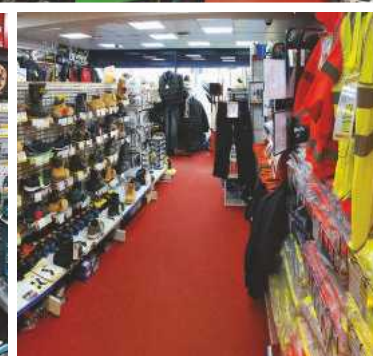
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A+E NETWORKS UK commissions ambitious woodworking competition for SKY HISTORY



The Chop contestants Lua, Saf and Ollie working

A+E Networks® UK has commissioned a large-scale competition format series with a historical twist, *The Chop: Britain's Top Woodworker* for Sky HISTORY. This carpentry contest with a difference is produced by Big Wheel Film & Television as a co-production with Motion Content Group and will air in the UK on Sky HISTORY in October. Hosted by comedian Lee Mack, TV presenter Rick Edwards and Master Carpenter William Hardie, *The Chop: Britain's Top Woodworker* sees 10 of the country's finest carpenters gather in Epping Forest to whittle, carve and chop their way to the final, to see who will be crowned Britain's Top Woodworker while being offered the chance to stage their own personal exhibition at the prestigious William Morris Gallery in London.

Master Carpenter William Hardie oversees the construction of a grand and spectacular cabin in the woods, adding a new room every week, each on a different historical theme, including Nelson's cabin on *HMS Victory*, a Victorian pub, a Gothic bedroom, a Georgian hunting lodge, and a 1960s' *Mad Men*-inspired lounge.

A living museum

The contestants are tasked with creating amazing items and artefacts to furnish the rooms while expert guest judges with specialist knowledge of the different historical eras help Lee, Rick and William decide who progresses to the next round and who will get the chop.

Week by week the cabin evolves to become a living museum of what is possible in woodwork.



The Chop's William Hardie with contestant Annie

Lee Mack said: "When I was at school I loved woodwork, mainly because there was never any homework. Being surrounded by the amazing carpenters in this competition has reinvigorated that love, and has inspired me to invest in my first shingle froe (Google it...)" Rick Edwards added: "I came into this show knowing absolutely nothing about carpentry. The contestants and Will took me on a real journey. I learnt about techniques and styles of woodwork and, perhaps most importantly, I learnt things about myself – for example, I'm not

good with my hands. It's great to be part of a show celebrating a trade that, in an era of disposable furniture, deserves more respect and appreciation. I'll never look at a table in the same way again."

The series has been commissioned by Dan Korn, VP of Programming at A+E Networks UK, and Diana Carter, Commissioning Editor and Head of Talent at A+E Networks UK. He said: "We're thrilled to be collaborating with the great team at Big Wheel and Motion on this exciting and innovative new format, the scale of which you would only expect to see on terrestrial channels. The skill and endeavour on show in the series is breathtaking, but what makes *The Chop* particularly special is the remarkable contributors

whose patience, good humour and temperaments are tested to the limit in this high pressure and wholly entertaining new series."

James Quinn, CEO of Big Wheel Film & Television, continued: "We're delighted to have worked with A+E Networks UK on such a large-scale and ambitious series. An enormously talented and hard-working team has created a playful, entertaining and inspiring show that we at Big Wheel are very proud of."

Executive Producer for Motion Content Group, Melanie Darlaston, added: "It's a series that showcases and celebrates real talent. It's also very funny – what's not to like?"

The Chop: Britain's Top Woodworker is produced by Big Wheel Film & Television, and is a co-production with Motion Content Group. The new series will be broadcast in the UK on Sky HISTORY in October 2020 and will be available on Sky, Virgin, BT, TalkTalk and NOW TV. The series will also launch on HISTORY® in the Netherlands, Belgium and Sweden in October 2020.

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Arts & Crafts furniture tradition saved & given a new future in SCOTLAND

A great tradition of the Arts & Crafts movement is being saved and given a flourishing future as two young chairmakers prepare to open a workshop at Marchmont House in Scotland. Lawrence Neal, thought to be the last UK craftsman earning his living from making rush seated ladderback chairs, had been looking to retire from his workshop in Stockton, Warwickshire, after half a century and had no successors, but his legacy, as the keeper of furniture-making practices dating back to the 19th century, is now secure.

On 1 July Sam Cooper and Richard Platt opened the Marchmont Workshop, a new centre that has been specifically designed and equipped to continue a craft that might otherwise have faced extinction. After completing two years as apprentices they will be the sixth generation, in an unbroken line, to make chairs to specific designs handed down from Arts & Crafts luminaries such as Ernest Gimson, Edward Gardiner and Philip Clissett. Richard, aged 25, a music graduate who has made everything from guitars and turned wooden bowls as a hobby, sees the new venture as being much more than a business.

He said: "It's quite scary and a little daunting to be handed the reins of a tradition that goes back to great names like Gardiner, Gimson, Clissett and the Neal family. We are very aware that we're not just chairmakers, we're custodians. Our aim is to reinvigorate this craft – to teach people about its history and encourage others to take it up."

Stories & origins

The pair will specialise in 10 types of side and armchair, plus three types of rocking chair, each one learned from Lawrence and with its own particular story and origins; however, they intend to innovate, not least by experimenting with woods such as sycamore and beech that are prolific in Scotland and also hope to put an emphasis of sustainability. Rush seated ladderback chairs were popular with the Arts & Crafts movement because they embodied its values of fine traditional craft making, inspired by nature and offering practicality, simplicity and beauty. Sam, aged 27, a former scuba diving instructor who has loved carpentry since secondary school, was working for a logistics company in London when the apprenticeship opportunity came up.

He said: "I used to bunk off other lessons so I could spend all my time in the tech lab, to ensure I could do woodworking, and have been practising it as a hobby ever since. I really wanted to find a way to turn it into a career, so when this opportunity came up, it was a dream come true."

Both appreciate the idea that the furniture they make will be cherished for generations and will find places round dining tables and in living rooms, in every property from country homes and farmhouses to upmarket metropolitan flats. They already have orders from every part



HCA Trainee Award 1 – Sam's first chair



Sam Cooper (left) and Richard Platt (right)

Hugo Burge, Marchmont's Director

of the country, from Truro to Edinburgh, and have been shortlisted for the 2020 Heritage Craft Association Trainee of the Year award. The apprenticeships and workshop were set up by Hugo Burge, Marchmont's Director, who has restored the mansion, with his Father Oliver Burge, near Greenlaw, with the idea of making it a home for artists and makers. He has a personal love of the Arts & Crafts rush seated ladderback chairs, dating from his days at Bedales School where the Arts & Crafts library is furnished with them. Hugo said: "Many of the great names of the Arts & Crafts movement and British design created their own version of rush seat chair – including Mackintosh, Lutyens, Voysey, Morris, Heal and Russell. They are a truly important part of our craft history. When I discovered that Lawrence Neal was planning to retire and had no successors, I thought it would be a tragedy if this understated craft, with such a long history, was to be lost."

Future of the craft

Marchmont House already has a collection of around 150 antique rush seat ladderback chairs, possibly the best in the UK. The new venture means it is playing a role in the future of the craft as well as preserving its past. A series of estate buildings are being refurbished to create seven units for artists and makers, with the Marchmont Workshop being the first to open. Lawrence Neal, who still takes some commissions, echoed Hugo's feelings: "I always hoped this craft would have a life beyond me, that there would be someone to take up the torch and carry on the trade. If this was lost we would be losing part of our heritage."

- The chairs are made in batches from green wood and each one involves a minimum of two full days' highly skilled labour.
- Sam and Richard carry out every part of the process from sawing the logs and cutting the rushes through to the final finishing and building of the frames, as well as weaving the rush seats.
- Well-known figures who are fans of traditional rush seat ladderback chairs include David Linley and they can be found in places such as The Art Workers Guild and Bedales School library.

A film *The Chair Maker: Lawrence Neal* can be seen at <https://vimeo.com/283958058>. For more information on the Marchmont Workshop, see www.themarchmontworkshop.com.



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YOU'VE GOT THE POWER WITH MAKITA'S NEW 40V LINE-UP

Introducing Makita's range of highest power cordless solutions yet: XGT 40V Max. The XGT range of machines – including combi drills, grinders, rotary hammers, impact drivers, circular saws and reciprocating saws – offers high output, durability and fast charge times, keeping you working for longer without disruption.

An introduction to XGT

XGT 40V Max is the new standalone cordless battery platform from Makita, with its own range of tools, lithium-ion batteries and chargers. The new 40V Max system will stand side-by-side with Makita's industry-leading LXT platform to offer a battery solution for all applications. XGT has been built around three concepts:

- **High power** – with 40V Max power, XGT is the most powerful battery platform in the Makita range. The increased output is ideal for industrial, higher demand applications. In fact, XGT, cordless machines offer output that can genuinely rival the high power of corded tools and even some petrol engine machines. The XGT range benefits from a completely new design – across the machines, the batteries and charging system. Instead of going for a higher voltage battery, the Makita R&D Team has developed a system with improved construction and advanced technologies to achieve optimum power and performance. When going for a higher voltage battery there is a trade-off between power and run-time; however, XGT delivers balanced run-time delivered from the new 40V Max motor and battery platform, with all the power that is required for heavier-duty applications.
- **Tough design** – the new XGT batteries have been engineered with durable design features to minimise damage and withstand tough environments. The heavy-duty outer casing and cell holder, plus shock absorbing housing, protect the battery if dropped. Each battery also has an IPX4 rating, which means that it is splash- and shower-proof, and water ingress is limited – ideal for those working with pipework or outside in unpredictable weather. Their design also prevents damage from dust. The XGT batteries include high rigidity rails, which firmly hold the battery to the tool, making them suitable for use with high power products and heavy-duty applications.
- **Smart technology** – to optimise battery performance and charge times, XGT features Makita's unique smart system technology. This in-built programme allows digital communication between battery and charger, as well as battery and tool, to provide protection against issues such as discharge and overheating. For example, if the battery has overheated, the charger will cool it down before charging begins. This significantly speeds up the charging process, thus minimising down-time.

Kevin Brannigan, Marketing Manager at Makita, said: "This is an exciting time for existing Makita users and new users alike. Makita's new XGT platform is the next generation in cordless technology, leading the way in both performance and intelligence. With XGT, you can experience the same high power associated with corded and petrol machines, but with the increased flexibility of cordless, making XGT the ideal solution for

high demand, industrial applications. The complete solution of our existing LXT 18V system and the new XGT 40V platform offers even more battery-powered solutions for a truly cordless jobsite."

What's in the range?

Makita has launched a number of new products for the 40V XGT platform, each suited to high demand applications – including cutting, grinding, drilling and fixing. To maximise on site efficiency, the tools are designed to offer outstanding performance, ease of use and operator safety. The new 40V XGT line-up includes the following:

- **TD001G impact driver** – delivering 220Nm of max torque and 10 tightening modes.
- **HP001G combi-hammer drill** – providing 140Nm of max torque and 41 electrical clutch settings.
- **GA004G, GA005G, GA012G and GA013G angle grinders** – offering the same power as 1,100W corded grinders.
- **HR003G and HR004G SDS-Plus combination hammers** – which include anti-vibration technology and benefit from a HEPA filter dust collection system.
- **HS004G circular saw** – with a no load speed of 6,000rpm, 480 bevel capacity and AWS wireless connection facility for use with compatible dust extractors.
- **JR001G reciprocating saw** – achieving 255mm capacity in wood and Ø130mm capacity in pipe.
- All models are available as body only machines, or complete models with battery, charger and ADP10 adaptor for charging LXT 18V batteries via the XGT 40V charger.

To improve durability, the new XGT tools also benefit from Makita's Brushless motor. As there are no moving parts within the motor causing friction and wear and tear, ongoing maintenance costs are thus minimised. No friction also means that no energy is lost through heat production, which increases run times and keeps you working for longer, as you don't have to regularly stop to replace or recharge the batteries.

To support the new product range, Makita has also launched a selection of accessories. The 40V batteries can be purchased individually and are available in 2.5Ah and 4.0Ah versions. To minimise operator fatigue – and maximise on-site productivity – the batteries are light weight. For example, the 2.5Ah XGT versions weigh just 100g more than 18V LXT alternatives.

To charge the batteries, Makita has launched the DC40RA 40V Max fast charger. Due to the smart system, the DC40RA offers optimised charging. For example, a 2.5Ah XGT battery can be charged in just 28 minutes and a 4.0Ah battery in 45 minutes.

For those that are currently using Makita's LXT products, the company has developed an adaptor that allows you to charge your LXT batteries using the XGT charger, which makes changing between tools effortless. With the adaptor, LXT batteries charge in just 22 minutes (for 3.0Ah LXT batteries) and up to 40 minutes (for 6.0Ah LXT batteries).

To launch the new XGT range, Makita UK will also be offering a new redemption deal on selected models, so contractors can claim an extra 40V battery completely **FREE** of charge. To find out more, see www.makitauk.com.



NEAT ELITE RANGE – robust, easy fitting & attractive



These hinges are extremely easy to fit in just three steps: rout, drill and fit. Simply cut a mortise into the box with an 8mm downcut spiral, then drill the holes (drill jig available) and fit. They come with a mirror polished finish and are the only siderail hinges in the world with a true fully round knuckle. This is achieved using a unique stop system, which is concealed inside. The Neat Elite hinges are an incredibly attractive hinge whether viewing from inside the box or from the rear. Ian will soon be offering a gold-plated version, which he produces in-house to control quality and help keep the cost to a minimum.



Hinge technical

Neat Elite jewellery box hinges are ideal for boxes with a minimum wall thickness of 12mm. Each hinge is 8mm wide × 43mm long with an opening degree between 91.5-93.5 (pairs are matched up). Leaf thickness is 3.3mm.

Hinge pricing

These hinges are available in brass and stainless steel and cost £25 for the brass and £45 for the stainless steel versions (including two sets of quality screws).

Neat Elite Lock: great action, easy fitting & quality

The new Neat Elite Jewellery Box Lock is the only solid brass full mortise box lock on the market. The lock mechanism has a very satisfying click on opening and closing, which is due to its unique internal design. It is far superior in quality to the plated ones available. This is a precision made, full mortise box lock, so don't risk your plating flaking or use a weaker base material for locks on your perfect boxes – instead, buy the ultimate box lock directly from Ian, online.

Lock technical

The Jewellery Box Lock is available in either solid brass or solid stainless steel and both types are polished to a mirror-like finish. The lock strike plates, lock casing and key, are all created from this robust metal. The Neat Box Lock plates are 8mm wide × 76mm long with a case depth of 25mm. Distance to pin is 16mm. Each lock is supplied with two sets of screws and one elegant key.

Lock pricing

These locks are available in brass and stainless steel and cost £36 for the brass lock and £42 for the stainless steel lock (including two sets of quality screws). To find out more, call Ian Hawthorne on 028 90 836987 or email info@fineboxhardware.com. Fitting instructions are available online at www.fineboxhardware.com/box-hardware-instructions.

READER OFFER

Ian would like to offer any reader interested in purchasing either of these locks 10% off the original price. Please quote code 'WWLOCK10' when ordering direct

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TREND AIR MAX PRO BATTERY-POWERED RESPIRATOR

MANUFACTURER: Trend
D&M GUIDE PRICES: See our website

Trend are excited to announce the launch of the amazing Air Pro Max. Head, eye, lung and (optionally) ear protection is provided to ensure the user is fully protected while working on a multitude of projects. Single users or businesses alike can ensure safe working practices with the ultra-efficient protection against harmful airborne particles, head impact, and flying debris. The compact, lightweight unit meets HSE industrial standards for consistently reliable protection across a range of applications.

Using a quiet motor-driven fan within the helmet, it delivers positive airflow at 220 litres per minute. This provides restriction-free breathing for day long comfortable use while also preventing inward air leakage.

No face fit required for a tight seal means the Air Pro Max is ideal for users with facial hair and can be used with prescription glasses without any fogging or misting issues.

A built-in LED indicator within the flip-up visor shows when the battery is close to depletion or if the filter requires replacing. This ensures safe working practices at all times.

The Air Pro Max provides premium all-in-one head, eye and respiratory protection in a well-balanced lightweight design, delivering to HSE specification for industry and trade use ensuring fatigue-free day long use. Additional ear protection is also available with a set of optional clip-in ear defenders. Perfect for use with tools that create excessive noise, such as breaking hammers, machinery, or in noisy work environments, which makes the Air Max Pro the perfect solution for supreme sensory protection on four levels.



TREND T32 M CLASS SITE VAC & DUST EXTRACTOR

MANUFACTURER: Trend
D&M GUIDE PRICE: £ 159.95 (inc VAT)

Expanding on the Trade and professional's favourite Trend T31 and T35 dust extractors, the company's dust control range is further expanded with the inclusion of two new 800W 'M' class compact extractors: the 230V T32 and the 115V T32L.

The T32 is fully certified for Professional use – conforming to standard 2006/42/EC – which is unheard of at this price point in the market and means that the T32/T32L are truly 'Site-Certified'.

With two voltage options and a robust steel canister, the T32 is 'Site Tough' and ideal for use by general builders, carpenters, decorators and other trades.

Despite its small overall size, capacity is large – dust and debris is captured within the 20 litre drum and the 15.3 litre capacity disposable synthetic filter bags with microfibre dust controlled by the secondary Class M (H13 rated) Pleated HEPA filter, which capture at 0.3 microns and above with 99.9% efficiency.

A manual shakedown filter cleaner and low airflow indicator ensure the T32 is always working at its best, helping to shield the end-user from harmful dust exposure.

The compact, lightweight design makes transportation easy without taking up valuable space when being moved to and from the jobsite and with the durable steel drum, it's designed to withstand the knocks of daily trade use.



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What's not to like?

Inveterate collector Robin Gates finds the answer to life's little curiosities in the July 1911 issue of *The Woodworker*

One positive among the overwhelming negatives of lockdown, I had thought, would be the time I'd spend decluttering the house. By turning out cupboards, sifting through drawers, even venturing into that most frightening of hinterlands – under the bed – I'd prepare this domestic ark for the next leg of its voyage through family life.

Then the June issue of *The Woodworker* arrived, and as I read Dave Roberts' how-to article on making a turned wall-hung version of the Victorian corner whatnot, I began seeing my collection of rock specimens, broken Dinky toys, obsolete cameras, fossils, ink-stained fountain pens, mothballed tools, badges, pressed flowers of distant summers, wind-up watches, driftwood fragments and what not in a different light. These things were not clutter so much as irreplaceable keepsakes, each stirring the memory of a meaningful time or place, and deserving a better fate than eBay, the charity shop or rubbish bin.

Sorting through the sedimentary layers of books laid down on my side of the bed, I came across a bound volume of *The Woodworker* from 1911, and a timely coincidence. I imagine the book had sunk there when its somniferous mix of Art Nouveau carvings and fanciful fretwork finally gave way to sleep. Now time stood still while I turned the fragile pages of some hundred years before, leafing through articles on needlework, enamelling and silversmithing (the magazine's full title then was *The Woodworker and Art Craftsman*) until this 'Novel Whatnot' from the July issue caught my eye.

Living in a virtual world

But it wasn't just Dave's recent article that stirred my interest in this other whatnot, it was a feeling of having seen it before. Yes, there could be no mistake, a near copy of this piece had stood in the window of my Great Auntie Pat's flat overlooking Southsea Common. Back then, to my tired pre-school legs, the twists and turns of the staircase, from the street to her polished door, had seemed to go on forever, growing darker as we climbed, and waymarked by the strange aromas leaking from other peoples' kitchens and bathrooms. Then in we trooped to a wonderland of ornament and souvenirs crowned by the free-standing whatnot taking pride of place in the window.

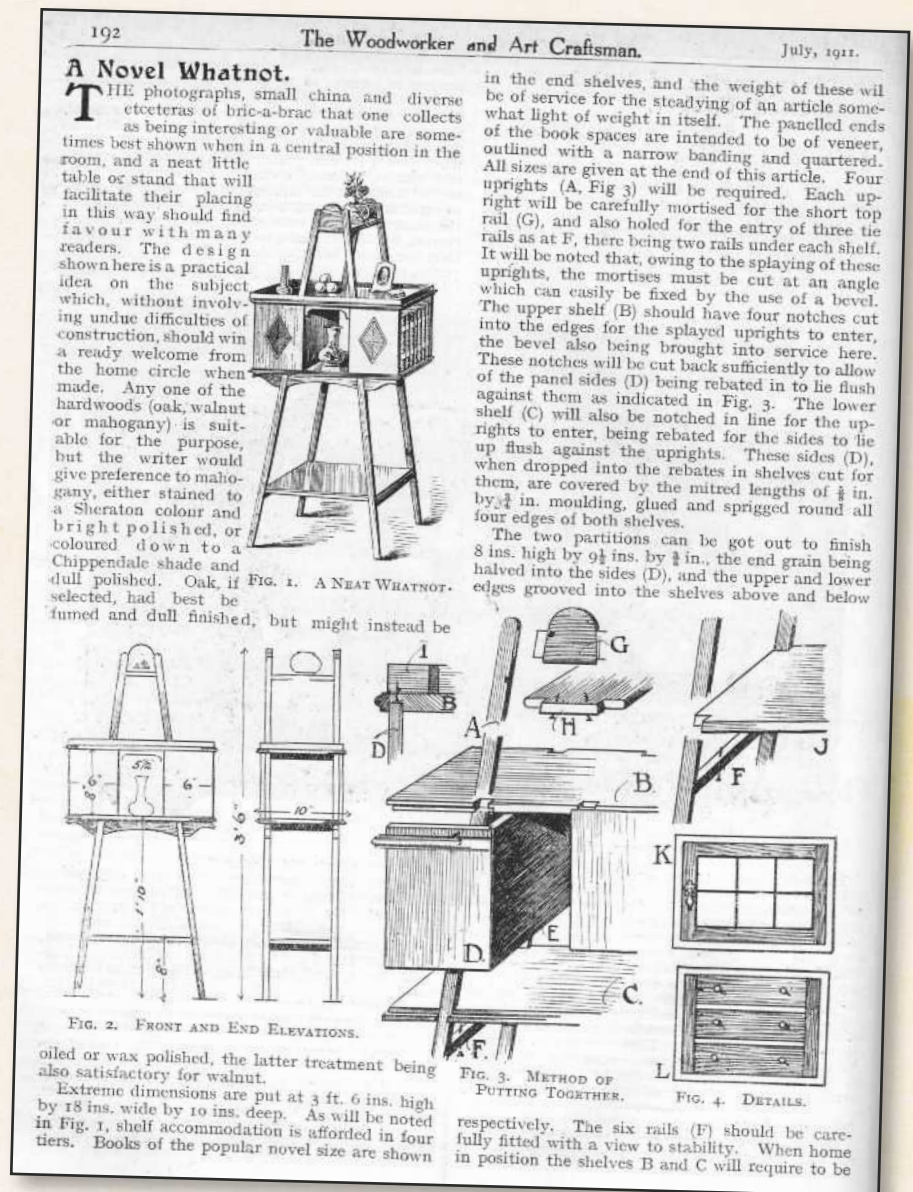
It was like a piece of Victorian seafront architecture in itself, a miniature Blackpool Tower, or perhaps a funicular railway car paused halfway up a cliff, and loaded with treasured mementoes. Seashells and silver-framed photographs, medals,

autumn leaves collected on the common, tiny gold-rimmed spectacles, poetry books, gramophone needles, a sewing basket on the bottom shelf and on the top a china model of a lighthouse. Toddling up to it with hands outstretched for investigation I could sense the mixed feelings of those watching: on the one hand, 'Yes, let the little chap explore'; and on the other, 'For goodness sake don't break anything!'

60 years on, I have decided it isn't less of this emotionally-charged 'clutter' I need so much as the furniture to organise and do it justice, and for that surely some variation on the whatnot is the perfect piece, a veritable shrine to human

curiosity and the collecting instinct.

I have spent too much of my time in a virtual world this millennium. The things I've uncovered during lockdown will help remedy that by reminding me of what's real. Old coins, twisted copper boat nails, ammonites, fragments of Roman roof tile, a Victorian oil can – this is tangible stuff, it has weight and texture, it even smells like what it is and where I found it. So today I've added to my collection with glass turned iridescent by the years spent buried in a field, and a weft of Ryeland sheep wool plucked from brambles along the way. Once a collector, always a collector! ✂





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FESTOOL TID 18 18V IMPACT DRIVER

If you're looking for an impact driver that offers the ultimate in ergonomics, performance and build quality, you're unlikely to find better than this offering from **Festool**, says **Phil Davy**

It's been some time since I've tested a product from Festool, so the launch of their new 18V TID 18 impact driver is a good time to become reacquainted. Unlike a cordless drill/driver, an impact driver is a more specialised tool and for certain jobs it can be a real time saver. Primarily used for driving screws without needing to drill pilot holes first, it's a fast tool, ideal for first-fix work. For installing decking, studwork, floorboards, OSB, plasterboard or most other sheet materials, it's much quicker than using a conventional drill/driver. The downside is not always ending up with precise, countersunk screw holes, though for exterior work, shopfitting or most first-fix carpentry, this isn't a problem. While an impact driver isn't really designed for drilling, it can be used at a pinch with specific hex shank drill bits. Don't expect precision holes, though.

Festool quality

This version of the TID 18 is supplied in a tough Systainer box with two 3.1Ah lithium batteries

and TCL6 fast charger. Recharge time is about 35 minutes, a clear LED changing colour to indicate charging status. Festool also offer 5.2 and 6.2Ah batteries if you want longer run time.

Slotting securely into the base, the battery is flat underneath so the tool sits firmly on a level surface, with little chance of it toppling over. Overall weight is 1.4kg, though the TID 18 does feel surprisingly substantial. It's certainly compact, just 130mm from tool holder tip to the rear, an advantage when working in tight spaces. The body casing has a subtle soft grip, nicely flush where this adjoins the matt finish plastic. This makes the tool very comfortable to hold, with no ridged or textured rubber to cause irritation during extended use.

Equipped with an EC TEC brushless motor, this is controlled via the hefty, variable-speed trigger. Above this is a push-through forward/reverse button, with locking mid position. A bright LED worklight in the base operates when you squeeze the trigger, remaining on for a couple



of seconds after you've lifted off again.

You'll get some idea of Festool quality when checking out the tool holder. Beautifully engineered, it accepts standard 1/2in hex bits, which are a push fit. You don't need to use Festool's Centrotec bit system here. To release a bit you pull forward the knurled, spring-loaded collar. There's storage for screwdriver bits at each side of the TID 18's base, although disappointingly



For installing decking, studwork, floorboards, OSB, plasterboard or most other sheet materials, it's much quicker than using a conventional drill/driver



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A bright LED worklight in the base operates when you squeeze the trigger, remaining on for a couple of seconds after you've lifted off again



To release a bit you pull forward the knurled, spring-loaded collar

none are provided. Storage slots are magnetised, so bits shouldn't fall off and get lost during use. A steel belt clip is included, which can be fitted either side.

Torque talk

Festool's tangential hammer mechanism means that the tool strikes in the direction of rotation when driving a screw, which they claim results in zero strain on the wrist. With a maximum torque of 180Nm, the strike rate is 4,500 blows per minute (bpm).

Batteries have prominent three-stage LED displays to show remaining fuel level, which is activated via a button at the front. Above is a speed selector button and LED ladder display. Press this to choose the speed/torque you want for a particular job. Unlike most impact drivers, this Festool has three speed ranges: 0-1,200, 2,000 and 3,200rpm. There's actually a fourth setting (T), which enables you to drive self-tapping screws through sheet metal, the tool dropping speed automatically as it detects a change in material density.

Whatever speed you've selected is memorised, however, so when you pull the trigger again there's no need to repeat the sequence to find the setting. Speeds can be controlled fairly accurately via the variable trigger.

In use

As expected, fixing some CLS timber framework together using 5 × 70mm screws was a piece of cake. Ergonomically the TID 18 is superb, while performance is what you'd expect from a top class power tool. Festool recommend a maximum screw size of 8 × 220mm for softwood,



Above is a speed selector button and LED ladder display. Press this to choose the speed/torque you want for a particular job



Storage slots are magnetised, so bits shouldn't fall off and get lost during use



Festool's tangential hammer mechanism means that the tool strikes in the direction of rotation when driving a screw, which they claim results in zero strain on the wrist

which is pretty impressive, making the tool perfect for site work. The meatiest screws I could find were 8 × 150mm, a cinch to drive into end-grain softwood. In oak this was no problem either (each time with no pilot holes), though the tool did get quite warm after a few attempts. Depending on timber density it can be a good idea to drill pilot holes with screws this big, although I found it unnecessary. You could argue this defeats the object of such a tool...

Conclusion

This is a professional power tool, which is reflected in the price, putting it beyond the reach of many woodworkers. If you're looking for an impact driver that offers the ultimate in ergonomics, performance and build quality, however, you're unlikely to find better. Like most



In oak this was no problem either (each time with no pilot holes), though the tool did get quite warm after a few attempts



A steel belt clip is included, which can be fitted either side



Batteries have prominent three-stage LED displays to show remaining fuel level, which is activated via a button at the front

power tool brands, shop around and you should be able to find the Festool for considerably less than its RRP. If you already have Festool kit, a bare TID 18 will set you back about £300. The comprehensive warranty is three years and also covers batteries and charger. ✂

SPECIFICATION

Battery voltage: 18V

Gears: 3 + T-Modus

Idle engine speeds: 1st/2nd/3rd gear: 0-1,200/0; 2,000/0; 3,200min⁻¹

Max number of strokes: 4,500.00min⁻¹

Max torque: 180.00Nm

Max screw size for softwood: 8 × 220mm

Tool holder: ⅜in

Li-ion battery capacity: 3.10Ah

Weight with Li-ion: 1.30kg

Drive type: Battery

Typical price: £530.40

Web: www.festool.co.uk

THE VERDICT

PROS

- Three speeds plus T mode; ergonomics and build quality

CONS

- No bits included

RATING: 5 out of 5

WORKSHOP HEAVEN VICTORIAN CABINETMAKER'S CHISELS

If you can't justify the expense of a set of chisels from Lie-Nielsen or Veritas, these ones from **Workshop Heaven** are probably the next best thing, says **Phil Davy**



It may happen in *The Sound of Music*, but it's not often that tools arrive as brown paper packages tied up with string. This tends to be the case with certain top-end hand tools, though – Vesper and Lie-Nielsen spring to mind with their plain paper and cardboard boxes. Now Workshop Heaven have joined the ranks with this set of Victorian cabinetmaker's chisels. Each tool comes individually wrapped – rather quaint but far better than nasty plastic packaging. The plastic blade guards may not be too attractive, but useful protection if you don't have a bit roll or specific tool rack.

Polished steel

Specialising in quality hand tools from around the world, Workshop Heaven often have products made to their specifications, including these



Blades are from high carbon steel, made by renowned toolmaker Narex in the Czech Republic. Ground precisely to 25°, they're almost ready for use

beauties. The set consists of six bevel-edge chisels: 6mm, 10mm, 12mm, 16mm, 20mm and 26mm. Blades are from high carbon steel, made by renowned toolmaker Narex in the Czech Republic. Ground precisely to 25°, they're almost ready for use. Dipped in lacquer, this needs to be removed first; I used fine steel wool and meths, which didn't take long. Fairly keen already, a quick hone on a fine stone produced razor edges.

Blades are polished to a mirror finish and their long edges lightly softened, so no nicks in your fingers when pushing them through your hands. Necks are slim and elegant, while backs were pretty flat checked against a steel rule, too – you'd struggle to get a feeler gauge underneath. Brass ferrules where tangs enter the handles are fitted neatly, while customary leather washers help to absorb shock when using a mallet.



Brass ferrules where tangs enter the handles are fitted neatly, while customary leather washers help to absorb shock when using a mallet



What sets these chisels apart are the traditional London pattern octagonal handles, which are turned in Sheffield



These are tools meant to be used, not kept on display

Rosewood handles

What sets these chisels apart are the traditional London pattern octagonal handles, which are turned in Sheffield. If you're familiar with Sorby's boxwood chisels, these are similar but longer. Made from sonokeling or Indonesian rosewood, this dense hardwood is virtually identical to finest East Indian rosewood (both *Dalbergia latifolia*). With a satin finish (Peacock oil), they're gorgeous and feel very comfortable in the hand, although handles are one size irrespective of blade width. To be really picky, the turned quirks may need a slight clean up with abrasive cord, but that's a very minor issue. These are tools meant to be used, not kept on display.

Workshop Heaven hope to offer these chisels with satinwood handles at some point, similar in appearance and hardness to boxwood. Whatever species you choose, you can be sure the timber is legally sourced.

Conclusion

These are delightful top quality chisels, although currently not available individually. If you can't justify the expense of a set from Lie-Nielsen or Veritas, they're probably the next best thing. If you take pride in how your tools look as well as perform, you won't go far wrong with this set. They could well become a few of your favourite things...✂

SPECIFICATION

Metric sizes: 6, 10, 12, 16, 20 & 26mm
($\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ & 1in in old money)

Blade composition: High carbon steel

Typical price: £149.50

Web: www.workshopheaven.com

THE VERDICT

PROS

- Steel quality, polished blades; gorgeous handles

CONS

- Handles all one size

RATING: 5 out of 5

TREND ADJUSTABLE BENCH-TOP MITRE SAW ROLLER STAND

As **Phil Davy** finds, this ball-bearing roller from **Trend** allows work to be easily pulled onto the bed of the machine

Unless your mitre saw is permanently installed on a purpose-built stand in the workshop, it's likely that you either use it on a bench-top or even on the floor if working on site. When cutting long lengths of timber, boards often need to be supported at the farthest end from the blade. Whether it's a piece of skirting or more substantial CLS timber, unless the free end sits at the same height as the saw table you could end up with inaccurate cuts. Not to mention the safety issue, when a lengthy board drops after cutting.

I often use a mitre saw outdoors and have to revert to finding offcuts to raise the material sufficiently, which is tedious. Of course, it would make sense to build a simple fixed support at the correct height, but that's another of those jobs on the to-do list.

Scissor stand

This new roller stand from Trend solves the problem and with a bit of ingenuity could be

used with other machines, too. Made from 2mm thick steel, it's really sturdy and weighs 1.9kg. With an overall size of 350 x 125mm, it consists of a baseplate with screw holes should you want to fix it permanently in position. Pads underneath stop the stand from moving about on a smooth surface.

The polished steel roller is 250mm long, springs at either end of the shaft enabling it to move lengthways as well as rotate. Ball-bearings ensure this revolves freely, making it easy to slide heavier timbers into position at the saw.

Working on a similar principle to a car scissor jack, you rotate a plastic knob at one end to raise or lower the screw mechanism. Although a slowish process, once you've set the height you probably won't need to readjust, unless swapping from one machine to another. Height to the top of the roller is between 50mm and 160mm from the floor, so a wide enough range to suit any mitre saw. The steel pin joints are robust, operate smoothly and shouldn't need lubrication, though

you'll obviously need to clean out sawdust if it accumulates.

Conclusion

At a pinch you could build a stand so that Trend's clever device can be used as an outfeed roller for a surface planer or perhaps a small table saw. It does take a while to adjust from zero to maximum height, but this is a heavy-duty tool and will actually support up to 62kg. For regular use with long lengths, it may be worth investing in a pair, one each side of the saw. For site work, it's compact enough to keep in the van, too. ✖

SPECIFICATION

Maximum weight capacity: 62kg

Maximum height: 160mm

Minimum height: 50mm

Roller diameter: 25mm

Roller length: 250mm

Typical price: £65.94

Web: www.trend-uk.com

THE VERDICT

PROS

- Heavy-duty; easy to use

CONS

- Slow to set maximum height

RATING: 4.5 out of 5



When cutting long timber lengths, boards often need to be supported at the farthest end from the blade



Made from 2mm thick steel, it's really sturdy and weighs 1.9kg



The polished steel roller is 250mm long, springs at either end of the shaft enabling it to move lengthways as well as rotate



Working on a similar principle to a car scissor jack, you rotate a plastic knob at one end to raise or lower the screw mechanism



The steel pin joints are robust, operate smoothly and shouldn't need lubrication, though you'll obviously need to clean out sawdust if it accumulates

MAKITA DLS211ZU COMPOUND MITRE SAW

Well over 20 years since his first encounter with an exposed blade, noisy, heavy and awkward to operate, wobbly-standing 'chop saw', **Makita** have asked **Jonathan Salisbury** to take a look at the DLS211ZU

It arrived on a pallet in a very large box. As regular readers will know, I like to discover how much I can work out before resorting to the manual (the approach taken by the vast majority, I think!). However, with an expensive and hazardous machine in front of me, and the fact that it was only on loan for a few days, I soon gave up and began reading. My experience

suggests very strongly that you do the same! Since this is not really the sort of machine that can be used on the floor, and it was a nice day, I bolted it to my portable folding workbench for testing out in the open. It would also save on the cleaning up!

The saw requires a small amount of assembly, including the fitting of the blade.



This is straightforward, when you know how – I eventually found the instructions on page 19. The carriage needs to be raised, by pressing down on the handle so that the lock pin can be released. The retaining bolt has a left-handed thread, so righty-untighty, and although the



Access to blade removal requires guard to be moved



Lock pin secured for free movement



Locking handle for carriage tilt



Double battery power!



Grind angle makes a difference



Superb finish requires no further work...



... and is good enough for furniture



Don't forget to press down at the end of the cut!



Easy to read, accurate carriage tilt gauge for bevels



Settings for most of the common mitre angles are indexed



Index unlocking at the press of a thumb



Indexing can also be locked off with a twist



For my next trick...



Compound mitre, anyone?



The quick-release clamp works well

carriage tilt (which gives side-to-side movement for bevels) did not move until pushed, it was not locked in place. A novice user – or any other, for that matter – might be in for a surprise if this wasn't done prior to use. Secure with the handle to the left of the saw guard. Power is supplied by clipping the two charged batteries to the top of the body – no extension cables required!

First try

Once I was certain that everything was safely fixed in place, I switched on. The noise was quite loud, but refined. When releasing the trigger, the saw comes to an almost instant stop. I like this because it speeds up work when large numbers of pieces need cutting and it is safer, reducing the risk of getting the workpiece caught in a moving blade.

In use, the generously-sized handle is comfortable to hold and the mechanism is smooth and requires very little effort to use. On top of the handle, a switch operates the laser guide to show exactly where the edge of the kerf will be – two pre-sets provide blade-edge

readings on the left or the right, as long it is set up correctly. It is adjustable. A strip of LEDs in front of the hand grip provide an indication of battery charge at the press of a button.

The powerful motor is brushless, and therefore requires no frequent checks or associated maintenance. The 305mm blade is big enough to cope with thick posts (up to 107mm) and the pointed profile of the teeth will not rip thin board to shreds. The maximum width of 265mm will be generous enough for most users. Trimming a decking plank to length seemed like a suitable first trial, being not too thick and not too wide. I switched on, pulled down and...

Well, there was not as much noise as I had been expecting, just a slight ring in addition to that produced during the pre-cut, no-load start-up. With a rating of 103dB, though, you do need ear defenders, but it was not enough to trouble the neighbours (and yes, I did ask them!). The soft start means there is no sudden kick and the motor speed adjusts to the resistance of the wood, according to the manual. The razor sharp Effcut blade sliced through wood with ease,

with no tear-out and a finish that required no further work apart from a few stray fibres at the edges. I had to have a few more goes to check this was repeatable. Another piece of decking followed by some square post and then some of my idigbo supply (notorious for splintering and requiring super-sharp blades to prevent it from breaking up) – every cut was perfect. Moving on to some angles, the indexed mitre settings on the turn base were accurate, as expected; the carriage tilt is not indexed, but the gauge is spot on and the pointer can be adjusted if necessary. I also tested the compound setting with similarly excellent results. At this point, it is worth mentioning that the manual has useful lists of angle settings for a variety of different compound cuts.

Other features

A vertical hold down clamp is supplied to secure the work to the base as it is being cut. It looks odd, but works well. Horizontal clamps, and others for mouldings, are also available as optional extras. Long pieces need supporting and the supplied extensions do a good job, but only up to a certain



The large, comfortable, easy to use handle



Easy to read indicators inside the hand grip show battery condition



White button for WiFi, on/off for the laser



Set up the laser to the kerf edge you require

point. The lower fences are fixed, although can be adjusted if they go out of alignment; upper fences are added to these, with a single screw, to support larger workpieces and are removed to allow the blade to pass when cutting bevels. The kerf board is adjustable to ensure as little tear-out as possible and is replaceable if things go wrong. The only problem I encountered was at the end of the first bevel cut when I didn't press down enough and a little bit was left behind, but a second pass soon got rid of that.

The saw produces a fair amount of coarse dust and it does go everywhere if not controlled. There are two ports that are connected with the supplied hose to a dust extractor. I used it with the dust bag, which only connects to the upper port but is very good at collecting anything that heads that way. The base of the saw and floor behind and underneath the bench were covered in fine chippings at the end of the test, though! The one feature I couldn't try was the Bluetooth wireless capability. This provides auto-starting (and stopping) of a compatible extraction unit, if you have one, so it only runs when required.



Chips get everywhere

Conclusion

The Makita DLS211ZU saw is exceptionally well made and it produces outstanding results, thanks to the Efficut blade. The photos do not do justice to the smoothness of finish obtained; it really is easily good enough for cabinetmaking. Using rechargeable batteries and placed on a frame or trolley, it can be located anywhere convenient, even at the bottom of the garden for cutting fence posts or decking boards. But it is not a saw that ought to be reserved for the rough jobs. It isn't light in weight, however. I wouldn't want to be lugging it around on my own every day. Everything is fully adjustable for all angles of cuts and also for specialist operations, such as slots for housing joints.

But quality comes at a price. The Makita DLS211ZU with batteries, charger and a stand will set you back around £1,200 (if you are paying VAT). If you are an occasional user of such items, like me, the cost-per project is going to be quite high – but then this saw will probably last you a lifetime – and it is so pleasant and easy to use, you'd find more



Well-greased components soon trap the dust

work to do on it! As ever, there are several retailers offering all-in packages; look for one that includes the DEAWST05 or DEAWST06 stand recommended by Makita. And is cordless the right choice? Battery technology is improving all the time, but the initial cost, life-span and replacement, whether you use it or not, needs to be factored in too.

Makita has earned a reputation for reliable, high quality power tools that can put up with heavy use – why else would you be offered a three-year guarantee? At this level there is so little to compare the Makita DLS211ZU with; it fits comfortably into the top of the professional power tool category. But why bother to label? "Very serious amateurs" – do not be put off! If you are in the market for a compound mitre saw, then you would definitely enjoy owning this one. ✂

SPECIFICATION

Max cutting capacity: 92 × 382mm

Battery type: Lithium-ion

Voltage 36V: (18V × 2)

Blade diameter: 305mm

Max mitre range: 60°–60°

Bore diameter: 30mm

Max bevel range: 48°–48°

Noise sound pressure: 95dB(A)

Noise sound power: 103dB(A)

Noise K factor: 3dB(A)

No load speed: 4,400rpm

Vibration K factor: 1.5m/sec²

Vibration no load: 2.5 m/sec²

Weight: 30.7–31.3kg

Body-only: Yes

Typical price: £890 (without batteries)

Available extras: BL1850B – 18V battery – £50 each (requires two); DC18RD – twin port charger – £55; DEAWST06 – stand – £140

Web: www.makita.co.uk



Connect a vacuum if you can



The dust bag does a good job of collecting from the top



Straight off the saw – you can't get much better than this

THE VERDICT

PROS

- Superb quality; super sharp blade for a perfect finish; easy to use; no cables to manage

CONS

- Quality comes at a price

RATING: 5 out of 5

XGT

40V *Li-ion* max

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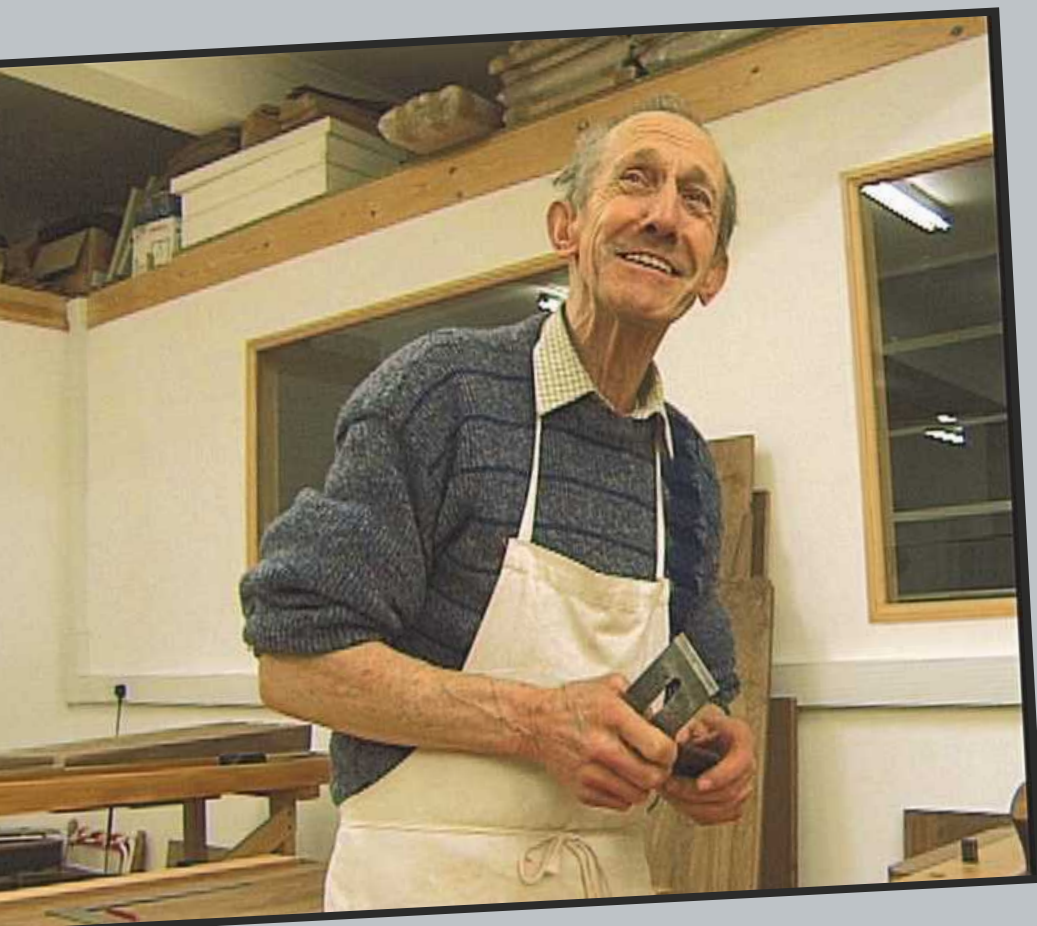
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THE ALAN PETERS FURNITURE AWARD

Don't miss out on the opportunity to be part of this prestigious annual award, which champions UK furniture designing and making talent while celebrating the life and work of the late **Alan Peters OBE**



This newly evolved annual award celebrates the legacy of one of Britain's most prominent furniture designer-makers of the late 20th century – Alan Peters OBE – while aiming to encourage emerging talent in the craft of furniture design and making.

Any woodworker who is a resident UK citizen over the age of 18, and who has a passion and talent for designing and making contemporary furniture, is invited to submit up to two items of furniture that echo the philosophy of Alan Peters. Judging is based on the appropriate use of wood, the quality of workmanship, functionality and originality of design. Both one-off designs and potential batch-produced designs are encouraged.

Applicants should be familiar with the work of Alan Peters prior to applying and are encouraged to read Jeremy Broun's 64-page video-integrated online e-book, which is offered free-of-charge (via the website link opposite).

The man behind the award

Alan Peters OBE (1933–2009) was one of Britain's most prominent furniture designer-makers of the latter part of the 20th century.

He was apprenticed to Edward Barnsley and had a direct link to the English Arts and Crafts Movement. He was hugely influential internationally in his practice, teaching and publications. Above all, his respect and understanding of how wood behaves and the value of hand skill, yet moving tradition forward, resulted in the creation of many timeless pieces. He created affordable functional furniture, which was made to last, making an art of his craft in some of his subtle innovations.



Alan Peters and Jeremy Broun in 2005

PRIZES OFFERED

1st prize

£1,000 Axminster Tools & Machinery voucher

2nd prize

£500 Triton Tools voucher

3rd prize

£300 Judges' prize

Winning pieces will be exhibited at Axminster's Nuneaton store and then at The Wilson Gallery (Cheltenham Art Gallery & Museum).

Award deadline is **currently open-ended due to postponement**.

A £20 entry fee applies and a maximum of two entries can be made (£20 per entry).

The judging ceremony will be held at Axminster's Nuneaton store in 2021 (**date TBC**), and an exhibition at the store will run afterwards.

Following this, the pieces will then be exhibited at The Wilson Gallery – **dates to also be confirmed**.

To download an application form and the 64-page e-book, please visit www.woodomain.com/alanpetersaward. The form can be found at the right of the page. Payment for entry can also be made securely via the website.

For further information, please contact either Group Editor, Tegan Foley (tegan.foley@mytimemedia.com), Organiser, Jeremy Broun (jb@woodomain.com)

PLEASE NOTE

Due to the Coronavirus outbreak and having to postpone the judging ceremony, the deadline for the award is currently open-ended. Please use this extra time to hone your project and make it as good as it can possibly be. Thank you for your cooperation and understanding during this time



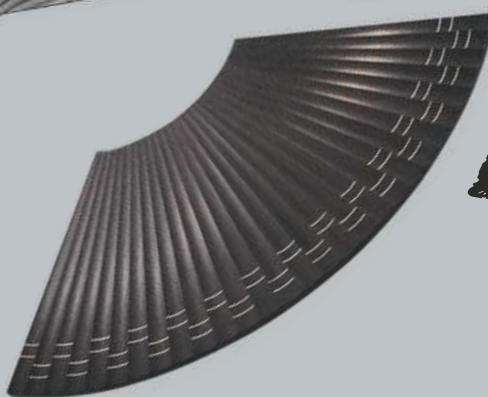
Alan Peters chest with silver inlay



Blanket chest in Douglas fir

History of the award

The original award was called 'The Alan Peters Award For Excellence' and was initiated by Jason Heap in 2010. The prize was offered to three winners, each of whom were given free exhibition space alongside the professionals at his annual furniture exhibition in Cheltenham. The award ran for eight years, and some of the past winning pieces are shown here. The judges were Jason Heap, Keith Newton and Jeremy Broun.



Fan Table detail

Award judges

Jeremy Broun (organiser) – designer-maker and co-exhibitor with Alan Peters 1978–2002;
Andrew Lawton – designer-maker who worked with Alan Peters and on his last commission;
David Barron – professional furniture maker who also produces his own range of hand tools.



A-Z

WOODWORKER'S ENCYCLOPAEDIA **PART 19**

In this next instalment, **Peter Bishop** moves on from the hand saw, the end of the Gs and starts on the Hs with lots of snippets of information for you to digest



Wood-boring beetle larvae

Grub

We refer to the larva of wood-boring beetles as 'grubs'. These grubs hatch out from the eggs laid in cracks and crevices as a result of the adult beetles mating. They'll cause the greatest damage because they bore into the wood where they'll remain for anything from three to five years or so. How long they chomp away depends mainly on the specie, but the environmental conditions can impact as well. So imagine, unbeknownst to you, these little blighters destroying your pride and joy right under your eyes!

Grub holes

The little grubs, as described before, create a maze of tunnels within the wood structure. This is where the greatest damage can be caused. They tend to remain within the outer shell of the wood and can damage it so much so that the tunnels collapse at the touch. The slightly elliptical holes we see on the surface are made by the adult beetle emerging after the metamorphic transformation from grub to chrysalis to beetle. The size of these surface holes will give us an indication of which beetle has made the attack. Small 'pin holes' right through to large 'shot holes' can be checked against identification data to determine which beetle it is and subsequent appropriate action then taken.



Wood-boring beetle holes



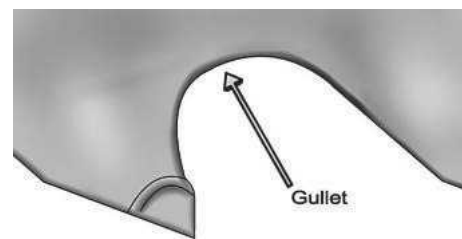
S-125 woodworking table saw overhead blade guard

Guard

A guard does what it says. It's anything that helps protect you from the moving parts of your woodworking machinery.

Gullet

Saw blade teeth, be they hand or machine, are made up from a series of teeth with a gullet in between; the lowest point in the set up. Some teeth will be large and set further apart, with big gullets; others will be smaller and closer together, with smaller gullets. Depending on how the teeth are 'set' (we'll cover this later) the former will be capable of rapid waste removal and cutting, and the latter less waste removal and cutting at a slower pace.



Saw gullet



Pinyon pines are gymnosperms and bear their edible seeds, known as pine nuts, in protective cones instead of fruit

Gymnosperms

This is the botanical classification of most softwoods – conifers if you wish. Trees with needle-like leaves and fruiting cones.



Siberian larch half lap cladding

Half lap

A type of joint usually applied to the edges of equal thickness boards. A simple half rebate runs along both edges enabling the boards to be laid side by side overlapping each other whichever way round you place them. This joint is used on hardwoods to create lorry bed flooring and with other woods, as a slightly different version, for horizontal boarding on the sides of buildings.



Half-timbered houses in Miltenberg, Germany

Half-timbered

We often use this combination of words incorrectly to describe buildings that are 'black and white' and appear to be timber-framed in the old style. The correct use is to describe buildings with an external, timber framework but with a brick, stone or other material as the inner lining. Traditional timber-framed buildings will be made of solid wood frames with infilled panels. Their modern equivalent has come back into fashion over the last half century or so and, in the UK, there are a number of well-known manufacturers

of this style of building. We also have the modern take on timber-framed buildings. These are highly efficient, sectional buildings made with timber panels in a factory and then erected on site. Once assembled, they usually have an outer brick face built around them; the reverse of the half-timbered building!

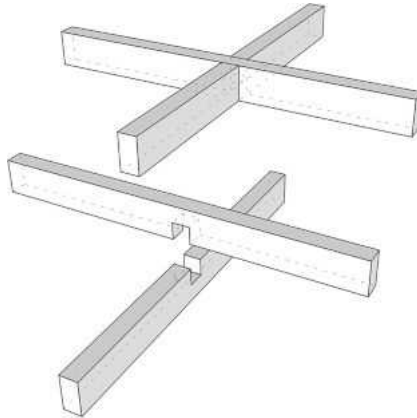


Diagram showing the construction of a halving joint

Halving joint

These are the joints where you cut half away from each component to fit and make it. A number of variations can be used to form these joints along the length of a component or at the end. These can include dovetail, mitre, etc.



Hammer veneering the drawer box carcass with thick lacewood veneer

Hammering

This is when we refer to the use of the veneer hammer to press out all the excess glue when it is being attached to the 'ground' surface.

Hand – left or right

We might ask which 'hand' a door is to be hung on, right or left, or if it already has fittings is it handed and if so on which side. You also need to be aware that some door furniture is handed and may not be altered. You'll get the pack home and find it won't work!

Hand fed

This is when we manually pass a workpiece through a machine or past a cutting head, most likely with a push-stick and with some guards. The alternative is a power feed that is incorporated into the machine or an adjustable add on.



Handrails for stairs from Cheshire Mouldings

Handrail

Any sort of fixed support at about waist height to grab onto. Could be going up the stairs, around a balcony or on a balustrade, etc. Wood, metal or whatever.



Irwin Jack Xpert PTFE universal hand saw

Hand saw

Any type of saw used by hand. Some you pull, some you push. Others need to be sharpened and set or you might buy a pre-set, hard-tooth version that you throw away once it's blunt. You pay your money and take your choice!

Hardboard

We touched on this under the fibreboard heading. Hardboard is one of the original fibreboards. It's not a durable product being made from compressed wood fibres along. Useful as a covering sheet with a smooth surface one side and a textured one on the other.

Hardness

In woodworking terms we'll be referring to how a particular timber might be resistant to indentation or abrasion. Because it's hard does not necessarily mean it's durable.

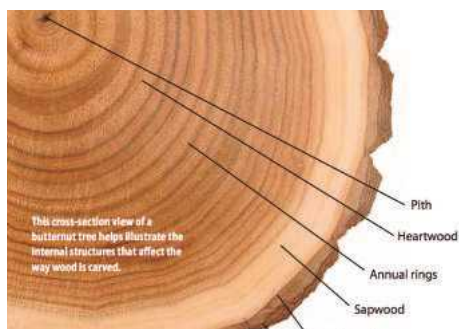


Diagram showing hardwood anatomy

Hardwood

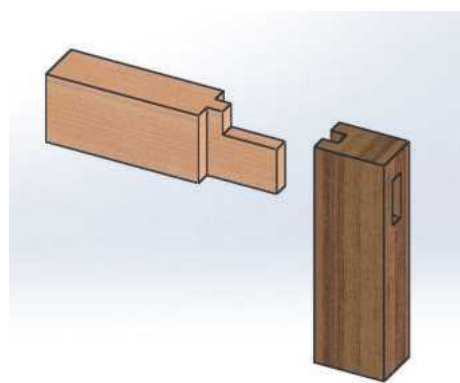
This is the conventional term used to denote timber from broad-leaved trees. They'll have a porous wood structure and belong to the botanical grouping of Angiosperms. The pores of hardwoods will be diffuse, that's evenly distributed, or seasonally aligned – that's ring porous. Hardwoods come in many forms and include balsa, one of the lightest woods you can find, through to lignum vitae, which does not float.

Zinc-coated sterling hasp and staple from Toolstation



Hasp & staples

A two-part lockable door, cupboard or chest fitting. The hasp is the section that goes over the staple into which a locking mechanism can be fixed. To make these fittings secure the screws or bolts used to fix them, which should not be able to be undone. The hasp should cover the staple fixings and so on.



A haunched mortise & tenon joint

Haunch

We normally associate this word with tenon joints. It's when we cut away part of the tenon and reduce it in width leaving a small section – the haunch. The mortise hole is cut to match the tenon shape. Technically you should always cut the mortise first and then fit the tenon to it. It's used where we have an end mortise & tenon joint on a workpiece to avoid cutting too much away, thus weakening the joint.



The Wood-Mizer WM1000 – a big sawmill for big logs

Head saw

In a log conversion mill the first saw in the line will be a 'head saw'. On this saw the sawyer will decide where the first cut is made. That decision will affect the amount of yield produced from the log. The whole machine, with infeed and outfeed mechanisms, will be called a 'head rig'.



Cross-section tree trunk of American oak, with heartwood, sapwood, bark, and clearly visible marrow rays

Heart & heartwood

The first is the heart of the tree, the core or the pith, the very centre that is surrounded with heartwood, which is the main supporting structure for the tree. The heartwood itself is the section that produces the commercial timber. It does not contain any living cells; they're in the sapwood, sometimes called early wood. In most trees, when the trunk is cut through, you can easily tell the darker heartwood from the lighter sapwood, but not always!

Heart box, boxing, or boxed

When a log is brought to the conversion mill there are times when the centre needs to be 'boxed' out. Around the heart there may be some defects such as shakes and splits. If these were incorporated into the lumber produced they might reduce the quality. The heart might be boxed to remove this and the rest is planked up. Alternatively, where beams and posts are produced, the boxing of the heart will mean a large section piece can be cut.



Boxed heart vs free of heart timber

Helical hinges

These are hinges that can swing both ways. You'll see them in restaurants where the waiters might go from the main eating area to the kitchens.

Herringbone pattern

This pattern can be recognised as a veneering detail and as flooring. The first is made up of narrow strips of veneers running obliquely to one and other, side by side with the grain directions opposed. With flooring the wood blocks are laid in a similar way to create the distinctive pattern. ✕

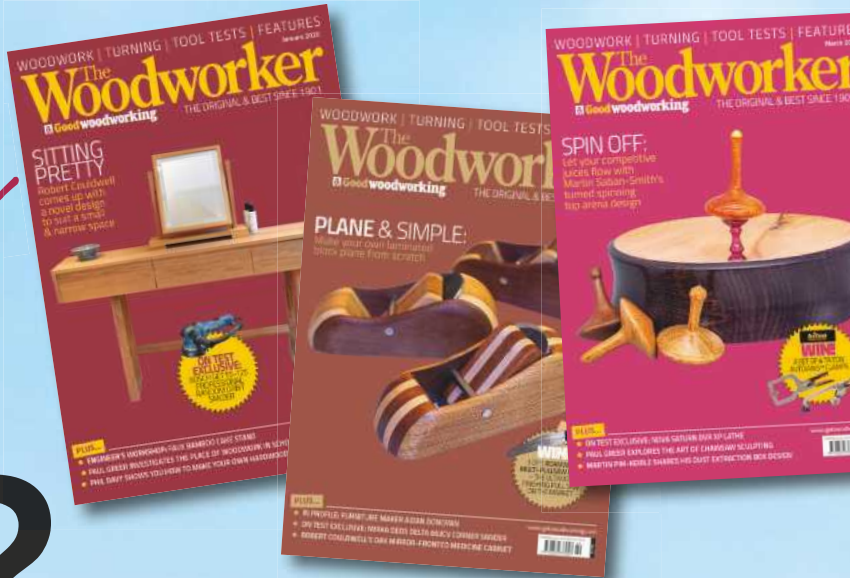


Herringbone natural wood veneer

NEXT MONTH

In part 20 of this series, Peter covers more of the Hs, including hewn timbers, hipped roof, hoppus measure, before making his way into the Is

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The completed 'Walnut Whopper' finished with several coats of Chestnut Finishing Oil

TURNING A 'WALNUT WHOPPER'



Tim Pettigrew shares his experiences of turning a large walnut bowl, which took place over several years

Back in June 2016, my wife had lunch with a friend who told her about a large walnut tree felled in March–April on their family farm. The tree had become dangerous with the trunk decayed and in danger of toppling. Knowing that I was a keen woodturner, she asked my wife if I would like to choose and salvage some of the timber before it was processed into firewood. I jumped at the chance and, on 9 July 2017, was given free access to a pile of rough-sawn lumber, located where the tree had been felled. It must have been substantial as some of the complete trunk pieces were 700mm in diameter (**photo 1**). I filled the car boot with promising timber, which included two sizeable trunk segments. Seven months later some remaining wood was still at the farm and in February 2017, I was kindly offered the chance to fill the car boot for a second time!

This second harvest included another massive trunk segment and some large crotches (forked branches). It was from one of these crotches that I turned a small platter (see 'A walnut surprise' in *The Woodworker & Woodturner*, Volume 121, No.4, pages 26–30, April 2017).

The long & the short of it

I badly wanted to make something big out of at least one of the large (700mm diameter) trunk segments, so was disappointed that all of the trunk had been efficiently sawn across into thin 200–255mm slices by the tree surgeons. Nevertheless, I selected one of the trunk slices shown in **photo 1** (top right).

An end-grain eureka moment!

So given the thin trunk slices, it was clearly impossible to make a large conventional cross-



1 The first harvest (top two) made in July 2016, and the second harvest (bottom) made in February 2017. The 'Walnut Whopper' was made from the large trunk segment shown in the top-right photo

grain bowl or platter, then I had a eureka moment! Why not try and turn the selected trunk segment into a giant end-grain bowl? It has to be said that turning a large green (unseasoned) end-grain orientated bowl from a complete trunk segment is more difficult than turning a cross-grain orientated piece as it has to include the pith. The pith is at or near the very centre of the tree and is the oldest part. It is formed, together with the tree's first few annual rings, of juvenile wood, which has a greater tendency to crack and is thus a focus for splitting as contraction of the timber



The completed 'daughter' bowl



2 The trunk segment marked out ready for trimming with my electric chainsaw. The circle was 430mm in diameter

occurs during seasoning. I hoped that slow drying after rough turning would minimise the risk of the timber being disfigured and rendered useless with shrinkage cracks.

Beginning my 'Walnut Whopper'

There was no time to lose as the wood was drying out and in danger of cracking. No fresh wood was exposed on the trunk section I had chosen so I had no idea where the pith was! **Photo 2** shows how the segment was marked out prior to trimming with an electric chainsaw; **photo 3** shows the fresh wood after making the first chainsaw cut, which gave a hint of the superbly figured dark-brown heartwood hidden within the bark and weathered exterior of the trunk slice.

I cut the trunk into a roughly octagonal shape and decided that the safest way to mount the wood on the lathe was by screwing a faceplate



3 The first cut with a chainsaw revealed the dark brown heartwood and cream-coloured sapwood, which is typical of walnut

to it (**photo 4**). It's important to appreciate that screws driven into end-grain do not have the same holding power as when driven into a cross-grain turning blank, but the 12 38mm long No.14 screws I used were more than adequate.

Mounting on the lathe

The blank was a little larger than the 406mm swing on my Nova DVR lathe, so I had to swivel the headstock in order to mount it without fouling the bed bars. **Photo 5** shows the wood all set to turn. **Photo 6** shows the wood after truing up using 10mm and 12mm bowl gouges. The beauty of the wood was now being revealed with the brown heartwood contrasting with



4 I decided to mount the blank on the lathe by screwing it to a 150mm faceplate with 12 x No.14 size 38mm wood screws



5 The wood was too big for the 406mm swing of my Nova DVR lathe, so the headstock was swivelled by 22° and the toolrest outrigger used



6 The wood after truing up. The slight reduction in diameter enabled the headstock to be swung back into its normal position with the axis parallel with the lathe bed bars. The superb figuring of the walnut was now becoming apparent



7 The exterior of the bowl after rough turning revealed two complex pith areas indicating that the slice had been taken near the base of a fork or crotch. An 80mm diameter 15° dovetail spigot has been cut on the base together with a rough decorative plinth

the white sapwood. During the truing up of the blank, the diameter was sufficiently reduced to be within the 406mm swing above the bed bars, so the headstock could be rotated back into its normal position with the axis parallel to the bed.

A bowl begins to emerge

More work with the bowl gouges saw the outside shape of the bowl formed (**photo 7**).



8 The bowl has been reversed on the lathe and is held securely by the chuck jaws gripping the spigot. The faceplate has been removed and there is now a choice of either using gouges to hollow out the bowl or else to core the inside with a specialist tool to enable several smaller bowls to be made from what would otherwise be wasted as a mass of shavings! I opted to use my Woodcut Bowl Saver coring system to make two successive cores



9 A 12mm deep recess was drilled in the top surface of the bowl with a pilot Forstner bit of 38mm diameter followed by a bit of 60mm diameter. This would subsequently be used to attach the 'daughter' bowls to the lathe by means of 50mm chuck jaws expanding into the recess

Top tips for a functional spigot on a green turning

For a bowl/platter being rough-turned for re-turning after drying, allow for distortion of the spigot as it will need to be trued up before remounting in the chuck. Either make the spigot slightly larger than required or ensure that you have a slightly smaller set of jaws, which will grip the trimmed (trued up) spigot securely. Additionally, it is very useful to ensure that the indentation made in the centre of the spigot, by the revolving (Steb) centre (in the tailstock), is not turned away as it is a useful marker when centring the distorted bowl on the lathe for the final turning phase (**photo 23**).

Hollowing the bowl: to gouge or to core?

Photo 8 shows the bowl reversed on the lathe and securely held by the chuck jaws gripping the spigot. Normally the interior of a bowl is hollowed out using a bowl gouge and the wood is wasted as a mass of shavings! This is a shame, especially with this large diameter bowl with attractive figuring and colour variations. One way to minimise this wastage is to core out the centre of the 'mother' bowl, which can then be used to make several smaller 'daughter' and 'granddaughter' bowls. There are a number of specialist coring tools designed for this purpose. I have a Woodcut Bowl Saver, which is one of



10 The Bowl Saver is attached to the lathe by means of the banjo (toolrest holder) with additional support from the Morse taper of the tailstock. After careful setting up, the core is cut by slowly swinging the black handle round in a clockwise direction so that the stellite-tipped end of the curved cutting blade cuts out the core in the spinning wood



11 This top view of the Bowl Saver shows the setup very clearly. All set to start taking the first 'daughter' core from the 'Walnut Whopper' using the larger 130mm radius cutting blade. A low lathe speed of between 400-600rpm is used for this process



12 Birth of the 'daughter' bowl cut using the large Bowl Saver blade of 130mm radius



13 The 'daughter' bowl mounted on the lathe by means of the 50mm chuck jaws expanded into the 60mm recess previously drilled (see **photo 9**). This enabled a spigot to be created (**photo 14**)



14 A spigot (within the decorative plinth) was created on the base of the 'daughter' bowl to enable another 'granddaughter' core to be cut out using the Bowl Saver

the easiest and safest systems to use. This was my tool of choice for coring this 'Walnut Whopper' bowl.

Creating a new attachment point for the 'daughter' & 'granddaughter' bowls

Having made the decision to core out the bowl, the next operation was to unscrew the 150mm faceplate and replace it with a more compact method of attachment for the daughter bowls, which would not get in the way of the Bowl Saver coring blades. My preferred way to do that was to drill a 60mm diameter 12mm deep recess in the top surface of the bowl. This could then be used to attach the 'daughter' bowl cores to the lathe by using 50mm chuck jaws to expand into the recess. Firstly, a pilot hole was drilled with a 38mm Forstner bit held in a Jacobs-type chuck mounted in the lathe tailstock. A low lathe speed of 400rpm is essential. This was followed by drilling, at the same speed, to the full diameter with a 60mm bit.

Using a Bowl Saver to core the bowl

The bowl was now ready to be cored with the Woodcut Bowl Saver. A choice of two curved cutting blades allows a core of either 130mm or 100mm radius to be taken. The largest 130mm radius blade was used to cut the first 'daughter' from the 'mother' bowl (**photos 10, 11 & 12**). A low lathe speed not exceeding 600rpm is used. The 'daughter' bowl was then remounted on the lathe (**photo 13**) by means of the 50mm chuck jaws expanded into the 60mm recess drilled previously (**photo 9**), and a new spigot cut (**photo 14**). This spigot enabled reversal of the 'daughter' bowl to allow a second 'granddaughter' bowl core to be cut using the smaller 100mm

radius Bowl Saver blade (**photo 15**). So two more bowls were made from the original 'Walnut Whopper' bowl thereby maximising the use of this superb wood.

Taming wild wood: a seasoning dilemma

Having successfully completed rough turning my 'Walnut Whopper' bowl and having cored out 'daughter' and 'granddaughter' bowls, the next problem was how best to dry them

without shrinkage stresses rupturing and rendering the wood useless!

The most important factor is to slow the drying process right down to allow the moisture content to equalise and dissipate across the wood as water is lost at the exposed surfaces. Rapid drying creates uneven moisture gradients and consequent variable shrinkage across the wood with the stresses causing rupturing of the fibres to create cracks. With slow drying the wood



15 Birth of the 'granddaughter' bowl cut from the 'daughter' bowl using the Bowl Saver with the smaller blade of 100mm radius



16 The 'Walnut Whopper' containing its 'daughter' and 'granddaughter' bowls



17 The three upturned rough-turned bowls. The 'Walnut Whopper' 'mother' bowl on the right, the 'daughter' bowl on the left and the 'granddaughter' bowl in the middle foreground



18 Green turnings quarantined in a lidded plastic box. This effectively prevents the turnings from losing moisture through evaporation

GREEN WOOD WEIGHT RECORD		
Ref no.	2016-001-001	
Wood Species	Amabilis, Walnut	
Locality	White Lane, Broomfield, Herts	
Date felled	March/April 2016	
Date rough turned	14.07.2016	
Date	Weight (kg)	Comments
14.07.2016	8.400	Green-wood bowl rough turned and weighed
18.07.2016	7.100	Weighed after 4 days in quarantine
24.07.2016	7.000	
31.07.2016	7.000	Unweighed bowl in quarantine box
14.08.2016	7.000	
21.08.2016	7.000	
28.08.2016	7.000	
04.09.2016	7.000	
11.09.2016	7.000	
18.09.2016	7.000	
25.09.2016	7.000	
02.10.2016	6.800	Unweighed bowl in quarantine box
09.10.2016	6.800	
16.10.2016	6.800	
23.10.2016	6.800	
30.10.2016	6.800	
06.11.2016	6.800	
13.11.2016	6.800	
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26.01.2023	6.800	



24 After successfully truing up the distorted dovetailed spigot, this photo shows the bowl reversed and securely mounted on the lathe, gripped by the chuck jaws

the exposed surfaces, and then returned to the quarantine box for another week. The amount lost will vary according to how green the wood is, the size of the turning and the wood species. For a small bowl of 140mm diameter (a small surface area) water loss might be expected to be about 8-10g over three hours. For the 'Walnut Whopper' bowl with a diameter of 395mm, with a much larger surface area, the loss was about 100g over a three-hour period. As a general rule, I have found that with turnings made from newly felled wood, the total weight loss after air-drying is around 30-35% for small bowls and platters, ranging up to 50% for the larger, heavier pieces.

After 65 days and a loss of 1.30kg (15.5%) of water, the bowl was taken out of quarantine and put on a shelf in the workshop to dry out completely. The initial weight of the bowl was 8.4kg with the lowest reading of 4.4kg taken after 199 days (seven months and three days) of drying. Thereafter the weight varied, representing variations in relative humidity of the storage



25 With the revolving Steb centre still in place to provide additional tailstock support, the rim and top part of the outside were trued up and turned to their final design. The tailstock was then removed to allow the interior and bottom of the bowl to be completed

area (creating corresponding fluctuations in the absorption and expulsion of water from the wood fibres). The full written drying record is reproduced in **Fig.1** while a summary is given in **table 1**.

Did the bowl crack?

At the end of the drying period, the bowl was distorted but there was no cracking associated with the pith areas. The careful drying strategy was successful.

Back to the lathe

The drying was completed in March 2017 but the bowl remained unfinished in store for three years until March 2020. The first task was to true up the warped spigot on the base of the bowl. This allowed secure holding in the various chuck jaws enabling truing up, power sanding and applying finishing oil to complete the bowl (**photos 21-29**). I hope you have enjoyed reading about the creation of my 'Walnut Whopper' as much as I did making it. ✂



26 The rim and inside of the bowl after completion. The wood was finally prepared by a combination of power and hand sanding – cloth-backed abrasive grit sizes were 80, 100, 120, 150, 180, 220, 240, 280, 320, 400, 500 and 600. To clean the surface and get some idea of the finished appearance, white spirit was applied to the wood using some kitchen roll. This emphasised the spectacular figuring of the wood, especially in the vicinity of the two pith areas



27 The bowl has been reversed and is securely held in some Axminster 400mm button jaws to enable the final removal of the spigot and to refine the base of the bowl. The rubber buttons on the outermost screw holes on the jaws just exceeded the 406mm swing limit of the lathe so the headstock was swivelled out by an angle of 22.5°. For safety reasons, I never use button jaws at a lathe rotation speed in excess of 600rpm



28 Close-up showing how the Axminster conical rubber buttons gently but firmly hold the bowl rim securely to the button jaws. In this instance they have been used with Axminster Stacking Turn Studs to increase their holding depth. These studs with a sharp ridge are designed to be used with the button jaws to directly grip wood but they have a good secondary use here to increase the holding depth of the rubber buttons. It is also worth noting that the Axminster rubber buttons are very well designed in their conical shape and with metal inserts to protect the rubber from damage from holding the machine screws. This is in contrast with some other makes of these jaws where the button design is very poor. The good news is that the Axminster buttons can be purchased separately and are secured with M6 machine screws, which make them compatible with most common makes of this jaw type



29 The completed base of the bowl with the spigot removed and the area within the plinth decorated with some beading rings, which are incised using the point of a skew chisel

WIN! 2 × TREND T32 M CLASS DUST EXTRACTORS & 2 × RUNNER UP PRIZES OF THE TREND SINGLE POCKET HOLE JIG

Lucky readers could be in with a chance of winning the main prize of a **Trend T32 M Class dust extractor** or the runner up prize of a **Trend Single Pocket Hole Jig**

MAIN PRIZE: TREND T32 M CLASS DUST EXTRACTOR (PRIZE VALUE £190.80)

Expanding on the trade and professional's favourite Trend T31 and T35 dust extractors, Trend's dust control range is further expanded with the inclusion of two new 800W 'M' class compact extractors: the 230V T32 and the 115V T32L.

The T32 is fully Certified for Professional use – conforming to standard 2006/42/EC – unheard of at this price point in the market and means that T32/T32L are truly 'Site-Certified'. Not only is it Site Certified, but by achieving the 'M' class designation, it meets HSE legislation requirements to allow trade users to work safely on construction sites. Ideal for hazardous dust control from construction and building materials, including MDF, hardwoods, softwoods, brick, cement and other silica type dusts.

With two voltage options and a robust steel canister the T32 is 'Site Tough', and ideal for use by general builders, carpenters, decorators and other trades. Despite its small overall size, capacity is large – dust and debris is captured within the 20l drum and the 15.3l capacity disposable synthetic filter bags with microfine dust controlled by the secondary Class 'M' (H13 rated) pleated HEPA filter, capturing at 0.3 microns and above with 99.9% efficiency.

A manual shakedown filter cleaner and low airflow indicator ensure the T32 is always working at its best, helping to shield the end-user from harmful dust exposure. The compact, lightweight design makes transportation easy without taking up valuable space when being moved to and from

the jobsite and with the durable steel drum, it's designed to take the knocks of daily trade use. With a 5m cable and 3m hose, the Trend T32 can cover a working diameter in excess of 16m, and can be easily moved around the workplace on its multi-directional wheels.

A complete set of cleaning tool heads and robust chrome steel wand tubes ensure it is at home in a range of general clean up applications. A flexible tapered power tool adaptor is also included to pull dust and waste directly from the tool to minimise airborne particles at source.

The Trend T32 extractors give a powerful blend of price and performance, and are ideal for trade and hobby use, meeting all the requirements of an 'M' class extractor. It's the ideal solution for those requiring the same protection against harmful microscopic dust particles across a range of trade uses while retaining ruggedness and simplicity.

The extractor includes: 1 × HEPA H13 cartridge filter; 1 × micro filter bag; 1 × 3m hose; 1 × crevice tool/brush; 1 × upholstery tool; 1 × dust spout adaptor; 1 × high efficiency floor brush; 1 × hard floor brush; 2 × metal tube; 1 × curved metal tube.

Technical data

Rating: Trade
Power input: 800W
Voltage: 230V
Dust category: M
Tank capacity: 20l
Bag capacity: 15l
Flow rate: 20l/s
Sound pressure Lpa: 70dB(A)

Max suction: 146mbar
Airflow: 20l/s



RUNNER UP PRIZE: TREND SINGLE POCKET HOLE JIG (PRIZE VALUE £28.74)

The new portable-sized Single Pocket Hole Jig from Trend is an invaluable addition to any woodworking kit. The adaptable slim, compact single hole design ensures consistently precise and high quality pocket-hole jigs are produced every time. Its adaptability allows it to be used on a wide range of applications.

Its features include a built-in drill depth gauge for fast set up, a clamping plate to hold it securely to the workpiece and a reversible sliding stop for

working on different material thicknesses.

The adaptable sliding stop has indicator marks for easily setting the correct timber thickness to ensure precise pocket-hole jigs. It also doubles up as the depth gauge for setting the correct collar position for the drill, eliminating errors while allowing the user to achieve consistent finishes.

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PART 3

MAKING THE MOST OF LOCKDOWN

With lockdown scuppering plans for his fledgling business, **Simon Frost** decides to focus on setting up an online shop for small products, organising the finances of his business, and making a piece of bespoke furniture for his partner

In the previous instalment of the start-up diary, my fledgling business had just begun to pick up, paying more than my part-time job for three consecutive months. The two days I was working in my other job had become difficult to manage during this time, and I was starting to lean towards the exit to help grow my business.

Tempting though it had been to take the leap into full-time self employment, I reminded myself that almost all of my recent work had been with a single customer, and so decided against it. When lockdown hit, I counted myself lucky to have the safety blanket of my other job.

Lockdown has been a shock to us all, but I've been lucky. I have my guaranteed part-time income and a small workshop at the bottom of the garden where I can continue to work – and most importantly, my loved ones and I have all been well.

With on-site restoration work out of the

question, and with people less likely to be commissioning furniture, I decided to focus on setting up an online shop for small products, organising the finances of my business, and making a piece of furniture for my partner, which I could add to my portfolio of work.

Like many, we've had to get inventive with how we turn home into office by day. There are four of us (myself, my partner, and her parents) working from home, so we needed to spread our makeshift workplaces around the house to avoid getting under one another's feet, or waltzing into the background of someone's video meeting. I'm sure we never used to have this many meetings!

With this in mind, I suggested a desk that my partner could use to work in the bedroom. The bed desk, we called it. I still had some oak I had reclaimed from an old sideboard, an English walnut board and some American black walnut scraps, so my costs would be time and just a few bits of hardware.



The bed desk once complete. Some of the design elements didn't work, because they weren't designed!







A user's-eye view of the bed desk. Great for work, but also for playing poker and drinking beer

Everything would have to be done 'unplugged' from start to finish, so the time cost would be significant. My local shared workshop temporarily closed its doors to all but those making PPE, so I didn't have access to a tablesaw, bandsaw or planer/thicknesser throughout the build.

I'm not particularly romantic about hand woodworking. I don't dispute that working with hand tools is much more satisfying than sending a board buzzing through the thicknesser, but why anyone would spend valuable hours



I used a piece of flexibly as a backing for sandpaper to sand the curved areas



The cheap drawing stand I borrowed the basic mechanism design from

flattening a board by hand when it can be done by machine in a few passes is beyond me.

The vast time-saving machines offer means that work can be made at a saleable price – there's no way I could sell the bed desk at a profit having made it entirely by hand, despite the minimal material costs. I'd go as far as to say that using machines makes my hand work better. Something I learned in this build is that spending half a day planing a board by hand stretches my patience to such an extent that once it's finally done, I don't have the patience to give a hand-cut joint the requisite time and care.

The bed desk

As I wasn't making the bed desk for sale, I justified the time cost by including design elements that would challenge my skills. This was my first piece to feature moving parts – I wanted to be able to tilt the central part of the top to hold a laptop at a comfortable angle for typing, while elevating the screen to encourage good posture while sitting up.

I based the mechanism for this on a typical desktop drawing board. A rod is threaded through two pivoting arms that are attached to a bar on the underside of the top. The two ends of the bar sit in a pair of parallel slots in a base that is hinged



Preparing components for the tilting top



The oak for the bed desk frame was reclaimed from an old sideboard

to the underside of the top. There are three pairs of slots in the base, which give three separate working angles, and a fourth pair rests the top in the flat, closed position.

For the top, I chose a nicely figured section of the walnut board, and filled some small cracks with epoxy, using a day of hot weather to my advantage to cure it outside. Two static flat pieces sit on either side of the central tilting top, which can be lifted out entirely with its base for use as a standalone desk-based drawing board.

I used American black walnut for the arms and the slotted base – a simple finger-jointed frame with recesses hand-cut for two brass hinges. For the rod, I used a section of 8mm brass, which I also used to make dowels for the stop bar. This sits at the lower end of the top, preventing the laptop from sliding off when tilted. The brass dowels added mechanical strength to the joint while adding a bit of detail that complements the other brass elements.

For the frame of the desk, I used the reclaimed oak – a case of using up what I had, rather than a conscious design choice. If the walnut and oak made a good pairing visually, it would have been by luck, but I don't think it worked this time. Had I been making it for a client, I would have tested different material and finish combinations before committing.

Lessons

I'm glad to have made the bed desk – it was a useful experiment, it's nice to be able to keep something I've made, and it tells a story. It's not a piece I would feel comfortable selling, as the design is unresolved, but it provided some valuable lessons and reminders. If you're anything like me, you'll need to make the mistakes yourself



The finished tilting top mechanism

before you can learn them, but maybe these points will help someone reading:

- Machines for heavy lifting; hands for delicate work
- Always test out timber and finish combinations – don't just use what you've got
- Resolve design issues on paper wherever possible
- Consider the potential knock-on effects of moving parts – if a piece swings or rotates, will something else get in its way? Could it rub against another component and create wear over time?
- In addition to project notes, write a list of lessons at the end of every project

I finished off the project by making an updated cutting list and planning out the build for a small batch of drawing boards in black walnut and brass to sell via my online store. The hardware's in and the timber's on its way.

Setting up shop

In tandem with the bed desk build, I spent some time setting up my online store with listings of the synthesiser end cheeks that I described in the last issue. I used the natural light of a bright day to take some photos against the backdrop of a white bedsheet in the garden, which I then isolated in Photoshop and replaced with a mock studio backdrop, as I was fighting a losing battle trying to eliminate creases in the sheet. I was really pleased with how the photos came out and have had a few sales, and even custom commissions.

With each custom order, I add a new template for a different model of synth, so am able to build



A coat of Osmo drying on the base for the tilting top

a stock of end cheeks for an increasing range of models, and speaking with customers for each leads me to more insight into the different models for which end cheeks are desirable. I'm really enjoying having this side-stream to my business, and gradually building up a range of models that I can keep in stock.

NEXT TIME

Join Simon in the November issue as he shares more about his journey into professional woodworking. To find out more about Simon and his work, visit his website – www.frostbespoke.co.uk – or follow him on instagram: [@si.frost](https://www.instagram.com/si.frost)

Like businesses of all shapes and sizes, I've had to adapt and diversify my work to weather this strange time. As lockdown restrictions begin to ease, I'm pleased with the progress I was able, urged by circumstance, to make. ✂



My makeshift studio – a garden table, bed sheet and some clamps

One of the finished shots after some background clean-up in Photoshop. This pair is in bubinga



My first end cheek customer, across the Atlantic, sent me this photo of his zebrano set once installed

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Tipping the balance



Choosing to make furniture and wooden objects that are different and unique, just like we are, **Fernanda Nunez's** furniture making style focuses on traditional craftsmanship that often combines modern methods with striking visual effects, finds **Martin Pim-Keirle**

Did you know that the inventor of the circular saw was a woman? The full story is a little more nuanced than this, but the short version is that, among other people who invented similar things around the world at a similar time, a Shaker from Massachusetts called Tabitha Babbitt invented the type of circular saw later widely adopted by sawmills across North America. The story goes that sometime around 1810 she realised that 50% of the effort of using a pit saw was wasted, with the saw only cutting in one direction. This inspired her to create a prototype circular blade driven by a domestic spinning wheel. Being a Shaker she declined to profit from her idea and never patented it, doubtless much to the benefit of the forestry industry. And yet I suspect that if every reader who already knew this fact sent me £1, I might just about have enough for a modest lunch.

Wood craft is certainly not alone as an area of human endeavour in which the achievements of great women have been largely forgotten in comparison to their male counterparts, but

that makes it a subject no less worthy of discussion. Not least of all because even now, in an age when equality should be our default state, nationally only around 15-20% of graduates from long courses at private furniture schools are women. Even female subscribers to this magazine make up just 10% of the total.

One significant reason for this imbalance across our industry and our hobby is doubtless gender stereotyping. Put simply, little girls get dolls and little boys get Lego. It's not universal, and it is changing, but those stereotypes still exist. If you don't believe me, take a stroll through your local toy shop and take note of the types of toys obviously aimed at little girls, versus anything else.

Elegant minimalism

One way we can begin to address this imbalance is to use these pages to celebrate brilliant female talent currently working in the industry, and highlight those up and coming makers who might inspire the next generation. One such



Nunez' award-winning 'Guilloché' bedside tables



It took just two years for Fer to go from novice to award-winner

talent is the award-winning furniture designer and maker, Fernanda 'Fer' Nunez.

Fer truly stands out, and not just because she's a relatively young woman in a world still largely dominated by older men. Her portfolio of pieces resists attempts to pigeon-hole her style, spanning elegant minimalism with a twist through to mock-zebraskin in bleached ripple sycamore and ebonised ash. This, then, is a maker pushing boundaries.

To talk to, Fer is eloquent and bright, a subtle accent revealing her to be a well-travelled South American, originally from Uruguay. Despite



volunteering that this is not her first language, Fernanda talks with a fluidity that eludes many a native English speaker. Any language barrier she perceives has clearly not been an impediment when it comes to communicating her love of wood to others, nor when receiving the tuition that has helped her grow into the formidable talent you see before you.

Winning The Furniture Makers' Company Design Award at the Celebration of Craftsmanship & Design in Cheltenham back in August 2019 was the culmination of all her studies and hard work so far, and a recognition of her abilities

both as a designer and craftsperson.

Her winning entry comprised the two bedside tables shown both to the left and right.

Crafted entirely from maple, Fer's 'Guilloché' tables are immediately arresting to behold. The plain box silhouette of the cabinet contrasts strongly with both the slim, ebonised supporting structure and the wave (guilloché) pattern carved into the fronts, yet the whole remains poised, elegant and harmonious. Those carved panels front large drawers that, when opened, reveal an additional shallower drawer hidden within. The standard of finish is impeccable – the



The judges remarked that "all elements of the design are beautifully resolved"

dovetails are immaculately executed, and the grain flows uninterrupted across the top and down the sides.

"I bought a huge slab of maple from Duffields Timber Yard in Yorkshire. I went through all the slabs of maple in the yard before finding the right piece with straight enough grain for the project."

The Guilloché pattern was inspired by the design on an Art Deco mirror, and was just as hard to execute as you might imagine. "I chose maple because the texture is generally uniform and the grain is fine, so it has good cohesiveness when carving or using CNC technology. The undulating design means there was no escape to cutting against the grain, and given so many fragile edges would end up exposed. It needed to be a type of wood with good density to minimise tear-out," says Fer.

Although the basic pattern was created using a CNC router, the carving was all hand-finished, and required almost 100 hours of minutely detailed hand sanding.

"I was sanding those grooves for weeks and during those weeks my colleagues were making one, two or three pieces, and every time they would pass by and say, 'Are you still sanding? I can't believe you're still sanding'; and I'm like, 'Yeah, I'm still sanding.'"

Anything is possible

It was this process that convinced Fer she was on the right track. Earlier doubts about whether or not she was cut out to be a cabinetmaker were allayed with the realisation that this was exactly the sort of time-consuming attention to detail that is the staple of work done by high-end makers who might spend literally thousands of hours on a single piece.

"The only thing that fitted in the grooves was a wooden cuticle pusher with a tiny piece of abrasive on the end that I had to change every few minutes. I realised that if I can go through 100 hours of sanding like this without it destroying me, then I could really do this as a job."

One of the recurring themes of the build is the careful thought and consideration needed to achieve absolute perfection. MDF was used extensively to protect edges from breakout during machining and finishing, and only removed near the end of the process. Custom jigs were created to safely hold the legs and rails during initial shaping on a spindle moulder, and glue-ups were practised in minute detail to ensure everything went together smoothly.



The standard of finish and attention to detail impressed the judges



Fer says the tables are her proudest woodworking achievement so far

And even before the build could begin there was the not-so-small matter of design and planning: "I had to come up with a design for my final project. I thought I'd make something that I needed at home. I did some research into what kind of styles I liked, all inclined towards Art Deco – glamorous and exotic, geometric and stylised, glossy woods and slick finishes. I sketched it in pencil, covering pages and pages of an entire notebook with varied versions of every detail before I was happy to draw it in SketchUp."

Fer recounts one memorable moment when she first proposed this idea to her teachers at Waters & Acland – Ollie, Will, Tim and Graham:

"I said: 'I want to make these; is it possible?' (holding a sketch full of wiggly lines) to which the answer came: 'Anything is possible, Fer'."

Why Waters & Acland?

But what impresses most is not the originality of the design, nor even the quality of the work, both of which already put Fer comfortably within the ranks of the country's finest new makers, but the timescales involved. Two years. That's how long it has taken Fernanda Nunez to make the transition from absolute beginner to award-winning furniture maker. Before she began her two-year course at the Waters & Acland Furniture School, she had virtually no experience of woodwork at all.

Amazingly, she only began researching tuition because she wanted to turn a horse box into a mobile coffee shop: "I wanted to learn how to cut wood and use a drill to do the job, so I enrolled at school for a week. Little did I know..."

Despite this lack of previous experience, Fer has always had an interest in craftwork, and grew up in an environment that nourished this.

"I grew up in a household where quality was valued. My first memories are those of my Dad's metal workshop where everything was 100% handmade to the smallest detail. He used to give me scraps of metal to keep me entertained, and he let me use hammers and scissors, and even try welding (with care). From those days the making instinct prevailed, I think."

Fer also had a fascination with the UK from an early age, studying English at school, and reading about its culture and history. She makes the point that she was studying "English from England – not American English." After meeting her future husband (who is originally from Bolton) in Uruguay, they travelled together, and in the summer of 2007 she was finally able to visit the country she'd read about as a child. She had already been saving to come and study in Europe, and now secured herself a place at the University of Westminster, taking a BA in International Relations.

A total of eight years in London were enough



Fer spent nearly 100 hours sanding the carved patterns



One of several custom jigs built to make the tables

for Fer and her husband, and it was the decision to leave their life in London behind and move to the Lake District that could be said to be the start of Fer's journey from absolute novice to skilled cabinetmaker. They started a coffee roasting business, with the aim of sourcing their own beans from sustainable producers. It was something of a leap of faith, but the gamble appears to have paid off, with the upshot that Fer's hidden gift for woodwork has been revealed into the bargain.

So why Waters & Acland? "I researched all the schools in the UK and realised that there was an award-winning fine furniture workshop and school only 30 minutes from my doorstep! I phoned them and they were really friendly and when I visited the workshop for the first time I felt instantly at home," says Fer.

"I went from having no experience at all to this article in your magazine in just two years.

I feel I have learnt a huge amount in a very short period of time. What would have taken me years to learn by myself or as an apprentice, I have achieved in just two years thanks to the school and the teachers. Ollie, Will, Graham and Tim make a perfect team!"

Fer admits that she is also lucky to live in a part of the country where nature is always on hand to inspire: "I'm surrounded by nature and mountains where I can walk, and walking is how inspiration and ideas bloom. Wandering is my main source of inspiration. Walking around the Lakes, in the city, by the sea, wherever I look there is always something inspiring that makes me think... how could I make that with wood?"

Women & woodworking

So how have the past two years changed Fer's relationship with wood? "I have always had a deep love for trees but before studying

woodworking I was never able to identify more than a few species. I could appreciate beautifully crafted furniture but never even remotely imagined how much time, effort and skill is invested in this profession. I don't just see furniture anymore, I see the grain, the figure, the joint, the tree, the forest, the whole process, and the love that goes into it."

A love of nature is perhaps the one commonality in her work. Every piece carries with it an underlying appreciation for the beauty of the natural world. From waves, to ripples, to animal horns, Fer has a gift for capturing the timeless beauty of organic shapes and integrating them into her pieces in a way that harmonises with the whole, adding life and vibrancy to her work.

"I fell in love with carving and shaping at the School. It's like meditation for me, and when I'm carving I feel really connected with the material, with the tree itself... What appeals to me about



Fer's striking 'Zebra Wardrobe' in brown oak with ebonised ash and bleached rippled sycamore marquetry



The unusual handles on the 'Zebra Wardrobe' are carved from sycamore



Clever 'Bite' stool was one of several projects completed during her studies

these unexpected shapes and the character of the lines is that they create an illusion of movement and will hopefully convey an emotion or inspire a reaction."

And though there is no question that due credit must go to the school and its tutors for nurturing Fer's latent talent, it is also clear that there was always an ability there, waiting to be released. And one can't help but wonder how many other similar talents might remain undiscovered. How many little girls have grown up believing that woodwork is firmly the domain of their fathers and brothers, or that tools are something only men understand?

Fer is firm on this point: "Woodworking is without doubt male-dominated. I think for it to change there have to be more female role models out there, and I feel we are working on it. Personally, the fact that it is a male-dominated trade did not put me off, but I'm an adult and I'm confident. I don't think the 17-year-old me would have felt the same. When I was younger I never even entertained the idea of being a woodworker. You just don't realise that it's an option if you're not exposed to the craft at an early age."

Unfortunately the reception that a female woodworker gets isn't always positive: "I have been on the receiving end of some patronising and condescending comments and opinions from men, both within and outside of the trade. I've been advised to take up hairdressing once," says Fer. And it isn't just men that might dampen a young female maker's drive to succeed: "There are women with an even stronger patriarchal vision of what we should be doing and that worries me even more."

Overall, Fer has been lucky that the most important men and women in her life have motivated and supported her on this journey: "Great men like my Dad, my husband, my brother and all my teachers at Waters & Acland inspired me and never even once made me feel like I should be doing something else. Not even when I ask for help to open the glue pot. We help each other, laugh, and celebrate our differences," she enthuses, saving special praise for her Mum: "From her I learned that I could do anything I set my mind to. She has been my muse and her essence is there in each one of my pieces."

And her view on the status of women in

the industry is overall a positive one: "It is true that women in the industry have often been overlooked historically, and at times overshadowed by their male partners as was the case with Ray Eames and Margaret MacDonald Mackintosh, for example, both incredible artists who lived in the shadow of their much celebrated husbands."

"But things are definitely changing and we are challenging society's perceptions of what women can do. Women in the trade are gaining exposure on social media, web forums and online platforms, plus building a widespread supportive community. Before you wouldn't think woodworking was a possibility if there wasn't a role model within your family, in your area, or on TV, but now we can use all these platforms to reach and inspire young people."

Fer even has some suggestions for how the industry could become more welcoming to female woodworkers: "Here's an idea – how about big brands featuring women woodworkers on their marketing adverts? But not models wearing tight clothes holding a pink drill, I mean real woodworkers who tell a real story. Schools could also have woodworking days where all boys and girls get introduced to making. In the workshop small things can make it more female-friendly, like having small and extra small rubber gloves for glue-ups available, having steps to access high vents when machining, and bins in the toilets for sanitary towels."

None of these ideas seem even remotely unreasonable, and we can only hope that the industry is listening and continues to move in the right direction. Over the course of this new decade, we look forward to seeing female woodworkers become as numerous as their male counterparts within these pages, and hope to be reassured that every woman with the potential to create work as beautiful as Fer's will get the chance to see that talent realised.

Future plans

And what does the future hold for Fer herself? "I have a lot to learn yet, so let's say I am looking for a good mentor who can teach me. There are some exciting opportunities to work with some great people in the new year. At the moment I'm in the process of designing a few artistic pieces inspired by my travels to Spain and Portugal – so far it is all on paper and in my head."

And what of the mobile coffee shop that inspired that first week-long woodworking course? "I didn't do it, no, I sold it!", admits Fer, "It would be nice to do it eventually, but I'm just too busy right now."

A shame, as by now it would certainly be the most finely appointed horse box to ever exist, but perhaps that dream has been replaced by a bigger and better one, and we're sure this won't be the last time we hear from Fernanda Nunez. ✂

FURTHER INFORMATION

To find out more about Fernanda and see more of her work, visit www.woodchuckchick.com or follow her on Instagram: [@woodchuckchick](https://www.instagram.com/woodchuckchick)



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SOPHIE'S DESK

Join **Zac Matchett-Smith** as he makes a custom-built desk in maple and ash complete with hairpin legs, all in time for his girlfriend's 30th birthday

You know that thing men do where they forget their spouse's birthday and in a last-ditch effort, throw a gift together really quickly? Well, I'm pleased to say that this project is nothing like that! I made this desk for my girlfriend's 30th birthday and it was the result of a lot of planning and work in the months leading up to the big day. Don't get me wrong, I'm totally the last-minute gift type of guy – just not this time!



Desk design

The desk is a relatively simple design: a big, flat work surface with a couple of large drawers for storage and organisation. What it lacks in complexity, I hope it makes up for in style.

My girlfriend gave me a very short list of features she wanted. According to her, it had to have storage, lighter wood tones and hairpin legs. Outside of that, she left it almost entirely up to me. I made a few SketchUp models, got her to sign off on this design and then set about making it a reality.

Let's talk cost quickly: everyone knows that the amount of money you're willing to spend on someone's birthday present is a direct measurement of how much you love them! The total cost of this project came out to a little less than £160, but that's not an entirely realistic price because I already had a lot of the materials and got some for free (more on this later). If you wanted to replicate this project, you'd have to spend close to £400.

The drawers are quite big and offer a lot of storage. They're 609mm wide, 457mm deep and 1.7m tall. The left one has become her electronics drawer, and laptop and camera gear all fit in here easily. The right drawer is entirely devoted to make-up and cosmetics.

Looking at the completed desk in its natural state, you'll see that the lighter wood in the middle is maple, and the darker wood on the sides is ash (**photo 1**). I tried to give the impression of a slow gradient fade from maple in the core to ash on the sides.

Ripping the timber to length

The first step of this project was ripping pieces of maple and ash into 25 × 25mm strips (**photo 2**). I started with six or seven pieces of maple and ash that varied in width from 150-200mm. They were



1 The lighter wood in the middle is maple, and the darker wood on the sides is ash



2 Using the table saw to rip pieces of 4 × 4 maple and ash into 25mm wide strips



3 Using painter's tape to mark the different lengths worked really well



4 Working out the mosaic pattern for the table top



all about 150mm long. Once I was finished on the table saw, I had about 40 × 1.8mm pieces of 25 × 25mm maple and ash.

I was surprised that all of the wood for this project only cost me ~\$80 Canadian (£45). Maple isn't cheap, but ash is a much more affordable hardwood. If you're looking to get into woodworking and are put off by the high

costs of the more exotic woods, ash is a great alternative. Next, I took all the pieces of maple and ash and headed over to the mitre saw, where I proceeded to cut them into 150mm, 305mm, 457mm and 609mm pieces.

You can see how I used painter's tape to mark the different lengths, which worked really well (**photo 3**). This may seem obvious

to most, but this simple trick did save me quite a bit of time when carrying out a series of repeated cuts. Instead of measuring each individual cut, I just lined the wood up with the tape mark and dropped the blade. Easy peasy.

Table pattern & glue-up

Working out the pattern is my favourite part of any mosaic project (**photo 4**). I take all the pieces of wood, lay them out on a big table and arrange them into what I think is an effective looking pattern. Whether or not I was successful is open to interpretation, but at least I like the pattern I chose. This is a totally unscientific process. I'd love to pretend that I have a grand plan I'm working to, but in reality, I semi-randomly place pieces down and shuffle them around until I like what I see. The only 'plan' I had was that I wanted the middle to be the maple, and the two sides to be ash.

With my pattern established it was time to glue all those pieces together. This just happens to be my least favourite part of any mosaic project. ▶



5 For this project, I decided to approach the glue-up in phases



6 Using a series of F-clamps to clamp everything together



7 Using the planer to carry out multiple passes



8 Clamping the desk top to my flat worktable



9 Using the track saw to square up the ends of the desk top



10 Making two 45° cuts across the width of the desk and cutting a triangular section out of the desk top



11 Sanding the desk top using a random orbital sander



12 A biscuit jointer is used to help secure the 90° 'waterfall' corners

I've worked on similar projects in the past and forced myself to glue everything all at once in one big glue-up. It's a stressful race against the clock – you have to apply glue to hundreds of pieces of wood, align them as perfectly as possible and then clamp everything together before the glue starts to dry (which is approximately 20 minutes).

For this project, I decided to change things up a bit, so decided to do my glue-up in phases (photo 5). People often ask me if this is possible because it would help to alleviate the time pressure. I've always answered that it would be, and it's probably a smarter way to do it compared to my usual method, but I've never actually put it to the test. Until now.

I split the glue-up into three parts: two halves of the desk top and one long skinny piece, which would be used for the drawer fronts.

After applying half a bottle of carpenter's glue to the first half of the desk top, I used a series of F-clamps to clamp everything together (photo 6). I usually push myself to do bigger glue-ups and therefore use long bar clamps, so using

these small F-clamps felt wrong in comparison. Once the clamps were set on the first half, I then repeated the gluing and clamping process for the other half along with the drawer fronts. I was happy to ease the time constraint and the reduction in my usual stress levels was definitely noticeable!

Despite my best efforts, there will always be some variation in the height of the individual pieces when carrying out a glue-up like this. Using my planer, I was able to smooth out the halves of the desk top and the drawer fronts. The blades inside the planer remove thin layers from the highest points on whatever is fed through it. By repeatedly feeding wood through the planer and lowering the blades in small increments, you can smooth out just about anything, 0.5mm at a time.

Planing the pieces flat

Another huge bonus to doing the glue-up in multiple phases is that I could fit each of the intermediate pieces into my planer (photo 7). My planer is 330mm wide, and the two halves of the desk top were 305mm wide, while the drawer fronts were only 200mm wide. They all fed through without issue. If I had completed the desk top as one piece, I probably would have used a belt sander to remove all of the high points. I've done this in the past, and it takes hours, so using this method was a definite time saver.

After dozens of passes through the planer, I was ready to glue my two desk top halves together. The process here was basically the same as when I was gluing up hundreds of individual pieces, but now it was just two, which made it much easier. I applied a thick bead of carpenter's glue between the two pieces and clamped them together.

Once I had both pieces clamped together, I also clamped the whole assembly down to my table. I know my worktable is close to perfectly flat, so it helps to prevent any bowing and warping that might occur to the desk top while the glue dries.

One of the best investments an amateur woodworker can make is buying a table they know is nice and flat. It gives you something to clamp to, as I am doing in photo 8. This way you know that the piece you're working on won't warp, twist or bow. I also took a second here and used some maple-coloured wood filler to fill any small gaps that were left over as a result of the glue-up process. I do my best to make sure all the joints are tight, but it's inevitable that there will be some small gaps, especially around the butt joints where the end-grain meets.

The track saw is definitely my favourite tool. It's a circular saw that's guided by a track so you can be assured of achieving perfectly straight cuts every time. It's almost like a portable, inverted table saw. I love it! Using this tool, I squared up the ends of the desk top (photo 9). I could try and do my glue-ups with perfectly square ends, but it's a lot harder than you might think at first. I prefer to just make my glue-ups a little longer than they need to be and then cut them square afterwards. Not only does the track saw make straight cuts, but it can also make straight cuts at a 45° angle. Again, like I said, it's undoubtedly my favourite tool.

In the first few photos, you may have noticed that the grain on the top portion of the desk wrapped around and then down the sides of the desk. I like to call this a 'waterfall' edge, though I'm sure there's a more technical term. To achieve this look I had to 'fold' the sides of the desk top down. That meant making two 45° cuts across the width of the desk, cutting a triangular section out of the desk top, which is clearly shown in photo 10. Imagine a triangular prism inserted into that gap, which is what I removed to achieve the 'fold'. It's a strange concept to try and articulate through text, but hopefully the photos make it more clear.

Sanding the desk top

I took this opportunity to give the whole desk top a good sanding. I started with an 80 grit abrasive disc mounted onto my random orbital sander and then slowly moved up to 220 grit (photo 11). Most of my time was spent smoothing out the glue seam between the two halves of the desk top.

Biscuit jointing & glue-up

To help secure my 90° 'waterfall' corners I used a biscuit joiner (**photo 12**). This tool cuts small pockets in wood that are the perfect size for wooden 'biscuits' (essentially elongated wood discs). You cut half of a pocket into one side of the corner and then a matching half pocket into the opposite side of the corner. The biscuit, along with some wood glue, then serves as the bridge between the two pockets, locking together your corner. I lined up and cut five biscuit pockets on each side of the waterfall corner.

I covered the pockets, biscuits and the entire corner with a generous application of glue (**photo 13**) – believe me, this is not the time to be stingy! I inserted a biscuit into each pocket and then pressed the two sides of the corner together. Rinse and repeat on the other side.

Not only do the biscuits help to strengthen the corner, but they also ensure alignment. If you've done everything right, then you'll hear a really satisfying click when you press the two sides together.

I rounded up all of my F-clamps and put them back to work. The clamps press the two sides of the corner together while the glue dries. I also added a couple of big, long bar clamps to help stabilise the corner and help keep everything square. These waterfall corners always make me a bit nervous for some reason. I've experimented with them a few times before, but I'm always worried something won't fit, or line up, just right. It was so far so good on this attempt, though. Once the clamps come off, I know I'll be able to breathe a little easier!

Desk top finishing

Who needs yoga when you have a paint roller and a big, long desk that needs to be clear coated? That's all the stretching I need! After the clamps came off it was time to do a bit of finishing work (**photo 15**). I cleaned off any excess glue and then rounded the corners off using a random orbital sander. Next, I was ready to apply a protective clear coat to the desk top.

I used a satin hybrid oil and latex floor varnish for the clear coat. It's a tough finish, which is important because this desk is going to see a lot of wear and tear. I really like using satin finishes as they have a nice sheen to them but are much more forgiving of slight imperfections when compared to a true gloss finish. I then set the desk top aside and let the clear coat dry before moving on to the next step.



16 Using the table saw to cut the 20mm sheet of MDF into two pieces

Desk carcass build

So far I'd been working for two full days and all I had to show for it was the top half of the desk top, so now it was time to fill out the 'guts' of the desk. I picked that term up from cabinetmakers as they refer to the exterior of cabinets as the 'carcass', and anything inside the cabinets as the 'guts'.

Luckily for me I had a sheet of 20mm MDF left over from a previous project, so using my table saw, I cut it into two pieces (**photo 16**). The first piece was 559 x 1,320mm and would become the bottom of the desk. The next piece was 150 x 1,283mm and would serve as the back of the desk. The last two were 150 x 457mm, which I glued and screwed together to create a centre support for the drawers.

Quick safety note: I realise I should have been wearing a mask when cutting the MDF, as the dust is pretty nasty stuff. Thankfully I do have a dust extractor hooked up to my table saw so that definitely helped to minimise my exposure. Please ensure to do as I say and not as I do!

I wanted the bottom of the desk to blend seamlessly into the hairpin legs, and to achieve that look I had a custom semi-gloss paint mixed which matched the shade of white that the hairpin legs were powder coated with (**photo 17**).

In a strange series of emails, I discovered that powder coaters are actually quite guarded about the specific colours they use. I asked the powder coater for the colour code of their white paint so I could get the matching one made up but they refused to give it to me. Instead, I had to wait for the legs to show up, take them to a DIY outlet and have them mix a custom white by eye to match the legs. This weird little quirk of the powder coating industry actually delayed the whole project by about a week, so it was a



14 F-clamps help to hold the two sides of the corner together while the glue dries



17 Applying a custom semi-gloss paint to the bottom of the desk

good job I made this project ahead of the birthday deadline.

To attach the MDF back and centre drawer mounts to the desk top, I used a series of pocket screws, which are a great option for concealed fasteners (**photo 18**). I used the Kreg pocket-hole jig to make all of the holes. It's not strictly necessary, but is basically a foolproof way of making perfect pocket-holes quickly. All of the pocket screws are concealed on the inside of the desk, so from the outside, the project will look nice and sleek. I screwed the back in place first and then installed the centre drawer mount by screwing it to both the desk top and back. Screwing all of the individual pieces together like this should help to ensure the whole desk is nice and solid. Did you think I was going to mount the bottom next? Not quite. I'll leave that off until I finish the drawers for ease of access.



13 Applying a generous application of glue to the pockets, biscuits and entire corner



15 Applying a protective clear coat to the desk top



18 To attach the MDF back and centre drawer mounts to the desk top, I used a series of pocket screws

Drawer bottoms, top & sides

I have a confession to make: I find it very stressful to mount drawers. It should be easy but the problem is that drawer slides require extremely tight tolerances. You basically have to line everything up perfectly, or the drawers won't function smoothly. To ease myself into it, I started with the easiest part, mounting the drawer slides to the desk (**photo 19**). You want to make sure the drawer slides are all mounted at the same height. A good, foolproof way of doing this is to cut a block, clamp it in position, place your drawer slides on top of the block and then screw it in place, just like I'm doing in **photo 19**. Perhaps you've noticed that I'm a big fan of 'foolproof' methods of doing things, but as a fool, it's really the only way I can manage to get anything done!

As I progressed through the drawers' construction my stress levels started to rise in tandem with the level of precision necessary. I started by cutting some ash down to 25 × 100mm for use as the frame. I very carefully measured the distance between the pairs of drawer slides and set that as the width of my drawers. The level of precision necessary here is probably in the order of 0.5mm. If your drawers are too big, or too small, there will be too much friction on the slides and they won't close smoothly.

Once I was confident my measurements were correct, I went ahead and screwed the frame together (**photo 20**). Three screws in each corner held everything together nicely. Remember to countersink your screws when you're drilling near the end of a piece of wood, otherwise you run the risk of splitting the timber. In fact, it's good practice to countersink any screw you're drilling into hardwood, as if you don't you could end up

snapping the screw. Test-fitting the drawers was luckily a success and this was the most painstaking part (**photo 21**). I'd fit the drawers, feel how they slid, and then if it wasn't right, I'd take everything apart and either shave this or shim that. Eventually, though, I got everything sliding nicely. Fun fact: the right-hand side drawer is actually 1.5mm bigger than its left-hand side counterpart.

While it's nice that the drawer frames slid smoothly, they're useless without bottoms, so this was my next task. I disassembled my drawer frames, took them over to the table saw and cut a 6 × 6mm channel into them that I then slotted a piece of 6mm thick maple ply into. Their usefulness just increases by a few orders of magnitude. I then buttoned everything back up and gave it a few applications of the same clear coat I used on the desk top.

Again, luck was on my side, as I already had the maple ply in my workshop. I was originally planning on making the drawer bottoms out of something much more pedestrian, such as painted hardboard, but this is much nicer.

With the drawers finally sorted, I was now ready to attach the bottom. I countersunk a series of screw holes and used 15 or so No.8 × 38mm screws to secure the bottom in place (**photo 23**).

In the interest of brevity, I haven't really shown much of the drawer fronts so far. I made, planed, sanded and clear-coated them in parallel with the desk top. Like the desk top, I made the drawer fronts in one big, long piece. Obviously, that wouldn't work very well for a two-drawer desk, however, so I had to cut my solid drawer front in half! The mouth of the desk measured 1,282mm, so I subtracted 6mm for clearance on both sides and then split that in half (**photo 24**).

What's a drawer without a drawer pull? Really annoying to open, that's what! To make the contents of drawers easier to access, I needed to install some drawer pulls on the drawer fronts. This meant tapping a few holes in them, so I used my drill with a 4.5mm drill bit and got down to work. The piece of tape on the drawer front in **photo 25** serves two purposes: one, it let me draw on the face of the drawer front so I could mark the hole location without permanently marking it, and two, it helped to give a nice clean cut to the drill bit. I don't pretend to understand the physics at work here, but I always find holes drilled through tape always turn out cleaner than the ones without.

I then placed a scrap piece of ash underneath the drawer front for a similar reason. Drilling into a scrap piece of wood keeps the drill bit from 'blowing out' the back side, and again, gives a much cleaner hole.

Installing drawer fronts into a desk like this is a bit tricky: you want to have even gaps the whole way around the desk, and figuring this out requires the drawers to be closed. But when the drawers are closed, you've got no way of screwing the drawer fronts to the drawers, so it's therefore a catch 22.

Enter a product called 'No More Nails', which is a rapid drying construction adhesive (**photo 26**). I applied a couple of dollops to the front of each drawer, put my drawer fronts in place, adjusted them until I had an even gap the whole way round, then waited for the glue to dry.

Once the glue sets, I could open the drawers and screw them to the drawer fronts in order to give a more permanent and secure connection.

If you look closely at **photo 27** you can see the 3mm plastic shims I used to position the drawer



19 Mounting the drawer slides to the desk



20 Screwing one of the drawer frames together



21 Test-fitting one of the drawers



22 Sliding one of the drawer bottoms into place



23 Countersinking a series of screw holes and securing the drawer bottom in place



24 Cutting one of the drawer fronts

fronts in the mouth of the desk. Once I was satisfied with their position, I let them sit overnight so the glue could dry and I could get some rest...

Installing the hairpin legs

... or at least I thought that's what the plan was. The glue had a little longer to dry than I initially thought. This project actually sat uncompleted for a week while I waited for these hairpin legs to show up. I can't complain, though, as the legs were supplied to me by Hairpin Leg Shop. They really liked my work and wanted to be part of one of my builds.

You'll see that there's no fancy mounting system here – I just screwed the legs directly to the bottom of the desk with some No.10 20mm pan head screws (**photo 28**). The hairpin legs came pre-drilled with a series of mounting holes.

This was going to be a working desk, but I wanted it to stay looking clean without a load of wires cluttering it up. To that end, I mounted a power strip on the backside of the desk and cut a couple of pass-through holes (**photo 29**). That way my girlfriend could hook up her computer and any chargers without having to run the cords down to the wall outlet. She can also charge things even while they are concealed in the drawers. I also made sure the power strip had four USB ports to accommodate all of her USB charging devices. Once that was done, I did a little bit of touch-up painting, loaded it onto my truck and took the project home.

The 'good enough' mug shown in **photo 30** has always made me chuckle. I always feel like I'm pulled between a 'good enough' attitude and perfectionism when I'm carrying out a project like this. On the one hand, I want to create things that are both nice to look at and functional, and to do that requires a certain amount of perfectionism. This desk wouldn't be a very good desk if the drawers didn't work, right? There will always be some flaws in a project such as this one, and as the person who built it, I know all of them, intimately. It's hard for my eyes not to go right to them when I'm looking at it.

On the other hand, you have to step back and say enough is enough at a certain point. I must have applied 4-5 layers of clearcoat on this desk before I got one that I was happy with, and even at that, it still wasn't perfect. It was 'good enough' that no one other than me would



25 Using a piece of painter's tape when drilling the holes for the drawer pulls



26 'No More Nails' is a great help when it comes to installing the drawer fronts



27 The 3mm plastic shims I used to position the drawer fronts in the mouth of the desk

notice the imperfections unless they were inspecting it with a magnifying glass.

Knowing where that good enough point is can be tricky, but if you're too much of a perfectionist you'll never put out any work for people to enjoy. I think it's all about living in that strange grey area between the two. Embrace the grey area!

The drawers were difficult, but I do love the look of them. They are soft-close/self-closing, which is a really great touch and as long as the drawer is 80% closed, a mechanism inside the drawer slide will do the rest of the work for you. The drawer slides also make it impossible

to accidentally (or intentionally) slam the drawers closed. This is important if you've got something delicate and valuable in the drawer, such as a camera or laptop. And that just about sums everything up – if you have any questions, do feel free to email me and ensure to have a look at my website for other similar projects. ✂

FURTHER INFORMATION

To find out more about Zac and his other projects, visit his YouTube channel – www.youtube.com/zacbuilds – or follow him on Instagram: [@zacbuilds](https://www.instagram.com/zacbuilds)



28 Installing the hairpin legs using some No.10 20mm pan head screws



29 Mounting the power strip to the backside of the desk



30 Deciding when a project is 'good enough' is a difficult task

SHARP END OF THE BARGAIN

In this in-depth article, **Mike Darlow** looks at sharpening angles in general, grinding equipment, honing, the three popular types of grinding jig, as well as how to sharpen the main tool types

Honing a skew chisel
with a diamond slipstone



Despite the introduction of CBN (cubic-boron-nitride abrasive) grinding wheels, sharpening systems (such as the Wolverine and Robert Sorby ProEdge), and an ever-increasing amount of advice, many turners sharpen poorly. Also many of those who are proficient sharpeners in truth aren't because they produce tool noses, which have keen edges, but suboptimal geometries. I'll use *nose* to mean a tool's cutting edge and the adjacent material and surfaces. Indeed the supposed difficulty and drudgery of sharpening optimally is promoted as a reason for adopting scraper- and shear-scraper-based turning.

English woodturner Stuart King has shown that turning has been practised for at least 4,000 years. One could be forgiven for assuming that we should therefore by now know exactly how

to sharpen. However, **Fig.1** proves that the sharpening angles recommended by different turning authors vary wildly. It also reveals, surprisingly, that since the commercial introduction of HSS woodturning tools in the 1970s and, more recently, superior types of HSS such as crucible steel, recommended sharpening angles have increased in magnitude, rather than decreased.

This article will therefore cover the criteria for sharpening angles in general; grinding equipment; honing; the three popular types of grinding jig; my recommended sharpening equipment; and sharpening the main tool types.

Choice of sharpening angle

Few of those who recommend particular sharpening angles provide supporting reasoning. I therefore conclude that their recommendations



1 A plane blade mounted in a plane body is used with a considerable, about 20°, effective clearance angle

use the same grinding angles. Experience would have taught them to grind the angles best suited to them, taking into account the type of work they generally undertake and the hardness or softness of the wood they mainly work with."

- "I believe that the [sharpening angle] that works for you is the 'best' angle."
- "There are no hard and fast rules about the angles of bevels [sharpening angles], as it depends on your height and personal preference."
- "[The sharpening angle on cutting tools] in fact will vary according to the height of the turner himself, and that of his lathe."

The first two quotes aren't particularly helpful, and the third and fourth ignore the far better option of appropriately raising or lowering your lathe's height. Fortunately, Leonard Lee, who is not a woodturner, in his excellent book *The Complete Guide to Sharpening* provides a practical criterion for deciding the minimum value of a tool's sharpening angle: "A cutting tool's sharpening angle should be as low [small] as possible consistent with edge retention."

By "consistent with edge retention" Lee means but 'won't crumble during its anticipated use'.

Lee's criterion enables minimum sharpening angles to be determined, but are optimum

Publication Year	Author	Book title	Tool sharpening angle in degrees			
			Roughing gouge	Skew	Detail gouge	Parting tool
1887	Hasluck	<i>The Wood Turner's Handybook</i>	nq	28m	25–30	60m
1905	von Martin	<i>Der Drechsler</i>	nq	25m	25m	nq
1940	Fritz Spannagel	<i>Das Drechsler Werk</i>	30m	25m	18m	50m
1953	Milton and Wohlers	<i>Fundamental Wood Turning</i>	nq	25m	20m	50
1956	Frank Pain	<i>The Practical Wood Turner</i>	40m	43	32m	40m
1966	Ross Cramlet	<i>Woodturning Visualized</i>	nq	40	27	40
1971	Peter Child	<i>The Craftsman Woodturner</i>	45	35m	nq	30m
1975	Dale Nish	<i>Creative Woodturning</i>	nq	40–50	30	50
1983	Bruce Boulter	<i>Woodturning in Pictures</i>	45	60–70	45	50–70
1985	Mike Darlow	<i>The Practice of Woodturning</i>	nq	25	25–30	30
1985	Ray Key	<i>Woodturning and Design</i>	45	40–50	30	nq
1989	Hugh O'Neill	<i>Woodturning, A Manual of Techniques</i>	35–45	36–50	30	50
1993	Ernie Conover	<i>The Lathe Book</i>	30	42	30	42
1994	Jordan, Miller-Mead and Scarpino	<i>Wood Turning</i>	45	26 for oval 40–50 50–60 curved	35	50
1997	Mike Darlow	<i>The Fundamentals of Woodturning</i>	30	25	30	30
1999	Phil Irons	<i>Woodturning, Two Books in One</i>	45	30	40	nq
2000	Keith Rowley	<i>Woodturning A Foundation Course (New)</i>	45	25	35	50
2001	Richard Raffan	<i>Turning Wood</i>	35–40	35–40	35–40	35–40
2005	Barry Gross	<i>Learn to Turn</i>	45	60	35	50
2008	Michael O'Donnell	<i>Woodturning Techniques</i>	30–45	30–45	30–45	30–45
2010	Ernie Conover	<i>The Frugal Woodturner</i>	25–30	25–30	25–30	25–30
2014	James Rodgers	<i>A Lesson Plan for Wood Turning</i>	45	30–40	25–40	30–50
2015	Alan Lacer	<i>Woodturning Projects & Techniques</i>	45	35–40	25–35	nq
2017	Mike Dunbar	<i>Woodturning Techniques</i>	40–45	45	35–40	nq

Notes: *m* means determined by measuring, *nq* means 'not quantified in the book'; *oval* means a 'skew with an oval cross section'; *curved* means a 'skew with a cutting edge which is curved instead of straight'.

Fig.1 The sharpening angles for four tool types recommended in some woodturning textbooks

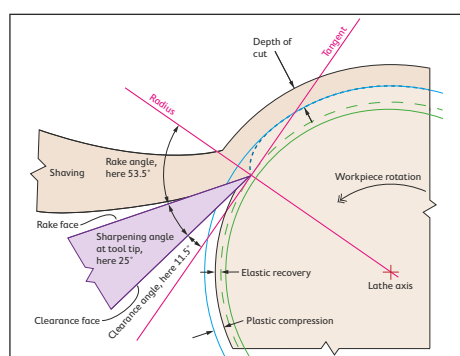


Fig.2 Cutting, here peeling, with a near-zero clearance angle

are based on their experience of what works for them. You can eventually produce acceptable turnings, albeit with restricted geometries, with an unsharpened fire poker (and lots of abrasive), so the 'it works for me' criterion is insufficiently rigorous for those who desire to sharpen their tools optimally. Perhaps a reluctance to expose suboptimal advice from both turning gurus and commercial suppliers of equipment lies at the heart of the present and accepted, but surely unsatisfactory, situation revealed in **Fig.1**.

Here are several quotes from recent woodturning books:

- "Hardly any two [professional turners]

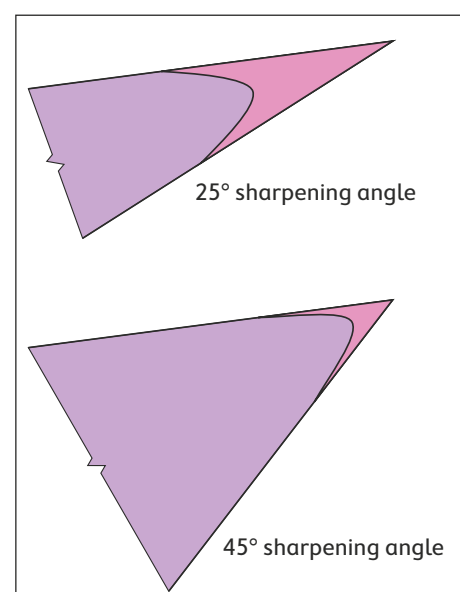


Fig.3 The amount of abrasion (coloured pink) required to blunt an edge with a 25° sharpening angle and one with a 45° sharpening angle

sharpening angles larger than the minimums? And, if so, how much larger?

There is a popular belief that edges with larger sharpening angles retain keenness longer than edges with smaller sharpening angles as the following quote illustrates: "The skew has a sharper edge, but because there is so little mass behind it, the edge doesn't stay sharp for very long. It lacks durability. In effect, the less mass a tool has to support the edge, the less durable that edge will be when cutting the wood... Gouges, then, are the compromise between these two types of tools [skews and scrapers]. With their moderate amount of mass behind the edge, they sacrifice some of the sharpness of the skew, but they gain the durability of the scraper."

However, recent research by Steve Elliott on plane blades showed that on North-American cherry, there was some risk of edge crumbling with a sharpening angle of 34° . However as, **photo 1** shows, a plane blade is mounted in a plane body and thus the blade is presented with a considerable clearance angle. The edge is therefore subjected to transverse forces, which will tend to break bits off. In turning, however, a cutting, not a scraping edge, should be presented at a near-zero clearance angle (clearance angle is defined in **Fig.2**), and therefore any net transverse forces would be tiny. Another adverse factor with plane blades is that they are typically presented at zero side rake (that is not skewed). In turning, except for parting-like cuts, cutting edges should be presented with considerable side rake, ideally between 45° and 80° . The importance of side rake in reducing edge-crumbling stresses on cutting edges is confirmed by Leonard Lee's recommendation of a 10° sharpening angle for slicing knives.

If an edge does not lose keenness through crumbling, it can only lose keenness through abrasion because softening through temperature elevation cannot be a factor for HSS turning tools. The conclusion drawn from Steve Elliott's research is illustrated in **Fig.3**. That research refutes, in fact reverses, the assumption that the loss of edge keenness through abrasion is slower with greater sharpening angles.

There are three other factors which support smaller sharpening angles:

- 1 The smaller the sharpening angle, the larger is one's turning vocabulary of forms: for example, adjacent beads can have smaller angles in the cusps, and coves can be deeper.
- 2 Less effort is required from the turner to remove wood at a given rate.
- 3 You can safely work at longer tool overhangs.

There are two contrary beliefs:

- * One promoted some years ago was the concept of 'scary sharp', that edges which were too keen would be more difficult and risky to manipulate.
- * That coarse sharpening angles, particularly if unhone'd, tear-out less.

Both beliefs are wrong. The first is illogical; the second ignores the lessening in tear-out if a conventional edge is traversed with more

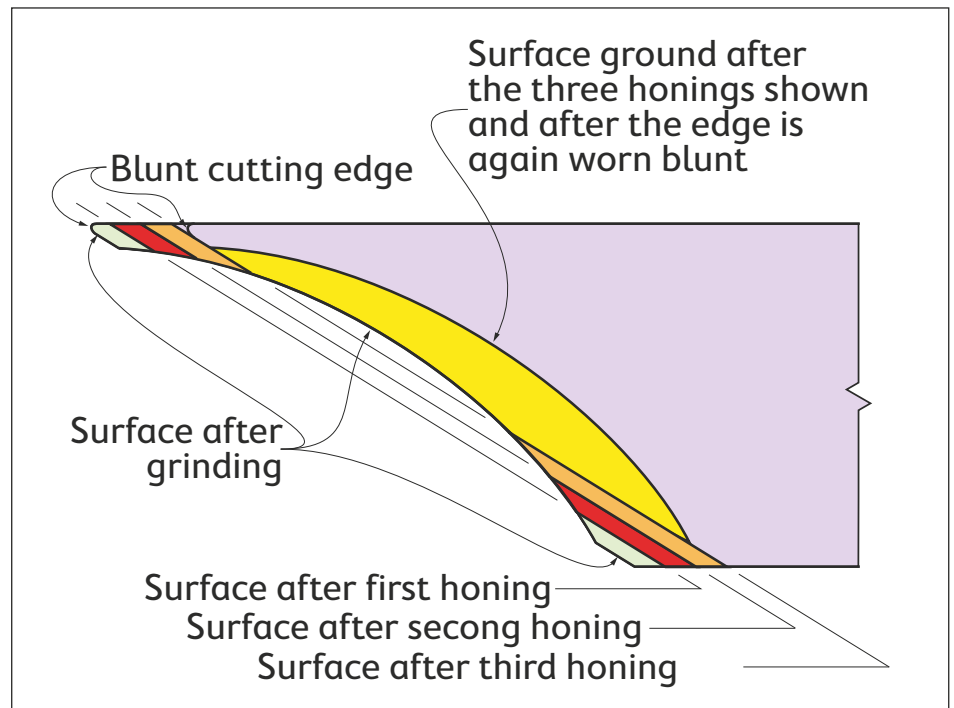


Fig.4 The optimum sharpening procedure for cutting tools with non-convex bevels. In some cuts, you sight along the cutting edge and the bevel heel to ensure the optimum tool presentation

side rake, at a slower speed, and with a reduced depth of cut.

I hope that the above reasoning and evidence has convinced you that you should use small sharpening angles. But what do I mean by small? I suggest about 5° larger than the sharpening angle at which crumbling starts to occur.

I've recently been turning beads in black apple, one of the hardest and heaviest Australian native woods. I used a skew with a sharpening angle of 18° because I wanted tight cusps between the groups of adjacent beads. I did not experience any crumbling. I therefore recommend 25° for cutting tools, such as detail gouges and skews typically used in non-arduous conditions. Spindle roughing gouges experience impacts, and parting tools are used without side rake and have to tear; I therefore recommend 30° for these tools. And if your tool presentations are optimum, but the tools' cutting edges crumble, increase their sharpening angles in 5° increments until crumbling does not occur. For example, in cup chuck hollowing, a detail gouge is often used in scraping presentations. You might therefore need a sharpening angle larger than 25° for this tool. Another reason for using a coarser sharpening angle is restricted tool access.

Grinding equipment

Three grinding-surface geometries are used in woodturner's workshops: flat, the periphery of a grinding wheel dressed flat or an abrasive belt running over a rotating cylinder, and the periphery of a grinding wheel dressed concave. In most turning situations, the profile of a tool bevel doesn't matter. However:

- If you hand hone, prefer a hollow-ground bevel.
- If you machine hone, the curvature of the hone should preferably be equal or be a little less than that of the grinding surface.
- For bowl hollowing, a convex bevel is optimum

and is most easily ground using a conventional aluminium oxide grinding wheel with a concave periphery.

The last recommendation above dictates that if you want to turn bowls optimally, you'll need a bench grinder. If using properly-stiff turning tools for general turning, prefer 200mm diameter grinding wheels because 150mm diameter wheels produce too much hollow grind. If you will be buying a bench grinder, I'd recommend (without having ever used one) a slow-speed (1,500rpm) version. If, like me, you have one or more 3,000rpm grinders, there's no need to replace them. I haven't ever used a CBN grinding wheel which has a cylindrical periphery that isn't dressed, but those who have recommend them. For general turning tool grinding, use 80 grit or the next finest.

Why hone?

- On an edge presented with no or little side rake, the edge will be keener and therefore sever better, and will also retain keenness longer.
- Hand honing is typically a quicker process than regrinding or machine honing.
- The life of a tool, which is effectively reshaped by honing, will be far longer than one reshaped by grinding (**Fig.4** shows the grinding and honing process, which effectively only shortens a tool by honing).
- The wood surface left by a honed edge will be less damaged than one left by a ground-and-unhoned edge.

Alan Lacer has shown that honing with diamond is far quicker than honing with aluminium oxide or silicon carbide because diamond is more effective on the very hard non-ferrous carbides in HSS. The honing equipment I recommend is listed later in the article.

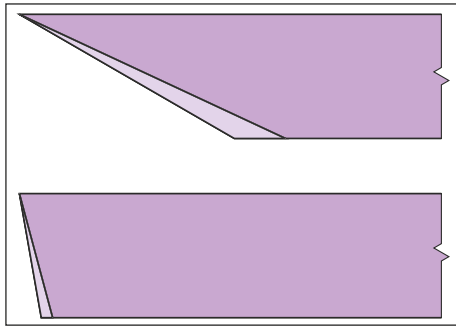


Fig.5 As shown by the paler shading, regrinding at the wrong angle is more wasteful with smaller sharpening angles

Grinding jigs

Fig.5 illustrates that not grinding at the intended grinding angle, especially if it's small, is wasteful of both time and expensive material. Also, if your tools are sharpened with unchanging sharpening angles, you'll present them more consistently to the workpieces. I therefore recommend that you always use a jig.

Setting a jig from the tool bevel is inherently slow and inaccurate although using a mirror, as advocated by Alan Lacer, does help. You should therefore prefer a jig, which can be set without reference to the tool's bevel. However, if your jig is finicky, slow to set, or inaccurate, you'll be reluctant to use it every time you regrind. Also, as I'll describe, some jigs produce suboptimal nose geometries.

There are three main jig types:

- Handle-end
- Pivoting
- Tilting platform

I'll now discuss these and how to set them.

Handle-end jigs

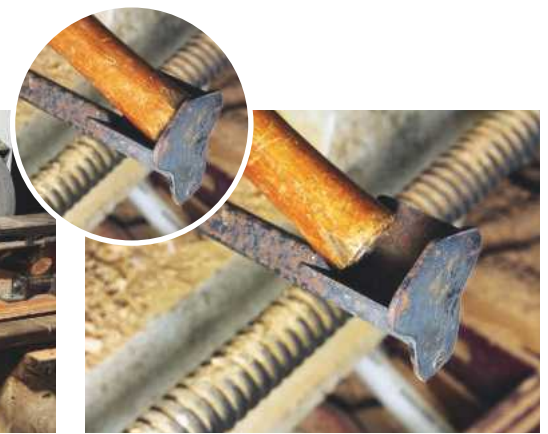
A handle-end jig (**photo 2**) can be used for parting tools, spindle roughing gouges, detail gouges and for some nose geometries of bowl gouge. A V-cradle of some length is required for detail gouges, as demonstrated in **photo 3**. One of this jig's disadvantages is that, as you grind,



4 The Glaser joystick



2 Grinding a spindle roughing gouge on a Wolverine handle-end jig



3 Grinding a ladyfinger detail gouge nose using the rotate (here anti-clockwise) and axial-thrust method with a handle-end jig with a long V-cradle

the sharpening angle increases. Therefore if you continue to set the jig from the tool bevel, the sharpening angle will continue to grow.

Some brands have a rule on the sliding arm, but because grinding both shortens your tools and reduces the diameter of the grinding wheel if aluminium oxide, using a constant arm extension for each tool will also result in increasing sharpening angles.

One advantage is that this jig can be used for short-bladed versions of the compatible tool types; however, tools with coarse sharpening angles, such as scrapers, can jam if ground on handle-end jigs.

Pivoting jigs

Today's pivoting jigs (**Fig.6**) are derived from the Jerry Glaser joystick (**photo 4**). As with the handle-end jig, the pivoting jig should yield bevels with almost polished surfaces. Also, if provided with the necessary scales and used with a constant-diameter CBN wheel, bevel geometries can be repeatably ground if the necessary settings are recorded. With an aluminium-oxide grinding wheel, which wears down in diameter, the jig has to be set from the tool bevel for each regrinding, which is slow and inaccurate.

If a tool bevel is not ground with the optimal geometry, the turner usually modifies his or her technique accordingly, and is therefore often not aware that the tool's nose geometry is suboptimal. Below I discuss the nose geometries ground on three tool types when using pivoting jigs.

Spindle roughing gouge

Because the pivot point (see **Fig.6**) of a pivoting jig cannot be positioned along the blade axis, the radial sharpening angle, defined in **Fig.7**,

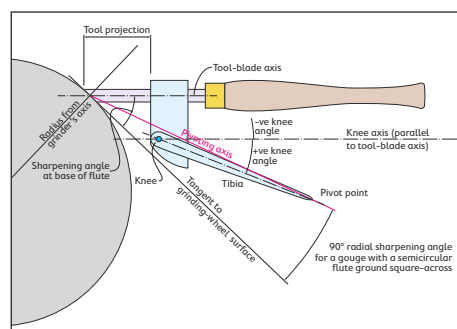


Fig.6 Pivoting-jig geometry

won't be constant along the whole cutting edge, and reduces towards the corners of the flanges.

Detail gouge

From **Fig.6** you can see that the larger the positive knee angle, the more the radial sharpening angle decreases towards the tops of the flanges.

Photo 5 shows grinding a detail gouge with the minimum positive knee angle necessary to avoid 'pointing' the nose because the greater the knee angle, the more rapidly the radial sharpening angle decreases as the angular distance from 0° (the bottom of the flute) increases – you can see this in **photo 6**. Because typically the radial sharpening angle needs to be at least 25° to maintain a near-zero clearance angle when turning mouldings on transversely-grained workpieces, prefer the rotate-and-axial thrust method to a pivoting jig. The greater the clearance angle when cutting, the more likely a catch becomes.

Bowl gouge

Pivoting jigs are supposedly ideal for grinding bowl gouges. Whether this is so will be considered later.

Tilting-platform jig

By far the least expensive and most versatile jig is the tilting-platform. Its disadvantage is that until 2001, its tilt had to be set from the bevel

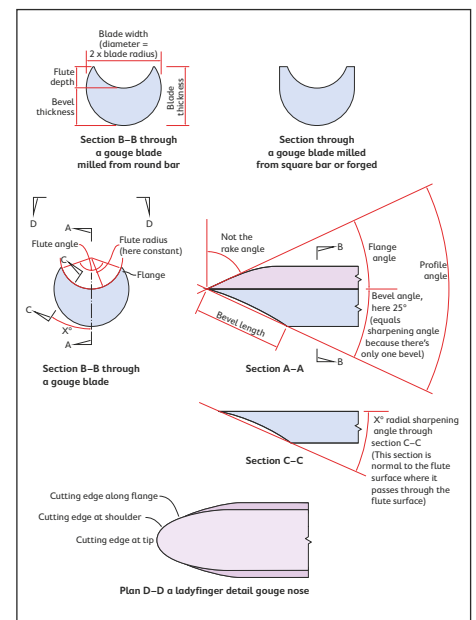


Fig.7 Detail gouge geometry

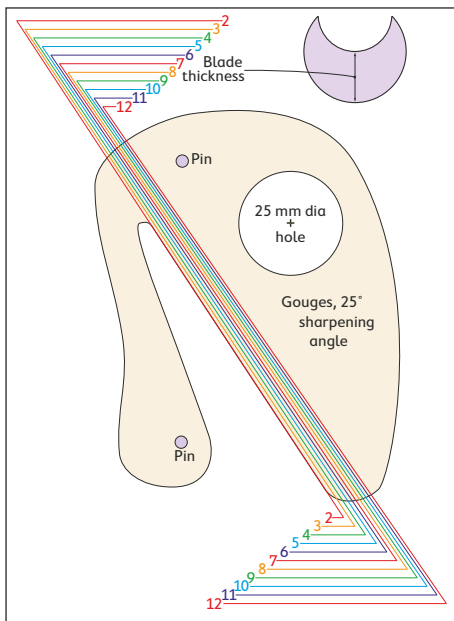


Fig. 8 A Darlow template for detail gouges with blade thicknesses between 2mm and 12mm and a 25° sharpening angle. The coloured lines show that the location of the reference edge is different for various blade thicknesses

of the tool about to be ground. In 2001, details of Darlow templates (see **photos 7, 8 & Fig. 8**) were shown in my book, *Woodturning Techniques*. With the introduction of the CBN wheel, the appropriate tilts for different tools are/can be permanently marked on some brands of tilting-platform jig.

RECOMMENDED SHARPENING EQUIPMENT

Most turners prefer to spend a sensible minimum on their sharpening equipment. My recommended kit is:

- A 200mm bench grinder, 1,500rpm, but 3,000rpm will also be fine.
- One 80 grit and one 100 grit aluminium oxide wheel, or one 80 grit CBN wheel, and one aluminium oxide 100 grit wheel.
- Two tilting-platform jigs.
- A diamond slipstone with normally-radiused edges.
- A slipstone with edges with smaller radiuses.
- A fine-grained diamond flat hone. For very



7 A Darlow template for a detail gouge 19mm wide with a 25° sharpening angle. Made quickly and easily from the diagrams provided free on the website – www.mikedarlow.com – these computer-designed templates compensate for grinding wheel wear



5 Grinding a detail gouge with a pivoting jig, here with the minimum positive knee angle

- small-nosed gouges, a coarse-grained diamond flat hone is useful for refining the nose shape.
- If you use ring tools, a diamond rat-tail file.

You can also hone with an abrasive honing belt or a fine-grained CBN wheel. Both are more expensive and usually slower to use than hand-held hones.

SHARPENING PARTICULAR TOOLS

Spindle roughing gouges

Use a 30° sharpening angle on an edge ground square-across. The square-across is optimal because it minimises tear-out when roughing away from a pommel.

Detail gouge

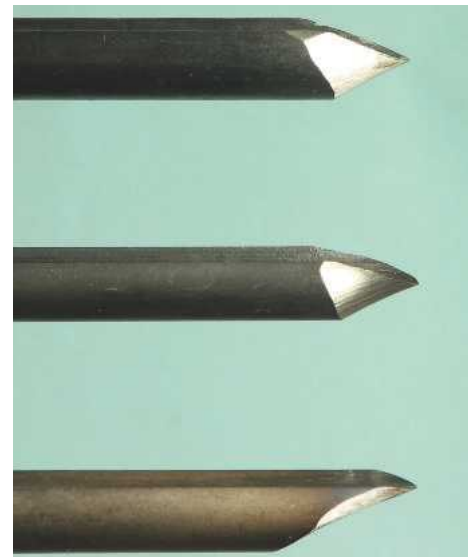
I recommend a 25° sharpening angle and, to enable cutting with greater side rake, the longer ladyfinger, not the shorter fingernail nose (**photo**



8 Setting a tilting platform jig. Both pins of the Darlow template are pressed against the grinding wheel's periphery, and the platform is locked in position when in full contact with the template's reference edge



9 Ladyfinger (top) and fingernail (bottom) detail gouge noses



6 Three detail-gouge nose grindings. Top, ground on a tilting-platform jig using the rotate-and-axial-thrust method; middle, the nose ground in **photo 5**; bottom, a high-flute detail gouge with a flute radius greater than the blade radius ground on a tilting-platform jig using the rotate-and-axial-thrust method

9). Ideally the radial sharpening angle (see **Fig. 7**) should be constant around the whole flute. This is impossible with the ladyfinger nose unless the flute is very shallow. There are several methods which can be used to grind a ladyfinger nose:

- With a pivoting jig the axial sharpening angle decreases more rapidly towards the tops of the flanges.
- With the tilting-platform and handle-end jigs, the rotate-and-axial-thrust method (**photos 10 & 11**) is optimum because the radial sharpening angle reduces less rapidly than with the pivoting jig. Without the thrust, the nose must be too pointed.



10 Grinding the left-hand bevel of a ladyfinger nose on a detail gouge. The gouge will be slowly rotated anti-clockwise while the tool is thrust slowly forward



11 Completing the grinding of the left-hand bevel. Do not thrust the gouge more forward than necessary, or the radial sharpening angles are further reduced



12 A detail gouge with a double bevel

- With the tilting-platform jig, other manipulations involving handle fanning are possible, but are more difficult to replicate repeatedly and produce less-optimal nose geometries.

An increasingly popular modification is to grind the bevel heel back to produce a double bevel (**photo 12**). This lessens the accuracy of hand honing, and makes the line of sight along the bevel less clear. Certainly there are situations where a convex bevel is optimum, but even in those the double bevel is suboptimal because it will still leave bevel heel crushing. Also, as shown in **photos 15 & 16**, a convex bevel is easy to grind.

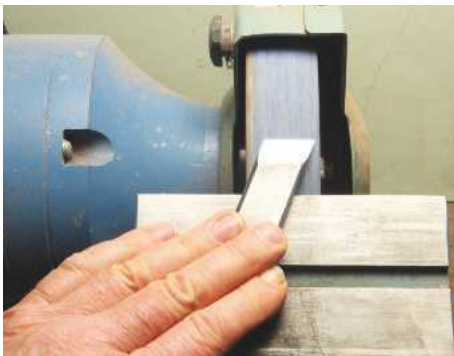
Small detail gouges

The ideal blade cross-section for larger sizes (**Fig. 7**, section B-B) cannot be scaled down too much because the resulting blade will flex in use and catch. One solution shown in **photo 13** is to grind a ladyfinger nose on a bowl gouge which has a flute with a small radius at the bottom of the flute.

Skew chisel

A short point angle of about 70° for skews is sound. As the short-point angle decreases, the ability of the tool to cut tight cusps is impaired. However, a modest decrease is harmless, and would lessen tear-out at the start of a final rolling cut. The belief that a curved-edged skew catches less is, in my experience, unfounded.

For skews, use a 25° sharpening angle (12.5° each bevel). A 70° long-point angle (**Fig. 9**) is appropriately aggressive for V-cutting. As shown in **photo 14**, the best jig to use is the tilting-platform.



14 Grinding one of a skew's bevels with a tilting-platform jig. To grind a curved cutting edge, fan the handle



13 A small detail gouge nose ground on a bowl gouge

Parting tool

Use a 30° sharpening angle, square across. The parting tool is a cutting tool, not a scraping tool. If you need to part frequently with a scraping presentation, acquire a second parting tool and sharpen it appropriately.

Scrapers

An 80° sharpening angle is commonly recommended for scrapers. Don't hone if you want to keep the burr. A honed top face yields a better burr. Don't grind a scraper in a handle-end jig because it will jam. You can ticket to produce a more aggressive burr.

Bowl gouges

The specialist deep-fluted (high-flanged) bowl gouge wasn't introduced until after World War II. It's therefore possible to turn bowls without using one. Bowls have essentially two surfaces: a convex outside and a concave inside. When turning the outside, the shavings separate from the workpiece due to their own momentum. When turning a bowl inside the reverse applies – try taking a thick cut with a ladyfinger-nosed gouge. A typical bowl gouge has two flanges: the upper one can be used to cut, the lower to scrape shavings free. Therefore there is no advantage in using a bowl gouge on bowl outsides. However, a bowl gouge is excellent for roughing bowl insides, but is not superior for thin finishing cuts whether inside or outside.

The optimum nose geometries for bowl turning depend on the bowl forms and how many gouges and other tools you'll use – I often use five different tools on bowl insides. For finish-turning a bowl inside you should use gouges with a convex bevel and the appropriate sharpening



15 Using a coarse aluminium oxide dressing stick to grind a concave periphery in an aluminium oxide grinding wheel. The 17mm wooden reference radius is the smallest radius surface which a gouge ground on this wheel can cut without bevel-heel crushing

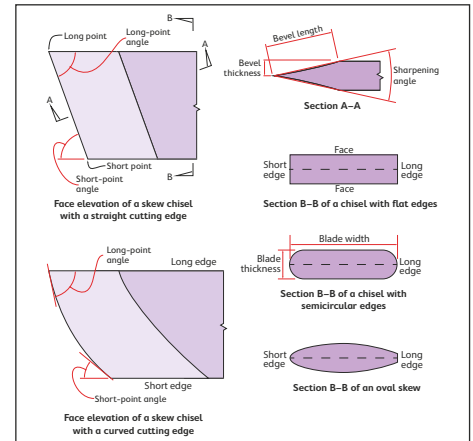


Fig. 9 The geometry of skew chisel noses

angles to overcome access restrictions (for example 25°, 45° and 70°). For finishing cuts, cutting edges should be presented with about 70° side rake. To minimise rippling, the horizontal component of the shaving should be long. To lessen tear-out the shaving should be thin, hence the gouge's flute radius should be large and the edge ground straight across. To grind a convex bevel, use the method shown in **photos 15 & 16**. Honing is likely to destroy the resulting geometry. Anyway, because when an edge is presented with considerable side rake, the action is essentially sawing rather than zero-side-rake severing, in which case honing offers little benefit.

Ring gouges

Ring gouges are HSS hook-tool equivalents. They're excellent for cutting the bottoms of the insides of bowls. Because of their limited lives, use them for finishing cuts only. Sharpen them on the inside with a rat-tail diamond file. ✂



16 Grinding a convex bevel by axially rotating the gouge. The steeper the gouge's presentation, the less convex the bevel

FURTHER INFORMATION

To find out more about Mike Darlow, visit his website: www.mikedarlow.com



Hand sanitisers are now placed throughout the workshop

BACK IN THE WORKSHOP & EVERY DAY FEELS LIKE THE FIRST DAY OF SCHOOL!

Tom Fraser, Principal of The Chippendale International School of Furniture, is excited to welcome students back to the school after months of lockdown and discusses plans moving forward

Like many woodworkers around the world, we have been waiting for the return to the workshop following months spent tinkering at home, trying to stay positive and remain creative. Throughout lockdown we kept a watchful eye on the news and government guidance, moving from total lockdown into new territory and the different phases, pondering 'what ifs' and 'when' as well as how to navigate getting everyone back to the School.

With Scotland easing restrictions across an array of sectors in June, our route map for re-opening was made so much clearer and instilled confidence. While we are glad to now be back, we accept that things will never feel quite the same, but perhaps this is no bad thing.

Staying safe

With safety and wellbeing our top priorities, we carefully planned how and when to stagger our staff, students and renters returning to the School as well as detailing how to make the entire environment 'Covid secure.' Among the first steps was making PPE equipment – my wife set about creating tartan face masks for all staff, students and graduates renting bench space, to help prevent transmission.

During the first week back in June, staff worked to implement safety measures, which entailed deep cleans throughout, increasing distance between workbenches and distributing hand sanitiser and other PPE. We also worked up a rota for regular deep cleans and an emergency shut down plan in case of an outbreak. Normally we would be building up to our annual exhibition at this time of year and preparing for summer break – not in 2020!

Our renters returned to our Myreside Studio workshops on 29 June. This is our incubation hub, designed to help graduate students build their businesses with our full support and access to our expert team, tools and machinery. Getting them back in protects their livelihoods and so we took considered steps to ensure they could get back to work as soon as it was allowed.

Students returned in August and will finish their Professional Course on 17 October instead of 13 June. But they are so happy to be back, and some have remarked that they feel the

buzz of the 'first day of school' every day when arriving at the workshop. The renewed energy and positivity of the students and our team is palpable – everyone is thrilled to be back and are ploughing on with their designs. We're so grateful for our workbench, our community, and ultimately our craft.

What will remain?

Now that our adaptations have been bedded in, we have found the layout of the workshop is now working better than ever – having to consider the directional flow of students has actually made the space more efficient.

While students were away, our staff were busy gutting certain rooms that were not performing as well as they could. As a result, five workshops have now been repurposed and will allow us to work in a more practical and productive way. Not that we were particularly untidy before, but having had the chance to strip back and assess everything while keeping only what we need, the school feels so much bigger, the space is easier to clean and, most importantly, be productive in! These changes will stay with us in future months and years when the Coronavirus is hopefully far behind us.

Back to School

We can't wait to welcome our new cohort of students in November this year. We have a real mixed bag of people, with many seeking a new creative challenge or pursuing the dream of becoming a professional cabinetmaker.

With a renewed focus and energy, we look forward to getting to know our new students and working closely with them to help fulfil their individual goals. There is something hugely rewarding in seeing such strong interest in our Professional Course in 2020, the year that many may wish to soon forget.

If you're thinking of professionalising your woodwork practice, take a look at the Chippendale School's intensive 30-week Professional Course: www.chippendaleschool.com/cabinet-making-courses/professional-course. ✂

FURTHER INFORMATION

If you're interested in getting into furniture making, then apply to study on the Professional Course at the Chippendale School – find out more at www.chippendaleschool.com



Staff at the School are all masked up and ready to go



WIN! 1 OF 5 CLASSIC DICKIES OUTFITS

Dickies Workwear is giving five lucky readers the chance to win an entire outfit, comprising, shirt, T-shirt, trousers and boots

Dickies Workwear is giving five lucky readers the chance to win an entire outfit featuring popular items from across its range that are ideal for woodworkers. This includes:

Portland shirt

A 'lumberjack'-style checked shirt, the Portland is one of Dickies' enduring best-sellers. Made from polar fleece, this padded shirt is an ideal addition to a workwear wardrobe as the cooler months approach.

Denison T-shirt

Featuring the classic Dickies ox collar harness logo, the Denison T-shirt is part of the Hard Working Since 1922 range, which celebrates the brand's heritage with a fresh modern twist.

Lead in FLEX Trouser

Perfect for woodworkers, the Lead in FLEX Trouser is among Dickies' newest styles and has been designed to provide optimum mobility and all-day comfort.

Cameron boot

Comfortable and durable, Dickies' well-known Cameron boots are easy to coordinate with either smart or casual looks. An S3 safety boot, the Cameron is fully waterproof and benefits from a composite toe-cap and non-metallic midsole anti-penetration protection.

HOW TO ENTER

To be in with a chance of winning 1 of 5 Classic Dickies outfits, just visit www.getwoodworking.com/competitions and answer this simple question:

QUESTION:

What material is used to make the Dickies Portland shirt?

The winners will be randomly drawn from all correct entries. The closing date for the competition is **18 September 2020**

Only one entry per person; multiple entries will be discarded. Employees of MyTimeMedia Ltd and Dickies Workwear are not eligible to enter this competition

The competition includes the Portland shirt in red, the Denison T-shirt in black, the Lead In FLEX Trouser in black and the Cameron boots in the new honey colour – creating a fully coordinated look. Colours and sizes are subject to availability and alternatives will be offered if needed.

To find out more about Dickies' full range of workwear, visit www.dickiesworkwear.com.



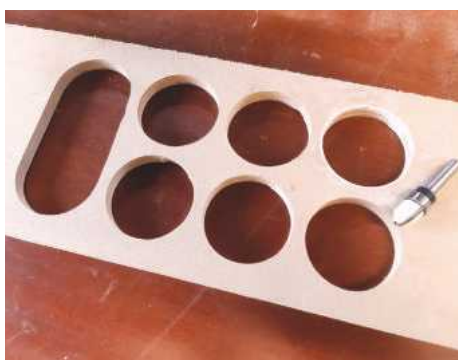
BACK IN THE GAME

Peter Vivian comes up with a novel design for his take on a traditional Mancala board

Recently, a friend asked if I could make a Mancala board as a gift for her two boys as she wanted to teach them how to play. I must admit that I'd never heard of it, so I did a quick search online. The search revealed that there are a number of commercial versions of this ancient board game with a wide range of prices. Most of these were around 457mm long, so I went with this. I thought that a folding board would be a good idea for two reasons: less room needed to store it, plus, when folded, the playing pieces could be safely housed inside.

Timber choice

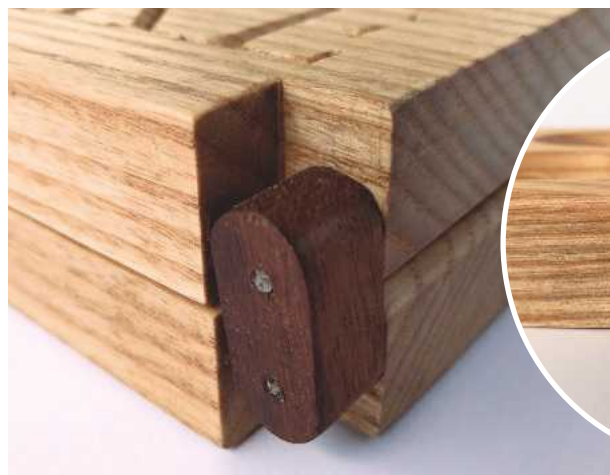
My friend had no preference for timber, so I chose ash as I had a 150mm wide board that was just wide enough; this turned out not to be the best decision I've ever made! A couple of passes through the thicknesser reduced the board to around 18mm – anything less would restrict the depth of the recesses.



1 The MDF template used for making the Mancala board

Marking out

I had a couple of attempts at marking the position of the recesses before I was happy; I wanted them to be the maximum diameter so the playing pieces wouldn't be too small. I considered using a Forstner bit to create them but this would mean a sharp shoulder at the bottom with a dimple in the middle, so I routed them with a bull-nose bit with a top bearing to follow my MDF homemade template. I didn't have the correct bit so needed to buy one, which proved to be easier said than done, but Axminster Tools & Machinery finally came up trumps. This template was simply drilled with the correct size Forstner bit. The elongated recess, or 'Mancala', was carried out in the same way but the two holes carefully opened out with a saw and chisel to create the oval-shaped template (photo 1).



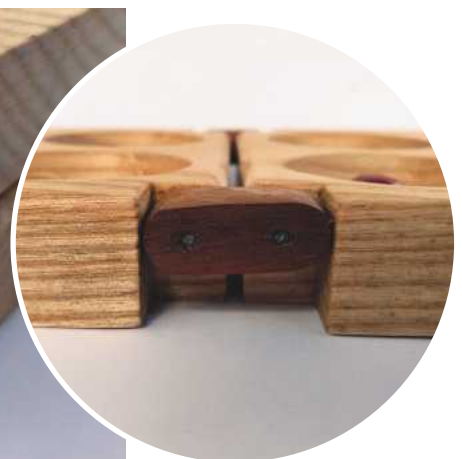
2 The hinge mechanism used on the board, which is made using two pieces of iroko with rounded ends to fit

The hinge mechanism

I could have hinged the two halves with conventional metal hinges but thought they wouldn't look as attractive as floating wooden ones, so after a bit of trial and error – two of the best teachers in the world – I cut notches out of the corners of the two halves and made two pieces using iroko with rounded ends to fit (photo 2). I chose iroko as it is naturally oily and used panel pins as the pivots.

Open & shut case

To keep it closed when not in use, I recessed four rare-earth magnets into the outside corners of the two halves, just below the surface, and covered them with black walnut cross-grained plugs to contrast with the ash (photo 3), keeping them as thin as possible. I mentioned earlier that







3 Two of the black walnut cross-grained plugs, which contrast with the ash. Underneath each sits a rare-earth magnet

making the board out of a single width of timber wasn't the best idea, as by now the board had started to 'cup' and as I wanted the grain pattern to be continuous when folded, the convex faces meant the magnets were no longer close enough to hold it together. To solve the problem, I carefully sanded the high spot down the centre and ran a router with a round-over bit around the edge, which helped to soften it when closed.



4 The completed Mancala board, prior to adding the pieces and carving detail

Name games

To make it more personal, I carved the boys' names onto the top after carefully drawing them out in pencil (**photo 5**). They were smaller than the size I would normally attempt and most of my carving gouges were a bit big, so a lot of it had to be carried out using a Stanley knife (**photo 6**).

Finishing off

Starting with 120 grit and finishing with 240, I carefully sanded the entire board, taking care not to lose the crispness on the edges of the lettering and recesses. I applied three coats of Danish oil with a soft cloth, wiping off the excess after 10 minutes followed by a couple of coats of wax polish, which left a nice soft sheen. I used glass beads for the game play pieces, in two different colours. Traditionally, beans or seeds were used, but this seems like a good, modern alternative.



5 The boys' names were first drawn out in pencil

Play the game

I watched a video showing game play on YouTube, but after viewing it twice, I was still none the wiser! It's supposed to be a simple game to play but obviously not simple enough! In my defence, there are several different ways to play. The boys love it, which is great, and use it everyday. After all, playing board games is much better than being bored! ✂

MANCALA

According to Wikipedia, Mancala is one of the oldest known games to still be widely played today. Mancala is a generic name for a family of two-player turn-based strategy board games played with small stones, beans, or seeds and rows of holes or pits in the earth, a board or other playing surface. The objective is usually to capture all or some set of the opponent's pieces. Versions of the game date back to the 7th century and evidence suggests the game existed in ancient Egypt.

General game play

Most Mancala games share a common general game play. Players begin by placing a certain number of seeds, prescribed for the particular game, in each of the pits on the game board.

A player may count their stones to plot the game. A turn consists of removing all seeds from a pit, 'sowing' the seeds (placing one in each of the following pits in sequence) and capturing based on the state of the board. The object of the game is to plant the most seeds in the bank. This leads to the English phrase 'count and capture', which is sometimes used to describe the game play. Although the details differ greatly, this general sequence applies to all games.

If playing in capture mode, once a player ends his/her turn in an empty pit on his/her own side, he/she captures the opponent's pieces directly across. Once captured, the player gets to put the seeds in his/her own bank. After capturing, the opponent forfeits a turn

6 The boys' names were carved into the top of the board using a selection of carving gouges, as well as a Stanley knife for the fiddly bits



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LETTERS

★ LETTER OF THE MONTH

MIRROR MADE NEW

Hi Tegan,

I thought I'd get in touch to tell you about some basic work I did on a mirror a friend's wife (Tina) bought some 30 years ago, which was a bit worse for wear. I'd like to point out first of all that I'm not a restorer and have never been trained as such, but I do like messing about with wood. I did take some photos, but mainly to keep Tina updated with what I was doing rather than for publication, so I'm afraid they're not great.

You can see the mirror as it was given to me together with a bag of small bits, such as finials and brackets. It was very rickety because: A) The main frame was broken in four different places with one break needing intervention with metal plates; B) The decorative parts of the frame had three breaks needing attention; C) Luckily only one small piece was missing; D) I had to dismantle almost all the parts to work on the frame. Luckily this was easy as it was all pinned – no screws and not much glue.

As you can see, the frame was filthy, and the mirrors badly stained. The next stage of work was to clean the whole frame with a cider vinegar/water solution to remove polish, wax and dirt, glue the structural breaks together and then gently clean the mirrors. These seemed quite good quality and cleaned up quite well. Not too much silvering had come off at the rear, to my relief.

Sadly the wood was in poor condition – it was either mahogany or teak and was very dry and under-nourished. The hidden areas were darker and did have sheen rather than exposed areas. After successfully testing a small section with a simple Danish oil, I coated one of the brackets that went from a bleached beige colour to deep rich 'mahogany' after applying just one coat. I needed to warn Tina that there was going to be a significant change in colour, as can be seen from the two decorative panels, which haven't been treated with oil.



The mirror as it was supplied



Disassembly before the restoration began



The back of the mirror showing damage

I'm relieved to say that Tina is very pleased with the completed project, which is now a very solid piece that is no longer so fragile it felt it was going to fall to pieces in your hands. The photo of the rear shows some of the visible interventions. The panels are now all screwed into place meaning future repairs will be more easy to access. There was major intervention behind the oval mirror as this now sits in a new cradle to keep it in place, which can now withstand someone cleaning the mirror without it moving. The whole job took about 25 hours in total. Best wishes, **Jeff Collard**

Hi Jeff, thanks for sharing your restoration story with us. I'm surprised to hear you have no formal experience as it looks like you've done a fine job! I love the little extras you've added too. Keep up the great work!

Best wishes, **Tegan**



Sadly, the wood (either mahogany or teak) was in poor condition



The completed mirror looks as good as new



Some of the visible interventions Jeff made in order to ensure future repairs will be easier to carry out

FROM WHITTLING TO RYCOTEWOOD

Hi Tegan,

I initially got into woodworking through woodcarving. I started off whittling, and later took up woodturning. I'm currently studying furniture making at Rycotewood Furniture Centre in Oxford, in order to learn more about precision joinery and the design process to combine with my carving experience, and I hope to be able to produce striking and unique furniture pieces. I enjoy the process of taking something raw, uninteresting or flawed, and turning it into a unique object of beauty. I'm inspired by Japanese 'Wabi-sabi' aesthetics, traditional Celtic and Scandinavian designs, optical illusions and intricate patterns that initially appear to defy logic, and I try to incorporate that into each project I make. I hope you like the pieces I've shared here. You can see more of my work on my Instagram page – search for **@holdenwoodcrafts**. Best regards, **Alex Holden**

Hi Alex, thanks for sharing the photos of your various pieces with us – what a lovely cross-section! It sounds like you already have a wide range of skills

but I imagine that the course at Rycotewood is teaching you a great deal. We wish you all the best with your journey and do keep in touch as we'd love to see what pieces of furniture you end up making!

Best wishes, **Tegan**



Welsh love spoon, whittled by hand from birdseye maple and finished with tung oil



Miniature spoon pendants, made from various materials and finished with beeswax



Recently completed cabinet with internal veneers



Walnut and rippled ash bowls, turned by hand and finished with Danish oil and beeswax



Spalted maple bowls, turned by hand, and unfinished

LIGNUM VITAE BOWLING BALLS

Dear Tegan,

I have been given four lignum vitae bowling balls and would like advice/help from any reader who has made objects out of them.

Kind regards,
Ian Eliasson



READERS' HINTS & TIPS

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



PRODUCING PLYWOOD DISCS

I had the need to make several plywood discs of the same diameter for some small toy cars that I was making. The circle was going to have a 6mm wooden axle fitted to it to represent a steering wheel on a car. The following method, using a disc sander, is quick and accurate enough for making wheels or similar. After drawing the circles using a pencil and compass, cut these to size with a small fret saw, cutting about 2mm outside the line. Using the compass point as a guide, drill a 6mm hole in the plywood. Now drill a 6mm hole in a length of timber locating the hole a little under half the radius of the disc from the end of this timber (**photo 1**). Fit the 6mm dowel

through the disc and into the timber. Lubricating the end of the axle with a little candle wax helps it rotate smoothly in the wood. Now hold the timber with one hand and with the other rotate the plywood disc against the disc. To ensure a square edge, keep the plywood flat on the timber as it is rotated. It should go without saying to keep your fingers behind the axle as the plywood is rotated, unless you want your finger-nails trimmed! Feed the timber towards the disc a little at a time while rotating the disc, until the circumference of the circle is reached (**photo 2**). The result is accurate and quickly made discs (**photo 3**).

Glenn Dunmore



1 The discs are cut a little oversize to begin with



2 The timber is held secure with one hand



3 The end result is accurate discs

SHOREDITCH TRAINING COLLEGE CONNECTIONS

Dear Tegan,

I was most interested to read 'letter of the month' in the May edition from Jack Cluer, as I also went to Shoreditch Training College in Englefield Green – in fact we were the first students to move there in 1951 from Shoreditch, where I studied for the first year of my Teacher Training Course. I remember the tutors vividly, particularly 'Stroppy' Jack Maynard. I actually met him several times later in my career when he was the Supervisor for Teaching Practice Students when I worked in Datchet. My life in College was important for me as, firstly, I played rugby and cricket for the College; and secondly, at the first dance we held there I met a girl whom I have now been married to for 64 years; and thirdly, of course, it was where I learned all the skills I would need both as a teacher and as a woodworker through my long life.

Like Jack, I worked in a variety of schools, from a rough one on the Downham estate in London, to Westminster City School, a Grammar. I also took games and taught maths, as well as being introduced to Technical studies when I worked in Datchet. Sadly, when I was 44, I developed a problem with my spine, which required major surgery and, subsequently, as I could no longer fulfil my role as Senior Master or teach Woodwork, I had to retire at the age of 49.

However, in spite of being left with chronic pain, I then wrote a maths book, aimed at students who needed basic practice, called *Money and Maths*

in *Everyday Life*, and then devoted myself to working with wood, particularly turning, and for 30 years made a great many things, most of which sold at our village hall fair. I am now 90, and no longer able to use my workshop, but all round the house are items I have made.

A little aside – at the Woodworker Exhibition at Ascot Racecourse, I was asked to enter a competition, and later, greatly to my surprise, found out I had won and received a Makita tool set. Reading *The Woodworker* every month is of great interest to me, and I very much enjoy the practical articles and suggestions of things to make. Thank you.

Best wishes, **Derek Belsten**

Hi Derek, thank you for your email, which I have passed on to Jack. I love discovering connections such as this one, and I have to say it is one of my favourite parts of the job! I'm glad to hear the magazine brings so much value to you, and I hope we can continue to do so for many years to come! Best wishes, Tegan

WRITE & WIN!

We always love hearing about your projects, ideas, hints and tips, and/or like to receive feedback about the magazine's features, so do drop us a line – you never know, you might win our great 'Letter of the Month' prize, currently the new Trend 30-piece Router Cutter Set, worth over £100.

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NEJ STEVENSON – Designers & makers of fine furniture

NEJ Stevenson's busy workshop



From the humble beginnings of a domestic garage, Neil Stevenson, Owner and Managing Director of NEJ Stevenson Ltd, has grown the company to remarkable heights, albeit facing some challenges when he started, as Axminster Tools & Machinery's Lillie Filtness discovers





Neil Stevenson outside his garage workshop in 1984, and the inset shows the interior

Neil Stevenson's interest in woodworking stemmed from a traditional Staffordshire chairmaker's while he was still at school. This, alongside his strong passion for the art of furniture making, led him to study Fine Craftsmanship and Design at Rycotewood College following his A-Level studies. Once graduated, he moved to Wales to work for a traditional oak furniture company, but unfortunately, after a promising start, he was made redundant after six months.

This led Neil to Bedford to work for a company that imported part-made furniture from Indonesia, where he was asked to visit to improve quality. A combination of not being paid and the absence of a work visa prompted Neil to return home with the UK company going bankrupt soon afterwards. Neil recounts: "On returning to England, I went back to live with my parents, and my dad, bless his socks, spoke to a few people I had worked with to see if I was any

good. My parents didn't have money to waste, so for them to invest hard-earned savings was a major show of faith. So, in January 1984, my dad lent me his garage and £1,000 to buy some machinery. I bought a small 12in DeWalt planer/thicknesser, DeWalt radial arm saw, an Elu router and an orbital sander. The cabinetmakers would laugh if I suggested making anything with such equipment today."

When asked how he felt when he branched out on his own, he says the following: "Poor for a start, definitely tired, along with 'out of my depth'. Pretty much everyone I wanted to buy supplies from considered me a nuisance and a risk, and then, of course, there was the bank manager who was thoroughly patronising and clearly knew less about business than I did."

Company ethos

When Neil started the company in 1984, he worked to the principles of delivering the client's vision with skill, quality and service. Today, the business takes pride in maintaining the same commitment to quality that sustained it in the early days. It is an ethos that lives on through the entire team and is epitomised by Projects Director, David Drew, who was the first to join the fledgling enterprise.

The company ethos is not only echoed in the quality of work delivered, but it is reflected in the daily management style of the Directors. They believe in "doing the right thing by people" and treating everyone – employees, suppliers and customers – with integrity and respect.

NEJ Stevenson have an official policy for

determining where items are purchased, with the primary requirement being quality, with a preference to buy locally where possible. Following a recent analysis of their purchases, 55% is sourced within a 50-mile radius.

Bespoke joinery & furniture

Every piece of furniture that NEJ Stevenson create is one-of-a-kind, both in terms of design and materials, which are painstakingly sourced for every commission. NEJ Stevenson have been commissioned to make an array of pieces over the years, from elaborate mantelpieces, breath-taking libraries, grand wine cellars and soaring staircases, intricate inlaid panels and presentation boxes, ecclesiastical masterpieces and cabinets of major historical importance for great houses and palaces, to Art Deco extravagances and sparkling dressing rooms.

The evolution of NEJ Stevenson

The company has grown significantly over the past 35 years. As the business grew, Neil realised that he needed to take on additional staff and larger premises. In 1988, NEJ Stevenson moved to Unit D5 in Wolston; however, as orders grew the unit became less fit for purpose, leading the company to lease further adjoining units. Threatened with eviction from Wolston due to demolition, land was acquired in Church Lawford and a new workshop built. The company moved in December 1999 and has steadily expanded both space and personnel. NEJ Stevenson now boasts 40 staff members and has premises of 11,000sq.ft.



A bespoke wine cellar, made by NEJ Stevenson Ltd



One of NEJ Stevenson Ltd's highly skilled employees working on a bespoke piece



Achievements

NEJ Stevenson has had the pleasure of working on a myriad of prestigious projects over the years, including being granted a Royal Warrant as the cabinetmakers to Her Majesty the Queen.

State Dining Room Sideboard for Windsor Castle

The A.W. Pugin designed sideboard in the Victorian Gothic style was the only piece of furniture destroyed in the fire at Windsor Castle. NEJ Stevenson were chosen to recreate this iconic piece of furniture. Made in English oak and then veneered in Rio rosewood, embellished with unique carved limewood insets and gilded metal rosettes, the carvings are water gilded and the veneer is French polished.

Eltham Palace

NEJ Stevenson replicated the missing furniture for the dining room and foyer in English walnut, birdseye maple and Australian black bean. The designs were worked up from archive photographs and inventory descriptions.

Dover Castle

This project required the development of concept designs as well as the recreation of a range of over 60 authentic furniture items, including The Kings Bed, Kings Chair, chests, armoires, lecterns, tables and benches, which would be positioned in complete room settings on three floors of the Great Tower. Manufactured mostly in English oak with wrought iron fittings, the majority of pieces were richly decorated in vibrant primary colours. ▶



Fine hand skills are highly prized and championed by the company



Furniture replicated for Eltham Palace



Various concept designs and pieces made for Dover Castle



Prestigious presentation chest made to house a 60-year-old whisky commemorating The Queen's Diamond Jubilee

Gilt and Silver Storage Room at Buckingham Palace

The Royal Household's collection of ceremonial gold and silverware required a storage and display facility befitting its value and historic importance. NEJ Stevenson designed a range of unique storage units, which reduced damage, aided identification and revolutionised the use of the entire collection. The units were made in English oak with Marmoleum surfaces and integrated lighting.

The Chapel Furniture for Pope Benedict XVI's visit in 2010

NEJ Stevenson were commissioned to design and produce specially selected pieces for use during the visit. Given a fairly open design brief, they were asked to produce six contemporary pieces, an altar, lectern, tabernacle stand, two server chairs and the celebrant's chair. These were to be used in a traditional setting, appropriate for religious observance.

Diamond Jubilee Presentation Box

Fellow Royal Warrant holder and whisky distiller John Walker & Sons approached NEJ Stevenson in November 2010 to design and manufacture a prestigious presentation chest, which would be used to house a 60-year-old whisky commemorating The Queen's Diamond Jubilee.

FURTHER INFORMATION

To find out more about NEJ Stevenson Ltd, visit their website: www.nejstevenson.co.uk

Article supplied by Axminster Tools and Machinery. For more features and projects, visit www.knowledge.axminstertools.com

Memorable & unusual projects

We asked about the most memorable and unusual projects that the team have worked on and here are some of their responses: "Mirrored bed canopies are often quite fun to work on; however, 'The Croiser' for Pope Francis to give to Archbishop Welby has been by far the most unusual item we have worked on. In regards to the most memorable projects, one may think it would be a job in Moscow, New York or Dubai, but the most memorable job for Neil came from a private client who was located in Stavanger, Norway. Neil designed a bookcase with a book door through to a cloakroom with glazed over panel in the style of Frank Lloyd Wright."

NEJ Stevenson & Axminster

NEJ Stevenson and Axminster have a long-standing relationship, as Neil explains: "Axminster provide the right product, with the right service at a fair price. One of the best things about Axminster Tools & Machinery is the comprehensive catalogue, once unique, now superseded by the website, making it a one-stop shop with a full range of quality tools and prices."

From one man and his passion through to a team of 40 master craftsmen, NEJ Stevenson Ltd holds a remarkable portfolio of work. The team continue to create elegant, intricate and beautiful work to last in the most prestigious of

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Neil Stevenson working on some concept sketches



Two server chairs made specially for Pope Benedict XVI's visit in 2010

places for years to come. "Always buy the best quality tool you can. A quality tool will be a joy forever," finishes Neil. ✂

Neil says that the Croiser for Pope Francis to give to Archbishop Welby has been by far the most unusual item the company has worked on





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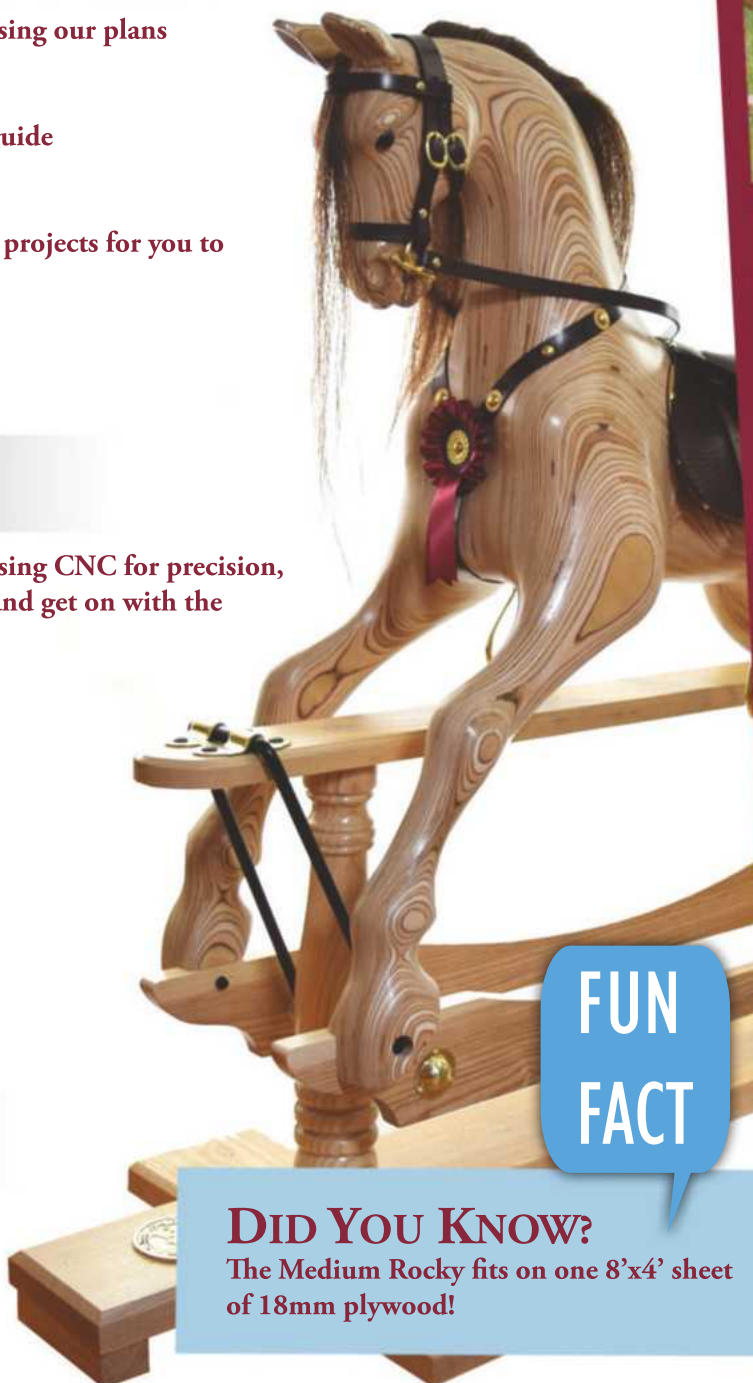
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CENOTE BOWL



Inspired by the vivid colours of the cenote lakes in Mexico, **Les Thorne** creates a textured and airbrushed bowl that incorporates greens and blues to simulate the effect of deep water

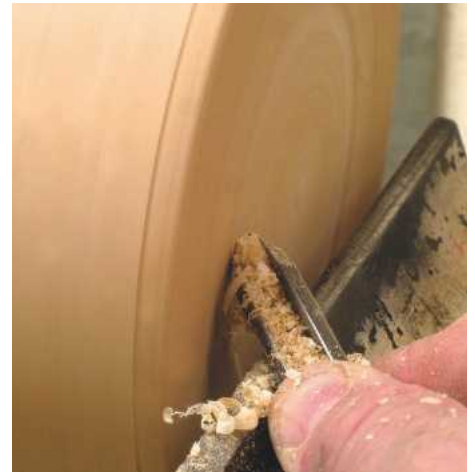
I'm always on the lookout for a little inspiration for articles and it's great if I can tie a couple of ideas into a piece of work. While in Mexico a few summers ago, I was blown away by the colours of some of the lakes that we fished and swam in. These bodies of water are called cenote lakes. Wikipedia tells us that a cenote is a natural pit, or sinkhole, resulting from the collapse of limestone bedrock that exposes groundwater underneath. These were often linked to the ocean, giving us a huge range of fish to go for. The blues that were created by the water in contrast to the natural limestone were just unbelievable and I thought that this would make a brilliant project, but at the time I wasn't sure how to work it in. After giving it some thought, a bowl with an overhanging pavement seemed the logical answer, with an airbrushed interior of green and blue to simulate the water. The brick effect I've used was inspired by a combination of a couple of turners: John Ambrose who I saw a long time ago make a bowl from walnut segments, and an Irish turner and good friend of mine, Pat Carroll, who makes textured brick bowls. ✂



1 I thought long and hard about the best wood for this project and came up with the idea of using American ash. Rippled or figured sycamore would have given the inside more character but I wouldn't have been able to achieve the textured effect I wanted on the outside



2 Hold the blank on a screw chuck or faceplate and true up the timber using a bowl gouge. I like to use a push cut for this as I find it leaves a better finish than a pull cut



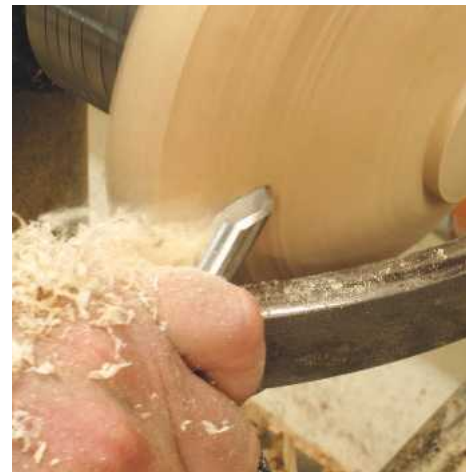
3 Just to show you shouldn't be a 'one trick pony', the pull cut is best done across the bottom of the blank. Try to match the feed speed of the tool to the speed of the wood in order to achieve the best cut possible



4 Transfer the diameter of your chuck jaws to the bottom. As with most of my bowls, I like to grip onto a spigot rather than expand into a recess



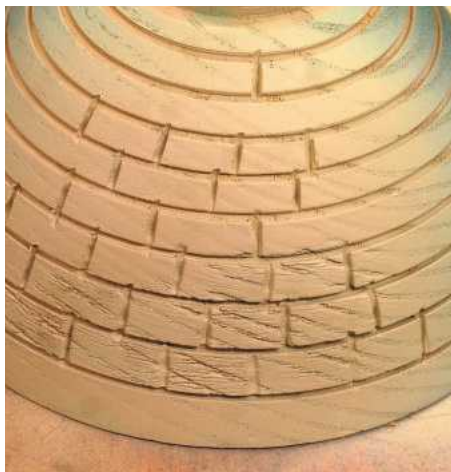
5 Here I am using the 10mm round skew chisel to square up the spigot after I have removed the excess wood with the gouge. It's easy enough to angle the tool slightly to create a small dovetail shape to match the chuck jaws



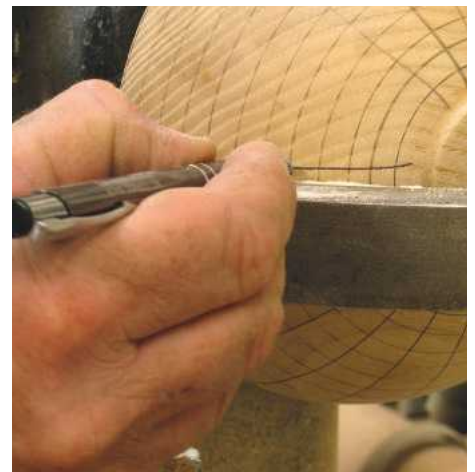
6 The 13mm bowl gouge is my desired tool to use when turning bowls of this size. An aggressive pull cut will allow me to achieve the shape I want quickly. The round toolrest aids support of the tool throughout the cut



7 After going around the shape with the small gouge to increase the quality of the finish, it's time for sanding. I am only sanding with 100 grit abrasive at this stage



8 I did have a little practice on another piece before trying the brick effect on this project. I wanted to find out what effects I could achieve with brushing out the grain



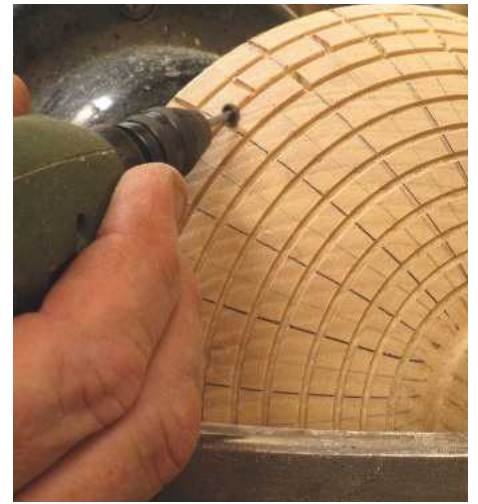
9 I have marked the bowl out as I would have done for a barley twist. I decided that I would have the bricks evenly spaced rather than just placed randomly



10 The 2mm parting tool is just the right size to cut the circular slots in the bowl. I went about 2mm deep all the way around and, as you can see, they get a little closer towards the base



11 This is a tiny 2mm-wide slotting saw that I bought from an engineering show many years ago. It's used at about 20,000rpm in a Proxxon mini drill



12 Here I am making alternate slots using the side of the cutter. I found it much easier if I rested my hand on the bowl while cutting



13 Initially I tried a steel brush mounted in the drill but found it a little harsh on the small bricks, so I changed to a brass one. I locked the spindle on the lathe so I could apply enough pressure to brush the grain out



14 I think I have done a pretty good job on this. I did consider going over the surface lightly with a blow torch, which would have softened the edges of the bricks



15 I wanted to take the texture over the rim and into the bowl, so I therefore needed to remove some of the bowl's interior. Leave the bulk of the wood in the middle; this will be removed later



16 The small parting tool cuts the grooves on the inside. The edge of the bowl is quite sharp at this stage so be careful not to cut yourself



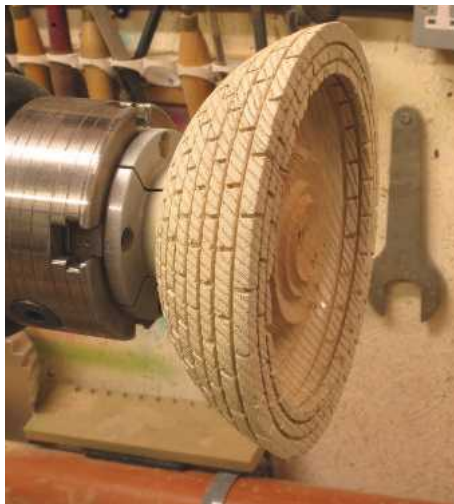
17 Here you can see the position of the toolrest. I have now sanded the edge and am only taking two rows of bricks into the bowl; if it were larger I may have gone for three



18 To make the vertical grooves I found it much easier to take the bowl off the lathe and sit down. I find the eclipse dust mask more comfortable than the full-blooded respirator for this type of light work



19 I spent a while searching online trying to find the best way of imitating limestone. This is one of the only straight-out-of-the-can effects I could find



20 I found that three coats were needed to achieve the coverage I wanted. Between each coat I gave the bricks a light rub down with 400 grit abrasive, being careful not to smooth off the texture I'd created



21 A useful addition to your toolrest is a locking collar, which means that ideal toolrest height for hollowing can be easily replicated. Also, when you want to do a small adjustment on the rest, you don't have to worry about losing your desired position



22 The 10mm bowl gouge that I use most of the time has a long fingernail grind on it. In this case, I have backed off the heel of the tool to decrease the amount of bevel that I have in contact, which should afford me a better finish



23 Now I have come up against a problem: the paint contains something that is immediately taking the edge off the tool, but I couldn't find anything on the can that told me what it was...



24 I had to swap to the small bowl gouge to get underneath the top edge. This is also much quicker to sharpen, which is a bonus when you're having to do it after every cut



25 The 'finger' callipers are good enough to use on this bowl due to its size. I didn't think that I needed to go too thin on this type of project, but it ended up around 13mm-thick



26 This photo shows what you want to end up with when tooling the inside of the bowl. The gouge almost comes to a stop at the slow moving wood in the centre, meaning that the final pip can simply be carved off



27 I found that sanding underneath the brick overhang was best done using 120 grit abrasive on a Simon Hope interface pad. Be careful not to sand over your limestone paint



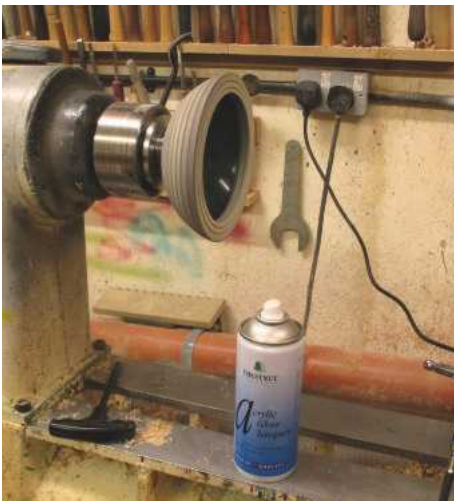
28 The airbrushes I use are inexpensive dual-action ones. I am a bit lax about looking after them but they seem to survive. I do have a higher quality one that I use for stencilling and other effects



29 The airbrush is just used to apply the spirit stain, but be careful about building up too much colour on the surface at this stage. I decided to use green, royal blue and blue to give the impression of deep water



30 When I airbrushed the inside I thought that the limestone was too white so I decided to shade the bricks using some black stain. I found that this rubbed off quite easily before I lacquered the surface



31 I used gloss lacquer on the bowl because I wanted the blue to really shimmer. Three coats is about right with a very light rub down between each, but do be careful on the inside of the bowl as the coat of stain is very thin



32 I didn't want to risk damaging the coloured surface using a friction drive in the centre of the bowl to remove the chucking point, so I decided to use the bowl reversing jaws



33 The rubber buttons match up to the shape of the bowl. You need to apply just enough pressure so that the buttons start to compress



34 Mind the edge of the jaws and don't run the lathe too fast. I like to use a small bowl gouge at this stage: a small tool means a small catch if something goes wrong



35 Just check the bottom to make sure that it's either dead flat or slightly concave. Sand up the bottom and then it's just a matter of signing your name, sitting back and imagining warmer climes



36 The completed cenote bowl should look something like this



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FOLLOW THE RAINBOW

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



Finding ways to use up scrap wood in the workshop is always a fun challenge. This scrap wood cutting board is a great project because it's made from a wide variety of different kinds of wood that are all various different sizes – which is to say, it can be made with virtually whatever you've got lying around. The multi-coloured boards work and look great in the kitchen, but the basic process of making the striped stock material can be applied to virtually any woodworking project for a colourful outcome.

TOOLS & MATERIALS REQUIRED

- Table saw
- Jointer
- Planer
- Router with roundover bit and round-nose groove bit
- Router table
- Clamps
- Cauls
- Glue brushes
- Palm sander
- Various scrap pieces of wood (see overleaf for explanation)
- Elmer's Carpenter's Wood Glue MAX
- Food-safe finish such as mineral oil or butcher's block oil and rags







1 The materials for the cutting board contain scraps of hardwoods, such as maple, walnut, mahogany, padauk, purpleheart, cherry and sapele

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

Tools & materials

I'm a bit of a hoarder when it comes to materials and supplies, so it's no surprise that my workshop is filled with a lot of offcuts that perhaps other people might just throw away. It turns out that all these odds and ends actually have some real value for making small projects, such as jewellery boxes, thin strips for inlays, or joined together to form larger boards. The woods that I chose to use were basically just what I had lying around from other projects. The cutting board contains maple, walnut, mahogany, padauk, purpleheart, cherry and sapele (**photo 1**). I've found that one wood to stay away from using in a cutting board is a deep-grained oak – the pits allow for food to build up and they are harder to clean. How much wood you will need depends on the size of cutting board that you're making. I always think that it's a good idea to prepare more wood than you think you'll need because sometimes there are sections



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

of scrap material with knots or blemishes that end up not being suitable. To be perfectly clear, when I say 'scrap wood' I mean scrap hardwoods.

And at no point should you attempt to make a cutting board out of a composite material such as plywood or MDF, or out of any timber that's been treated in any way, such as pressure-treated timber, for example.

Joint an edge

If your scrap wood is already dimensioned, skip this step. If it's got rough edges or faces from the mill, you'll need to joint and plane them first. Use a jointer to prepare one edge; this creates a straight edge, which you can use later to push against the table saw fence to make a straight cut (**photo 2**). It is generally the first step that is done with any raw timber.

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

Do this for all of your scrap pieces. In the end,



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

they should all have at least one clean edge and at least one clean face.

Plane the face

Next, take the already dimensioned face and place it face down onto your planer bed, then run the piece of wood through the planer (**photo 3**). Do this with all of your boards that you are using, even if it already has two smooth faces. This will make all of your wood the same thickness. I try to keep my cutting boards as thick as possible so they have heft, and resist warping from exposure to moisture. With that in mind, plane your scrap wood as little as possible. If you have one or two boards that are thinner than the rest, save them for another project, since planing all of your wood down to that minimum thickness wouldn't be worth it. Try to keep the boards at least 16mm-thick, and ideally, 20mm-thick, or more.

Cut into strips

This step is kind of fun – how often do you get to make 'random and creative' cuts on a precision tool like a table saw? Placing the previously jointed edge against the fence, cut strips of random width from your boards (**photo 4**). Don't make any strips that are too thin (less



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



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



6 Separating your cutting board strips into two groups, no wider than the maximum capacity of your planer, glue the strips together

than 12mm, for example) but vary them randomly over a range of widths. There's no right or wrong here. If you like many stripes in your material, cut thin strips; if you want fewer strips to glue up, cut wider ones. I cut a whole variety of different sizes with the small ones being around 20mm and the wide ones at around 64mm.

Lay out cutting boards

Once the strips are all cut, arrange them according to your tastes (**photo 5**). I like putting walnut next to maple for nice contrast, and using the padauk and purpleheart sparingly so that when it does show up, it really pops. Make the cutting board whatever size you like – mine is pretty big because I like to have a lot of room when I chop. If you've only got a small amount of scrap material, think about making a cheese board or picnic board. Or, make one large blank and cut them down into four smaller boards and give them as gifts. Lots of options here. Whatever dimensions you decide to make your board, glue them up as two separate halves that are no wider than the maximum width that your planer can accommodate, since it saves a lot of sanding time if you can simply run the cutting board halves through the planer.

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

Glue strips together

Separating your cutting board strips into two



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

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

Sand & plane again

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

Glue two parts together to form one large board

Glue the two boards together using the same technique of squeezing out a bead, spreading the glue evenly with a chip brush and finally



clamping overnight using cauls to keep everything aligned (**photo 8**), as mentioned in the previous step, to form the full-sized cutting board. Remember, the resulting glued board won't be going into the planer and will have to be sanded by hand, so take extra care when clamping to clean up squeeze out with a wet rag and scraper. It's easier to clean up wet glue than to sand off the dried stuff. Switch to a longer clamp if you have to for this glue-up since the board is starting to get pretty large.

Sand again & trim to size

Use the palm sander to take off any glue marks and trim the ends of the board to the same length. The cutting board I made was too wide to fit in a table saw sled or my sliding mitre saw to trim the edge, so I used a circular saw and straightedge instead to cut off the uneven edge (**photo 9**). Note that this will set the length of your board, so pick something that's nicely proportioned to the width and make the cut. This can be a good time to think about whether or not you'd like the board to fit into the sink. I have a few cutting boards that fit entirely. I use these for cutting



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



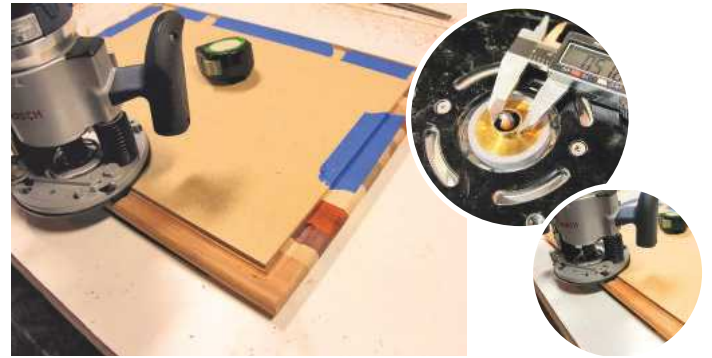
8 Glue the two boards together and clamp up overnight using cauls to keep everything aligned



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



10 Round over the top and bottom edges with a roundover bit fitted in the router table



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

meat so they can be completely submerged and thoroughly washed. The board that I am making here, however, is significantly larger than the average cutting board, but I still wanted it to be able to drain into my sink. The answer here is to make at least one dimension, the length or width, and in this case the width, less than the largest dimension of your sink so at least you can wash the board at an angle in the sink and not make a mess – well, that's the theory!

Roundover edges

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

Route the juice groove

I like to add a groove to one side of my cutting boards to collect the juice that accumulates so



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



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

that it doesn't make a mess on the worktop. Put the router into the plunge base attachment and fit it with a rounded groove bit. While there are many ways to cut a juice groove, including using the router table again with stop blocks, or the router with an edge guide, the easiest way for me is to fit the router with a simple pattern bushing and follow a rectangular piece of masonite cut to size as a template (**photo 11**). Size the template to the specific size of your cutting board, taking into account the offset of your bushing and groove bit that you use. I used painter's tape to hold the pattern board in place while I cut the groove into one half of the board. I then spun the board, switched the tape carefully to the other side, and finished cutting the groove. The plunge base is essential here because it allows you to plunge down into the wood to start the cut, and not have to come into the wood from the edge.

Depending on the size of your groove, cut it in one, or two passes, removing a conservative amount of material each time – better to make two easy passes than one deep, slow pass, which could result in burn marks in the groove from when the router was strained. Additionally, I don't like to make my grooves too deep because they become hard to clean, and it's unrealistic that my cutting board juice groove will ever have to accommodate say, one cup of liquid.

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

Finish sanding

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

Apply food-safe finish

The final step is to apply a food-safe finish such as mineral oil or butcher's block oil (**photo 13**). I like using a food-safe gel varnish because it's easy to wipe on and off and results in a nice satin shine. Make sure whatever finish you decide to use penetrates your wood well, and that you apply more than one coat if possible. The wood will be exposed to a lot of moisture if you use it frequently, and keeping the finish in good condition is your best protection against warping from water damage. ❌



14 The completed chopping board should look something like this

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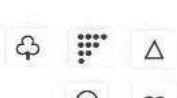
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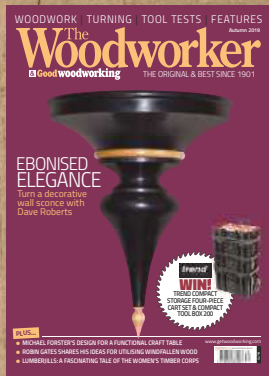
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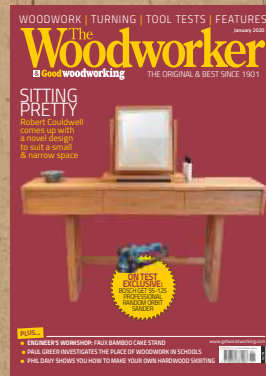
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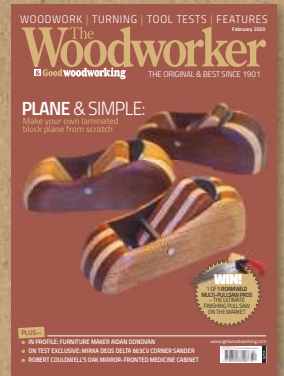
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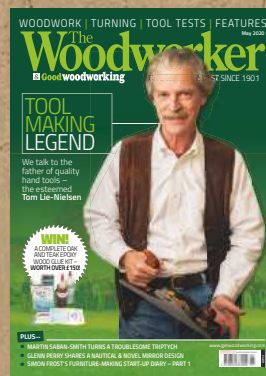
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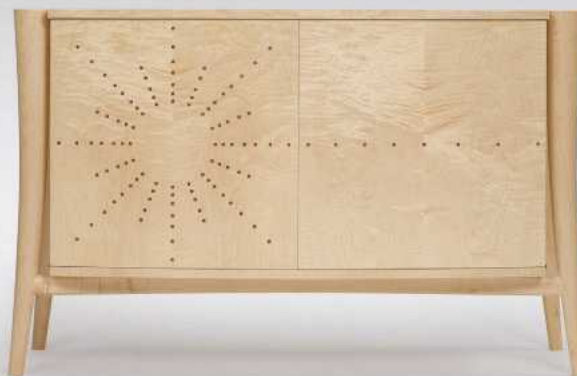
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Robert Sorby ProEdge sharpening system – any condition considered
01912 685 387 (Tyne & Wear)

Fence plus guide rails for a Wadkin 10in AG5 table saw
07724 386 061 (Wrexham)

Stanley No.1 plane & Stanley No.2 plane – one of each wanted by novice collector
01572 723 976 (Rutland)

Dust extraction spout for DeWalt 1150 planer/thicknesser
023 8089 8123 (Southampton)

Spiers/Norris/Henley planes wanted by private collector; any quote beaten. Ring Ron Lowe on
01530 834 581 (Leics)

Woodworking hand tools, especially old wood & metal planes, wanted by collector. Write to Mr B Jackson, 10 Ayr Close, Stamford PE9 2TS or call 01780 751 768 (Lincs)

Woodworking tools: planes by Norris, Spiers, Mathieson, Preston, Slater, etc. brass braces, interesting rules & spirit levels; top prices paid, auction prices beaten
01647 432 841 (Devon)

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Please publish this advertisement in the next available edition of *The Woodworker*. I am a private advertiser and have no trade connections
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- This space is available only to private individuals wishing to buy or sell woodworking machinery and tools.
- The maximum value of any item for sale must not exceed £500. A small fee is payable for items offered at over £500; please ring 01689 869 852 for details.
- Each coupon is valid for one free insertion in the next available issue.
- The publisher accepts no responsibility for errors or omissions in this section.

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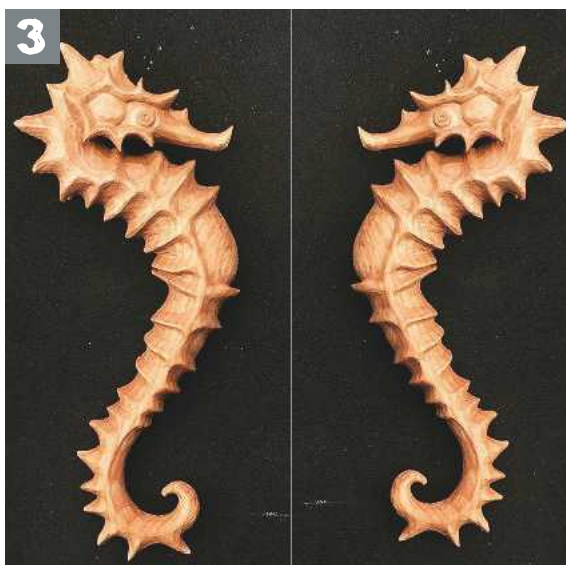
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TAKE 5

Despite the lovely weather, it's great to see that woodworkers are still busy in their workshops! We hope you enjoy this month's selection of wooden wonders, specially selected from Instagram



1

Exquisitely made 'W' seat
by [@jazmine9138](#)

2

One of a pair of bespoke knife boxes made
by [@lowfatroubo](#) in bog oak and lemonwood

3

Beautiful carved seahorses by [garage_12_arts](#)

4

Hand-turned fountain pen in Brazilian kingwood with titanium
gold fittings and brushed gold accents, by [@northwayjoinery](#)

5

Hand-turned kendama in purpleheart and mahogany, with an
aurum shape – made as a custom order by [@terrakendama](#)

Follow us on Instagram – [@woodworker_mag](#)
for regular magazine updates and posts

A CLEANER WORKSHOP, LESS AIRBORNE DUST & LONGER LIFE FOR YOUR MACHINES...



Axminster Trade AT25AFS Air Filter

£310.96 inc vat | Code: 105074

A powerful air filter for the smaller trade workshop; collects dust “hanging” in the air, improving the air quality for the user.

- Powerful air filter system for workshops up to 300m³
- Collects dusts “hanging” in the air, improving air quality
- Twin filters, electrostatic outer filter, pleated deep inner filter
- Filtering 98% of all particles 5 microns in size and 86% of all particles 1 micron in size
- Optional charcoal filter for removing odours, organic fumes and pollen
- Three speeds plus timer periods, controlled by remote handset
- Performs at its best when hung from a ceiling



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Rated 'Excellent' on  Trustpilot

Coronet Herald Heavy Duty Cast Iron Electronic Variable Speed Lathe

"I found the lathe a delight to use. Functionality wise, it did everything I asked of it without fuss and components stayed put when locked in place...I think it is a great midi-lathe which will suit many turners' needs, capacity and space wise."

Woodturning 317



"With large blanks mounted you can use the variable speed control to keep the machine stable and vibration free...Would I recommend this lathe? Yes without a doubt, it's well designed and built to a high standard."

Online Review



Heavy-duty spindle lock and 24 point indexing



Features the latest motor technology to deliver huge amounts of torque from the 750 W output motor



Rotating headstock features accurate angle stops and can swivel 360°



"The new Herald - Sets a new standard"

It surpasses my expectations by a country mile! The size is ideal for the turner with limited space, has outstanding capacity for its footprint and is very quiet indeed... Record Power most certainly have a winner."

Online Review



**ONLY
£999.95**
Inc. VAT

Shown with optional leg stand

Specifications

Maximum bowl diameter:	533 mm
Maximum between centres:	508 mm
Maximum swing over bed:	355 mm
Spindle speeds:	96-3890 rpm
Motor input P1:	1000 W
Motor output P2:	750 W
Thread:	M33 x 3.5
Taper:	2 Morse taper
Weight:	48 kg
Size:	W870 x D290 x H252 mm

BUY SAME TIME +

16015 Tubular Stand	£129.99	Save £20.00
16011 Cast Iron Bed Extension	£149.99	Save £30.00
16013 Cast Iron Outrigger	£39.99	Save £10.00
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