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March 2019

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Welcome

After last month's slightly melancholic welcome page, I'm glad to say that things are now looking up and 2019 seems to be going well so far, apart from the continuing drama of our furniture not fitting into the new flat. I think I neglected to mention this debacle last month amid the drama of moving, but needless to say, a four-seater sofa and a large bookcase are still, after five long weeks and counting, occupying our communal hallway, much to the annoyance, no doubt, of our neighbours.

Carpenter to the rescue

Grade 2 listed buildings where I live in Hove, on the South Coast, are known for being a bit tight on space as they have mostly all now been converted to flats (normally a ground floor, first and second, then a basement below). So when it came to moving our furniture in before Christmas, I was most upset when the two large pieces wouldn't fit through the door! After trying several different angles, it was still a no-go, the only option being (I thought) to manoeuvre them through the large sash bay window at the front (thankfully we live on the ground floor). This would be possible, however, if it weren't for the scaffolding outside the entire building, and the main pole being right in the middle of the biggest sash, therefore limiting access. The scaffolding was meant to come down before Christmas, but the job is dragging on, so we're still stuck surrounded by boxes of books with nothing to sit on! Until, however, I had a thought. How about taking the front door (to our flat) off its hinges? I am pretty certain that extra few inches would be sufficient to get the pieces in, and would save us waiting for the scaffolding to come down, not to mention being a darn sight easier! My first thought was local carpenters and handy men, then I suddenly remembered that one of my new authors (Cameron Sidgwick, whose rustic bed we featured in the Jan 2019 issue), lives only about five minutes away. So I emailed him to ask if he had the tools for the job, as well as being able to detach and reattach a concealed door closer, and sure enough, he does and is willing to help! I don't want to jump the gun prematurely, as the whole thing may be a complete disaster and the furniture not actually fit, but it's worth a try! I'll report back next month and let you know how we got on!

March content

Anyway, back to the magazine. We've got a whole lot in store for you this month, on topics from dendrochronology all the way through to laying an engineered oak floor and turning a miniature domed temple. As always, we hope you can find something to entertain and inspire you in this issue, and don't forget to keep in touch as we love to hear from you and see what you've been making. Happy woodworking!

Enjoy!

Email tegan.foley@mytimemedia.com

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Consultant Editor

50 MINIATURE DOMED TEMPLE – PART 1

Inspired by Greek and Roman architecture, Dave Roberts turns his hand to this miniature folly

WIN!

1 of 10 packs of assorted Smaartwipes

If you like to keep on top of workshop and home spills, grease, grime and muck, then why not have a go at entering our latest competition, which gives 10 lucky readers the chance to win a special Smaartwipes bundle. To find out how to enter, see page 36 – good luck!

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MARCH 2019

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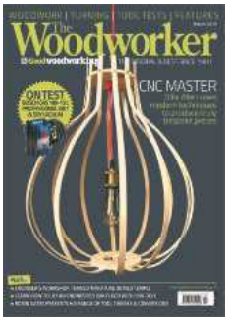

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NEW BOSCH PROCORE 18V BATTERIES

Bosch Professional has taken compact, high-performance batteries to a new dimension with the launch of its latest ProCORE 18V series. It promises to make professionals more efficient, through greater power, lifetime and runtime, and offers 4.0, 8.0 and 12.0Ah versions tailored to individual needs. Also introduced is the Bosch GAL 18 V-160 C Professional Charger – the fastest 18V charging unit and the world's first ever to use connectivity.

A new world

Thanks to innovations including new-generation cells and Bosch CoolPack 2.0 technology, it is now possible to achieve a more powerful performance from very small packages. The same advances increase energy efficiency and, by protecting against heat damage, extend the battery's life.

Under the campaign theme 'Bosch Professional. Laying the foundations for a new world of power, lifetime and runtime,' Bosch is encouraging users to redefine their limits by moving up to ProCORE18V. As additions to the Bosch Flexible Power System, the new batteries and charger will bring performance benefits to both existing and new equipment. Within the same voltage class, all Bosch Professional tools, chargers and batteries sold since 2008 are fully compatible.

Job-matched choices

All three of the Bosch Professional ProCORE 18V batteries are compact, powerful and long-running, but which of those factors is most important to a user will vary between applications.

For repetitive tasks and overhead work, the 'Compact' ProCORE18V 4.0Ah option minimises fatigue and improves comfort. Its single-layer cell arrangement allows significant savings in weight and volume compared to a standard two-layer battery, but with no reduction in power.

The 'Performance' ProCORE18V 8.0Ah is ideal for a wide variety of jobs in which high power intensity is required. As powerful as a 1,600W corded tool, and with 87% more power than a standard 18V battery, it has increased wood sawing and concrete drilling distances by 150% in tests. Among batteries with comparable runtime, it is the most compact in the market.

In highly intensive applications using large rotary hammers, angle grinders or circular saws, 'Endurance' ProCORE18V 12.0Ah brings extremely high power (almost 2,000W) and the longest of runtimes. Although larger than the 4.0 and 8.0Ah ProCORE18V batteries, it is still the most compact among competitors in its runtime class.

CoolPack 2.0

The key to extending runtime and lifetime is intelligent heat management and design, as developed for Bosch CoolPack 2.0. This provides ideal conditions for efficient battery performance and prevents damage from overheating. Compared to batteries without CoolPack, ProCORE18V packs last 135% longer.

High-density polyethylene (HDPE) and thermoplastic elastomer (TPE) materials have been specially chosen to maximise the effectiveness of battery cooling elements. Their structure, which encases each cell, is designed to increase surface area and thereby speed up heat dissipation. By avoiding gaps within the battery construction, internal storage of heat is avoided. The improved cell connectors used for CoolPack 2.0 also help, by lowering resistance and saving power.

A Single Cell Monitoring (SCM) system safely optimises power delivery from the cells, while battery status is clearly displayed by a new high-resolution indicator with five LEDs.

Fast & connected charging

Producing a maximum 16A charging current, the Bosch GAL 18 V-160 C Professional Charger is now the fastest for 18V batteries. It will, for instance, charge the ProCORE18V 12.0Ah to 80% in about 35 minutes. It can be used for all Bosch 14.4V as well as 18V batteries.

Its unique connectivity function enables connection to the user's smartphone via Bluetooth and the Bosch Toolbox app. As well as checking battery health and charge level, it can be used to select between four charging modes. These range from a very low impact option to a Power Boost mode, which will rapidly charge batteries to 50% of their capacity when necessary.

The charger itself features an error indicator for temperature and battery failures, an accurate 5-LED charging status indicator and a manual button for switching between standard and Power Boost charging. Active Air Cooling, via two internal fans, optimises the temperature for faster charging and quickly cools down hot batteries, taken straight from a tool, so charging can begin sooner.

The ProCORE18V 4.0Ah battery is available from £115.66, the 8.0Ah from £187 and the 2.0Ah at £230. The GAL 18 V-160 C Professional Charger is priced at £105. For further information, visit **www.bosch-professional.co.uk**.

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NEW CLAMP RACKS FROM AXMINSTER TRADE CLAMPS

The beauty of a clamp rack is that it will deal with a storage problem in the best possible way and save you from struggling to retrieve the right clamp from a box under your bench. Axminster has introduced two new clamp racks to help you store your clamps in a neat and orderly manner.

G-Clamp Rack

The rack provides space for up to 10 G-clamps. Your G-clamps sit in place, patiently waiting for the next time you need them; this makes retrieving them easy. The slots ensure quick access for sizes from 75mm to 250mm. The rack is 420mm long × 70mm high and pre-drilled for fixing to a wall.

Bar Clamp Rack

This general clamp rack will safely store your F-clamps, sash clamps, parallel jaw clamps and more. With an overall length of 290mm, storage slots are 12mm wide and have the capacity to hold up to 12 clamps or 25kg in weight. This rack is also pre-drilled for wall mounting.

Both racks are made of 2mm thick steel with a painted finish and are unlikely to bend under load or rust over time. Together, the two racks make ideal companions for holding your clamps. The workshop will be tidy, you will gain more space and say goodbye to that heap of unruly clamps in the corner or in that box under your workbench. For further details and information on pricing, please visit **www.axminster.co.uk**.

MAKERS CENTRAL 2019

After an extremely successful launch show and by popular demand, Makers Central will return to the NEC in May this year. The event has a large focus on YouTube makers giving fans a chance to see their favourites doing live demonstrations, Q&As on stage and they can even meet with them in the YouTube zone. Last year, these included Jimmy Diresta, Bobby Dukes Arts, Bob from Iliketomakestuff, Laura Kampf and Alex Steele, who have a combined following of over 7 million people alone. This year, you can expect to see many more well known makers in the community.

Visitors to the show are able to try their hand at many different making activities including ice sculpting, woodturning, robotics, pyrography and this year the organisers have added in a forge, which allows visitors to make their own nail. All demonstrations are included in the ticket price. You can also browse and shop for handmade goods, purchase products needed for hobbies and even enter the charity competition and walk away with a wide range of prizes.

Founder Nick Zammeti was overwhelmed by the response the show had in its first year: "Being our first show we really didn't expect the numbers that came through the door. The queues were huge on the opening day, which shocked the NEC staff. The feedback we have had from visitors, exhibitors and the community as a whole has been incredible, which led us to putting on another show in 2019."

The event brought in visitors from all over the world and the next one is set to be even bigger than the first, with a larger hall at the NEC and a more diverse range of crafts and activities. Makers Central will run across two days from 11–12 May 2019. Book your tickets now and join in the celebration of creativity and learning. To find out more, see **www.makerscentral.co.uk**.

We also have two pairs of weekend tickets to give away – worth £54 each. The first two people to email the Editor – **tegan.foley@mytimemedia.com** – will be awarded the prize. Good luck!

MADE BY HAND, CHELTENHAM 2019

After a bumper first year, Made By Hand, Cheltenham returns to the iconic location of Cheltenham Town Hall on the weekend of 8–10 March 2019.

Due to popular demand, the organisers are extending the event from two to three days, bringing an abundance of British designer-makers, coupled with craft demonstrations and workshops in the heart of the Cotswolds. Visitors will have the unique opportunity to meet the makers and discover the stories behind their carefully made products.

This event brings together an exceptional, handpicked selection of 100 leading award-winning makers from all over the UK. The highly skilled collection includes jewellers, potters, furniture makers, textile artists, glassmakers, woodworkers and many more, all selling their finely made products directly to the public. Made by Hand prides itself on giving contemporary designer-makers a wider platform, showing how their products can fit seamlessly into our modern lives.

The show gives visitors a unique opportunity to meet the makers themselves within a friendly, relaxed environment. Every day, a selection of makers will share their skills and demonstrate their craft.

Made by Hand, Cheltenham also offers a range of two-hour workshops, exploring various materials and techniques. Hosted by The Gloucestershire Guild of Craftsmen and New Brewery Arts, the taster workshop programme for adults offers a range of activities including weaving, calligraphy, hand building pottery and bookbinding.

Families are very welcome at the event and accompanied children under 18 are free. Unit 12 Gallery will be hosting a range of skilful and inspirational free workshops for children throughout the weekend.

To find out more and to purchase advance tickets, see the website: **www.madebyhandengland.org.uk**.

MORRIS JOINERY APPOINTS NEW MANAGER TO TAKE HELM

Leading Shrewsbury business, Morris Joinery, has appointed experienced operator Matthew Tyrrell as its new Joinery Manager to develop and build on its success. He leads a 10-strong team at the Bicton workshop and takes on the role following the retirement of Steve Granda.

Matt, aged 35, was previously assistant manager at Morris Joinery and has extensive experience in the industry in a number of roles. He has worked in joinery since leaving school where he completed an apprenticeship in bench joinery and carpentry at Worcester College of Technology. He also owned his own business for 10 years.

Stourport-born Matt, who lives in Wolverhampton, said: "The new role is a fantastic opportunity. I'm looking forward to developing the business and working with a great team. Joinery is a skilled profession and there is great satisfaction in producing quality work which people appreciate."

Well established family business Morris Joinery offers a full range of commercial and domestic services from traditional doors and windows to modern and bespoke joinery pieces; for more information, visit **www.morris-joinery.co.uk**.

WOODEN WATCHES WITH A CONSCIENCE

When a couple of young creatives travelling across Africa saw an elderly street artist transforming junk into drums, ornaments and sculptures, they didn't take photos. Instead, they took the inspiration for Mosaiqe, the brand behind London's first wooden watch concept store.

Operating out of Camden's historic Stables Market, Mosaiqe use only recycled and sustainably sourced woods to create unconventional dress watches that go against the grain. Founder and co-director, Kas Fulani, describes the moment he found his direction: "I was travelling through a busy village called Tema just outside of Ghana's capital. While I boarded the Tro-tro, I spotted this old man sat on a pile of scrap wood with a chisel. Everyone was walking past him and, if I'm honest, I only noticed him because it seemed we were the only people sat still.

"When I passed the same way again five days later, he was still there – only the wood was gone. He'd reincarnated the refuse into beautiful objects and now people were lining up to buy. It got me thinking about how after a process, one man's waste can be that same man's treasure – and how ethics and aesthetics can coexist. It was incredible to see an elder use his bare hands and basic tools to take a material in its rawest form and create art."

On returning to the UK, he teamed up with his business partner and got to work establishing a brand that would embody the values he'd seen in action in Ghana. Using natural materials, they create handmade products that – thanks to their grain, pigment and texture – are all unique.

The watches' neutral colourings make them a perfect match for all skin tones and styles of clothing. But it's not all about looks: sustainability is a key part of the mission. And though they may be pulling up trees in the figurative sense, in literal terms they're doing anything but. In fact, thanks to their partnership with the charity Trees for the Future, they're planting five trees for every watch sold – whether through their website, **www.mosaiqe.com** – or from their store in Camden.

TAKE A WELL DESERVED BREAK ON SITE WITH MAKITA

The new Makita cordless coffee maker is expected to become the most prized possession of all construction trades and outdoor contractors. The DCM501Z coffee maker is compatible with both CXT and LXT Makita Lithium-ion batteries and features dedicated battery ports.

Weighing just 2.2kg, with an 18V Makita battery, and complete with carry handle, the DCM501Z can brew 260ml of coffee on a single CXT 10.8V – 12VMAX battery or a 3.0Ah 14.4V battery, 320ml of fresh coffee on an 18V 3.0Ah battery, and up to 640ml on an 18V 6.0Ah battery. The coffee maker comes complete with a dedicated cup, with capacity of 240ml, and is designed to fit in the machine without leaving a gap, thus protecting against splashing or entry of dirt and dust. Commercial cups up to 90mm high will also fit the machine.

The DCM501Z is compatible with ground coffee as well as 60mm coffee pods. Dependent on battery type and voltage, a fresh 160ml cup can be brewed in just five minutes. It also features a cover to protect the empty battery terminal and a boil dry function prevents the machine from burning out, so if the water empties and the temperature inside increases, the integral sensor will turn off the power supply automatically. For further information and pricing, see **www.makitauk.com**.

PROFESSIONAL FIBRE CEMENT SAW BLADES

Recognising the growing use of cement fibreboard cladding being used in construction and the growing need for a range of hard-wearing longer life saw blades to be made available, Trend have introduced a range of Polycrystalline Diamond (PCD) saw blades that offer maximum performance, professional finish and value for money.

The range of six blades cover the popular sizes of 160mm, 165mm, 190mm, 216mm, 235mm and 305mm diameter in bore sizes of 20mm to 30mm and 4 to 8 teeth, depending on diameter, to allow hand-held circular saws, mitre saws and bench saws to be used for a range of cutting applications involving cement-based fibreboard products such as Hardie-Board® cladding, Aqua board, Minerit® and Marley Eternit®.

The ultra-durable diamond blades are also perfect for laminate flooring and MDF with up to 60 times longer life when compared to TCT blades when cutting laminate flooring.

Using a 12° hook angle flat top with chamfer design tooth (Triple Chip Grind) it ensures faster, cleaner cuts across all materials and with less dust when compared to a continuous diamond blade.

The blades have laser-cut hardened bodies with anti-kickback tooth design for increased safety in use and are available from your local Trend dealer, or visit **www.trend-uk.com** to find your nearest stockist.

Details are as follows:

PCD/FSB/1604 Fibre cement saw blade – *PCD 160X4TX20MM*
PCD/FSB/1654 Fibre cement saw blade – *PCD 165X4TX20MM*
PCD/FSB/1906 Fibre cement saw blade – *PCD 190X6TX30MM*
PCD/FSB/2166 Fibre cement saw blade – *PCD 216X6TX30MM*
PCD/FSB/2356 Fibre cement saw blade – *PCD 235X6TX30MM*
PCD/FSB/2506 Fibre cement saw blade – *PCD 250X6TX30MM*
PCD/FSB/3058 Fibre cement saw blade – *PCD 305X8TX30MM*

For further information, see **www.trendm.co.uk**.

DICKIES COMBINES FASHION & HERITAGE IN LATEST COLLECTION

Global workwear brand Dickies has unveiled a new product range aimed at younger tradespeople, inspired by its 96-year history.

Launched under the banner 'Hard Working Since 1922' – the year in which Dickies was first established – the collection includes T-shirts and beanies, plus a puffa jacket, fleece and sweatshirt. Design details used in the range include the classic Dickies horseshoe logo and colours influenced by the company's branding from previous decades.

"This latest collection celebrates our proud heritage as a workwear provider, while incorporating a style that's very much of the moment," says James Whitaker, Marketing Director. "As such, we're expecting strong demand from younger tradespeople and those who take a trend-driven approach to their workwear – who don't just want to be fashionable at the weekend.

"While each item in the range naturally works well as a leisurewear option, all products have been created to our very high standards of quality, ensuring they provide the comfort and durability needed to support tradespeople at work."

Available in a number of colour-ways, items from the 'Hard Working Since 1922' collection work particularly well with options such as the Dickies Eisenhower Extreme trousers and the Phoenix style shoe or boot. To find out more, see **www.dickiesworkwear.com**.

NEW AXMINSTER CRAFT MACHINES

Axminster Tools & Machinery have recently launched their new range of Craft machines after months of research and development.

The new range replaces Axminster's Hobby Series, which the company felt was being copied by retailers who are not tool and machinery specialists. Therefore, the range is aimed at the discerning home user and those dedicated, creative souls who literally spend hours trying to perfect their craft. Crucially these machines are affordable with enhanced features not normally found on machines at this level.

Within the range, you will find new lathes, bandsaws, scrollsaws, a table saw, sanders and grinders as well as some of the existing Hobby machines, which have transitioned into the Craft range.

Examples within the Craft range include four new bandsaws which are designed to give you more control, accuracy and capacity and have features not found on this level of machinery before, giving you the ability to craft your project the way you want to. These bandsaws are ultra smooth and rock solid with wide trunnions, a ground cast-iron table, extraction ports and new mitre fence. Furthermore, good blade tension ensures smooth cuts.

The AC355WL lathe is regarded as the finest addition to the woodturning range for some time. As with all the lathes in the Craft range, this one is precision ground and has a powerful motor, variable speed and three belt settings with indexing. To add to that, the RPM counter is a useful feature, especially for beginners. As an added incentive for anyone contemplating taking up the hobby of woodturning, Axminster is offering a free three-hour introduction to the craft at any of its stores when buying a new Craft lathe. Alternatively, purchasers can upgrade to a 25% discount off a two-day course at either Axminster or Sittingbourne Skill Centre. So confident are Axminster about the build quality and manufacture of these machines, that they all come with a three-year warranty covering parts and labour.

For more information about the products in the Axminster Craft range, visit **www.axminster.co.uk/axminster-craft** or go to one of the eight Axminster stores. There are also videos on the website taking you through some of the new machines and their unique features.

TRITON TOOLS TRIO TO CHAMPION WOODWORKING

Three of the world's most popular woodworkers have been unveiled as Triton Tools ambassadors. YouTube sensations April Wilkerson and fellow American Matt Cremona will continue to promote the Yeovil-based company, while up-and-coming German YouTube superstar Frank Kreuger is a new addition to the team.

All three will appear at key worldwide events with Triton over the next 12 months, as well as contributing regular social media content. Between them, the woodworking threesome have more than one million YouTube subscribers. Mark Pearson, Global Brand Manager at Triton Tools, said: "We are very proud of our latest ambassador line-up.As a company, we pride ourselves on precision, expertise and engaging with the worldwide community of woodworkers; those qualities shine through with all three individuals in abundance."

April has been making woodworking tutorial videos for more than four years and has a phenomenal 823,600 subscribers on YouTube.

Fans love her easy-to-follow videos and bright personality as she crafts everything from rocking chairs to chicken runs.

Matt's woodworking styles range from modern to classic reproductions and fans love watching him turn self-harvested trees into fine furniture. Matt has been an instructor at the Wood Whisperer Guild since 2016 and recently built his own bandsaw mill in his back yard.

Frank, meanwhile, is fast becoming a recognisable face among the global woodworking community as he shares his bold wood projects, from flamboyant treehouses to stylish poker tables. He captivates his audience with informative videos shot in both German and English. Frank is definitely one to watch for the future.

Mark believes Triton's customers will gain a unique insight into how to make the most of woodworking from the trio. He added: "They are very talented and real stars in the world of woodworking. All three draw huge crowds at shows and are always only too happy to accommodate every single person that wants to meet them and tap into their knowledge. We're delighted to have them on board. They are perfect ambassadors for Triton and they do a fantastic job showcasing our extensive range of tools."

For more information, see **www.tritontools.com**.

April Wilkerson

Frank Kreuger

Matt Cremona

TWX7 WORKCENTRE

THE ULTIMATE MOBILE PRECISION WORKSHOP

Portable. Precisely.

Ideal for compact work spaces where storage is limited and for trade professionals who need accurate workshop facilities on the move. Each fast-switch module performs as well as any stand-alone system, and the TWX7 Workcentre includes the Clamping Table module as standard.

TWX7 RT001

TWX7 ROUTER TABLE MODULE

Optimised for used with all Triton Precision Plunge Routers, the TWX7RT001 Router Table is coated in a micro-dot, low-friction surface, and can shape, plane, rebate, trench, mould and groove. When a Triton router is fitted, bit and collet change is possible above the table. Accuracy is achieved for each task with micro-adjustable fences.

TWX7 PS001

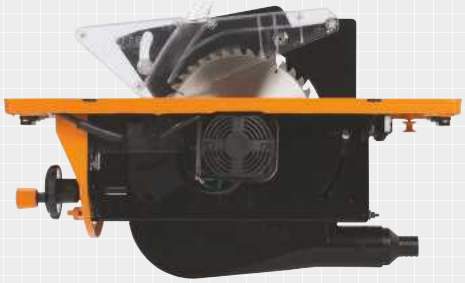
TWX7 910W PROJECT SAW 127MM MODULE

Doubling as a standalone bench tool or TWX7 Workcentre module, the 910W TWX7PS001 Project Saw functions as a 127mm dia blade circular saw either sliding or fixed. The dual-bar sliding system allows for smooth, controlled cutting. In fixed mode, the saw becomes an accurate table saw for mitre and cross cutting when used with the protractor fence.

TWX7 CS001

TWX7 CONTRACTOR SAW MODULE

The TWX7CS001 Contractor Saw transforms the Workcentre into a full-featured table saw. The 1800W saw powers a 254mm TCT blade through rip cuts up to 86mm high and bevel cuts 0-45°. Four-point locking of the rip fence enables professional accuracy on site, and accessories allow for larger workpieces.



FIND YOUR NEAREST STOCKIST

tritontools.com

3YR GUARANTEE

What's new from

'THE' TOOL SPECIALISTS ● WWW.DM-TOOLS.CO.UK ● 0208 892 3813

D&M TOOLS

DEWALT DCV586M 54V XR FLEXVOLT M-CLASS DUST EXTRACTOR

MANUFACTURER: DeWalt
D&M GUIDE PRICE: See website

NEW

DEWALT XR FLEXVOLT

- 2,000W Brushless motor provides powerful and market leading overload protection for increased performance
- Wireless vac activation by a remote key fob means there is no need to switch on at source, which provides ease of use and saves time
- Audible alarm alerts user of a drop in performance
- M-Class compliant; < 0.1% dust escapes through filter; suitable for use on construction sites
- TSTAK® compatible configuration to exact storage requirements for ease of use and enhanced mobility, thus saving time
- Automatic dual filter cleaned every 30 seconds, which reduces filter clogging and delivers constant air flow
- Recessed battery crevice provides maximum battery protection
- Wet and dry for maximum clean up flexibility and 2.4m on-vac hose storage for ease of use
- Dust tight and water resistant for maximum protection against severe conditions, thus delivering increased durability
- Heavy-duty metal clips give quick and easy access to tank and filter
- 4mm reinforced polypropylene plastic provides high impact, drop resistance for increased durability

Available as a body only version and also a kit with two 6Ah/2Ah Flexvolt batteries and charger.

TREND PROFESSIONAL POCKET HOLE JIG KIT PH/JIG/AK

MANUFACTURER: Trend
D&M GUIDE PRICE: £129.95 (inc VAT)

SEE THE VIDEO ON WEBSITE

NEW

trend routing technology

New from Trend is this Pro version of their pocket hole jig kit, which is ideal for fast and accurate joining of timber and plywood giving strong, instant joints. It has an adjustable height to allow material from 12.7mm to 38mm to be jointed. It features solid, hardened bushes with a fixed pitch of 30mm and can be used on timber, MDF, plywood and blockboard. It comes complete with two separate workpiece supports plus an end stop and allows a variety of joints to be created individually. Quick and easy drill bit depth is provided by means of the unique setting turret.

The dust extraction spout can be connected to an extractor, therefore providing dust-free drilling. It also comes complete with a selection of square drive self-tapping screws for use with a No.2 square drive bit to resist slipping (cam out). The workpiece can be handled immediately after gluing and screwing, thus creating time saving benefits as no clamps are required.

Drill depth stop

Adjustable height

Workpiece supports

BOSCH GAS 18V-10 L PROFESSIONAL WET & DRY VACUUM

Jamie Smith of **Atelier Cabinet Makers** looks at this versatile cordless wet and dry vac from Bosch, which benefits from high power capacity, compact size and a low weight

The large power switch and bright power indicator allows you to easily check battery level

The Bosch GAS 18V-10L Professional wet and dry vacuum is a lightweight and compact cordless unit that runs on the Bosch 18V battery platform and will accept any batteries within its voltage class, including the XL versions. It is perfect for grab and go situations – for example, on the jobsite, I often find that I need a vacuum, but carrying and setting up my large capacity unit for this purpose isn't ideal. This can range from making minor adjustments to work, to going up three flights of stairs with a heavy extractor. The Bosch GAS 18V-10 L is perfect for these scenarios, but also excellent to have on the jobsite as a second vacuum while my large capacity vac is constantly attached to my mitre and track saw.

Run time with batteries

The concerns I had with cordless vacuums included the run time as well as the power they can offer. After turning the Bosch GAS 18V-10 L on for the first time paired with a 7.0Ah ProCORE battery and seeing and feeling the power, I could tell this vacuum would compete for its place on the market. My next concern with cordless units is power consistency. From previous experience, I've seen cordless vacs that once you start to use them, very quickly clog over the filters and lose suction power, decreasing to a minimum level that is bordering on useless. The Bosch GAS 18V-10 L, however, with its large capacity dust container paired with the Bosch rotational airflow technology, really does keep its airflow consistency and suction power right up until the battery depletes. With the amount of power this unit provides, I was surprised to see that when used with a 7.0Ah ProCORE battery, the run time was 25 minutes. Installing the battery is simple: press the battery compartment button, click the battery pack into place and close the protection lid. There is a clear battery level indicator on top of the vac so it can always be

The vac is lightweight and easily portable

On-board storage for all the supplied accessories

The power indicator on top of the vacuum shows the battery level remaining

seen while it's in use. The noise level is acceptable for the power this unit delivers, and is quieter than other cordless vacs I have seen.

In use

I have used this Bosch cordless vacuum for a variety of tasks including clean up in the workshop, clean up on the job site after completion of work, and when connected directly to power tools such as my orbital sander, track saw and mitre saw. All of these situations produce lots of dust without extraction and I was highly impressed with how the 18V cordless vac handled these tasks. Paired with tools such as my mitre saw, I can sit the vac close and just turn it on and off with each cut to maximise the unit run time.

What's included?

Out of the box the Bosch cordless vac is supplied with a 1.6m hose, 1 × 250mm crevice nozzle, 1 × elbow pipe, 1 × flat pleated filter, 1 × floor nozzle and a three-piece pipe set. One thing to note if you are looking to use this vacuum with power tools is that the power tool adaptor is not included and will need to be purchased separately. This is a hard rubber nozzle that can fit a wide variety of power tool brand extraction ports, but of course can easily connect to various Bosch models as well. Without this you may struggle to connect the vac to any power tools. I personally feel this should be included as standard, however, due to the unit's target market being power tool users, but that's a minor point.

Looking at the accessories included, there is a basic kit for general clean up jobs from vacuuming larger areas with the wide nozzle to using the detail nozzle to get into difficult-to-reach areas, both in the workshop, such as cleaning inside machines, and on the jobsite. The vac has proved to be incredibly useful during the time I've had it on test, and it's so handy to grab and quickly clean inside the front of our work van.

Vac emptying

Emptying the vac couldn't be simpler: there's a clip on each side, and once these are undone the waste tank separates containing all dust, which can simply be tipped into a bin. Over time the filter collects some fine dust, which is easily removed by giving the filter a tap off in the bin. The HEPA filter is class L rated, which means 99.99% of dust remains in the container. The rotary airflow technology helps to keep the dust off the filter and prevent filter clogging.

Conclusion

Overall the Bosch GAS 18V-10 L vacuum is such a versatile unit with its high power, compact size and low weight. All attachments and accessories can be stored on the unit making this a very convenient tool for inside the workshop and when working in a client's home. I am very impressed with what Bosch have achieved in manufacturing this piece of kit and will enjoy using it on a daily basis in my work. Anyone looking for a second vacuum or cordless portable vac will no doubt find this machine to be an excellent choice.

FURTHER INFORMATION

To find out more about Atelier Cabinet Makers, see their website: **www.ateliercabinetmakers.com**

SPECIFICATION

Dust class: L
Container volume: 10l
Suction hose nominal width: 35mm
Weight excluding battery: 4.6kg
Filter surface area: 2.375cm²
Max airflow: 24 litres per second
Max vacuum pressure (turbine): 90mbar
L × W × H: 442 × 334 × 364mm

Typical price: £114.62
Web: www.bosch-professional.com

THE VERDICT

PROS

- Lightweight, compact and easily portable; high suction power; 10l waste container; helps to maintain a dust-free work environment; wet and dry – can be used to clear up spillages; on-board storage for hose and accessories; quiet in operation compared to other cordless vacs

CONS

- Power tool adaptor not included with the vac and battery and charger must also be purchased separately

RATING: 4.5 out of **5**

The power tool adaptor is easily compatible with other brands of power tools

Using the cordless vac with a Bosch 12V planer to collect shavings

Excellent for cleaning up as you go

Emptying the dust container

CLARKE CTS16 254MM TABLE SAW

Despite a few niggles, **Jonathan Salisbury** finds this budget-priced table saw to represent excellent value for money

While a bandsaw and 'chop' saw will cut almost everything except wide boards or large sheets, if you're after one machine that will do everything, a table saw is the thing to buy. If you have very little space, only an occasional need for a table saw and a very small budget, the new Clarke CTS16 might well meet your requirements. I am more familiar with saws destined for use in professional workshops, which are made for hard use over long periods of time. They are also solid, heavy and expensive. The CTS16 is none of these. In fairness, how much would you expect it to do?

Materials

It's a featherweight, at less than 25kg boxed. The saw's case, table top, extensions, supports and legs are all made from pressed and folded mild steel. Each has an exceptionally smooth and neat blue, grey or black painted finish that is far better than on some other budget machines I have seen. The fence and face of the mitre gauge are extruded aluminium; everything else (the motor casings with built in extraction tube, the side air vent, the handles and gears, the mitre gauge on the cross slide, the locking lever on the fence, the crown guard and the push stick) are made from plastic of one type or another. All are of high quality, even though some have slightly pronounced moulding marks.

Assembly

The saw comes mostly flat-packed; the top and frame are attached to the pre-assembled saw unit with lots of nuts and bolts and a 10mm spanner: straightforward, but time consuming. The instructions were excellent, except that the riving knife was not in line with the blade as it wasn't very clear that the clamping plate had to be placed on the outside.

The cable exits from the left

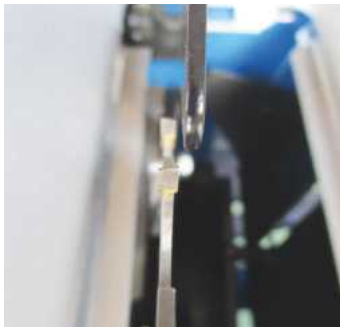
Setting up

The operating and maintenance instructions are very comprehensive, as they ought to be; I wonder how many users will take the time to read them all before using the saw?

The light weight of the table makes it very easy to move. I was concerned that it would slide around, but the thick rubber feet do their job very well if the floor is clean and dry. If room allows, and you want to, it would be possible to bolt it to the floor. The cable exits from the left, which is a bit annoying as to keep it out of the way it has to be fed back under the machine to the right; it was just long enough to reach the socket.

In use

Once assembled and checked, I plugged the machine into an RCD. The no-volt switch on the front left of the machine also provides the only way of turning the machine off, except at the wall.



Unclear instructions resulted in a misaligned riving knife

The clamp plate needs to be on the outside!

The crown guard in place

The extraction hose gets in the way of wide boards

Damage to the crown guard when it twisted

Dusty but clear extraction port

You must use a dust extractor!

The stabilisers help to prevent tipping

I found that this switch was a little low for me, and too far under the top for it to be intuitively placed for emergency stop purposes.

Switch on and the CTS16 explodes into action, followed by a loud noise that is reminiscent of rough gears and dry bearings; it sounds a bit like the garden shredder I once owned. The published 96.2dB rating is already enough to cause hearing damage – and it gets louder when you add the wood. Hearing protection is absolutely obligatory (for you and those nearby). The noise isn't accompanied by excessive vibration, though. The motor has a brake, which stopped rotation in just over five seconds when first used, although it is now closer to eight.

The supplied 24 teeth, 250 × 30mm bore blade is a standard size; it's a bit coarse, but easily replaced if required. There is plenty of space under the table insert to remove it, one spanner holding the motor shaft in place as a second undoes the nut.

As well as eye and hearing protection, the instructions specify the use of a dust extractor (the Clarke CWVE1 at £132 is recommended) and a dust mask. I agree! Just out of curiosity, I left off the extractor to see how quickly the extraction port would block; it didn't. The blade acts like a fan inside the tapered cover, and blows chippings straight out of the back. It was impressive; I'd definitely recommend FFP3 masks. The extractor tube from the crown guard is not very flexible and is too short; it can just about be stretched to clear the right-hand table extension, but wide panels would not pass under it. It would need to be disconnected in these cases.

The bolt on table extensions flex a little when leant on, but they support wide boards well as they are being cut. Two stabilisers mounted at the back are there to prevent the table from toppling away from the user when larger boards are being cut, but you would be stretching the capacity of the machine with 8×4 sheets. For rip sawing and cross-cutting, it's fine. The cross slide moves well – there's no slack at all; the 90° mark on the gauge was not accurate (which was no surprise). The fence requires such a firm push of the lever to lock it in place. I was worried it would break! The fence was not parallel to the blade, though, and the gauge on the guide rail is also out, but only by 1mm, and I think that this could probably be corrected. Blade height adjustment is very smooth; the angle is adjusted with the wheel and is 90° at '0°' but doesn't quite get to 45° at the other end of travel. The crown guard is supposed to lift and move freely over the wood being cut, but it doesn't do so every time. When using the cross slide on a mitre setting with 50mm softwood, the guard twisted into the blade before it lifted, leaving some scarring.

Conclusion

It was difficult to give a rating for this machine; the £120 asking price is exceptional value for money, but cost cutting is possibly the reason for the noisy mechanics and a few other niggles. A less flexible crown guard and longer extractor tube would be instant improvements; a bigger stop button in a more convenient position would make it safer. What has to be borne in mind is that the CTS16 isn't pretending to be anything other than a basic, small, lightweight, functional and cheap circular saw, and it does this well. It is certainly not as enjoyable to use as other machines, but is a fraction of the price; beneath the gleaming paint work it's rough and noisy, but it does the job; stability and function could always be improved by building it into a bench. If you are prepared to use this machine within its limitations, and put up with its minor failings, it's actually a bit of a bargain.

Blade angle at 0°

SPECIFICATION

Power: 230V
Motor: 1,600W
Blade size: 250mm
Maximum cut 90°/45°: 73/53mm
Dimensions (L × W × H): 640 × 960 × 1,040mm

Typical price: £119.98
Web: www.machinemart.co.uk

THE VERDICT

PROS

- Excellent value for money; good quality components

CONS

- Noisy and somewhat unrefined; off switch could be better positioned; crown guard extraction tube can get in the way; not suitable for larger panels; the fence needs adjusting to get it parallel to the blade

RATING: 3.5 out of **5**

Fence aligned with the gauge at 75mm

The height and angle adjustment controls

At full tilt the blade does not quite reach 45°

The stop switch is not well placed

The fence lever needs a firm push to lock it in place

Push stick stored for use

Make a template before using!

Machine Mart

64 SUPERSTORES NATIONWIDE

WHERE QUALITY COSTS LESS

Clarke TABLE SAWS

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

FROM ONLY £72.99 EXC.VAT £87.59 INC.VAT

BEST SELLER

CTS10D

*was £185.99 inc. VAT

INCLUDES LEFT & RIGHT TABLE EXTENSION

MODEL	MOTOR	BLADE	EXC.VAT	INC.VAT
CTS800B	600W	200mm	£72.99	£87.59
CTS11*	1500W	254mm	£149.98	£179.98
CTS10D	1500W	254mm	£169.98	£203.98

Clarke 4" BELT/ 6" DISC SANDER

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

CS4-6E

£92.99 EXC.VAT £111.59 INC.VAT

Clarke 6" BELT/ 9" DISC SANDER

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

CS6-9C

£239.00 EXC.VAT £286.80 INC.VAT

Clarke TABLE SAW WITH EXTENSION TABLES (250mm)

CTS14

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

£129.98 EXC.VAT £155.98 INC.VAT

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

Clarke NEW TABLE SAW WITH STAND

- 1600W motor
- 250mm blade size • 0-45° tilting blade
- Cutting depth: 73mm at 90° / 53mm at 45°

CTS16

INCLUDES LEFT & RIGHT TABLE EXTENSION

£99.98 EXC.VAT £119.98 INC.VAT

Clarke WOODWORKING VICES

STANLEY Record

FROM ONLY £14.99 EXC.VAT £17.99 INC.VAT

WV7

MODEL	MOUNTING	JAW (WIDTH/OPENING /DEPTH)mm	EXC.VAT	INC.VAT
Clarke CHT152	Bolted	150/152/61	£14.99	£17.99
Stanley Multi Angle	Clamped	72/60/40	£18.99	£22.79
Record TV75B	Clamped	75/50/32	£21.99	£26.39
Clarke WV7	Bolted	180/205/78	£29.98	£35.98

Clarke GARAGES/WORKSHOPS

NEW RANGE

FROM ONLY £229.00 EXC.VAT £274.80 INC.VAT

IDEAL ALL-WEATHER PROTECTION

BRIGHT WHITE INTERIOR

LENGTH UP TO 24'

- Ideal for use as a garage/workshop
- Extra tough triple layer weatherproof cover
- Heavy duty powder coated steel tubing
- Ratchet tight tensioning

ZIP CLOSE DOOR

MODEL	SIZE (LxWxH)	EXC.VAT	INC.VAT
CIG81015	4.5 x 3 x 2.4M	£229.00	£274.80
CIG81020	6.1 x 3 x 2.4M	£289.00	£346.80
CIG81216	4.8 x 3.7 x 2.5M	£279.00	£334.80
CIG81220	6.1 x 3.7 x 2.5M	£339.00	£406.80
CIG81224	7.3 x 3.7 x 2.5M	£419.00	£502.80

Clarke 1" BELT/ 5" DISC SANDER

- Includes 2 tables that tilt & lock

£69.98 EXC.VAT £83.98 INC.VAT

CBS1-5B

NEW

- Quality Induction 250W motor

Clarke 40" WOODTURNING LATHE

Ideal for woodturning in the workshop

- 1016mm distance between centres allows for turning longer spindles • Inc. tool rest, tail stock, drive centre, face plate & 3 chisel • Large turning capacity of 350mm • 4 turning speeds

CWL1000B

ONLY £136.99 EXC.VAT £164.39 INC.VAT

LOCKABLE TAILSTOCK

BENCH MOUNTED

Clarke 13" MINI WOOD LATHE

£154.99 EXC.VAT £185.99 INC.VAT

CWL325V

- Ideal for enthusiasts/ hobbyists with small workshops
- 325mm distance between centres • 200mm max. turning capacity (dia) • 0.2HP motor

TURBO AIR COMPRESSORS

airmaster

- Superb range ideal for DIY, hobby & semi -professional use

FROM ONLY £89.98 EXC.VAT £107.98 INC.VAT

* 'V' Twin Pump

8/250

MODEL	MOTOR	CFM	TANK	EXC.VAT	INC.VAT
8/250	2HP	7.5	24ltr	£89.98	£107.98
7/250	2 HP	7	24ltr	£94.99	£113.99
11/250	2.5HP	9.5	24ltr	£109.98	£131.98
8/510	2HP	7.5	50ltr	£119.98	£143.98
11/510	2.5HP	9.5	50ltr	£139.98	£167.98
16/510*	3 HP	14.5	50ltr	£209.00	£250.80
16/1010*	3 HP	14.5	100ltr	£259.98	£311.98

Clarke 4" BELT/ 8" DISC SANDER

- Includes two tables • 550W 230V motor

£159.98 EXC.VAT £191.98 INC.VAT

CS4-8

Clarke DUST EXTRACTOR/ CHIP COLLECTORS

CDE7B

CWVE1

FROM ONLY £109.98 EXC.VAT £131.98 INC.VAT

- Powerful 1100W motor • 50 litre bag capacity • Flow rate of 850M3/h

MODEL	MOTOR	FLOW RATE	BAG CAP.	EXC.VAT	INC.VAT
CWVE1	1100W	183 M3/h	50Ltrs	£109.98	£131.98
CDE35B	750W	450 M3/h	56Ltrs	£144.99	£173.99
CDE7B	750W	850 M3/h	114Ltrs	£159.98	£191.98

Clarke MORTISING MACHINE

£174.99 EXC.VAT £209.99 INC.VAT

CBM1B

- Accurately creates deep square recesses • Table size 150 x 340mm • Max. chisel stroke 76mm • Robust cast iron base & column ensures stability & accuracy • 95mm depth of cut

CHISELS AVAILABLE FROM £8.39 INC VAT

"...fast and accurate with a good solid feel...Excellent value for money." See www.machinemart.co.uk

Clarke DETAIL SANDERS

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

CDS-1V

FROM ONLY £19.98 EXC.VAT £23.98 INC.VAT

MODEL	WATTS	EXC.VAT	INC.VAT
PS105	105W	£19.98	£23.98
CDS-1V	280W	£29.98	£35.98

ALL MODELS INC. SANDING SHEETS

Clarke BELT SANDERS

- Ideal for surface removal, sanding and finishing

Makita

ABRASIVE SANDING BELTS IN STOCK

BS1

FROM ONLY £36.99 EXC.VAT £44.39 INC.VAT

MODEL	MOTOR	M/MIN	EXC.VAT	INC.VAT
Clarke BS1	900W	380	£36.99	£44.39
Clarke CBS2	1200W	480	£79.98	£95.98
Makita 9911	650W	75-270	£89.98	£107.98

Clarke HARDWOOD WORKBENCH

- Includes bench dogs and guide holes for variable work positioning • 2 Heavy Duty Vices • Large storage drawer • Sunken tool trough • LxWxH 1520x620x855mm

CHB1500

£149.98 EXC.VAT £179.98 INC.VAT

Clarke DISC SANDER (305MM)

- Powerful, bench mounted • 900W • Dust extraction port

PRICE CUT £124.99 EXC.VAT £149.99 INC.VAT WAS £155.98 inc.VAT

CBS1-5B

Clarke RANDOM ORBITAL SANDER

- Adjustable front handle improves control • 7000-14000rpm

£32.99 EXC.VAT £39.59 INC.VAT

CROS3

INC DUST BAG AND SELECTION OF 125MM DIAMETER SANDING DISCS

Clarke ELECTRIC POWER FILE

CPF13

- Variable belt speed • Tilting head

*Black & Decker

FROM ONLY £49.98 EXC.VAT £59.98 INC.VAT

MODEL	MOTOR	BELT SIZE (mm)	EXC.VAT	INC.VAT
CPF13	400W/230V	13x457	£49.98	£59.98
KA900E*	350W/230V	13x455	£59.98	£71.98

Clarke CIRCULAR SAWS

- Great range of DIY and professional saws • Ideal for bevel cutting (0-45°)

FROM ONLY £41.99 EXC.VAT £50.39 INC.VAT

CON185

*Includes laser guide

MODEL	MOTOR	MAX CUT 90/45 (mm)	EXC.VAT	INC.VAT
CCS185B	1200W	65/44	£41.99	£50.39
CCS2	1300W	60/45	£59.98	£71.98
CON185*	1600W	60/40	£62.99	£75.59

Clarke SHEET SANDERS

- Ergonomic design for optimum comfort

*was £39.59 inc.VAT

FROM ONLY £16.99 EXC.VAT £20.39 INC.VAT

CON300

MODEL	SHEET SIZE	MOTOR	EXC.VAT	INC.VAT
COS200	190X90mm	150W	£16.99	£20.39
CON300*	230X115mm	330W	£29.98	£35.98

Clarke CORDLESS STAPLE/ NAIL GUN

- All models include nail/staple pack and tough moulded case • 18V 2Ah Li-ion power pack • 18 Staple/Nail Gauge

ONLY £109.98 EXC.VAT £131.98 INC.VAT

CONSN18LIC

SPARE NAILS / STAPLES IN STOCK

ELECTRIC AND CORDLESS MODELS IN STOCK

Clarke CONTRACTOR 18V BRUSHLESS COMBI DRILLS

- 2 forward and reverse gears

powered by Li-ion

CON180LI

FROM ONLY £109.98 EXC.VAT £131.98 INC.VAT

*was £203.98 inc. VAT

MODEL	VOLTS	BATTS	EXC. VAT	INC. VAT
CON18LIC	18V	2x 2.0Ah Li-ion	£109.98	£131.98
CON180LI*	18V	2x 4.0Ah Li-ion	£159.98	£191.98

VAC KING WET & DRY VACUUM CLEANERS

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

FROM ONLY £49.98 EXC.VAT £59.98 INC.VAT

* SS = Stainless Steel

MODEL	MOTOR	CAPACITY DRY/WET	EXC. VAT	INC. VAT
CVAC20P	1250W	16/12ltr	£49.98	£59.98
CVAC20SS*	1400W	16/12ltr	£59.98	£71.98
CVAC20PR2	1400W	16/12ltr	£64.99	£77.99
CVAC25SS*	1400W	19/17ltr	£67.99	£81.59
CVAC30SSR*	1400W	24/21ltr	£89.98	£107.98

Clarke BOLTLESS SHELVING/BENCHES

- Simple fast assembly in minutes using only a hammer

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150 KG (evenly distributed) Strong 9mm fibreboard shelves PER SHELF

CHOICE OF 5 COLOURS RED, BLUE, GREY, SILVER & GALVANISED STEEL

350 KG (evenly distributed) Strong 12 mm fibreboard shelves PER SHELF

MODEL	DIMS WxDxH(mm)	EXC.VAT	INC.VAT
150kg	800x300x1500	£29.98	£35.98
350kg	900x400x1800	£49.98	£59.98

Clarke WHETSTONE SHARPENER (200MM)

- Produces razor sharp cutting edges on chisels, planes, etc. • Inc. 3 tool holding jigs, workpiece clamp & support frame, polishing paste & water trough

CWS200B

ONLY £119.98 EXC.VAT £143.98 INC.VAT

Clarke PLANERS & THICKNESSERS

CPT800

- Ideal for DIY & Hobby use • Dual purpose, for both finishing & sizing of timber

PRICE CUT NOW FROM £179.98 EXC.VAT £215.98 INC.VAT WAS £221.99 inc.VAT

MODEL	PLANING WIDTH	MAX THICK. CAPACITY	EXC. VAT	INC. VAT
CPT600*	6"	120mm	£179.98	£215.98
CPT800	8"	120mm	£219.98	£263.98
CPT1000	10"	120mm	£299.00	£358.80

Clarke OSCILLATING BOBBIN SANDER

COBS1

- Dust collection port • Inc. 6 sanding sleeves/bobbins

PRICE CUT £129.98 EXC.VAT £155.98 INC.VAT WAS £167.98 inc.VAT

Clarke OSCILLATING BELT & BOBBIN SANDER

- Sand concave, convex, straight or multi-curved pieces • Dust collection port • Inc. sleeves, drum & belt

£179.98 EXC.VAT £215.98 INC.VAT

COEBS1

28547LH

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Clarke SLIDING COMPOUND MITRE SAWS

BEST SELLER

- For fast, accurate cross, bevel & mitre cutting in most hard & soft woods
- 1800W motor
- Laser guide

FROM ONLY £89.98 EXC.VAT £107.98 INC.VAT

CMS10S2

MODEL	BLADE DIA/BORE (mm)	MAX CUT DEPTH/CROSS	EXC.VAT	INC.VAT
CMS210S	210/30	60/120	£89.98	£107.98
CMS10S2	254/30	78/340	£139.98	£167.98

Clarke ELECTRIC HEATERS

BEST SELLER

FROM ONLY £49.98 EXC.VAT £59.98 INC.VAT

MODEL	VOLTAGE	HEAT OUTPUT KW	EXC.VAT	INC.VAT
DEVIL 6003	230V	1.5-3	£49.98	£59.98
DEVIL 7003	230V	3	£59.98	£71.98
DEVIL 6005	400V	2.5-5	£69.98	£83.98
DEVIL 7005	400V	5	£84.99	£101.99
DEVIL 6009	400V	4.5-9	£109.00	£130.80
DEVIL 6015	400V	5-10-15	£169.00	£202.80
DEVIL 7015	400V	15	£199.98	£239.98

Clarke BENCH BANDSAWS

- Produces fast, precise mitre & longitudinal cuts
- 350W motor
- 7.5" throat size
- Cuts in all types of wood

FROM ONLY £129.98 EXC.VAT £155.98 INC.VAT

CBS190B

- Great for both home & professional use
- Induction 300W motor • Table tilts up to 45° • 9" throat size

PRICE CUT £189.98 EXC.VAT £227.98 INC.VAT WAS £238.80 inc.VAT

REMOVABLE DUST TRAY

CBS225

Clarke PROFESSIONAL BANDSAWS

Top Quality Bandsaws - ideal for professional workshop use. Strong steel body with solid cast iron table

- Table tilts 45° • Adjustable blade guide
- Supplied with stand, 4TPI wood cutting blade, rip fence, mitre guide, mitre gauge and push stick • Induction motors
- Includes stand

CBS300

FROM ONLY £219.98 EXC.VAT £263.98 INC.VAT

MODELS ALSO FEATURE:

MULTI-STEP DUST EXTRACTION OUTLET • FLEXIBLE LED WORKLIGHT • REMOVABLE DUST TRAY • BLADE TENSIONING CONTROL

* was £478.80 inc.VAT # was £597.60 inc.VAT

MODEL	THROAT DEPTH	MAX CUT 90°	MAX CUT 45°	EXC. VAT	INC. VAT
CBS250 NEW	250mm/10"	100mm	75mm	£219.98	£263.98
CBS300*	305mm/12"	165mm	115mm	£379.00	£454.80
CBS350#	340mm/14"	225mm	160mm	£479.00	£574.80

Clarke MITRE SAWS

Einhell

PRICE CUT NOW FROM £54.99 EXC.VAT £65.99 INC.VAT WAS £71.98 inc.VAT

Laser Guide ‡ Sliding Compound

- Quality Range of Mitre saws and blades in stock

* was £71.98 inc.VAT

MODEL	BLADE DIA/BORE (mm)	MAX CUT DEPTH/CROSS	EXC. VAT	INC. VAT
CMS210*	210/30	60/120mm	£54.99	£65.99
Einhell TC-MS 2112	210/30	55/120mm	£59.98	£71.98
Einhell TC-SM 2131#	210/30	62/310mm	£129.98	£155.98
Einhell TC-SM 2534‡	250/30	75/340mm	£159.98	£191.98

Clarke TURBO FAN GAS HEATERS

Offering low cost, efficient heating

NEW

DUAL VOLTAGE 230v 110 VOLT IN STOCK FROM £226.80

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

PROPANE GAS FIRED

MODEL	MAX OUTPUT KW	EXC. VAT	INC. VAT
Little Devil II	10	£79.98	£95.98
Devil 700	15	£99.98	£119.98
Devil 900	24.9	£139.98	£167.98
Devil 1600	36.6	£169.98	£203.98

Clarke DIESEL/PARAFFIN HEATERS

FROM ONLY £189.00 EXC.VAT £226.80 INC.VAT

Ideal for fast efficient heating

- Extra-long run fuel tanks – up to 53 litres
- Variable heat output with thermostat control

MODEL	MAX OUTPUT	EXC.VAT	INC.VAT
XR60	14.7kW	£189.00	£226.80
XR80	20.5kW	£239.00	£286.80
XR110	29.3kW	£289.00	£346.80
XR160	46.9kW	£349.00	£418.80
XR210	61.5kW	£399.00	£478.80

Clarke STATIC PHASE CONVERTERS

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

ROTARY PHASE CONVERTERS ALSO IN STOCK

FROM ONLY £229.00 EXC.VAT £274.80 INC.VAT

CONVERT 230V 1PH TO 400V 3PH

MODEL	MAX. MOTOR HP	FUSE	EXC.VAT	INC.VAT
PC20	2HP	10Amps	£229.00	£274.80
PC40	3.5HP	20Amps	£269.00	£322.80
PC60	5.5HP	32Amps	£319.00	£382.80

Clarke CONTRACTOR ROUTERS

BOSCH

- Powerful heavy duty machines ideal for trade and DIY use

CR2 INCLUDES 15 PIECE KIT WORTH OVER £20

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NEW

*DIY

MODEL	MOTOR (W)	PLUNGE (mm)	EXC.VAT	INC.VAT
CR1200 NEW	1200	0-55	£44.99	£53.99
CR1C*	1200	0-50	£46.99	£56.39
Bosch POF1400ACE	1400	0-55	£89.98	£107.98
CR2	2100	0-60	£119.98	£143.98

Clarke GRINDERS & STANDS

- Stands come complete with bolt mountings and feet anchor holes

6" & 8" AVAILABLE WITH LIGHT

FROM ONLY £32.99 EXC.VAT £39.59 INC.VAT

STANDS FROM ONLY £47.98 INC.VAT

POLISHING KITS 4" TO 8" FROM ONLY £27.59 INC VAT

With sanding belt
*8" whetstone & 6" drystone

MODEL	DUTY	WHEEL DIA.	EXC.VAT	INC.VAT
CBG6RP	DIY	150mm	£32.99	£39.59
CBG6RZ	PRO	150mm	£42.99	£51.59
CBG6RSC	HD	150mm	£54.99	£65.99
CBG6SB#	PRO	150mm	£54.99	£65.99
CBG6RWC	HD	150mm	£59.98	£71.98
CBG8W* (wet)	HD	150/200mm	£56.99	£68.39

Clarke DRILL PRESSES

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

FROM ONLY £66.99 EXC.VAT £80.39 INC.VAT

B = Bench mounted
F = Floor standing

MODEL	MOTOR (W) SPEEDS	EXC. VAT	INC. VAT
CDP5EB	350 / 5	£66.99	£80.39
CDP102B	350 / 5	£79.98	£95.98
CDP152B	450 / 12	£149.98	£179.98
CDP202B	450 / 16	£189.00	£226.80
CDP10B	370 / 12	£198.99	£238.79
CDP452B	550 / 16	£229.00	£274.80
CDP352F	550 / 16	£229.00	£274.80
CDP502F	1100 / 12	£499.00	£598.80

Clarke CONTRACTOR JIGSAWS

BEST SELLER

*DIY #Professional

MODEL	POWER (W)	DEPTH OF CUT (WOOD/STEEL)	EXC. VAT	INC VAT
CJS380*	420W	55/6mm	£15.99	£19.19
CON750#	750W	80/10mm	£27.99	£33.59
Bosch PST700E*	500W	70/4mm	£49.98	£59.98

Clarke 12" DOVETAIL JIG

- Simple, easy to set up & use for producing a variety of joints • Cuts work pieces with a thickness of 8-32mm • Includes a 1/2" comb template guide & holes for bench mounting

£57.99 EXC.VAT £69.59 INC.VAT

Clarke MULTI FUNCTION TOOL WITH ACCESSORY KIT

- Great for sawing, cutting, sanding, polishing, chiselling & much more • 250W motor
- Variable speed

£39.98 EXC.VAT £47.98 INC.VAT

Clarke SCROLL SAWS

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

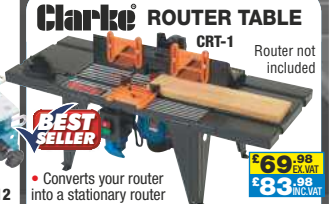
- 50mm max cutthickness
- Air-blower removes dust from cutting area • Table tilts 0-45°

MODEL	MOTOR	SPEED RPM	EXC. VAT	INC. VAT
CSS400D NEW	120W	400-1600	£79.98	£95.98
CSS16VB	90W	550-1600	£94.99	£113.99
CSS400C	90W	550-1600	£114.99	£137.99

Clarke ROUTER TABLE

CRT-1

Router not included



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LUTHIER'S LUTE

In the final part of this series, **Shaun Newman** shows how to attach the fretting and fingerboard, prepare and fit the tail strap and bridge, before attaching the strings and finally tuning up

In part 2 I described how the lute soundboard should be made and how the decorative rosette is produced. Next came a method for attaching the soundboard to the bowl, binding the edges and preparing the fingerboard.

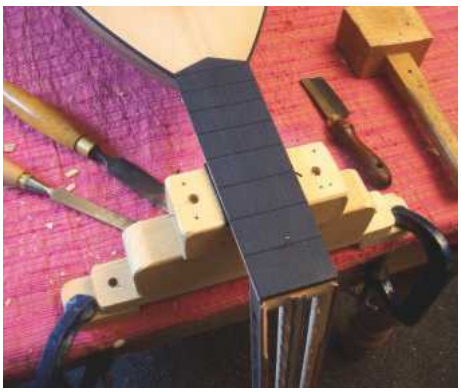
Attaching & fretting the fingerboard

To help prevent the fingerboard from sliding out of line when it is glued into place, a 15mm hardboard pin is passed through the centre of the first fret and tapped into the neck (**photo 47**). The small hole produced will later be covered by the first fret. The lower end of the fingerboard is prevented from moving by the tightly fitting 'V' join. The fingerboard can then be attached with Titebond and held firmly by strong elastic bands, linen tape or cramps. I like to use elastic bands as cramps can slide off due to the curvature on the underside of the neck (**photo 48**).

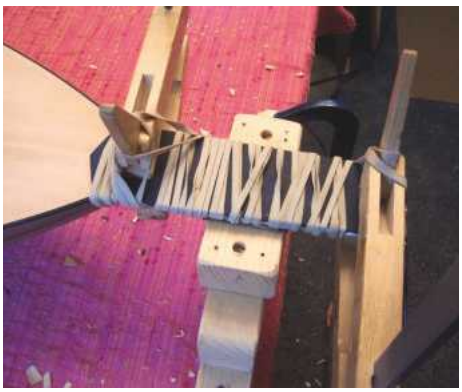
Once the Titebond has cured, the frets can be put into the pre-prepared slots. They are first cut individually from strands of fret wire and each one is cut to around 6mm oversize; this enables one end to be held between the finger and thumb as it is tapped in. A brass or nylon-faced hammer should be used for this task, as a steel-faced one will dent the fret crowns (**photo 49**).

Fret spacings should be as follows (all measurements are from the nut end of the fingerboard and are in millimetres): fret 1 – 34; fret 2 – 65; fret 3 – 95.5; fret 4 –124; fret 5 – 151; fret 6 – 176; fret 7 – 200; fret 8 – 222; fret 9 – 242.5; fret 10 – 263; fret 11 – 283.5; and fret 12 – 300. As with the guitar, fret 12 marks half the string length. The overall string length, i.e. from the inside edge of the nut to the inside edge of the saddle, is 600.5. The extra 0.5mm is to act as compensation as a string is depressed to avoid intonation issues.

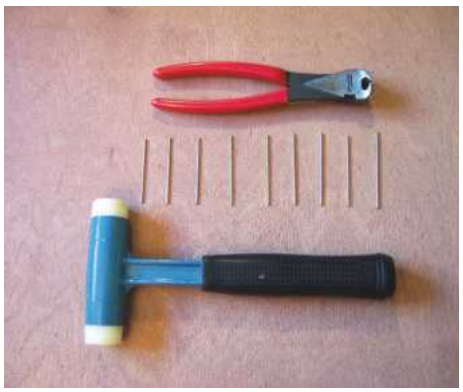
Once in place the frets should be levelled, and this can be done with a flat whetstone skimmed across the tops of all eight of them. Once they are



47 A hardboard pin makes sure the fingerboard does not slide out of position as the glue cures



48 Strong elastic bands hold the fingerboard in place



49 Frets ready cut, a 'dead blow' hammer is used to tap them in

Photographs by **Dave Hutton**

all at the same height, the flattened tops should be re-crowned, i.e. the dome shape is re-cut. There are several specialist tools to do this job, but the simplest is to take a triangular file (of the sort used to sharpen saws) and to round off the three sharp edges with a whetstone. Masking tape is applied to the fingerboard between the frets for protection and the file is used in a forward and upward sweeping motion to recreate the dome on the top of each one being treated. A final check is then taken with a straightedge and any fret sitting too high should get further attention along the same lines.

Having completed the metal fretting, attention must be given to frets 9 to 12. These are made from thin strips of ebony (**photos 50** & **51**) and attached with Titebond. Once cut they can be held in place with weights (**photo 52**), and then trimmed to the same height at the metal frets. They are then crowned using a small thumb plane, or the triangular file mentioned earlier (**photo 53**).

Preparing & fitting the tail strap

The tail strap is added to help prevent the ribs from bursting away from the tailblock. It is often cut into quite a fancy shape and can be made as a single strip or in several parts. I chose to make this one in three parts. The strap is made from rosewood thinned to around 1.5mm. I backed it with a sycamore veneer making the edges attractive, but this is not necessary (**photo 54**).

Once cut it has to be bent on the hot iron to exactly match the curvature of the bowl. It is then held in place with strong masking tape. To help the masking tape to grip, it is advisable to put parcel tape on the soundboard and around the lower edge of the bowl (**photos 55** & **56**).

For security, I made some small rosewood dowels and pinned the strap to the tailblock and bowl with them; this really was a 'belt and braces' approach, and not strictly necessary.

Preparing the bridge

There are many variations on the shape and size of lute bridges. The one made here has a relatively traditional shape but has a saddle similar to ones used on a classical guitar. This enables the action (i.e. the height of the strings above the frets) to be adjusted to suit the player's style. The bridge is prepared from a billet of ebony measuring 150mm long, 30mm wide × 8mm thick. With this bridge, I first placed a sycamore and then a black tulipwood veneer on the underside to offer an attractive edge when the bridge is fitted.

The tie block can be left plain, but I think a little decoration adds something to the overall appearance. The decoration given here consists

50 Ebony frets under preparation

51 Frets 9-12

52 An old grocers' weight is useful to hold the frets in place as the glue cures

53 The ebony frets are brought to the same height as the nickel silver ones

54 The tail strap in rosewood with a sycamore back

55 Parcel tape helps the masking tape to grip

of two strips of bone and some purfling scraps left over from the decoration on the back of the neck. The saddle slot can be removed with a dovetail saw, or a small router as here. I find the Proxxon mini router excellent for this task. The saddle itself is made from ebony and is around 2mm thick × 6mm high. The back edge of the saddle (i.e. the side facing the tail end of the bowl) is sloped downwards to allow the strings to pass comfortably through the holes drilled through the tie block and the bass side of the saddle sits around 1.5mm higher than the treble.

To help prevent the bridge from moving while it is glued in place, two holes each 2mm across are drilled down through the saddle slot around 3mm from each end. When the bridge is positioned over the soundboard, the exact location of the holes can be marked onto the spruce and 2mm holes then drilled through the soundboard. This sounds drastic, but is common practice, especially while fitting classical guitar bridges. The bridge can then be held in place with two cocktail sticks that are passed through the bridge and into the soundboard (**photo 57**).

Here, the bridge is only dry fitted to ensure all fits. Once satisfied all is well, the area beneath where the bridge will sit is masked off ready for the finish. A piece of wide masking tape is placed onto the soundboard and the bridge with its cocktail sticks is placed into position. A scalpel is then used to trace around the edges of the bridge, and the waste tape removed leaving a patch that exactly matches the shape of the outline. The edges of the tape must be firmly pressed down to prevent any of the finish from leaching through and reducing the effective gluing surface.

Choosing & applying an appropriate finish

There are almost as many different finishes that can be applied as there are makers' opinions as to which is the best. Originally the whole instrument would have been coated in egg tempera and some form of oil applied as a top coat. For this instrument, however, I chose Liberon finishing oil. This oil has become very popular with luthiers as it gives a very natural feel to the instrument, is relatively easy to apply and does not interfere with the sound. Too may stringed instruments have the sound locked in through inappropriate finishes, such as thick varnishes.

The finishing oil requires just three coats, and the final one can be rubbed in with 2,500 grit wet & dry paper. This helps to fill any tiny discrepancies in the grain of the wood. For a perfect finish on the rosewood, grain filler can be applied and usually black works best. Around five hours should be left between coats, and the oil will oxidise over the coming weeks to produce a hard-wearing finish that is easy to maintain (**photo 58**). One advantage of using Liberon finishing oil is that minor scratches or grazes can be re-coated, and the re-finish is not noticeable.

Attaching the bridge

After the Liberon finishing oil has dried the bridge can be fitted. The masking tape on the soundboard should first be carefully removed. Sometimes it peels off easily, but to be safe, I usually trace around the edge with a scalpel. The lightest of touch is needed here, as otherwise the soundboard can be weakened if a cut is made into the spruce. The cocktail sticks are passed through the holes in the saddle slot of the bridge and the whole thing is glued into place and held firm with weights. Once in place, the cocktail sticks can be snapped off and chiselled flush with the bottom of the saddle slot. Care should be taken to clean up any glue squeeze-out as it looks ugly if left.

The top nut

The top nut is made from a small piece of ebony 60mm long, 5.5mm wide × 9.5mm high. The string spacings are filed into the top edge of the nut to around half the thickness of each string (**photo 59**). The two outermost string positions are cut at around 2.5mm from the edges of the fingerboard. The single string position is 5.5mm away from the next one, and thereafter each pair of strings has a 2.5mm gap between them.

Attaching the strings & tuning up

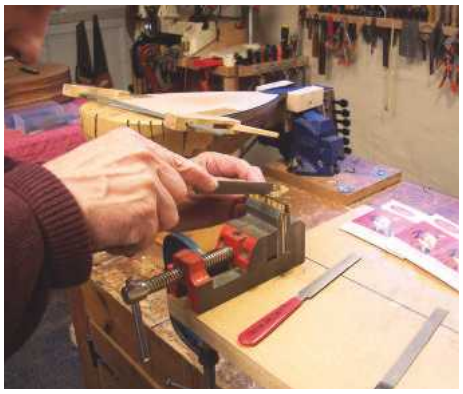
Each string is passed up through the hole in the tie block, and then looped back around and tied in the same way as a classical guitar. There are several clips on YouTube that help if the maker is unsure of the exact method. The strings are then passed through the hole, which must first be drilled into each peg (**photo 60**). The end of the string is then wound up until the correct tension is reached. If gut or 'Nylgut' strings are used it may take up to a few weeks before they stop stretching, so the instrument will initially sound pretty dreadful. After a while, however, as they have all stretched, the clear and bell-like notes will sing out.

There are many different ways of tuning but for a seven-course renaissance instrument perhaps the simplest is to tune to Ff, Gg, Cc, ff, aa, dd, g, where the first string is at the same pitch as a classical or acoustic guitar's first string held

56 The tail strap heavily taped into place

57 The bridge held in place by two cocktail sticks that are later snapped off

58 Liberon finishing oils and Osmo grain filler are used



59 Filing the string slots in the top nut

60 Each peg must have a 1.5mm hole drilled for the string

down at the third fret and the 'dd' strings are one full tone above middle 'c'. The three bass courses are tuned as octaves, and the low 'F' is the equivalent to the sixth string on a classical or acoustic guitar held down at the first fret. The next two pairs of strings are tuned in parallel.

Learning to play and help available

One of the nicest things about the lute, apart from its haunting and melodious sound, is that it can be used for the very simplest of accompaniment or can be played to perform some of the most complex instrumental works ever written. Everyone can play at their own level. A number of tutorials are available on YouTube, and some books can be used to start playing or improve the repertoire. I would recommend that the help of an experienced teacher will assist the newcomer to make sense of the instrument and to gain enjoyment straight away, even if, for example, he or she is a competent guitarist or violinist. As mentioned earlier, I found R.Z. Taylor's book *Make and Play a Lute* very helpful, and although it is now out of print, it is widely available in public libraries. It not only contains plans and templates, but there is also a beginner's guide to playing. Perhaps the most famous and respected written tutorial is *A Tutor for the Renaissance Lute*, by Diana Poulton, first published in 1991. It takes the player from basics up to quite advanced technique and repertoire.

The Lute Society, now 60 years old, exists to promote and develop the lute and its playing. It has a very detailed and informative website with a list of teachers across the UK. If you take out membership, the society will send you a 100-page folder of sheet music and information. They also publish regular journals and the society is a must for anyone thinking of taking up the lute on a serious basis.

A case to protect your lute

I would not recommend that you make your own case, as even though it is not impossible, good quality cases are commercially available at very reasonable prices. The odd shape of the instrument does make for a challenge in constructing your own, so a look at The Early Music Shop's website will show what is available. A good case is very important to protect what is a relatively light and sensitive instrument (**photo 61**).

62 The peghead in maple and cocobolo rosewood

63 The Liberon finishing oil leaves a soft sheen

64 Rosette detail showing Moorish influence

61 The competed Renaissance lute

SUPPLIERS & SOURCES OF HELP

- The Lute Society for plans, sheet music, literature and lists of teachers – **www.thelutesociety.co.uk**
- Touchstone Tonewoods – for timber and tools – **www.touchstonetonewoods.co.uk**
- Tonetech – as with Touchstone – **www.tonetechluthiersupplies.co.uk**
- Stewart-Macdonald – for plans, tools and all manner of luthiers' supplies – **www.stewmac.com**
- The Guild of American Luthiers – for plans and literature – **www.luth.org**
- David Dyke – for timber and tools – **www.luthierssupplies.co.uk**
- The Early Music Shop – for specialist strings, cases and pegs – **www.earlymusicshop.com**
- The Luthiers Nook – for pegs – **www.luthiersnook.com**
- Madinter Wood – for music, pegs and timber – **www.madinter.com**
- Keystone Timbers – for exotic timber – **www.tonewoods4luthiers.co.uk**
- Strings Direct – for all manner of strings – **www.stringsdirect.co.uk**
- Dictum – for pegs, timber and tools – **www.dictum.com**
- 'In the Making', Vimeo, a film about the work of Steven Gottlieb – **https://vimeo.com/96809354**
- *Historical Lute Construction*, Robert Lundberg. Published by the Guild of American Luthiers, 1972 – possibly the most comprehensive book on lute construction available
- *Make and Play a Lute*, R.Z.Taylor – published by Special Interest Model Books, 1983

LEARNING FROM FAILURE

In woodworking, failures are going to happen during our journey, but the trick, says **Anselm Fraser**, Principal of The Chippendale International School of Furniture, is to be both the tortoise and the hare

Every professional or hobbyist woodworker wants to make wonderful and inspiring pieces of furniture, and bask in the glow of complete success.

However, the reality is that we are all human, and humans make mistakes. Sometimes we succeed, but sometimes we fail.

But while success can teach us lessons, so too can failure, and that's particularly true for woodworkers who are still learning their craft. Novice woodworkers should not only expect to make mistakes, but to welcome them.

Failure should give pause for thought for any woodworker. Why is this chair wonky? Did I measure three times and cut once?

And sometimes what appears to be a mistake can be turned to advantage. For example, we run a wood kitchens business from the Chippendale school campus.

We make all the dovetails on our drawers a different size. To a perfectionist who knows little about woodwork that might look like a mistake; however, it clearly shows that the piece has been made by hand, and not by a machine. In other words, imperfection can sometimes be success.

The simple fact is that failure is often the portal to achievement. The trick is to learn from our mistakes and to not make the same mistake twice. For example, we had an Italian student last year who was making a rocking chair – except that, when the main components of the chair were assembled, it didn't rock. However, this gifted young man thought round the problem and added in additional pieces to the chair. The design wasn't compromised, but weight was redistributed, and the chair rocked.

He had developed what some psychologists term as a 'growth mindset', where an individual believes that through hard work and effort we can grow and learn. It's a mindset that encourages us to take chances and, yes, to fail – but to never regard failure as a permanent outcome.

My advice to novice woodworkers is to be both the tortoise and the hare.

When making a long-term decision – for example, the design of a chair or table – ensure to take your time over it. In other words, be a tortoise. Our Italian student should have been a tortoise at this early design stage!

Embrace failure

But when the decision is made, accept that the time for consideration is over, and just get on with it. In other words, become a hare.

As in anything, mistakes and failure are part and parcel of learning the woodworking craft. After all, Henry Ford's first two companies failed – and through that experience he learned how to make the third successful.

The trick is to learn from the mistake, but not to dwell on it. Instead, choose optimism. Research studies show that when people have a positive mindset, their performance improves. Also, set positive goals that allow you to celebrate progress. That does two things: it makes our woodworking journey more enjoyable and increases motivation.

"I've made billions of dollars of failures at Amazon.com. Literally billions of dollars of failures," said Amazon Founder, Jeff Bezos, emphasising how tolerance for failure is part of Amazon's culture and success. Or Elon Musk, the founder of SpaceX and Tesla, who prides himself on having a "resume of epic failures."

Or Facebook's Mark Zuckerberg, who once said: "Don't even bother trying to avoid mistakes because you're going to make tons of mistakes."

It's a cliché but don't see yourself as a failure simply because you're making mistakes. As Winston Churchill remarked: "Success is your ability to go from failure to failure without losing your enthusiasm."

Eion Gibbs and Alan McGovern working on a bespoke fitted kitchen cabinet

Break tasks down

The great thing is not to be discouraged, because failure can distort your perception of your skills. It can make you feel inadequate, and make you underestimate how good you really are, or could be. The trick is to break down the task you've set yourself – for example, to build a chair – and identify those things that are in your control, and those that aren't entirely under your control.

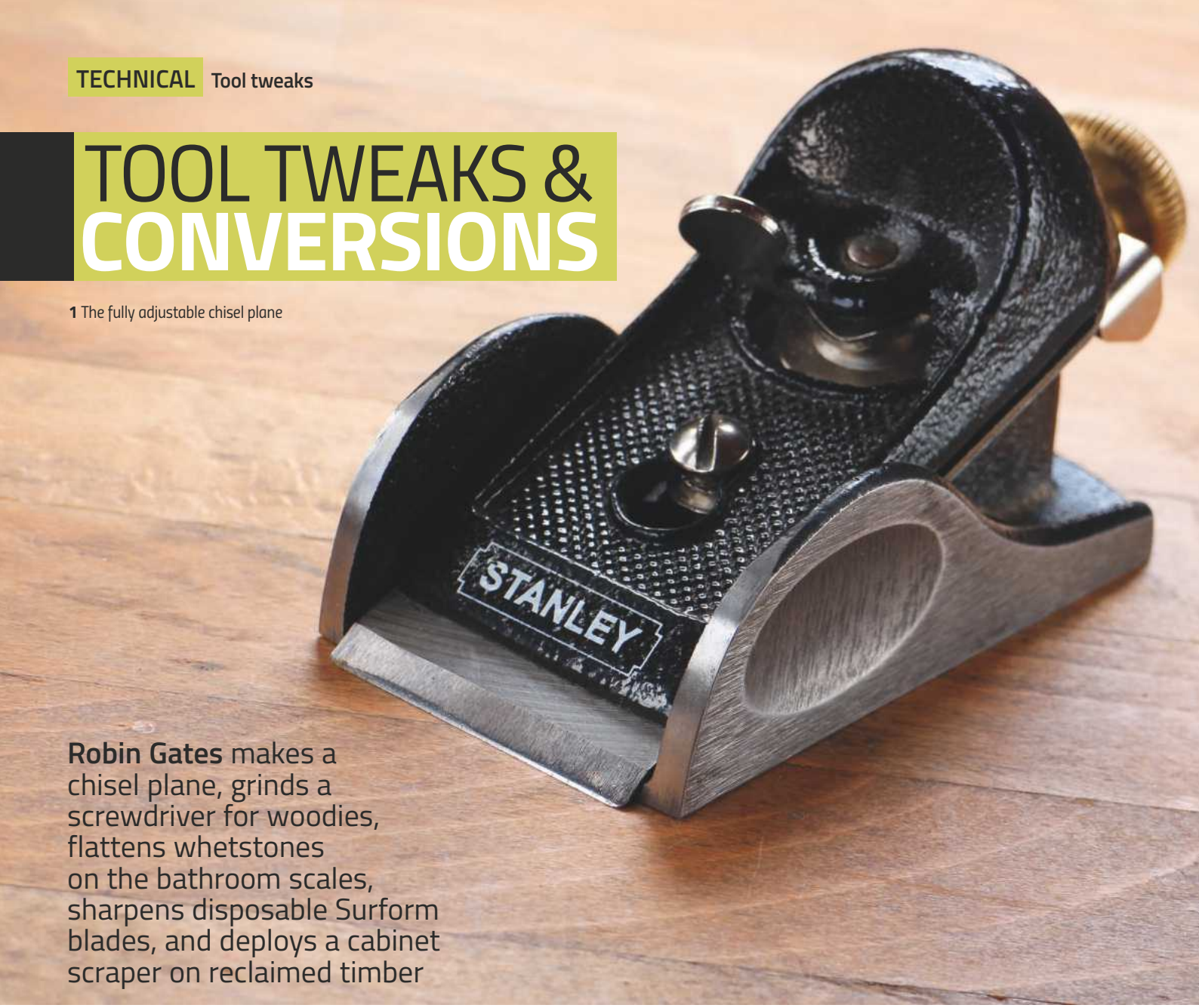
Then, before you start, improve your skill set so that you can control the whole design and build process. By taking ownership of every aspect, you will have learned new skills and given yourself a huge confidence boost.

The most successful people are simply the ones who didn't give up. Only if you give up can you think of yourself as a failure. Remember, what doesn't kill you makes you stronger, so, keep woodworking, and see each failure as an opportunity to learn.

FURTHER INFORMATION

To find out more about courses offered by The Chippendale International School of Furniture, see **www.chippendaleschool.com**

TOOL TWEAKS & CONVERSIONS



1 The fully adjustable chisel plane

Robin Gates makes a chisel plane, grinds a screwdriver for woodies, flattens whetstones on the bathroom scales, sharpens disposable Surform blades, and deploys a cabinet scraper on reclaimed timber

Changing planes

For removing glue and the mysterious blobs found on reclaimed timber I'd always used a chisel, worked flat against the timber, but then I made a chisel plane from a piece of beech and an old No.4 smoother blade and grew to appreciate the convenience of the purpose-made tool. Once the cutting edge is set level with the sole, with corners rounded for safety, it's always ready for action and there's less danger of it digging in than with the chisel. Then I found myself using the plane more widely, anywhere a few wood fibres might be standing proud – or trying to. The limitation was its size, being almost as long as a No.4 plane itself. In some of those odd corners where it'd be neater and more controlled than a chisel or glass paper, it's simply too big to gain access.

Fast forward a year or two, and my Stanley 9½in block plane has just stubbed its toe on something solid and disintegrated. I traced the disaster to a weak weld between the sliding shoe, which protrudes beyond the toe at most settings, and the screw which attaches it to the front knob (**photo 2**). One sharp knock and the screw had sheared off.

I have to say my immediate reaction wasn't, 'Oh good, now I can make a small chisel plane out of this.' Once I'd ironed out its several manufacturing faults – a hollow sole, a rough bed for the blade, and a ragged end to the lever cap to name but three – the plane had served me well, but even while it'd proved such an able little workhorse I'd never suspected the attachment between the sliding shoe and its screw had been so fragile, and frankly I'd expected better of a tool which cost me around £45. For a plane so frequently used in tight spots, where front-end knocks are commonplace, this was a significant flaw. A repair using epoxy resin held for a couple of days, but then fell apart under tightening. It seemed the plane was scrap.

Or, looked at differently, with sides sawn off and rounded, removing the front of the body altogether, it would have had the makings of a neat chisel plane, eclipsing even those available new because it'd have both depth and lateral adjustment for the blade (**photo 1**).

The conversion was swift and straightforward. Having scribed the sides perpendicular to the rear edge of the mouth (**photo 3**), I cut away the front end using my Eclipse Junior hacksaw (**photo 4**). An oak block between cramp and plane guided the saw. With the front end removed (**photo 5**) I filed one side to a fair curve, then made a card

2 Disaster! Screw and shoe have parted company

3 Scribing in line with the rear of the mouth

4 Guiding the hacksaw with a wooden block

5 Ready for reshaping the sides

6 Marking the second side using a template

template of that to mark out (**photo 6**) and file side two (**photo 7**), before further smoothing the curves with silicon carbide paper. Finally, I rounded the corners of the blade, partly to guard against leaving tracks but also to prevent me nicking my fingers; I'm often doing this on the protruding corners of rebate planes. At 12.5cm overall length the converted plane is a solid yet nifty performer (**photo 8**), having sufficient weight that it requires very little down force to do its work.

Since finishing this conversion I've acquired an original Sheffield-made Stanley 9½, and noted that the front knob is in one piece with the screw, which mates with a sturdy threaded flange that is part of the sliding shoe – a far stronger arrangement.

Changing drivers

Every old wooden plane I've acquired in the last 20 years has had the slot of its back iron screw mangled to some degree. Such damage is inevitable if a modern screwdriver is used when dismantling the double iron for sharpening; they're neither wide nor thick enough to gain a good purchase on the slot. Consequently the tip twists out of position, deforming the slot as it skids free, possibly also stabbing the user's hand if the blade assembly isn't placed safely on the bench. Some unfortunate screws have grown so ragged the only hope is to saw a deeper slot, if there's sufficient depth of metal remaining.

Further damage to the slot is avoided if you make a dedicated driver for the back iron screw, having a tip that's dimensioned to fill the slot from end to end and side to side (**photo 9**). The quickest route to acquisition of such a beast is to convert an old flat-bladed screwdriver – or turnscrew, as it was known in the heyday of the wooden plane. Two types provide a suitable starting point, one being the London pattern turnscrew, which has a flat blade all the way from tip to handle, the other being the cabinet turnscrew, in which the blade is round from behind the tip to an inch or two from the handle where it becomes broad and flat. It's an old cabinet turnscrew I've used here, and one that was no use for anything else because it'd been badly bent (**photo 10**). Like many of its ilk, I suspect it'd suffered the ignominious fate of levering the lids from paint tins.

The first step is somewhat brutal but necessary – saw through the blade, just behind where it turns from round to flat (**photo 11**). For filing and sawing small metal components, I find my Record Imp table vice invaluable. It's a sturdy little chap with a square steel slide keeping the screw mechanism in line, and a rock-solid clamp cast as one with the rear jaw. Add to that a hardened steel anvil, and built-in facilities for gripping and bending rod and tube and you've got the makings of a mini-metalwork shop.

Next, file the sawn surface flat and square (**photo 12**), then hollow-grind the faces to produce a tip to the required thickness (**photo 13**). The hollow grinding results in vertical faces, which, unlike a tip with sloping faces, will not be forced out of the slot when turned. Then you might just want to tame the roughest of the grinding marks with emery cloth (**photo 14**),

7 Filing down to the line

8 Chisel-planing glue from a reclaimed board

9 Purpose-made screwdriver for wooden planes

12 Filing the tip square

10 The patient was bent and badly worn

11 Sawing the blade at the widest point

13 Hollow grinding the tip

14 Removing rough marks from the grinder

15 A good fit in the back iron screw

16 Sharpening on a restored whetstone

there being a good case for leaving surfaces slightly rough, as they'll grip better. At the end of this you'll have a proper back iron screwdriver that'll make the business of disassembling an old woody's double-iron a lot more secure (**photo 15**), and you'll have returned a worn-out tool to work.

Whetstones on the scales

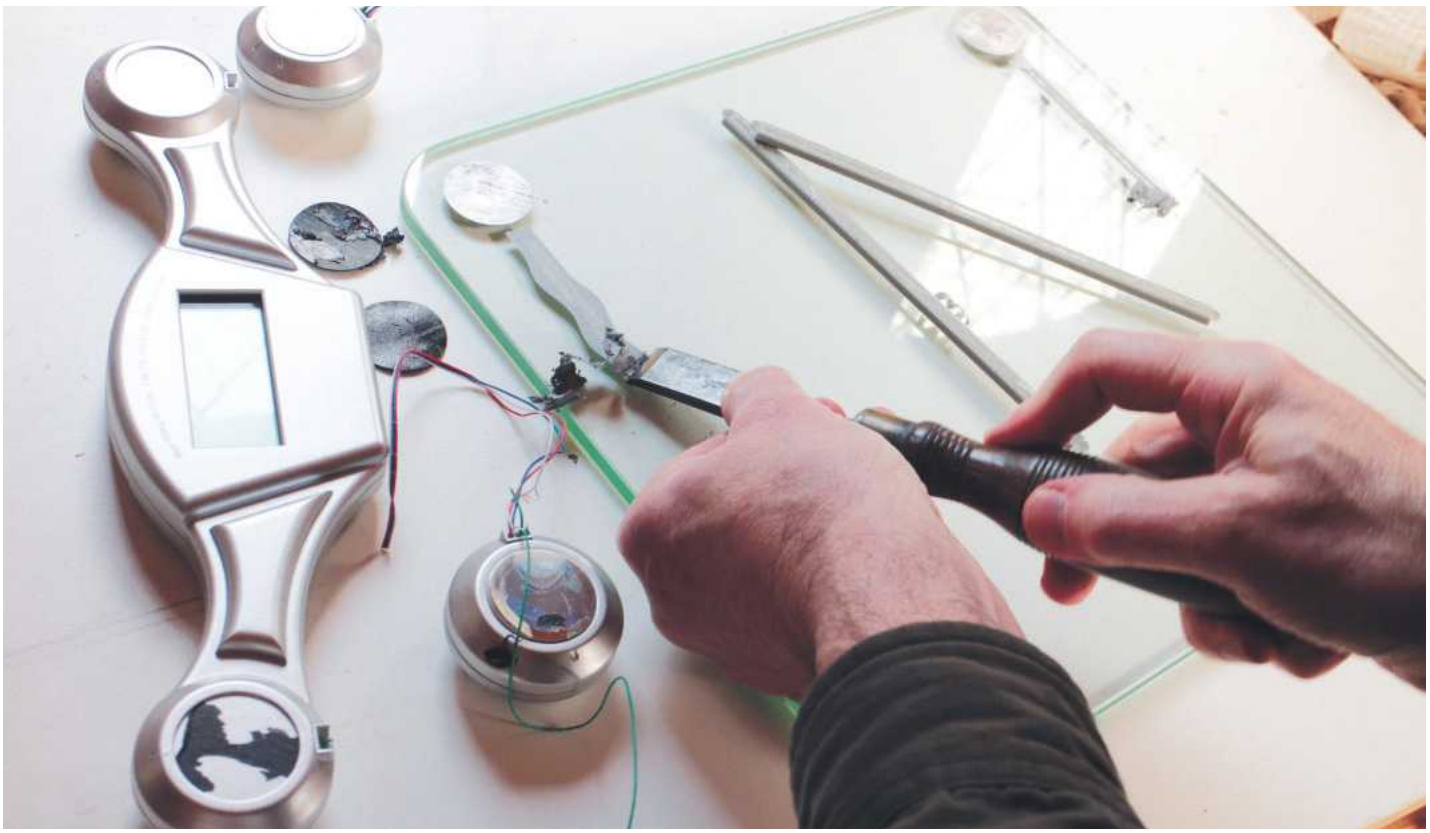
With its oily residues cleaned away, and the sunken face of a hard working life restored to flat, a vintage natural whetstone is a real delight (**photo 16**). Stones quarried for sharpening tools are as natural as timber, formed over long periods and with structures reflecting past events, and I think that's why I like them, as much as for their usefulness at the bench. They have their own shape, grain and colour, every one different from the next.

In the stone worker's hands each quarried piece was cut to a usable size with a heavy knife hooked to the bench at one end, so as to develop sufficient leverage, then the chosen face was worked on a sanded surface until smooth, back and forth with great patience. Setting the stone in plaster in a hand-made box was down to the customer, which introduces another side to a stone's unique character.

Cleaning an old stone is easy, a splash of paraffin does that, but the flattening is done by rubbing the worn face on coarse abrasive paper supported by a suitably flat and strong material. When an old stone turns up as hollow as a soup spoon a good measure of vintage elbow grease is required. One consolation is that you don't need to fork out more than a pound or two for that flat and strong material. Given our national obsession with diet and weight, I suspect you may already have a perfect candidate for that, or if not you'll find one in your local charity shop – a glass plate from bathroom scales. I didn't have to look further than the understairs cupboard, where I'd shoved ours after they'd developed a dodgy connection around Christmas (well, what else could explain those high numbers!).

Being designed to support a bare-footed body of up to 180kg, the glass is not only strong and of a good thickness but with nicely rounded corners and edges. For the woodworker not engaged in rocket science, it's plenty flat enough for any task. To prepare the glass all you need do is strip away the electrical gubbins – the digital display, feet and connection strips – for which I found an old chisel is ideal (**photo 17**).

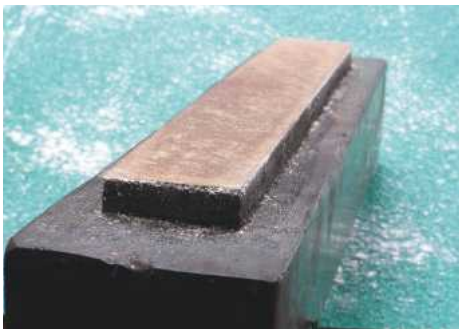
Getting down to business (**photo 18**) the novelty of rubbing a piece of stone on a sheet of silicon carbide soon wears off, and although you might seem to be making good progress as the two ends of the stone develop flats, the deepest depression is where you're headed and it can take a long time to reach (**photo 19**). I spread the task over several days, to make it seem less arduous, but even so I grew daily



17 Reclaiming the glass plate of bathroom scales

18 Flattening on the glass with coarse abrasives

19 Still work to do before reaching the middle



20 Just about flat from end to end

more appreciative of what tough work this was for the original stone makers, and was relieved to call it a day (**photo 20**).

Besides flattening whetstones, I've also used the glass plate as a support for fine abrasive paper in sharpening plane blades (**photo 21**) with excellent results.

Sharpening Surform blades

I'd forgotten I had a Surform, then while rummaging through boxes for something else I discovered two of them. One, a beech-handled model about the size of a No.4 smoother, which my Dad had bought when the tool was still made by Simmonds Aerocessories in Pontypridd, Wales, and the other, a bright red 111A block plane made sometime after Stanley acquired the marque. Curious to see how they performed, I found a timber offcut and took a few shavings – or tried to, because sadly they were both as blunt as nail files and did little more than scratch the surface.

Asking around, this seems fairly typical of a Surform's life history: a brief spell in the limelight, when it's the perfect tool for trimming or rounding, and is used to exhaustion, before

21 Sharpening a plane iron on the glass plate

22 Fine shavings gather inside the Surform

23 The Surform 111A is a handy rounding tool

24 A plywood pressure plate covers the blade

25 Apply even pressure with fingertips

26 All edges are sharpened simultaneously

27 The Surform 10in plane and 111A block plane

being consigned to obscurity in a corner of the shed. In the post-war DIY boom some '1001 uses' were promised for the Surform, trimming and shaping not just solid timber but all those quick-fix materials gaining popularity through the 1950s and '60s – hardboard, plywood, Formica, fibreglass – not to mention the fitting of windows and doors, plumbing and shoe repairs. But with the benefit of hindsight, a 1958 advert recommending the Surform for trimming asbestos must be judged bad advice.

The Surform's inventive step was its blade, which is detailed in an Australian patent application from Firth-Brown Tools of Sheffield in 1949. The lengthy document admits to the prior art of similar blades (graters) used for culinary purposes before describing how the new 'cutting and abrading tool' will be made and applied. I was surprised to see the tiny cutters were originally designed in chevron formation, whereas the Surform was actually made with cutters in parallel rows, at around 35° to the long axis. It's explained that the 'multiplicity of D-shaped holes' are staggered to provide 'in effect continuous cutting edges'.

80 years on, I was curious as to whether an old blade might be sharpened. The weight of evidence stood against it, with the blades always having been sold as disposable items, underlined by Stanley's advertising proclaiming 'There's nothing to sharpen, nothing to adjust.' In this eco-sensitive age that struck me as a gauntlet thrown down. Confound such wastefulness!

My experiments prove that old blades can indeed be sharpened, as demonstrated by my two dull Surforms restored to good-as-new performance, and generating a froth of fine shavings (**photo 22**). I now keep the restored 111A block plane, in particular, close at hand, as it's so clean and efficient for rounding an edge (**photo 23**) – there's none of the dust or clogging associated with using a rasp or glass paper.

The secret to sharpening is a simple backing plate for the thin and flexible blade, here cut from plywood (**photo 24**), enabling pressure to be applied evenly using your fingertips (**photo 25**). Just a minute's work restores the multitude of edges for a second term of trimming and shaping (**photo 26**).

28 Stripping the finish from a reclaimed oak board

Start with a No.80

The No.80 cabinet scraper is a good finishing tool – very handy for navigating the reversals of grain in figured timbers – but for me it's also an invaluable 'starting' tool. I often use it at the outset of a project with reclaimed timber, to remove an old finish without removing more than a wisp of the timber I want to reuse (**photo 28**).

Several features combine to make this tool so efficient. There's the short sole, which works inside hollows, and the twin handles which make it steer like a bike, but the one feature without which it struggles to perform is the minutely hooked edge to its forward-leaning bevelled blade. It's that hook that lifts shavings as light as gold leaf, and when the scraper begins to generate dust instead of shavings I know it's time for the old hook to be removed and a new one raised.

29 Filing down remains of the old hook

35 Fluffy shavings from the sharp scraper

30 Re-establishing the 45° bevel

31 Whetting the bevel on the oil stone

32 Removing the wire edge

I find a table vice invaluable for some steps of this procedure, because it positions the blade above bench height where it's more accessible. First I file away the old hook, working flat against the scraper's face (**photo 29**). Next, again using the file, I re-establish the scraper's 45° bevel (**photo 30**) before refining it on the oil stone (**photo 31**). Working the face of the scraper upon the stone (**photo 32**) I then remove the wire edge produced in the previous step. Now, with the scraper held bevel down, I pull the hard steel burnisher along the face of the blade, drawing out a tiny fillet of steel (**photo 33**). With the blade now bevel up the fillet is turned into a hook by pulling the burnisher along the bevel side of the edge (**photo 34**) at progressively steeper angles, starting at around 50° with the first stroke and ending at some 75 with the last.

The hook made is almost impossible to see with the naked eye but my fingertips tell me it's there.

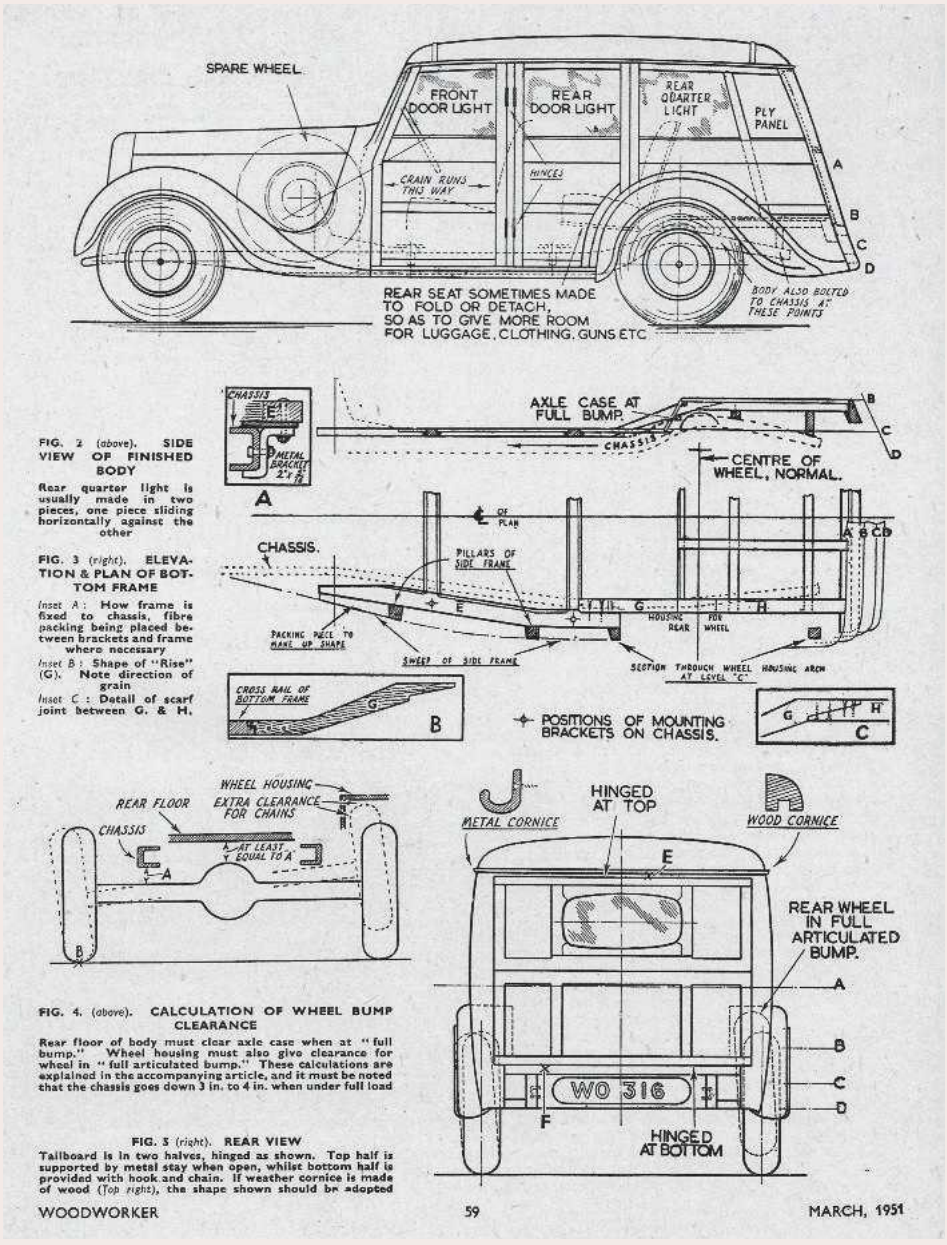
To set up the No.80, I insert the blade and place the tool on a flat surface so that the sole and edge are in the same plane, then tighten the screws on the clamping bar. The depth of cut is adjusted by turning the thumbscrew at the back, imparting a slight curve to the blade, which pushes the bowed middle section proud of the mouth. And that's it, I'm back in business (**photo 35**).

33 Drawing the edge with a burnisher

34 Turning the new hook

The 1951 shooting brake

Robin Gates finds an echo of the horse-drawn wagon in an ambitious car conversion featured in *The Woodworker* of 68 years ago



Sophisticated & stylish

The timber-framed body of this shooting brake is a relatively sophisticated and stylish structure, worthy of the coach builder, and plunging yet deeper into the tradition of road transport with a return to the centuries-old skills of the wainwright. For surely those shapely tumbled-home and turned-under pillars, and broad waist rails of the side frames, bear comparison with the wagon's sturdy 'standards' and 'side-boards', and the bottom frame is equivalent to the load-bearing 'summers' and 'keys' of its wooden ancestor.

We'll need 'well-seasoned oak, ash, or beech' for the bottom frame, ash or maple 'for side frames, doors and tailboard', and elm for the wheel housings. There'll be scarf joints, pegged mortise & tenon joints, rebates, screws and glue, white lead, linseed oil and tallow, not to mention a bit of metal-bashing (the bottom frame is bolted to the chassis by forged steel brackets) and some geometry to master, especially around the rear axle, wheels and doors. Fig.4 explains the necessary clearance at 'full articulated bump', for example, while part 2 (published the following month) uses scale drawings to find the 'shut bevel' necessary for doors to avoid fouling their curved frames.

It's a far cry from today's experience of DIY bodywork repairs using filler and fibreglass, which reminds me of an unfortunately brief period in the 1990s when I ran a partially timbered vehicle – a '68 Morris Traveller. The magic spell of the wood was broken when I discovered the previous owner had painted the normally varnished ash not 'to preserve it' but to disguise the several pounds of Plastic Padding bulking up its rotten remains.

The wooden end of this shooting brake bears more than a passing resemblance to that troublesome 'Moggy', although its split tailboard differs – the top hinging upwards, supported by a stay, the bottom panel making a practical loading platform. But this kind of vehicle showed numerous permutations in doors and windows through the 1930s, '40s and '50s, especially in those thrifty post-war years when materials were in short supply; in light of which, I imagine the Gaboon-faced plywood recommended for panelling would have been a lucky find. When a similar project was mooted in an earlier issue (August 1947), it was suggested tongued & grooved boards could be used instead.

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RINGS & THINGS

Dendrochronology, or tree-ring dating to you and me, allows specialists to accurately date the age of trees and can also reveal many secrets as to their life-cycle, as **Paul Greer** discusses here

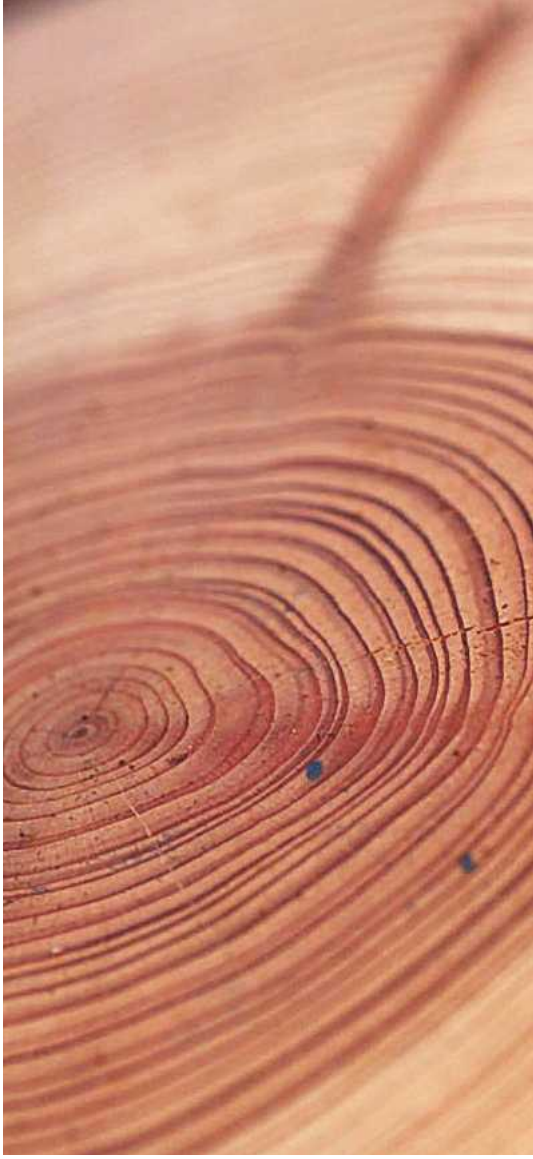
Dendrochronology is the science of dating events, environmental change and certain artefacts by studying and comparing the patterns typically visible in the annual growth rings in tree trunks and timber. The ring record of a single tree tells us relatively little, but those from many within a given area, or of a particular species, can lead to reliable and useful data.

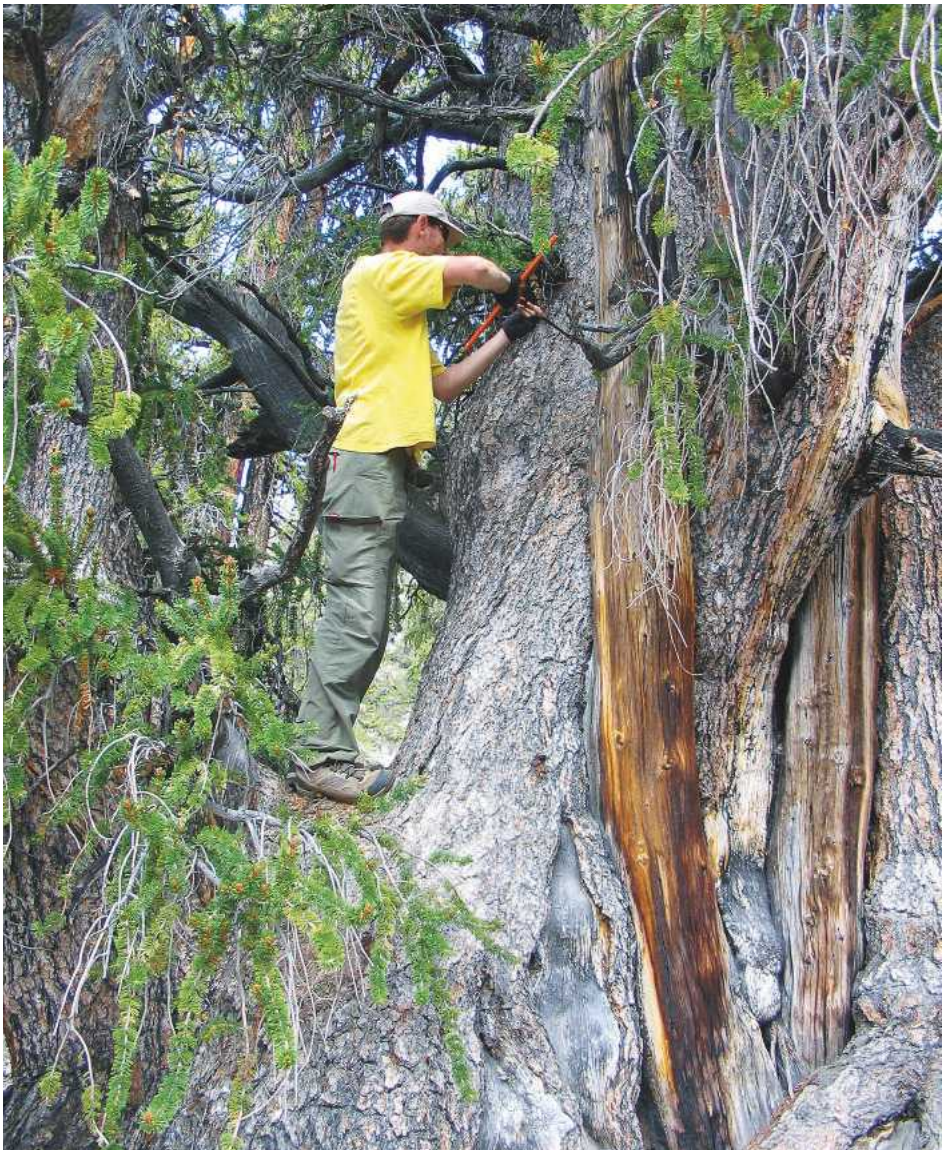
The term itself derives from the ancient Greek words for 'tree', 'time', and 'study', and it was the Greek botanist Theophrastus who, in the 4th century, first noted that the wood of trees features rings. However, it wasn't until the second half of the 15th century that Leonardo da Vinci established that the width of these rings reflects the climatic conditions during which it grew.

Rings tell a story

New growth in trees takes place just under the bark. The rate accords with seasonal climate changes, and 'tells the story' of that year in the tree's life. In general, rings are most visible within trees which have grown in temperate climates, where seasonal differences tend to be more pronounced than elsewhere. Where trees are most sensitive to temperature (such as at high altitude) a wide ring usually indicates a warm year; a narrow ring a cold one.

The inner (lighter-coloured) part of a ring forms first, and quite quickly, producing what's known as 'early' or 'spring' wood. The denser (and darker) outer portion appears in summer or early autumn, and is called 'late' wood. A wide ring typically indicates a good water supply and long growing





Coring a bristlecone pine tree

Coring larch building timbers in Slovenia

season, while a narrow one often reflects drought. In the 1830s, the Englishman Charles Babbage proposed using rings to date remains of trees found in geological strata and peat bogs (where the dampness acts as an excellent preservative). From then on, methodical study of the phenomenon gathered pace, and by the early 1880s, ring observations had begun appearing in forestry textbooks.

During the first half of the 20th century, dendrochronology was seen to be relevant to scientific fields few would have suspected. While studying sunspot activity, the American astronomer A.E. Douglass reasoned that this would influence weather on Earth, and in turn tree-ring patterns. This led him to found the Laboratory of Tree Ring Research at the University of Arizona in 1937, which thrives to this day.

Reading tree ring chronologies

Most trees we see around us don't possess the characteristics dendrochronologists find useful. They therefore seek healthy, long-lived ones whose slow growth, usually in a relatively harsh environment, has captured a good climatic record.

Next, they must extract samples from deep in the tree to include all its rings. A slim, hand-operated borer with a very sharp blade is employed, and a corkscrew motion used to obtain a core with a diameter similar to a pencil's. This doesn't harm the tree, and samples of 20 or more from a particular site are typically taken. These cores are then brought to a laboratory for analysis, the samples being lightly sanded to make each ring pattern stand out, before examination with a range of instruments.

Reading tree ring chronologies correctly can be complicated, especially if balmy climatic conditions alternate with severe ones. In some species this occasionally results in more than one ring in a single year; conversely, certain species will sometimes produce none.

Dendrochronologists favour species like oak and elm, as 'missing' rings are rare in both. By contrast, alder and pine are notorious for skipping a year or 'doubling up' (growing two in the same season), and the cycles of birch and willow can be so erratic that they're not used at all.

The matching once done visually is now fulfilled chiefly by computers using statistical assessment techniques. They take the average of multiple samples to build up a ring history, a process known as replication.

Some startlingly long ring chronologies have become established. From the 1980s, the University of Arizona's ground-breaking studies on California's bristlecone pine, and Germany's hohenheim oak led to sequences of over 8,000 and 12,000 years respectively, providing data vital to many academic studies. There is an equation which defines the law of ring growth, and in 2004, a radiocarbon calibration curve was ratified internationally to provide dates back no less than 26,000 years.

Coring an oak tree in Wales

Measuring tree rings

Oak slice from fallen tree, Dinefwr Park, Carmarthenshire – sanded and dated. Black dots indicate decades

Science is a boon

Dendrochronology used in dating wooden buildings isn't without its hazards. When a tree was felled can be fixed exactly, but specialists often hesitate to attribute this date to the structure itself. This is because a felled tree may for years have lain unused, or wood from an older structure been re-employed. Also, before modern wood treatments, the sap was frequently drained off, something likely to compromise precision.

This science is a boon to art historians when dating panel paintings, many of which were executed between the 13th and 16th centuries. The procedure can delight them by confirming a suspected date, but may frustrate when it rules out a hoped-for link with an eminent artist or celebrated school. Dendrochronology is less useful concerning works produced after about 1500, as canvas then began to replace wood as artists' preferred surface.

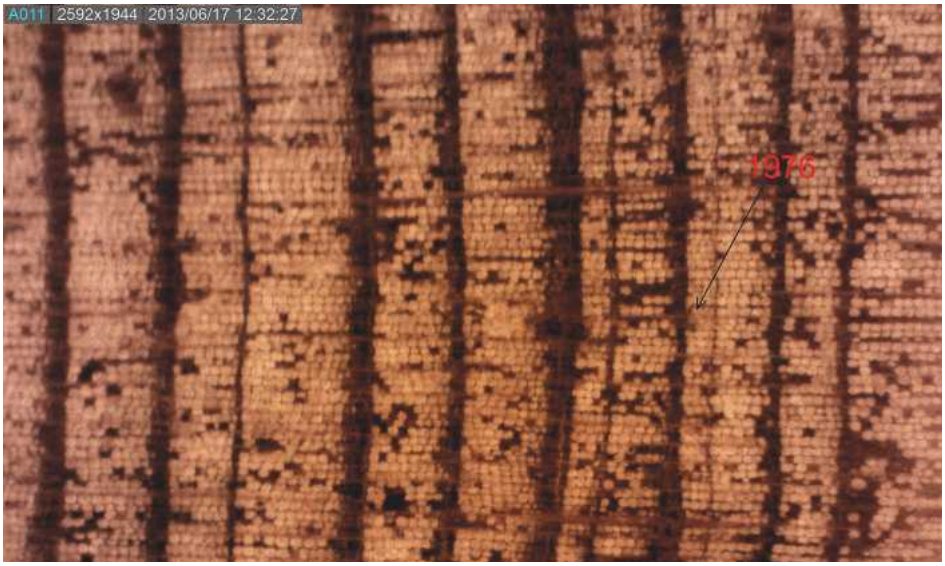
The Sweet Track (the second oldest timber walkway in the British Isles) was discovered in waterlogged soil on the Somerset Levels in 1970. Tree ring data from timbers from it and Iron Age settlements nearby confirmed experts' suspicions by establishing a date of c. 3,800 B.C. for both.

A spectacular example

With only about 30 dendrochronologists employed in Britain, the absence of degree courses in this discipline here is no surprise. There is no standard entry route, but most practitioners seem to have arrived via an undergraduate degree in an environmental-oriented subject, and (sometimes) a research degree on a tree-related topic. Dendrology (tree science), could offer a good introduction, as might a specialist job within archaeology. Short formal courses, and a graduate program, are offered at the University of Arizona.

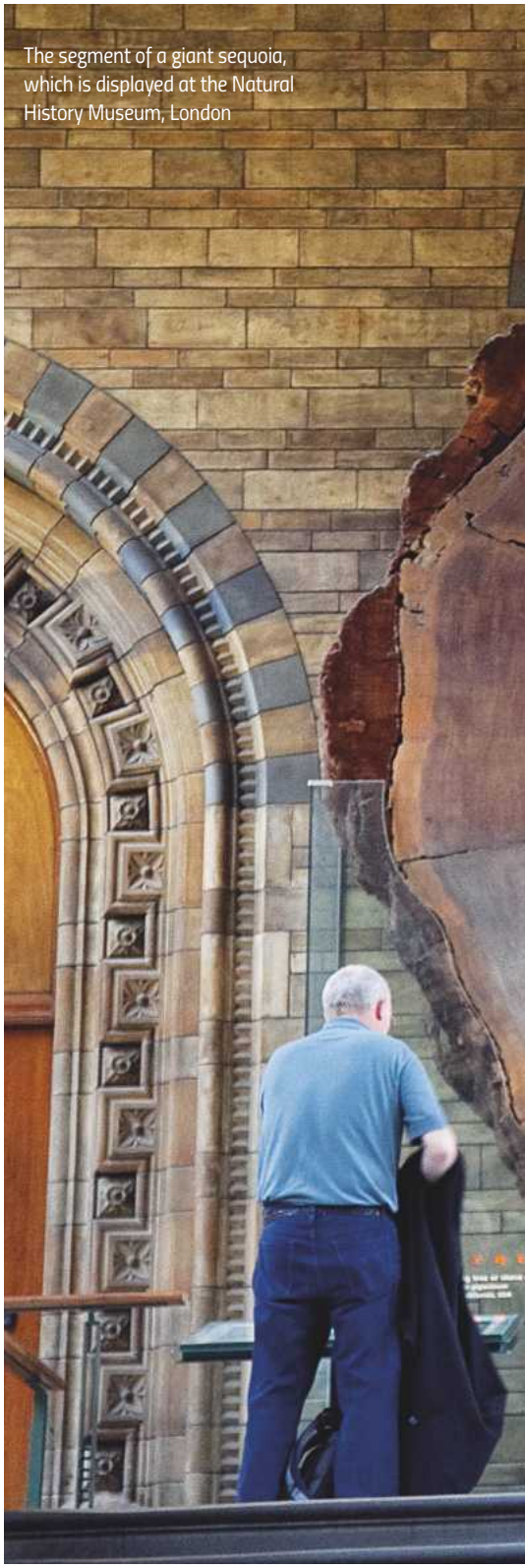
The professional community in Britain seems tightly-knit and co-operative, but competition for contract work means that each research centre must maintain a strong database, and keep staff's skills sharp. It takes a lot of experience to be fully competent.

A spectacular example of tree rings can be seen at the Natural History Museum, London. Below is a segment of a giant sequoia felled in California, but an exhibit there since 1893. Recently, having been on display for well over a century, it needed cleaning. Great care was required, as the bark, in particular, had become fragile and unstable, and varnish and wax from earlier restorations had obscured the natural surface. Completion took three conservators 12 weeks. First, the discoloured varnish was drawn out using a special solvent, then a conservation-grade resin, immune to age or environmental conditions, was applied to the whole segment.



Close-up of a larch tree ring from the Llanerchaeron estate in Ceredigion showing the effect of the dry summer on the 1976 tree-ring

This one is a core from a farmhouse in Carmarthenshire. The sapwood is visible on the left of the core. The end date for this core is 1769. Surfacing is done by sanding with progressively finer grits



The segment of a giant sequoia, which is displayed at the Natural History Museum, London

All 1,300 rings of the tree's life were again revealed. A timeline discreetly printed on the surface shows it was a mature tree well before the Norman Conquest in 1066.

When the giant sequoia was felled, nearly 70% of the earth's land surface was forested. Today this is below 40%, with an estimated 15 billion trees being cut down every year, two for every person on the planet. However, deforestation in general is now much more regulated, and great efforts are made to ensure that trees of great age survive to be useful to, and appreciated by, future generations.

Coring an oak building

Leonardo da Vinci, who first linked tree rings to their age

THE JOY OF DOVETAILS PART 3

In part 3 of this series, **Michael Forster** looks at scribing and cutting pins for dovetails

Continuing with this series, this month we'll complete the first joint by scribing and cutting the pins, and then put the whole thing together. Then next month we can get adventurous. Now, we need to reproduce the shapes of the tails on the ends of the board, and we do that by scribing them with a knife.

Rock solid

Obviously it's important that the two pieces can't move while this is done, and for that I find it easiest to put the tail piece in the vice with the edge level with the bench-top (**photo 1**), and position the tails over the end of the piece (**photo 2**). Line them up carefully ensuring that the sides are aligned and there is no gap along the shoulder line. If anything, a whisker of an overlap helps to pull the joint up tight on assembly – but only a whisker! Some makers rely on hand pressure to keep the tail board in place while scribing but I prefer to use a holdfast to be confident it won't move.

For these basic dovetails with their wide pins,

1 Set the tail piece in the vice level with the bench top

2 Position the tail piece over the end of the pin piece – I prefer to secure it with a holdfast

there's room to use the double-bevel marking knife, which means we can get the flat side flat against the tail (**photo 3**) and be very confident about the accuracy of the mark. A single firm stroke from the base of each tail to the tip should be enough, and once that's complete the pieces can be released from the clamps. You should see a fine but clear knife line defining each cheek of each pin. Use a pencil to square guide lines for the saw down the face of the piece (**photo 4**).

Sawing the cheeks of the pins (**photo 5**) is essentially similar to the tails, using a pinch grip to guide the saw and supporting most of its weight on the handle until the teeth get established. The aim is to leave one side of the knife-line only just visible along the top edge of the pin. This is a skill that may take a fair bit of practice on scrap before doing it for real. You might like to knife-mark some dovetail angled lines on a piece of scrap and practise starting the saw, rather as I suggested for the tails.

Use the fret saw again to remove most of the waste (**photo 6**) and that's the saw-work done (**photo 7**). Chisel back in the same way as we did with the tails, but using a wider chisel (**photo 8**). As before, take fine slices back to about 1mm from the line (**photo 9**). Don't forget, for the final cuts, to position a square behind the chisel and slightly under-cut the socket (**photo 10**); this ensures that the tails will bed down snugly to the line on both sides of the board.

At the corners of the sockets, we need to tilt the chisel to follow the dovetail profile, and this has to be done carefully. It's very easy to lose the alignment with the cut shoulder line and end up with a gap in the shoulder. I change back to the narrow chisel again for this bit. Begin with the chisel upright and feel it locate in the cut; start gently tapping the chisel down and as you do so begin to tilt it in the direction of the socket cheek tapping it down to create a clean corner. Finally, check the socket bottoms with a square (**photo 11**), and that's the basic cutting done.

Easing the passage

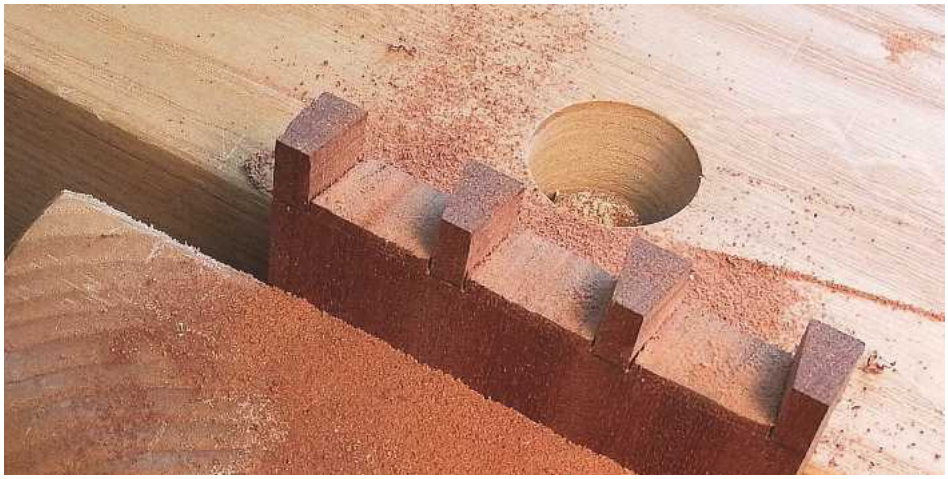
So we now have our two boards ready to assemble. Before we do that, though, there's one more thing we have to do to the tails, and this

3 The flat side of the marking knife held against the tail allows very precise scribing

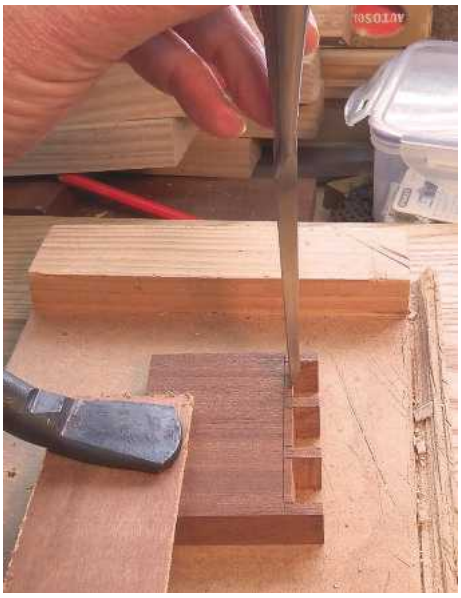
4 Run some guide lines for the saw down to the shoulder using a pencil and square

5 Saw the cheeks down to the shoulder line

6 As with the tails, the fret saw removes the bulk of the waste. Use thumb pressure against the chip to break it away before the saw blade reaches the pin

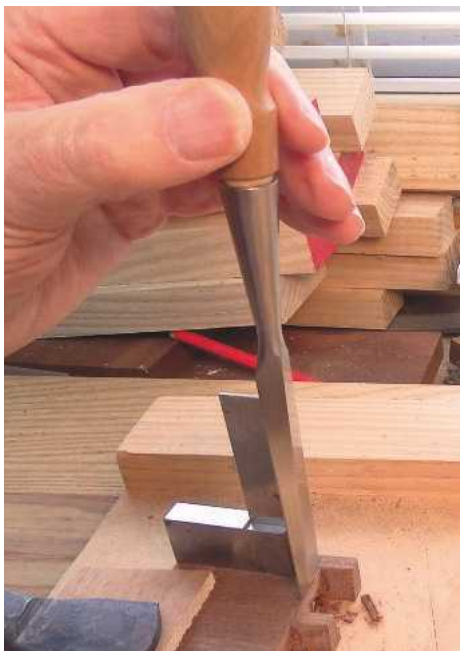


7 That's the saw-work done



8 Position the chisel carefully…

9 … and take fine slices back toward the shoulder line



10 For the final cut, position the square behind the chisel and sight through – aim to under-cut very slightly to create a tiny hollow on the shoulder…

needs the most meticulous concentration if we are not to ruin the whole thing at this late stage.

Place the tail board in the vice and carefully chamfer the bottom corners of the tail cheeks with a chisel, starting just behind the tip of the tail and broadening out toward the base (**photos 12** & **13**). But for the love of all that's beautiful, do ensure that you're doing this on the back-side of the piece and not the show side!

This chamfer will of course be completely hidden within the assembled joint, but serves an important purpose in assembly by easing the tails into their sockets without bruising the tops of the pins. Incidentally: don't be tempted to do this earlier as part of the tail work – you need those sharp corners still there when you scribe the tail sockets. And if anything goes wrong with cutting the pins, you'll need them to scribe the replacement piece! So leave this until just before you tap the joint together.

When a plan comes together

The ultimate aim (maybe after a little more experience) will be to develop the confidence to be able to go straight to the glue-up stage without a trial fit. Trial fits are not good for joints. By definition, once assembled, they have to be disassembled in order to make adjustments (possibly several times) and finally, once again, to enable the glue to be added. All that wiggling around inevitably wears the surfaces and corners, and loosens the joint. So it's a lot better if it's not needed – and also of course speeds up the making process considerably. When I was turning out these little clocks in numbers for craft fairs and galleries (see main photo), speed was important. I would usually have about three or four on the bench at a time, working on them in parallel, and glue them all up in one operation.

However, certainly for this first joint and most probably for a few more to come, it's no bad idea to compromise and just tap the joint about half-way together. This makes any necessary disassembly much easier on the joint.

Place the pin board upright in the vice and have ready a modest metal hammer and a slip of timber just a little narrower than the narrowest part of the tails. Carefully and lightly position the tail board over the pin board, feeling for those chamfers we just cut to bed down around the pins. Then with the hammer, gently tap a few times, moving the hammer tail to tail across the joint (**photo 14**). You may feel a positive 'click' as the pins engage between the tails and the board then begins to move down smoothly.

At the half-way point, stop and take a good look at the joint to see whether there are any tight points or the outer half-pins are starting to splay. You may well also feel if this is the case – a metal hammer gives you a lot more feedback than a mallet.

Now, a word of advice: be kind to yourself at this point. In an early attempt it's virtually certain that either there will be some corrective paring to be done, and/or there will be gaps. Do what you have to do on the paring front to relieve pressure and/or forgive yourself for any gaps – and glue up.

Still with the pin board in the vice, use a brush or spatula to spread glue on the socket surfaces and then feel the tail board onto the top of the sockets. Gently tap it down until the upper surface is almost level with the tops of the pins, and then finish off with the scrap block in place, working across from tail to tail (**photo 14**).

While the glue is still workable, test the joint to ensure that the corner formed by the pieces is square (**photo 15**) and then clean off the excess glue and check that the tails are fully seated on both sides of the pin board.

The glory revealed

The final stage is to take a sharp, finely-set hand plane and clean up the faces of the joint (**photo 16**). Plane from the end of the joint inwards to avoid breakout and just sweep away all those

11 … so that the square beds down nicely on both sides

12 Starting just behind the end of each tail, cut a small, tapered chamfer back to the shoulder…

13 … and trim off

14 As the joint seats down, use the wood block to concentrate the pressure over the tails without bruising the pins

15 Finally check that the joint is square

16 The part that still gives me a childish thrill: the final clean-up brings out the beauty of the joint

17 The ultimate aim is for a joint that looks good from both sides…

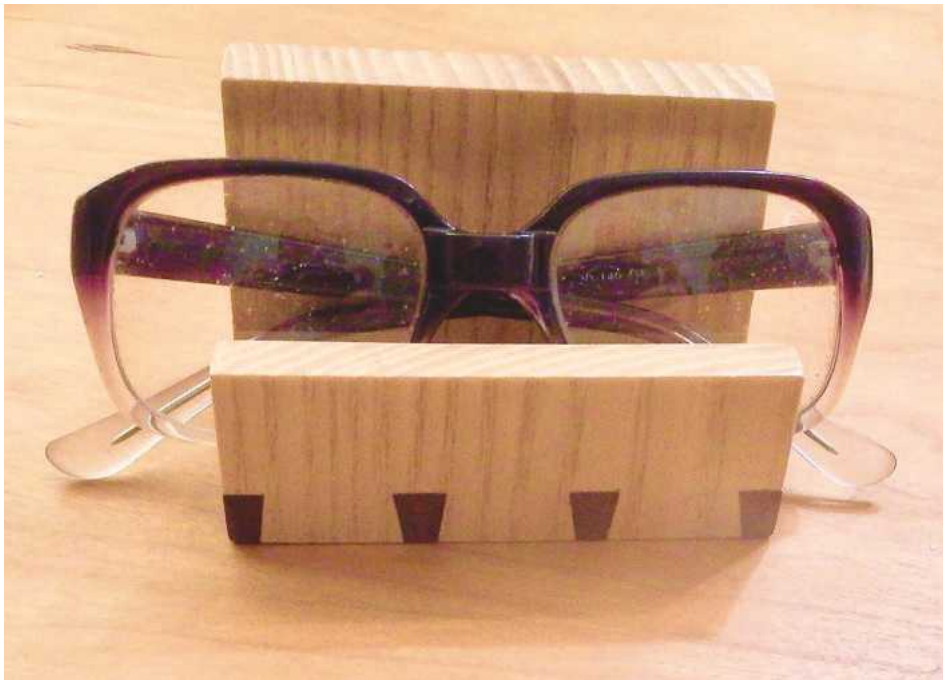
18 … and the reverse

19 I kept this little box, with its poor joints, so that I'd have something against which to measure my progress

pencil marks, glue and finger marks, and keep going until the gauged shoulder lines are gone and nothing gets in the way of the view of that beautiful joint. People tend to pick these things up and scrutinise them – so the ideal we're working toward is a joint that looks equally good from whatever angle it's viewed (**photos 17** & **18**).

If your first attempt is of that quality then I heartily (and humbly) congratulate you – because my early ones weren't (**photo 19**). It took me rather longer for the skills to bed in and the confidence to grow.

So far, I've concentrated entirely on the joint itself – not on what the finished article might be used for although you just might have got some clues from the photos! I started making the little clocks because it seemed a shame not to put the good joints on display. As you will have noticed, I've also used them for letter racks – I even use one to stop my special computer spectacles vanishing among the papers on my desk (**photo 20**). Others have found their way into friends' and family homes as presents while a surprising number have sold either at craft fairs or through galleries. So keep those early examples and persevere with the practice.



20 This early joint keeps my computer specs where I can find them

SUPPLIERS

Some of the kit will be available at local DIY outlets, and you might find it well worthwhile looking at craft markets – something like a vintage cutting gauge, for example, might well be a bargain buy there. For the more specialist kit you should be well catered for by any of the following (far from an exhaustive list, but all very much recommended):

Axminster Tools & Machinery – www.axminster.co.uk – a vast range of hand and power kit, good returns policy and customer service

Workshop Heaven – www.workshopheaven.com

Classic Hand Tools – www.classichandtools.com

Woodworkers Workshop – www.woodworkersworkshop.co.uk

So there you have it: four great sources of kit, all run by craftspeople with a passion for woodworking and a solid base in skills, experience and enthusiasm. Happy hunting!

NEXT MONTH

In part 4, Michael will finish by working through the cutting of the seriously impressive London and hounds-tooth dovetails. If you want to create something to make your visitors' jaws drop, then make a date

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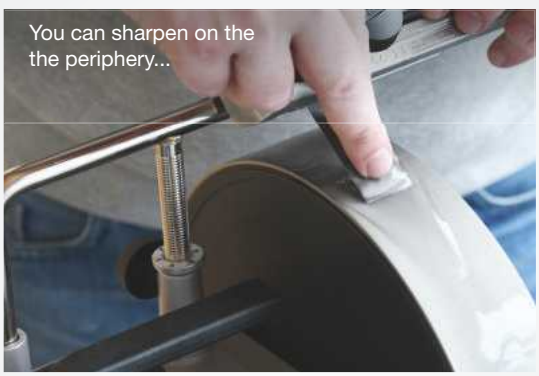
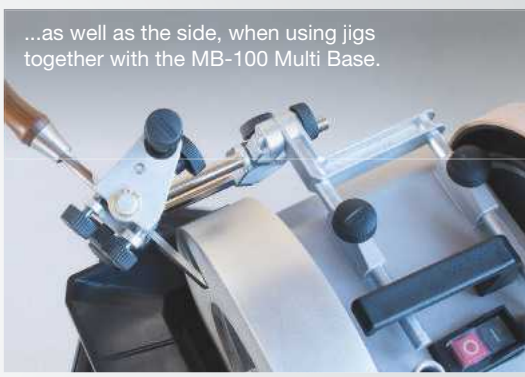

You can sharpen on the the periphery...


...as well as the side, when using jigs together with the MB-100 Multi Base.

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PETER PÅLSSON – SWEDISH WINNER OF THE TORMEK SCHOLARSHIP

The Tormek Scholarship Award 2018 in Sweden has been awarded to Peter Pålsson for his detailed writing case made from oak, juniper wood and pearwood. This piece of work is extremely flexible and can also be broken down into individual elements, providing the owner with a number of drawers of various sizes. The judges were impressed with Peter's originality and presented him with a complete Tormek system, which they hope will help him with his creative work in the future.

A feel for detail is very clear in Peter's work, from the undulating tops to his selection of juniper wood for the bottoms of the drawers, giving off a wonderful scent when they are opened. This writing case is flexible too; the smaller drawers can be placed in the larger oak drawer or mounted on the outside of it. All the drawers can also be used separately, providing additional applications and potential variations for users. The fact that this case includes several different wood varieties also sets Peter's own personal stamp on it.

"I chose oak and pearwood because I think they go really well together. The box that accommodates everything has to be really robust and resilient, which it is thanks to the oak. Pearwood, in its turn, is wonderful to cut but homogeneous as well."

Function is something that is normally incorporated in the pieces Peter creates, but during his apprenticeship he chose to place greater emphasis on details and make the project more interesting in terms of craftsmanship.

"Doing this project was great fun. For instance, I really enjoy dovetailing and I made entire drawers using that technique. Apprenticeships can be quite tough as you get so involved in your project, so I am grateful that my piece was really great to work with."

A writing case was not the obvious choice when it came to choosing what to create, and in fact Peter's original idea was completely different.

"I planned to make a desk initially, but after working on the design for a while I discovered that all the interesting bits had been eliminated as I had to compromise. So I spent a week picking out my favourite parts from the original design, then I combined them all to create something new."

The statement from the judges says:

"A great deal of talented craftsmanship and a healthy amount of creativity. Peter has created a writing case involving lots of technically complex elements that would not have been possible without sharp tools. Moreover, every detail of his writing case has been carefully thought out; from materials and use to design and appearance. A creative work created for creative people."

Tormek are proud that Peter has used their products for his work and wish him the very best for the future!

Peter's award-winning writing case

The case handily breaks down into a number of individual elements

TOOLS YOU'LL NEED
- Spindle roughing gouge
- 6 & 9mm gouge
- 3 & 6mm parting tool
- Detail gouge
- Screw chuck
- Faceplate
- 6 & 12mm drill

MINIATURE DOMED TEMPLE PART 1

Inspired by Greek and Roman architecture, **Dave Roberts** turns his hand to this miniature folly

If there's one thing I like about a project such as this, it's all the different components. Making sure that the columns are all the same; drilling the holes so that they line up perfectly; cutting out the steps and shaping the dome – it's certainly not a weekend job! The first consideration, of course, is the choice of timber. Lighter coloured timbers seemed the most fitting, and in the end I settled on pau amarillo for the dome assembly and steps, Gonçalo alves for the base, including the decoration around the dome and the finial, and cherry for the columns. There are many other timbers that will suit this project, of course, and as long as you choose woods that are dense you will get a good finish, especially on the columns where there is plenty of fine detail.

The most difficult part to turn is the dome. Essentially, it's made in two pieces – the half-sphere of the dome and the architrave – which are jointed and glued together. Turning this assembly in one piece wouldn't really be practical: even if you could get a piece of timber thick enough, hollowing it out and sanding it would be difficult. Making it in two parts is the way to go, then, especially as it means you can arrange for the grain of the timber to run horizontally in both pieces.

The architrave

The first piece to turn is the architrave, which can be mounted on a screw chuck or a small faceplate. Start by turning it to the finished

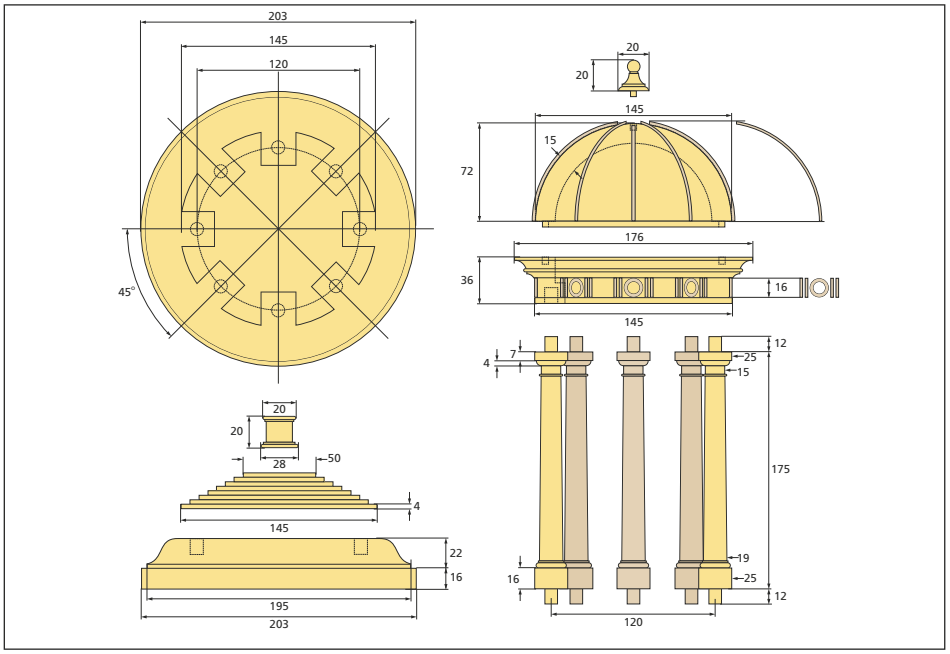

Fig 1. Temple components

1 The parting tool is ideal for forming this delicate bead

2 Carefully remove part of the centre of the architrave before...

3 ... reversing the workpiece and mounting it in a jam chuck

diameter and face it off before tackling the fine detail around the bottom of the architrave, which needs to be kept crisp and sharp if it is to stand out. Use a parting tool to turn the fillets and roll over the bead; a 6mm gouge will turn the concave, but this is small so you will have to be careful. If you're working a hard, tight-grained timber like pau amarillo, you could even try a 6mm scraper as long as it's freshly ground and you raise the toolrest slightly. Be wary with soft timbers like pine, though, as the scraper will rip the fibres out.

Before you remove the architrave from the lathe, use the parting tool to hollow the centre. You'll only be able to turn down so far, and remember that you need to leave enough room for the columns, so take care not to remove too much material.

To turn the top of the architrave, reverse the workpiece and fit it to a jam chuck. This is made by fixing a piece of scrap wood onto the screw chuck and turning a spigot that's a good, tight fit in the architrave; it has to be a good fit because there's nothing else holding the workpiece while you're turning it.

Cut a 5 × 5mm recess in the top inside edge of the architrave, into which the dome will be located; without this recess it would be difficult to centralise the dome within the architrave. Finish turning the architrave with the parting tool, and carefully remove the centre until you meet the hole on the other side, then sand and seal the workpiece.

Drilling for the columns

Needless to say, the holes that you drill in the architrave for the columns have to match those in the base exactly, so you need to make yourself a template. Do this by fixing a scrap piece of wood to a screw chuck, facing it off flat, and then attaching a piece of plastic to it using double-sided tape. Turn the scrap wood and plastic down to the exact diameter of the architrave, and before you remove it from the lathe mark the centres of the eight holes.

Use masking tape to hold the template to the architrave while you drill the pilot holes then, after removing the template, drill the holes 12 × 12mm; set the depth stop on your drill to make sure you don't go too far.

The half-sphere

The piece of timber I had for the dome was only just thick enough, leaving me no spare material with which to mount it on a screw chuck or faceplate. The solution, then, was to hot glue it onto a scrap piece of wood mounted in the chuck. To be sure of a really good bond between the two, use the tailstock to cramp the timber to the scrap; the glue will only take a few seconds to set. Next, turn the dome to the

4 Turn a recess with a small parting tool ready for the half-sphere

5 Remove the rest of the architrave's centre with the parting tool

6 Use masking tape to secure the template while you drill the pilot holes

7 Set the depth stop on the pillar drill and drill the holes for the pillar spigots

8 Make yourself a template to fit the inside of the half-sphere, then...

9 ... remove the centre with a 9mm gouge. Take slower cuts when nearly completed and...

10 ... use your template to check the shape of the inside of the dome

11 Power sand the inside. Work through different grades to ensure a good finish

12 Turn the ring on the bottom of the half circle to fit the architrave

PERFECT PROPORTIONS

When it comes to classical temples with columns, I suppose the most obvious example is the Parthenon in Greece, which was built in 436BC. What I hadn't realised, though, is that there isn't a straight line to be found in its construction. To ensure that the temple appeared true and in proportion, the architects and masons employed a sleight of hand to counteract the optical illusion that makes straight lines appear concave, and made all the apparently horizontal and vertical lines minutely parabolic. Also, the columns diminish in diameter from bottom to top, and also have a distension whose widest point is about one-third of the way up from the base

13 Reverse the half-sphere into a jam chuck and turn the outside. Once again...

14 ... use the template to check the profile of the half-sphere

finished diameter then remove the inside. You'll find that a 9mm gouge, which has an angle of about 35°, is ideal for this job as it removes unwanted timber quickly, and leaves a good finish.

As the turning progresses, check your work regularly with a template to avoid removing too much material. When you've finished hollowing the inside, it will need sanding, of course. My favourite method is power sanding, and by working through the different grades you can produce an excellent finish this way.

Before you shape the outside of the half-sphere, turn the rim of the piece so that it fits the recess in the architrave. This calls for a lot of care and attention, as it has to be a perfect push-fit in the architrave, so you'll find a pair of Vernier callipers comes in handy for checking the internal and external dimensions of the two parts. You should also offer the architrave up to the half-sphere occasionally to check the fit.

Back to the jam chuck

To finish the half-sphere, you'll need to reverse the workpiece, and this is where the jam chuck comes in handy yet again, with the tailstock offering extra support while you turn. A 9mm gouge will do the job nicely, with the final cuts being done slowly with a freshly ground gouge. Once again, make frequent use of a template to make sure that it's round.

With both the half-sphere and architrave turned, and the holes drilled for the columns, it's time to assemble them to make the dome. I make sparing use of PVA glue to join them,

15 Put a little PVA glue on and clamp the two together before leaving them to set

16 Fix a piece of pau amarillo to a screw chuck and turn the ribs using a parting tool

taking care to line up the grain before pushing them together. I clamped the assembly in the lathe, using the jam chuck for the architrave and tailstock.

NEXT MONTH

Dave tests his copying skills as he turns the dome's columns

17 Glue the ribs onto the half-sphere and hold them in place with masking tape

18 When you turn the hole for the finial, leave the masking tape in place for security

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THE SKY'S THE LIMIT

Award-winning furniture designer and maker **Ollie Allen**'s collaborative work includes utilising CNC techniques and CAD packages to create truly bespoke pieces

Selecting hardwood boards at Smyth's Timber Supplies

Heading up a small team of multi-disciplinary designers and makers from a dedicated workshop in Sheffield, I was originally contacted by Ollie in the latter part of last year. I was instantly impressed by the way he 'put himself out there', and as well as working together on this profile, he'll also be writing a series of articles for the magazine on how he uses CNC technology and traditional hand techniques in his designs, as well as submitting a few bespoke features. This is all very exciting, especially as Ollie was awarded Carpenter of the Year 2017, Young Tradesperson of the Year 2017, and is also an artisan maker for the BBC 2 TV programme *Money For Nothing*. And if that wasn't enough, last year he also received a Civic Award from the Lord Mayor of Sheffield. Not bad for a furniture maker aged just 30, so where did it all start?

From tinkering to furniture design

When asked to tell us a bit about his background and how he initially discovered a love of woodworking, Ollie explains that, as a child, he grew up always tinkering and making things, from garden tree houses to skateboard ramps: "As I got older, the projects carried on and they continued to grow in scale. I helped a friend's Dad over summers in secondary school; he was a builder and I got to experience all kinds of work on farms, barns and building projects, which probably helped me towards a career in making things."

Steam-bent upcycled beech slat lighting for BBC 2's *Money For Nothing* TV series

As his childhood progressed into adulthood, Ollie realised that a love of woodworking and furniture prevailed, so he made the decision to study Furniture Design at Sheffield Hallam University. So what led Ollie to decide to take this particular route, and were there other options available to him? Ollie confirms that he was faced with a choice of either pursuing Media Studies or Furniture Design, but in the end the latter path proved to be the right choice for him. He says that he enjoys the use of cameras and the new editing technology available, but really, making and being creative with 3D materials and objects is where his passion truly lies.

Collaborative furniture making

On graduation, and deciding what to do with his new-found qualification, Ollie tells me that

it was really a conversation between a few friends in the design studio working late one night that prompted his decision to start up the furniture making company. He explains: "We each spoke about how it would be great to keep designing and making in a collaborative way and the idea of a design company came to us. There were three of us who set up the Product Design Consultancy, but after a year working on various projects I left to pursue my own furniture design studio, which has certainly led me on an interesting journey over the past 10 years!"

During that time, Ollie's career has definitely blossomed and today, him and a team of fellow skilled cabinetmakers and craftsmen work together to complete a varied range of projects. As a whole, the team span the disciplines of art, jewellery, industrial design, welding, fabrication, engineering, forestry, interior design, digital manufacturing and traditional cabinetmaking, which helps to broaden the breadth of projects they can undertake.

Telling me about the workspace they occupy,

Ollie preparing and sanding blue Valchromat boards ready for a clear lacquer coat

Ollie says the workshop is a bright and airy space in an old cutlery factory, situated in the industrial quarter of Sheffield: "It holds an array of power tools, hand tools and an 8×4ft CNC machine. Stacked high are shelves of reclaimed timber and hardwoods for projects, along with a good stock of sheet materials," he comments. There is also a collection of old and loved tools such as a vintage pillar drill as well as some brand new kit, including a Festool TS55 track saw, which Ollie says is invaluable in this line of work.

Ollie comments that he thinks himself and the team work in a slightly unusual way compared to your average joinery workshop: he is a designer and maker and loves to get involved throughout the whole process of creating a piece. Generally he leads various projects and brings in a larger team when required. Ollie and fellow cabinetmaker Andy Dunham handle the bulk of the work, but the plan is to grow the team and he's taking on another full-time member of staff as I write this. "I personally like to work on a project and see it all the way through to completion," he says, "but running the business means it can be a little stop/start, which is where I hand over the responsibility to Andy and other makers who come on board to help when we're really busy." In essence, I suppose the business model could be viewed as a furniture making 'co-op' of sorts, where everyone helps out and is enriching a project by bringing their individual areas of expertise, and in this respect, Ollie could really be on to something.

Impressive accolades

As mentioned earlier, Ollie has recently been awarded a number of very impressive accolades – Young Tradesperson of the Year 2017 and Carpenter of the Year 2017 – so how did winning these come about and has this had a positive effect on his career? Ollie says that he initially discovered the competitions online and saw these as a way of showcasing his skills and talents to a wider audience. "I entered with a portfolio of my work and a bio, hoping to be nominated to help build my exposure and gain a following,"

Bespoke titanium and Arizona ironwood wedding ring – a collaboration with Jessica Flinn jewellery

he explains, "but I was truly shocked when I found out I had won and really proud to then go on to win a second nomination for Carpenter of the Year! These awards have allowed me to shout a little more about who I am and what I do, along with gaining a little more interest on social media and helping me towards my goal of running a successful YouTube career in woodworking and design." Learning about this certainly made me realise that Ollie isn't afraid of going after what he wants, and this is undoubtedly a proven recipe for succeeding in a digital age where developing a strong social media and online presence can really help to set you apart from the competition. Obviously Ollie is lucky to have youth on his side, but it's remarkable to see how much he has pushed himself and developed a niche within the industry already.

Looking at the work produced by Ollie and the team and learning more about it, in terms of his biggest inspiration in the woodworking world he rightfully acknowledges that there are so many talented makers: "I particularly love the work of Charles and Ray Eames, however, who introduced laminated plywood to furniture design in the 1940s. More recent designers include Konstantin Grcic, a German Industrial designer who has experimented with plastics and timber for large furniture companies, and British designer-makers such as Sebastian Cox and Tom Raffield, who are really inspirational as they use English hardwoods, along with a mix of traditional cabinetmaking and contemporary techniques, such as steam-bending

Locally sourced ash timber shaped into bespoke staircase handrails

and CNC machining." With this information in hand, I really began to get a feel for what Ollie does and the specific stance he occupies in the furniture making sphere. I suppose this is largely indicative of his age and the fact industrial design and CNC technologies are covered more regularly and in much greater depth on modern furniture making courses. As such, using these new-age methods has allowed Ollie to diversify and work with a range of materials to produce cutting edge designs that are undeniably eye-catching and, in part, reminiscent of certain pieces created by some of his favourite furniture making muses over the years.

Functional & visual

In terms of the ethos behind the designs, Ollie says that he likes to produce works that act as both functional pieces and impressive visuals in the environment they occupy: "I want a piece to bring a smile to a person's face when they see it and make them want to not stop touching it, to explore the different aspects of the piece of furniture." It is important to Ollie that the materials used are handled as efficiently as possible and the CNC machine has a specialist software package,

Dining room table commission made using reclaimed science lab iroko worktops and elm boards

The birch plywood reception desk for the Millennium Galleries in Sheffield

Ollie and David Smyth discussing woodturning and CNC capabilities for a client project

Working on live-edge oak boardroom tables for the Lincoln Electric Welding company

which allows the reduction of waste to maximise usage of boards. "Most of our offcuts are re-purposed into smaller items such as chopping boards, spatulas and homewares," he confirms.

When it comes to materials in the workshop, Ollie favours using walnut, as in his words: "It has such a wonderful smell and the deep, rich colours within it are amazing." Oak is also popular due to its beauty and versatility, and Ollie admits that he has a few large boards tucked away drying ready to create a live-edge table in a few years' time, and when it comes to tools, Ollie says he loves working with a really nice Robert Sorby framing chisel he bought recently: "It's 50mm wide × 400mm long and is so heavy but works a treat on green oak frames."

Looking at how Ollie and the team make their pieces, I'm told they use a combination of hand tools and machines to achieve what they need for each piece of furniture. "For cabinetmaking," says Ollie, "it is really a basic set of good quality hand tools, rules and drills, and for the more statement pieces, such as a recent reception desk commission for a local museum, I invested in a CNC router, which can machine 8×4 sheets. We cut over 300 parts in birch plywood to produce the desk and the end result looks amazing."

As a furniture maker, Ollie says he loves to explore the natural beauty of wood and he therefore sometimes uses veneers for shelving and bookcases, but really it's the solid slabs and boards that really stand out for him.

Hand-crafted chair in reclaimed pine and birch ply

CNC-cut birch plywood stools

Ollie with sycamore serving platters and plate blanks, which were made for a client project

Commissions & projects

When asked to tell me a little more about some of their most recent commissions and the type of pieces Ollie and the team creates, he explains that they are currently working on two large 3m long bespoke boardroom table tops, using locally sourced live-edge pippy oak. "These tables," he says, "are really going to stand out in a boardroom environment, due to both the design and material choice." But he admits that bespoke freestanding furniture in hardwood is what he enjoys designing the most, although they also use a lot of birch ply and Valchromat to create built-in wardrobes, kitchens, office furniture and desks for clients. The all-time favourite piece, however, is the Millennium Galleries birch plywood desk, which measures 3.5 × 2.2m and stands in the prominent location of the art gallery's entrance hall in Sheffield city centre.

So does Ollie work mostly to commission or does he create his own designs? He confirms it's a mix of both, but finds he has a huge amount of ideas for his own work, but sadly these have to be stored away ready to inspire him in a customer project as he doesn't have the time required to develop all of them fully. "I would really like to build up my own portfolio of original designs," says Ollie, "but have to balance this with 'customer requests/directed briefs' while I develop my reputation for creating unique pieces."

Mid-way through cabinetmaking assembly in the Sheffield workshop


Ollie inspecting dimensions of the sycamore serving plates

A bright future

So what does Ollie think the furniture making industry holds for young makers such as himself? Well, the answer is that he thinks it holds a lot of potential: techniques and equipment are getting better all the time and people's ideas are growing more incredible for each project. "The rise of woodworking on social media has allowed me to build my skill level; seeing what other makers can do and taking inspiration and confidence from their successes is a great motivator," he says.

In terms of what the future holds for him in light of his recent achievements and burgeoning business success, Ollie explains that he's currently working on launching a range of garden studios and offering these as fully built packages to be dropped into clients' homes: "These would be perfect for home offices, gyms and even garden workshops. We also have a line of furniture coming out – all my own original designs – and this is a path I've wanted to pursue for a long time. My YouTube channel will also be getting a lot more attention this year and I hope to publish new content on a weekly basis."

So, with all this in mind, it can truly be said that the sky really is the limit for Ollie who is certainly not short of ideas and who clearly has his finger on the pulse. Why come up with one idea when two or three others are also commercially viable and help to fill a hole or bridge a gap in the market? This bright young talent serves as an ambassador for the future of the furniture making industry, but particularly to other young makers who are trying to forge their own individual paths. If they can learn anything from Ollie it's that creating, imagining and making your passion a success is a very realistic dream, and we wish him and his team all the best for the future.

FURTHER INFORMATION

To find out more about Ollie and his team, visit the website: **www.ollieallen.co.uk**

To see Ollie's YouTube channel, simply search for **'Ollie Allen Furniture'**

LETTERS

★LETTER OF THE MONTH

A WONDERFUL TALE OF PUNTING

Dear Tegan,

Thank you for the article on punt making (January 2019 issue), which stimulated many happy memories.

60 years ago I, with two friends with whom I shared a set, bought a punt from Wallingford on the Thames and transported it on the back of a BRS lorry and with the permission of LMBC, dropped it on the College Boat House hard. It was not in the best condition, had a traumatic hole below the waterline and was therefore appealingly cheap. Armed only with a tenon saw, 1in chisel, plane, hand drill and screwdriver, but no bench or vice, I set about perhaps my first major DIY job. I cut a parallel-sided hole to eliminate the damage and slotted in an 8in square piece of ¾in mahogany, gifted by the College Boatman. The gap had chamfered fore and aft sides such that the insert could not be pressed out of the boat and a top edge chamfered the other way so that it could not be pressed into the boat. Treated with putty and paint, when driven in tight and fixed with (brass) screws to the bottom, it made a completely waterproof seal. I then constructed from softwood a second deck on the open end, partly to make the boat more rigid, but principally (I think) so that the boat could not be poled from the 'wrong' (i.e. Oxford) end! It was then cleaned and painted, duck egg blue inside and yellow sides and topsides: with the double deck altogether very striking and distinctive! It served us very well, and I was gratified when revisiting some years later to see it again on the Upper River, still in its colours which I had used and with my patch evidently functioning perfectly.

The boat had a caulked planking bottom, not ply as is now used, was narrower than the Banham's 'barge' in your principal illustration, and probably 4ft longer. The barge is all very well for conducting tourists (large) up-and-down the Backs, but the narrower boat is more easily steered and with the longer deck can be more energetically propelled. Our pole had a claw on each end, so that the faster and less taxing technique of 'over-poling' could be used. So the boat served both for those lazy, hazy evenings of summer on the water, but also for racing – against the 'other place'.

Incidentally, is it now not PC to use Imperial measures? Especially when they are nice whole numbers, and not uninterpretable and lengthy metric approximations!

Please keep up the fascinating variety of articles you are developing!

Sincerely, **(Dr) John Dickinson**

Hello John, and many thanks for your interesting and entertaining email; you have certainly painted a romantic picture of life back then and how you went about renovating the punt. It sounds like a lot of hard work but definitely worth it in terms of enjoyment. Answering your question on Imperial measurements, the magazine's house style is to use mm, but in some circumstances we do go against this. I know a lot of people miss Imperial and as you say, the numbers are often much tidier!

Once again, thank you for sharing your fascinating story with us and I hope you continue to enjoy the magazine.

Best wishes, **Tegan**

John punting back in the summer of 1960. Here he is steering for the middle arch of Clare College Bridge, with King's Bridge in the background

AUSSIE & PROUD

Dear Tegan,

Your article on Chris Vesper (*GW*331) was heartwarming and inspiring. The piece was a great example to all of us about the results of perseverance and discipline. Australia is in a strange position in the world; we are a European settlement between Asia and the Pacific nations. Depending on your point of view, we are at the top or bottom of the conventional world. Some think we are an island between London and New York, but we also have a freedom from age old conventional ways to do things. Australian inventions have often done better overseas than here, where we tend to be our own most severe critics. The flight black box recorder, WiFi, the ultrasound imaging machine, Google Maps and the basic refrigerator are all Aussie inventions.

Your article on Chris Vesper reminds us that high standards and continuous improvement, rather than geography, are the essentials of good workmanship. This is reassuring for many of us, who as you point out, are taking up the challenges of wood after what we thought was our life's work. In the same May 2018 issue, you published a letter from Matt Russell on rediscovering woodwork along with a photo of Matt's garden bench. The same issue also had Phil Davy's instructions on installing a Suffolk latch, so I enclose a couple of photos of seven doors I made from Australian cyprus pine. Each piece of this wood is a work of figured art in itself.

Thanks again for these articles, which teach us so much.

Michael D. Breen

Two examples of Michael's doors, which are made using Australian cyprus pine

Hi Michael, and thank you for your praise of the Chris Vesper profile. I have to say that I particularly enjoyed writing this one as Chris' enthusiasm, love for what he does and the fact he had made so many sacrifices really came through and was inspiring to me.

I think Chris is definitely flying the flag for Australian woodworking, although there are obviously so many other skilled and amazing Australian woodworkers/furniture makers/woodturners who I could also mention.

Thank you also for sending in the photos of your doors – these look to be great examples and as you say, the timber is stunning. It's great you can make good use of native timbers for home projects such as these.

Thank you again for your kind words, Michael, and I do hope you continue to enjoy the magazine. Best wishes, **Tegan**

READERS' HINTS & TIPS

For the next 12 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 low-angle jack plane, worth over £250! Ideal for shooting mitres, working end-grain and initial smoothing, this must-have hand tool also features a combined feed and lateral adjustment knob for fast, accurate changes to depth of cut. To be in with a chance of winning this fantastic piece of kit, just email your top workshop hint or tip to **tegan.foley@mytimemedia.com**, and if you can, please also attach a photo illustrating your tip in action. Good luck! To find out more about Veritas tools, see **www.brimarc.com**

DUST & AIR TOOLS

Hi Tegan,

I have a tip which you may feel your readers will be interested in. We all know that dust is extremely dangerous, but not all know that it is a cancer to air tools also. Because we use a couple of drops each day of use there is every likelihood that dust particles will get stuck in our air-powered tools even if left lying on their side. This results in throwing away a cheap product or expensive repair by the service folk. Funnily enough, most compressors come with a requisite water trap but no warnings about dust or paint fumes.

Over a period of about 45 years, I have used several ideas to exclude the dust from tool intakes. I started with small hex-headed engineering bolts but these seemed to get lost in workshop shavings and gross rubbish. I moved on to old lead head nails inserted in the inlet but sometimes these were too long. I was too lazy to cut the nail down, besides I might need a lead nail to repair some building aesthetics that demand the same look, and I have done so.

My next useful attempt was with those small grinding stones, balls and cones and everyone seems to have a set of them (for drills and not the expensive ones for die grinders). These work great as they are heavy enough to stay put and exclude the dust, but my set only contained four. So next came corks and these broke easily, if removed often; the hole drilled within needs to be tight enough to exclude the dust. If the hole I drilled in them was a little loose they would fall off. More expensive tools come in a box but often the locking tabs break off after time and use. Now I use a combination of the drill grinding stones for the regularly used air powered tools and corks for the occasionally used tools.

The photo here shows a small selection of my tools laid out to display the better dust preventers on the table saw. A broken cork is near the spray gun, and a used lead nail is shown in the dust blower. The boxed 23 gauge nailer does not require one yet and the framer has a cork. The photo also shows mud wasp cocoons, which also clog such tools. These nests belong to the medium-sized wasp, which even get into drawers and cupboards – they are resourceful little blighters!

Kind regards, **Ranald Millar**

A selection of Ranald's tools laid out to display the better dust preventers

NOVELTY WEDDING BOX

Dear Tegan,

I had to smile when reading Peter Bishop's article on making a Land Rover wedding card holder (Jan 2019 issue) as a similar thing happened to me. Having a pint with a friend, he asked me about my son's wedding, which had been held at the same venue as his daughter's forthcoming nuptials.

One of his concerns was that people would be leaving cards and many would contain gifts of money or gift cards – their idea of leaving an open case to hold them would not be very secure. We'd had similar concerns at my son's wedding and came up with the idea of a sealed wooden house, which was a copy of their home in Cardiff. This set him thinking and he asked if I could do something similar for him? No problem said I. If only I'd known what was coming!

A few days later he said that he and his wife had discussed it and wondered if I could make a copy of the building that the groom had proposed to the bride in, or was it on? Yes said I, no problem, which building was it? The Empire State Building! It was made from a mixture of ply, MDF and softwood; I enclose a few photos here of the completed project.

Best regards, **Steve Williams**

Hi Steve, thanks for sharing your fantastic project – I passed it on to Peter and he loved it! I'm sure other readers would be very interested to see it as well. We love a novelty project and this one definitely brought a smile to our faces!

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 ¼in 30-piece Router Cutter Set, worth over £100. Simply email **tegan.foley@mytimemedia.com** for a chance to get your hands on this fantastic prize – good luck!

WOODWORKER'S ENCYCLOPAEDIA A-Z PART 1

In the first of a new series, **Peter Bishop** starts this guide to everyday terms and phrases used within and about the timber industry

I thought it might be useful to run a series of articles clarifying those everyday terms and phrases used in the trade along with a load of others associated with wood, etc. Hopefully this will help us all to be a little less bamboozled by some of the jargon that's kicking around, past and present, and bring light to some of the more technical terms.

Acorn turning

This turned shape is often found on the top of a stair newel post or as a drop moulding. Turned as a stylised acorn, it was popular in Jacobean furniture especially on chair backs, friezes, borders and edgings.

Treated acorn newel cap from Cheshire Mouldings

Pine half acorn newel cap from Cheshire Mouldings

Oak post cap for a solid newel balustrade stair handrail

A.D.

The simple abbreviation for air-dried timber. Once planks have been cut from the log they need to dry out before use or further specialist drying. If the timber is not air-dried sufficiently there will be further shrinkage and distortion.

There's an old adage 'an inch a year', which refers to drying 25mm boards for one year, 50mm for two years and so on. This is about right and gives you a good guide on how long to leave stuff before you use it. However, you must bear in mind that air-drying does not make the timber suitable for use in modern houses due to our desire to be kept warmer than our ancestors! Simply put, the lowest moisture level content air-drying will achieve is no less than 15-16% here in the UK. Most modern homes with central heating systems will drop that down to less than 10%, which causes havoc with anything made from a higher content. More on this later when we talk of kiln drying, moisture equilibrium, fibre saturation point, etc.

Air-drying at Saunders Seasonings

Adhesive

Glue to you and me! There's a huge range of adhesives on the market these days for all sorts of different applications, so some thought needs to go into your choice. Most of us woodworkers will use PVA glues of some form or another. They're great for most jobs but are not always stable when under pressure or in adverse conditions. For the tougher jobs, resin glues are probably best and expanding foam polyurethane ones for gap filling. Hot glue guns, tubes of 'No Nails' and similar used in a sealant gun and, of course, the old standby for antique repairs, animal glues are also available for specific jobs or applications.

⅜ pint antique Baldwin glue pot

A selection of glues for woodworking

Afforestation

Our environmental friends bang on about reafforestation a lot, especially in tropical countries. Most commercial forests or woodlands are clear felled, when the trees have matured, and then the process of afforestation takes place; new saplings are planted for the next, long term crop. Anyone with an iota of common sense will understand that it's no good just cutting the trees down and taking a cash crop; you need to replace them. Unfortunately this has occurred way too often in the past.

Afforestation is the process of planting trees, or sowing seeds, in a barren land devoid of any trees to create a forest

Air seasoning

This is the process of air-drying. What you don't do is just stack up your freshly cut planks in a heap and leave them to dry; that would be a disaster! So, to air season timber you need to put spacing sticks in between each layer. These are called 'stickers'. Once in place they encourage air circulation that helps extract the moisture from the planks. There are a number of very important points that have to be taken into consideration when carrying out this process. Whatever the timber is stacked on needs to be level and at least 30cm up off ground level and not in a wet area. The bearers at the bottom, the cross pieces upon which the first layer of planks is laid, should all be evenly spaced and probably no more than 60cm apart. The stickers should all be of the same thickness and, by choice, made from softwoods,

Drying through and through – cut boards on stickers

Stickering wood in a basement

and placed in line above the bearers to transfer evenly the weight through the stack, top to bottom. Thinner stickers should be used for thicker planks, 12mm, and slightly thicker ones up to a maximum of, say, 21mm for the thinner stuff. The reasoning behind this is that thin planks will dry quicker without splitting and cracking using the thicker stickers, but thick planks need to dry a bit slower to allow the core moisture to escape. If it doesn't then the core will remain the same size while the outer layers dry and shrink on this core, thus causing cracks to appear. When air seasoning, it's also good practice to seal the ends of the planks. This stops moisture leaving the end-grain more rapidly than the rest, which, if it does, causes end splits.

Ambrosia beetles

This little devil is normally found in the tropics, but not entirely, and often carries the ambrosial fungal growth/spores with them that leave a stain that is very apparent on lighter woods. As the larvae feeds, creating tunnels in the wood, it leaves the spores behind that then attack the wood in a secondary infestation. Where the beetle holes are apparent it's often called 'pin hole' attack because these are the smallest you are likely to see. The best way to avoid ambrosia beetle attack is to dry the wood immediately after converting from the log.

Ambrosia beetle staining in wood

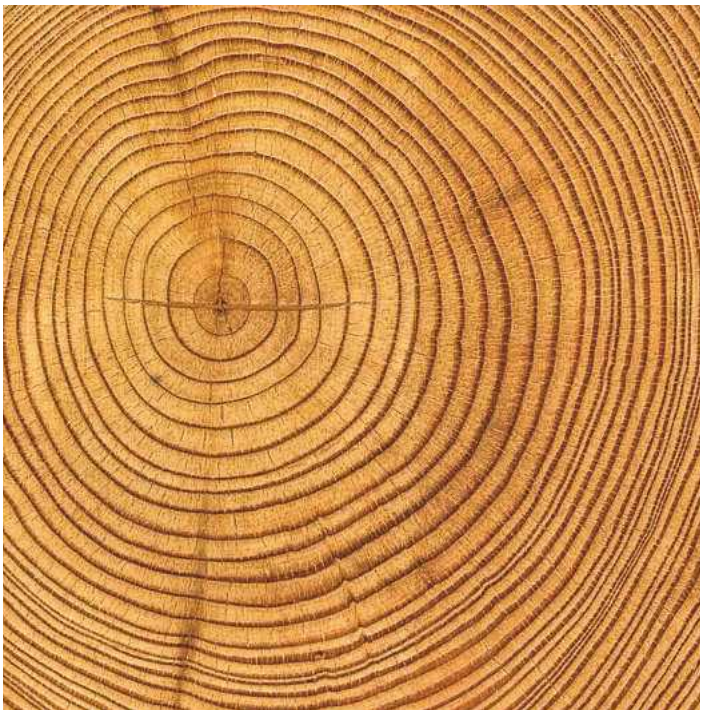
Ambrosia beetle infection on red maple

Ancient woodland

Any old stands of woodlands that have been around since the 17th century can be classified thus. They don't have to be thickly forested and are often well spaced out. Most that have been identified are now protected. Although ideally containing indigenous species the classification is not solely restricted to our usual trees; anything old is covered by this phrase.

Ancient woodland on the North York Moors National Park

Cross-section of annual rings on a piece of freshly cut birch



Tree rings tell many tales

Annual rings

Trees grow from the outside out. Generally this is a continuous process in tropical climates and an interrupted process in temperate climates such as the UK. So the easiest way to imagine a year's growth is that the whole of the growing layer of the tree, under the bark, puts on an extra glove each year. Then the following year another, larger one and so on.

During winter, little or no growth takes place and then in the spring vigorous growth starts slowing down in the autumn and ceasing again for winter. The extra layers of cells built up each year therefore varies in size from small through to large, creating the growth ring. This is how you can calculate the age of a tree if you cut through its trunk. From the middle outwards, count each ring and this will tell you how old it is/was. The cells added each year are called 'pores' and act as the conduit for the vital minerals that enable the tree to grow and thrive. They are located within the sapwood, which is not as strong as the heartwood. When growth is most active, spring and summer, they are large and when that slows down they are small or hardly discernible. There are a few other layers of cells apart from the pores that help with the growing cycle, but more of those later.

What's been described above is called, when you look at end-grain, 'ring porous'. In the tropics, growth is mainly continuous so there is little or no seasonal variation. When you look at the end-grain of tropical hardwoods, the pores are more evenly distributed and this is called 'diffuse porous'. There are a few exceptions but let's not muddy the waters just yet!

Anobiidae

This is the grouping, or shall we correctly say 'family' of furniture beetles of which, using its Latin name, *Anobium punctatum* is the most common. We all know this little blighter as woodworm or furniture beetle – the pest of many a piece of furniture. Interestingly, it is not the beetle itself that causes the problems by chewing away at the wood but its larvae, which spends three or four years doing so. It's probably best if we clarify the life cycle of wood-boring beetles to understand this. Woodworm, *Anobium punctatum*, is the one we are most likely to find. Fully fledged beetles generally emerge from infested wood any time from March through to May and June. Their primary objective is to then find a mate as quickly as possible. Once the female is fertilised, she'll lay several hundred eggs in cracks and crevices on unpolished or unsealed surfaces. After a few weeks, the eggs hatch out and, as a small grub, the larvae bore into the wood core. It's now that the damage is done. These little blighters will spend anything from three to four years chomping away at your pride and joy without you knowing about it. They bore tunnels leaving their droppings behind them. This beetle faeces is technically called 'frass' and we'll discuss that again. Towards the end of its life cycle, the rather fat grub now turns into a chrysalis and then emerges as a beetle in time to bore out in the spring and start all over again.

I'm sure we've all seen the damage that can be caused by woodworm. You cut into a piece of what appears to be sound stuff and it can nearly disintegrate in front of your eyes. What are exposed are all those tunnels created over several years. It's difficult to eradicate woodworm without some sort of treatment. Your prized antiques can be treated with heat, if it will stand it, or be frozen to kill them off. If you're patient then you can coat your chosen piece with a propriety woodworm insecticide by soaking all the surfaces on a regular basis. In theory, no more eggs should hatch and penetrate through this barrier and, as they emerge, the full grown beetles will eat their way through the deadly barrier and subsequently die before they can mate.

The common furniture beetle (*Anobium punctatum*)

NEXT MONTH

In the next issue, Peter will move on to discussing more terms, all the way from architraves to bandsaw blades

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A TASTE OF JAPAN

Using the Axminster Precision Pro lathe, **Ian Wilkie** shows you how to turn these lovely Japanese Kokeshi dolls

I have written this article to show the scope of the Axminster Precision Pro lathe. Originally this was promoted as a pen lathe but I will demonstrate how, with added accessories, there is so much more it can do. The lathe will not take a combination chuck because it has an unusual thread and there is no adaptor; instead it relies on an ER collet system. At first this may seem a disadvantage; however, with the optional accessories available it is not a problem and indeed, as I will demonstrate, you can make some of your own holding methods, which is always satisfying. It is, however, a drawback that the headstock will not take a MT fitting because you will not be able to use accessories you may already have.

Turning a Japanese wooden Kokeshi doll

To make this project, using this lathe and the method I am describing, you will need to purchase the Axminster Precision Pro Light Friction Drive (code 101511) priced at £11.95, and an additional ER20 collet 12-11mm internal diameter, costing £10.70 (code 9102140). You will also need a 1MT revolving centre for the tailstock. Only three turning tools are used: a medium spindle roughing gouge, a slightly smaller one and a thin parting tool. The friction drive has a parallel shank rather than a MT shank and has been designed for this particular lathe, but it must be used with a revolving centre. This drive is based on my original design, which many older readers may well be familiar with! The drive is simple, safe to use and effective with many applications.

The Axminster Precision Pro lathe

A good pen mandrel is supplied as standard with the lathe

There are accessories for this lathe and in this article I am using a friction drive with the appropriate collet

The collets are extremely accurate and there are 14 different sizes available from 2mm to 13mm diameter, which should cater for just about everything

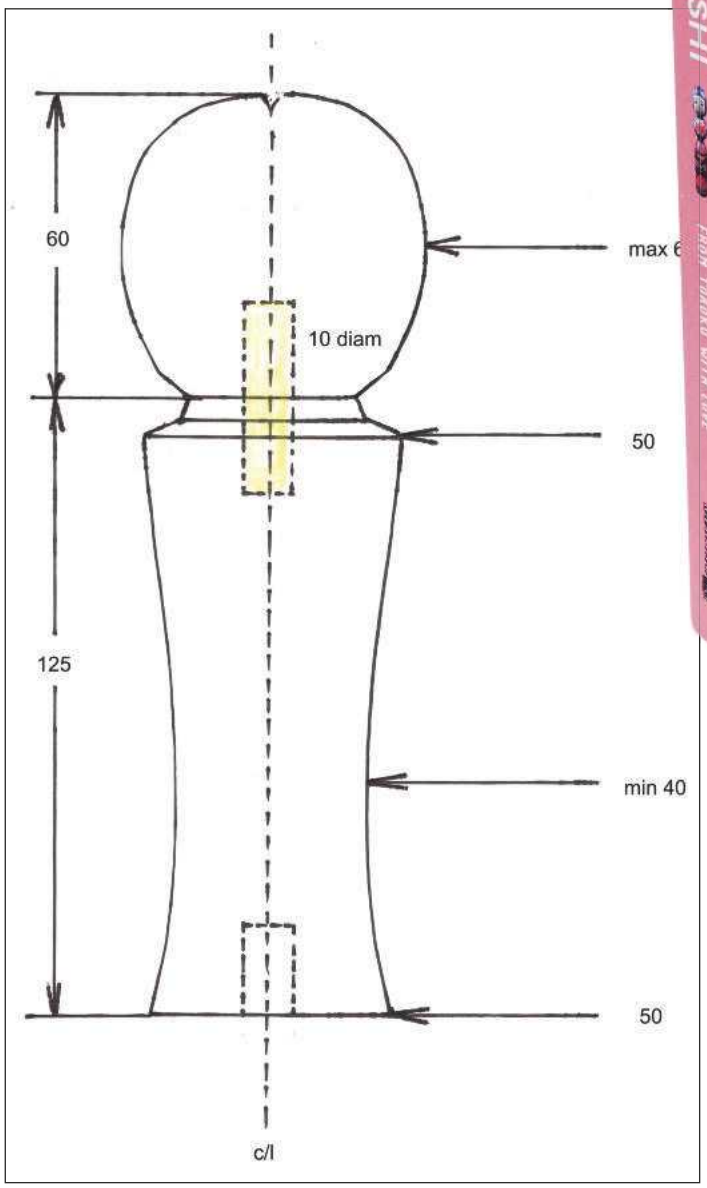
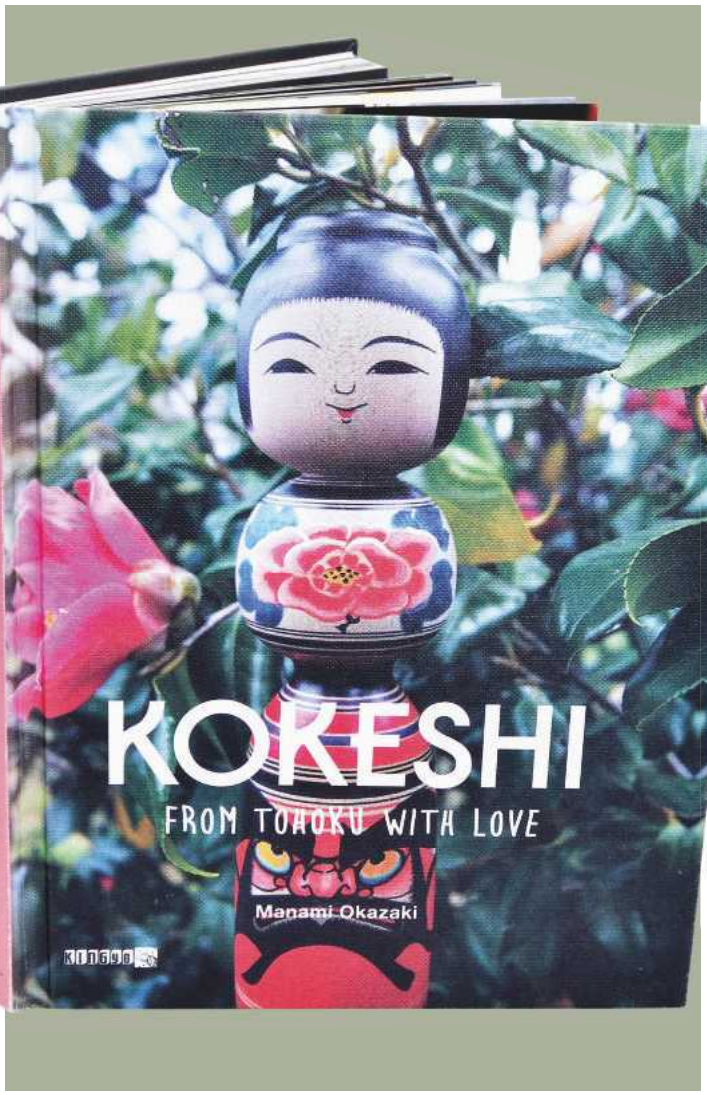
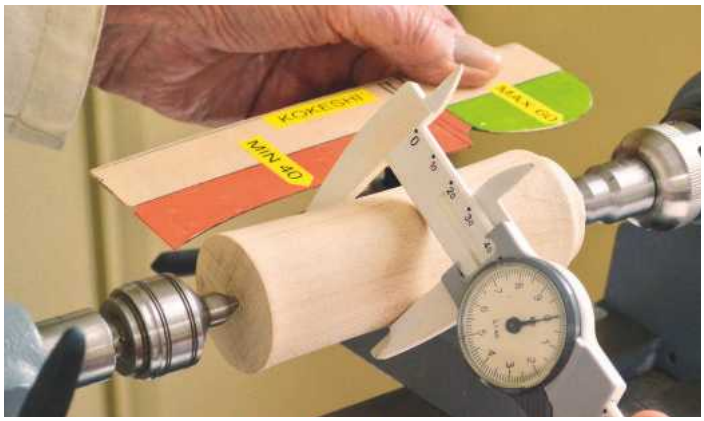


Fig.1 Basic proportion and shape

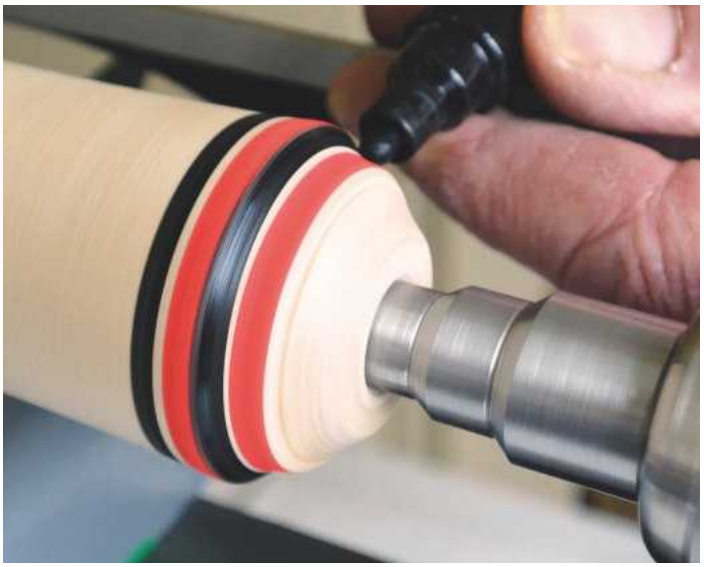


1 When a Japanese neighbour showed me one of these dolls I was keen to learn more and decided to turn one for fun. There is plenty of information available online and some good YouTube videos showing the master Japanese craftsmen at work. I found the subject fascinating and also purchased a charming book entitled *Kokeshi* by Manami Okazaki, which is available to buy from Amazon. This book does not show how to make the dolls but it gives lots of background information with excellent colour plates showing the different styles of decoration, as well as containing a series of interviews with Japanese craftsmen. These traditional dolls are very simple and unsophisticated, consisting of a body with an enlarged head and no arms or legs. They represent love and friendship and are given as presents or souvenirs. It would seem that they can be any size, body shape or diameter and each craftsman has his particular style so there is plenty of scope to be creative. The secret lies in the individual decoration; painting directly on wood is always challenging! The traditional woods used for Kokeshi are cherry, maple and dogwood and these are light-coloured timbers, which remain visible. In Japan the wood is left outdoors to season for one to five years before it is used



2 Prepare one blank of wood 60 × 60 × 125mm for the body and one blank 60 × 60 × 60mm for the head. I have chosen sycamore, which is a pleasant wood to turn, inexpensive and the right colour with few blemishes. Plane off the corners of the blanks so that there is no risk of the tool catching when using the friction drive. Mark the centres of the body blank and drill a hole 10mm diameter × 19mm deep at each end. Place an ER20 collet with an internal diameter of 12-11mm in the headstock and insert the friction drive. Mount the body blank and bring up the tailstock fitted with a revolving centre. You must have this combination to use the drive successfully. Set the lathe speed to 1,500rpm and turn the body to a cylinder with a spindle roughing gouge and then shape as required with a smaller spindle gouge. I find a simple template useful based on the drawing. Sand thoroughly through the grits but reduce the lathe speed to avoid overheating the wood and cracking the surface. This lathe has electronic variable-speed from 400-7,600rpm, which makes changing speed easy

3 If you are going to put bands of colour on your figure, now is the time to do this while the work is running true. Take the speed right down, protect the lathe bars against any splattering and hold a pen firmly against the rotating wood to produce the bands



4 The Posca pens are very good for wood that is spinning and they dry very quickly allowing a second ring to be added in a different colour. If you do experience bleeding on either side of the band, a very small 'V' cut with a point tool will crisp this up

5 Remove the completed body. Drill a hole in the head blank at one end and centre pop the other end for the revolving centre. Mount as before and turn the head to a ball shape – remember the head is an exaggerated size, so in this case 60mm is about right for the maximum diameter

6 Paint hair if desired before removing the head from the lathe

7 When the head is dry insert a 10mm Wolfcraft dowel in the neck. I suggest you do not glue this into the body yet as you may have a disaster when painting the face and then it is back to the lathe!

PAINTING

8 The doll is now ready for further decoration. Do make sure that the base of the body and the joint between the head and neck are level and true

9 Painting directly on to wood is always tricky. Sometimes the wood fibres just soak up the paint or ink and 'bleed'; sometimes the pen or brush follows the grain in a direction you had not intended to go! Choose the best surface when painting the face in particular – you do not want a streak or blemish in the wrong place. I did not apply a primer on the doll because it is important that the wood shows through. My wife (who got the job of decoration) found the pens that worked best for the fine detail were the Stabilo 0.4 liners. These come in a wide range of colours. A thicker, paintbrush-type watercolour pen filled in larger areas

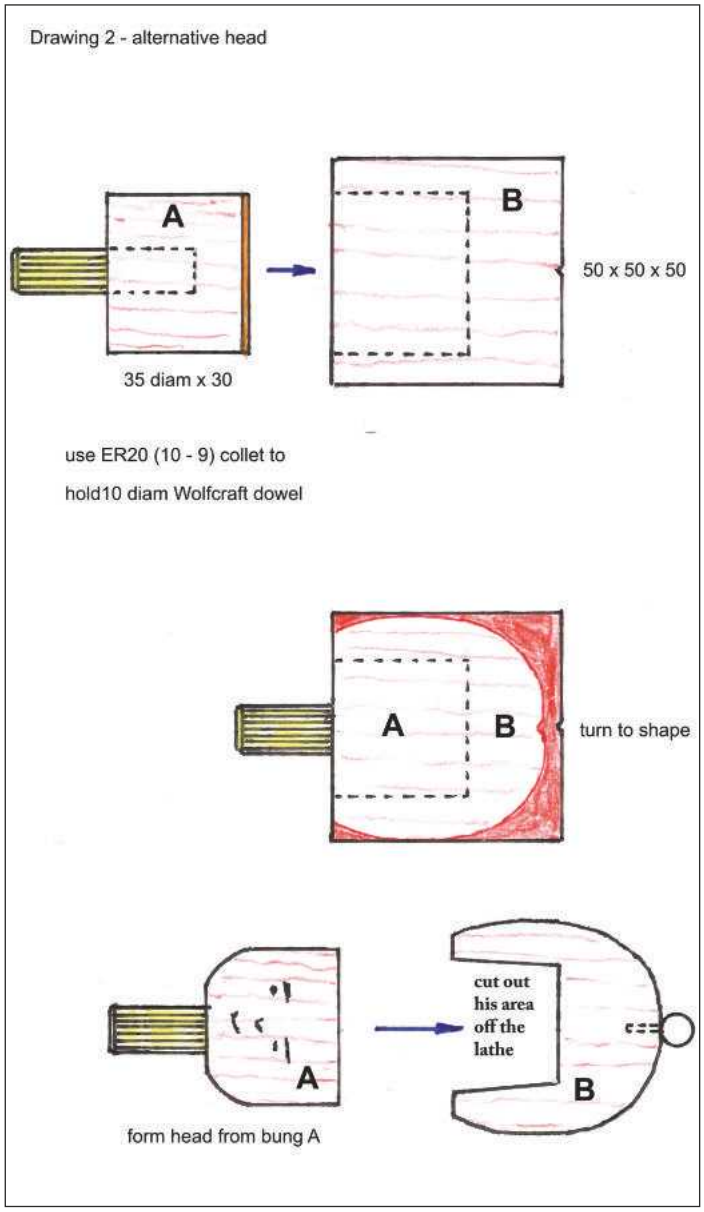


Fig.2 Alternative head
Some of the dolls sold commercially have a more elaborate head with a 'cap' representing hair, which involves a bit more turning. Start with two blanks measuring 50 × 50 × 50mm: one will be for the pressure bung/head and one for the cap of hair

10 As you can see from this page in the book, you can shape the body as desired and with the decoration it is just fun to do what you want! Allow plenty of time for the paints to dry before gluing the head to the body and finishing with a coat of wax

11 Drill the bung/head blank to take a 10mm dowel and glue in the dowel. Mount the blank by means of the dowel in the appropriate collet. Turn to a cylinder with a diameter of 35mm and face off the end. Glue some rubber to the end surface to form a pressure pad. Take the cap blank and drill a 35mm diameter × 30mm hole at one end to match the pressure pad and centre punch the other. Push the blank on firmly and bring up tailstock support

12 Turn to shape, sand and polish or paint. The wood shown is palo santo; I just had a small piece left in the odd-box. It looked very dull to start with but when I saw the wood after turning and polishing, I wished I had more. This is one of the fascinating things about woodturning: you never quite know what the result will be! For a similar doll I used blackwood, which polished up beautifully

13 Pull the cap off the pressure drive, mark out the area to be cut out and carefully remove the wood with a fine-toothed saw

14 Return to the lathe and take off the rubber from the end of the bung/head, clean up the surface and shape the face. Many of these dolls have a little turned topknot, which helps to disguise the mark left by the revolving centre

15 When the doll has been painted, glue the parts together and cramp up. Finally, drill a small hole in the top of the hair piece and glue in a topknot

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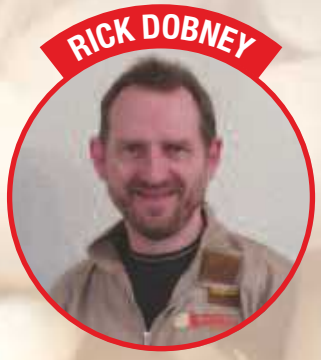

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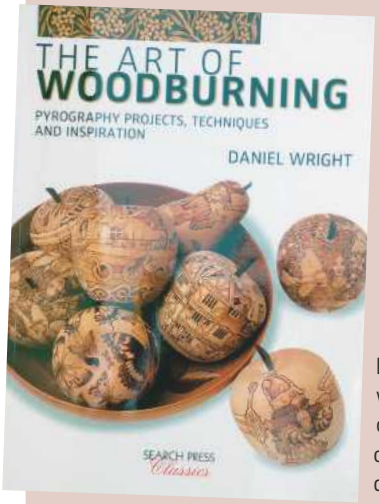
AROUND THE HOUSE WITH PHIL DAVY

Drinking my first cuppa of the day got me thinking. How many of us stop for a mid-morning tea or coffee break, I wonder? Not just downing a quick drink while continuing to work, but actually sitting down for a few minutes for a snack, reading the paper or having a chat. It could be a ritual peculiar to the building trade, though I suspect it's been an institution in workplaces throughout the land since the dawn of time. When you start work at 8am or earlier, it's probably seen as a worker's prerogative. Working for a builder back in the '70s, that tea break kept me going, especially in winter when outdoors. With builders coming and going over the past few months, I was happy to join them, mid morning, particularly outside during our long, hot summer. And I'm pleased to say the habit has not been lost. A chance to warm up and catch up… Long live the great British tea break!

BOOK REVIEW
THE ART OF WOODBURNING



Pyrography may be more decorative than many areas of woodworking, meaning you don't need to be an experienced woodworker to get started in the craft. This book will help you develop the necessary skills and provide plenty of ideas along the way. With suitable blanks available off the shelf (both in hardwood and leather), you only need to invest in a suitable woodburning machine before you can literally start making your mark. There's not a great deal of information here on choosing one, though. Rather, the author concentrates on developing techniques such as shading, creating basic patterns and faux marquetry, interspersed with a handful of projects. Two types of nib (plus a variation) and their burning effects are examined, which is probably enough to cope with if you're a beginner.

Inspirational guide

Although there are just six projects featured – a tree vase, cheese and chessboards, milking stool, napkin rings and whimsical house box – there's enough variety to capture the imagination of most people wanting to get burning wood.

Whether you appreciate textures, geometric patterns, wildlife or whimsical fairy tales, there's some beautiful work among these pages. Photography is excellent, particularly those pictures showing the patterns suggested for the chessboard project. Included are some delightful architectural ideas too, influenced by the buildings of the author's native Suffolk. Whether you're an experienced pyrographer or a complete novice, this guide should provide plenty of inspiration.

SPECIFICATION

Daniel Wright, published by Search Press

Price: £12.99

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Rating: 4 out of 5

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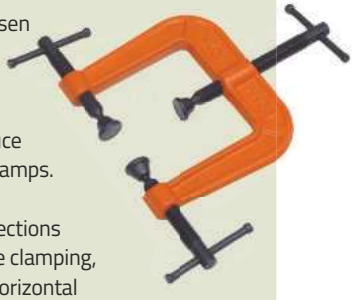


You may not be too familiar with Pony Jorgensen clamps, but this American company has been producing traditional hand tools for more than 100 years. Not easy to miss with their orange powder-coated paintwork, they produce a huge range of regular and more specialist clamps.

This cast-iron version has three fine screw threads, enabling it to be tightened in two directions simultaneously. Designed specifically for edge clamping, you tighten the upper or lower screw to the horizontal surface. Then adjust the centre screw to clamp lipping, moulding or whatever against the vertical edge. Each screw has a swivel shoe and sliding tommy bars make them easy to adjust. On narrow edges the timber doesn't necessarily need to be central as you can adjust upper or lower screws accordingly.

Maximum opening is 55mm, while depth capacity is 60mm, deep enough for the majority of edge work. Don't expect the sort of pressure you can get with a heavier C clamp, though. As you tighten the centre screw the Pony will creep sideways unless upper and lower screws are really tight, so on delicate surfaces it's wise to use packing under the shoes.

Adjust the centre screw to clamp lipping, moulding or whatever against the vertical edge

SPECIFICATION

Typical price: £10.54

Web: www.rollins.co.uk

THE VERDICT

PROS

- Excellent where access for conventional clamping is difficult

CONS

- You'll probably need more than one clamp for edge work

RATING: 4 out of **5**

Conclusion

This product is lightweight but sturdy, making it handy for furniture repairs as well as edge work. Also useful as a conventional C clamp, it may be fairly specialised but this Pony is a neat little tool.

Q&A: OAK FLOORING

Q: I want to lay some hardwood flooring but am unsure whether to choose solid timber or engineered boards. Can you explain the pros and cons of each system, please?
S Bennett, via email

A: Firstly, it's worth mentioning laminate flooring, which is a cheaper alternative. Usually up to 14mm thick overall, the top layer is resin and can be textured, with a digital printed film between this and the high density fibreboard below. Although durable, the floor cannot be refinished, so may need replacing when it eventually begins to wear. Boards are interlocking and either click together or are tongued and grooved.

Engineered timber

A major advantage of engineered flooring is that it's more stable than solid timber boards, with far less movement due to humidity changes. This is because most of the board is plywood, though it can sometimes be a single layer of poplar or similar.

The top layer (lamella) of engineered hardwood is usually oak, walnut or maple, which can be from 2 to 5mm thick. The thicker this top layer the more frequently you'll be able to re-sand the floor when it eventually needs refinishing, though the price increases accordingly. Depending on the supplier, engineered boards range from 10 up to 20mm in thickness. Widths vary from 90mm up to about 260mm in thicker sizes, while lengths can be as much as 2.3m.

Engineered flooring normally has a tiny chamfer around the perimeter of the top surface, creating a tiny 'V' groove when boards are fitted together. These grooves will eventually disappear after several sandings. This type of floating floor is not actually glued to the subfloor and may be either T&G or click fit. Click fit boards are faster to lay as they don't need gluing together, while T&G boards should have PVA adhesive spread thinly along their tongues. Engineered boards come in a range of finishes, with oil and lacquer the most popular choices. Besides natural timber effects, white, grey or black tints enable you to get creative with the room. Unsanded, raw boards mean you can choose whatever finish you prefer for the completed floor.

Solid timber

There's no doubt that traditional solid timber flooring looks impressive, particularly in an older property. Such floors are particularly durable and will stand the test of time and wear, though tend to be more expensive than the alternatives. If you have a planer/thicknesser you could machine boards yourself, though depending on the room size this will be a huge amount of work, not to mention the increased wear on planer knives. One benefit is that you can choose whatever timber you like and prepare boards to virtually any width. Running a tongue and matching groove along the edges will again take a lot of time and effort, though.

You should also think about the room where the floor will be installed. Moisture and water spillage is an important factor, so solid timber would not be the best option in a bathroom or kitchen, for example. Once fitted, either type of flooring should look fantastic and you probably won't actually be able to tell the difference.

The top layer (lamella) of engineered hardwood is usually oak, walnut or maple, which can be from 2 to 5mm thick

Click fit boards are faster to lay as they don't need gluing together

Besides natural timber effects, white, grey or black tints enable you to get creative with the room

SPRING PROJECT

ENGINEERED OAK FLOOR

Tools you'll need: Jigsaw, cordless drill, hand tools

FLOOR'S AMAZING

Although preparation may be tedious, **Phil Davy**'s expert guide to laying an engineered oak floor will ensure you're left with an end result that ticks all the boxes

Once you've chosen the type of flooring you want, measure the room and calculate the area required in square metres. Allow up to 10% extra when ordering boards for wastage when fitting. Chances are you'll need one or two extra, especially if they're supplied in random lengths. If buying flooring online the original size or colour could be out of stock by the time you need to order more. In my kitchen, I installed 14mm thick engineered oak boards, including a 4mm top layer.

Preparation may be tedious, but you need to get the existing floor as flat and solid as possible. If the existing subfloor is timber, always repair any damaged or rotten floorboards first. Once the new floor has been laid you won't be able to carry out any repairs underneath. Punch any protruding nail heads below the surface or make sure screws are countersunk adequately.

One direction

Think about the direction of your new boards, which may be determined by the subfloor. On concrete this obviously doesn't matter, though on a suspended timber floor new boards should run perpendicular. If you want them to run parallel it's advisable to lay thin plywood sheets down first. A two-part epoxy damp proof membrane should be installed first if the subfloor is concrete.

Flooring suppliers recommend that you allow boards to acclimatise in the room for a few days before fitting. Boxes should be stored flat and remain sealed, rather than opened up.

A foam underlay is strongly recommended and does not take long to lay. In roll or sheet form, it will even out a slightly uneven subfloor. In thicknesses up to 5mm, it will act as extra noise and heat insulation and make the floor more comfortable to walk on.

It's important to fit plastic spacers around the walls as you work. These create an expansion gap of about 15mm and should be removed when the floor is finished. Although it's not necessary to glue boards down to the subfloor, you should glue the tongues into their corresponding grooves. This prevents them sliding apart, though movement is still possible across the floor as a whole.

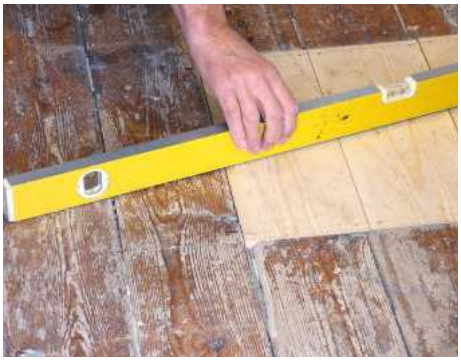
Floor tools

A mitre saw is not really necessary if you have a decent jigsaw. Cuts across the grain are usually only required where boards butt against a wall, so sawn edges will be covered by skirting or moulding. For a splinter-free finish, turn the board upside down when cutting with a jigsaw. That said, a new fine-toothed blade and pendulum action set to minimum should allow you to achieve a pretty clean cut.

WOOD FLOORING KIT

Costing around £10, a wood or laminate floor fitting kit makes life that much easier. This Unika version includes a dense plastic block, rebated along two edges and used to tap boards together snugly with a hammer. A steel pull bar is provided for use at the end of a row to bring the last board up tight. Felt pads underneath prevent it from scratching the surface. About 20 spacers are included to create an expansion gap along each wall, while the spatula can be used for spreading glue

1 The first step is to replace any damaged areas of the existing floor. Check that new floorboards are the same thickness as old timber



2 The subfloor should be as flat as possible and nails punched below the surface. Check any repaired areas with a straightedge

3 If walls are not completely straight, mark out a line along the floor to help you align the first row. A laser device or chalk line is ideal

4 Where new flooring consists of random length boards, lay out a few initially to check the end joints are staggered correctly

5 Start laying the foam underlay in one corner of the room, notching around obstacles such as pipework or cables with a craft knife

6 Butt the underlay panels together, sticking gaffer tape along the joints to prevent movement. Avoid kneeling directly on the foam

7 If there's a doorway along the first wall, it's usually easier to fit a board here first. The tongue should face towards the wall

8 Mark to length, allowing a gap of about 15mm at each end. You may need to use a sliding bevel if the walls are out of square

9 Cut the oak to length with a jigsaw or fine-toothed hardpoint saw. This particular board also needs to be ripped to width

10 Place the board in the opening and check for fit. Boards are not glued to the subfloor, their weight sufficient to keep them in place

11 Start laying the first row of boards in one corner, preferably with the grooves facing outwards. This makes them easier to glue

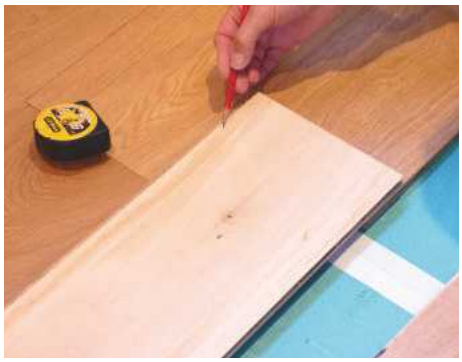
12 Place plastic spacers at intervals along the wall to create an expansion gap. These are removed when the floor is finished

13 Tongues should be lightly glued with PVA adhesive before inserting them into the grooves on adjoining boards

14 Fit the boards together, tapping each one home tightly with a hammer and suitable block. Make sure end joints are well staggered

15 Wipe off excess glue from the joints with a damp cloth as you work along the floor. This will dry rapidly if the room is warm

16 Radiator pipes are generally close to a wall, so notching ends of boards to fit around them snugly is easy enough with a jigsaw



17 At the end of a row simply mark the board on its underside. Once sawn, the end will be concealed by skirting or decorative beading

18 Continue laying boards, working on two or three rows at a time. Swap shorter or longer lengths around so that joints are staggered

19 To get the last board in a row tight, use the pull bar included in the flooring kit. Hook it over the end and tap with a hammer

20 Where flooring has to fit around pipework mark off the board, allowing a gap of a few millimetres. Kitchen units will hide these pipes

21 Drill the end of the marked outline with a Forstner or flat bit to match pipe size. Cramp an offcut underneath to prevent breakout

22 Finish cutting out the notch with a jigsaw. A plastic shoe on the baseplate will prevent scratching if cutting the board face side up

23 When fitting a board around a visible pipe it's neater to cut a small infill piece. Glue this in place once the floor is completed

24 Once a tongue has been fitted loosely into its adjacent groove, tap the board end with the block to slide it along, if necessary

25 Fit the underlay as you work across the room to prevent damage. Cut panels around door openings and cupboards as needed

26 Mark the bottom of door linings and architrave (where fitted) so that boards will fit underneath these snugly

27 Cut the lining with a multi-tool or handsaw. Use a board offcut to keep the blade at the correct height above the underlay

28 Saw the board to size, then glue and slide it into position under the lining. Here, the new flooring will continue into the hallway

29 Mark and cut any boards that need to fit around return walls or cupboards. Don't forget to allow a gap for expansion

30 A board may not always be tight along the joint the closer you get to the far wall. Cut battens to act as wedges while the glue dries

31 The final row will probably need to be ripped to width. Bring these boards up tightly with the pull bar and hammer

32 Measure and cut new architrave where it's needed. This is simply butted against the floor and nailed to the door lining or frame

33 Fit skirting or decorative beading around the edge of the wall. Move the furniture back in or install new kitchen units in this case

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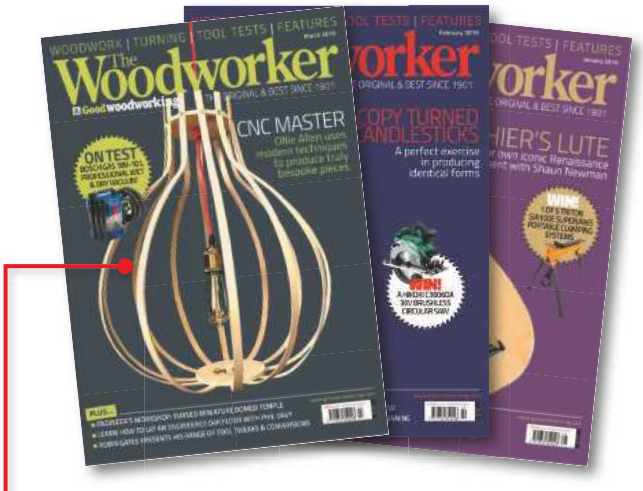

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CHECK MATE

Make your very own chessboard by following these simple steps from **Dremel**

This handy step-by-step project, provided by Dremel, shows you how to make your very own chessboard.

WHAT YOU'LL NEED

- Dremel DSM20 multi-tool
- Wood
- Wood glue
- Clamp
- Range of abrasives
- Paint

1 Gather your materials: wood, wood glue, abrasives, paint and a Dremel DSM20 multi-tool

2 Begin by cutting the wood into eight strips, all 50mm wide, using your DSM20. Paint four black and four white

3 Carefully edge-glue them together, ensuring to keep the ends aligned. When the glue has dried, true up one end by cross-cutting the assembled panel on your table

4 Next, recut the panel into 8 × 50mm wide strips

5 Now cut the piece of wood into four strips to create the frame

6 Cut the base to the same proportion as the frame

7 Glue all the pieces in place. Measure where the strip will go and then cover that section of the board in glue, gluing and then placing one row at a time. Remember to alternate the square colours

8 Done! You're now ready to add the chess pieces that can either be created using a Dremel Idea Builder 3D printer or try searching for some designs online that can be printed out and either individually carved or turned. Or, if you want to cheat, you could just use ready-made pieces

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SQUARING UP

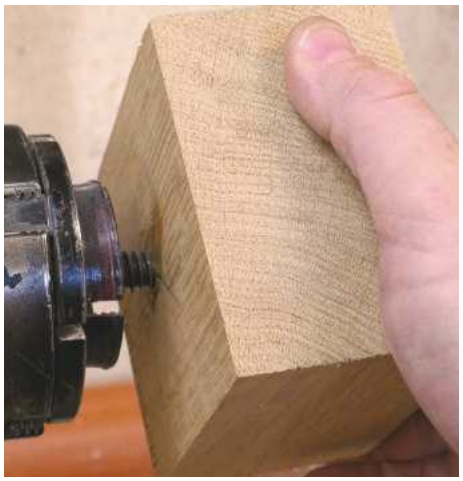
Going against the usual decision to make something round, **Les Thorne** defies conventions and goes for a square box with a matching turned knob

Woodturners make round things, don't they? I remember a turner at a demonstration I saw many years ago beginning by saying that the definition of a woodturner was someone who started off with a round tree, cut it into squares, then made it round again. This project goes some way to disprove that, however. I enjoy making boxes and it is a popular public misconception that all boxes are square, and obviously most of the ones I make are round.

This particular project, however, was born from some timber left over from a production job that I had on a few months ago. A few pieces of the oak supplied had developed shakes (not unusual in 75mm thick kiln-dried European oak I'm afraid), which rendered it unsuitable for the lighting project it was intended for, but it's fine for making various decorative pieces. I often get asked what something like this can be used for, so in this case I did finish it with a food-safe oil so it could contain some dried herbs or a condiment of some kind, or perhaps used as a dressing table arty-type piece. This particular shape was inspired by the pewter boxes from the Art Deco period and, if you wanted to further embellish the work, the shape would lend itself nicely to some sort of carved decoration on the side.

1 I decided to go with making the whole thing from oak. I did spend a little time in the wood store trying to find some timbers that would give me a contrast, but couldn't seem to find anything that would work

2 The centre needs to be accurately marked and the centre finder will do a perfect job. By going round four times, I discovered that the blank was not perfectly square



3 When mounting oak on the screw chuck, I like to put a little paste wax in the hole, which aids with the screwing on; the lubrication allows a nice thread to be cut. Ensure the blank is right up against the chuck jaws, which will remove any chatter when you start turning

4 I'm going to attach a piece of scrap wood to the base so I don't waste a part of the blank in making a chucking point. The quickest way to do that is by using hot glue; a good quality hot glue gun is an absolutely must-have piece of equipment in the workshop

5 Use the tailstock as a clamp and you will need to work fast and carefully as the glue is very hot. After about 60 seconds it will be ready to turn, not before, though, as the glue will fly about like candy floss if not set

6 Here I've marked the centre so I can remove the scrap piece at the end of the project. The bowl gouge is used to create the spigot to suit my chuck jaws

7 This is a perfect dovetail of 15°; it gives me the best strength and accuracy for when I remount the box to hollow out the middle. Remember this is the difference between the piece staying on the lathe and not staying on

8 The height at which your toolrest should be is one of the most common questions asked to me at demos. The problem is that this is dependent on tool and type of cut. For example, for a bowl hollowing cut with a gouge the tool is presented like this

9 I've put a pencil mark where I think the hollow is going to come out to. I'm turning away the centre just as I would with a bowl, as the grain is at right angles to the lathe bed

10 I need a little step for the lid to sit on and here I'm creating it with the 10mm skew chisel. I'm looking to get a perfect finish off the tool, so I make sure the tool is very sharp and that I take light cuts

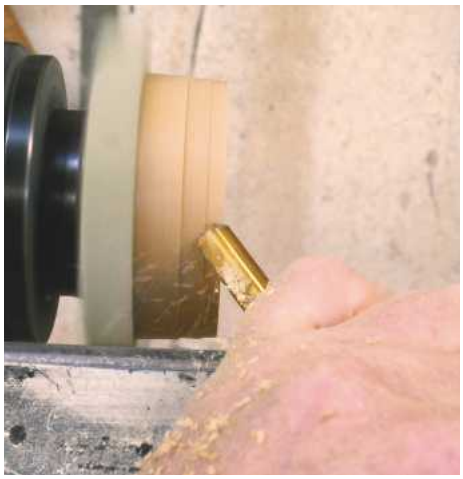
11 Undercutting the entrance to the box will make the inside look much better. This isn't an easy cut with a gouge but one worth practising as the finish achieved using it is much better than with a scraper

12 I struggled to get to the bottom with the 6mm gouge because the overhang caused the tool to chatter. Also, the 40° angle on this tool makes it difficult to get the bevel in contact with the wood

13 The 60° bevel on this 10mm bowl gouge solved both of these issues and meant that I could easily clean up the excess stock in the bottom of the bowl, even the very slowly revolving timber in the centre

14 I'd usually power sand the inside of a bowl but the narrow entrance to this piece makes that impossible. I have many sanding devices and tricks and mounting an abrasive disc on a Simon Hope soft interface pad will do the job here

15 First, slow the lathe down and with the work stationary lightly hold the pad inside the piece. Start the lathe up and sand the inside surface, being careful not to touch the rim. To stop you trapping your fingers, keep the abrasive around the 8 o'clock position



16 Once you are happy, mount the lid onto a screw chuck. Here I've used a MDF spacer to shorten the screw. Make the piece round and turn a shoulder down to match the hole in the box

17 This needs to be a snug fit. You don't want it to be really tight, though, as it's cross-grain and likely to go slightly oval after it's been turned, even if the timber is very dry

18 To lighten the lid, hollow out the underneath with the small bowl gouge; this will expose the screw chuck hole but that can be dealt with later. Now's your last chance to sand and finish this part

19 To hold the lid into the base I use a paper gasket; you could use the tailstock for added security but I find it can get in the way and restrict the types of support I want to use

20 I've found that a push cut with the 13mm signature spindle gouge is the best method to use for shaping the lid. The bevel in contact with the lid stops it being knocked off and gives a near perfect finish

21 The spindle gouge allows you to get right round into the corner of the lid and base. I will often put a small groove at the transition point between the curve and the flat, but on this occasion I decided not to

22 I did try to make a square finial to carry on the 'not round' theme, but it looked very odd so I decided to go with the much easier and more traditional knob. Here the blank is mounted in pin jaws

23 After making it round, mark out where the details appear on the wood. I haven't bothered drawing this out as I have turned many shapes like this in the past and therefore feel confident in getting something that looks good

24 Shape the knob with either the skew chisel or spindle gouge. You shouldn't get any vibration if you finish each section as you go along, always working the shape back towards the chuck

25 The hole in the lid is 10mm, so cut a spigot down using the parting tool. A pair of Vernier callipers are the best device for measuring accurately. The width of the spigot is also 10mm, so it can be used for the knob and inside button

26 Turn the button on the other end with the skew chisel, then after sanding, you can part right off with the skew. Ensure to be careful not to pull a plug of material from the end, however

27 Cut the spigot in half using a fine-toothed saw so as not to lose too much spigot length. In hindsight, I should have put this in the vice to make life a little easier for myself

28 Carefully glue the spigots into the hole. I could have used a blind hole in the top but I believe the button on the inside does add something to the whole piece

29 Nearly finished now and I need to remove the waste wood spigot from the bottom of the base section. Here I have some 180 grit abrasive glued to an MDF faceplate, which acts as a friction drive

30 Light tailstock pressure is all that's needed to drive the work; you must make sure there is some glue in the centre or the fixture will give way prematurely. Remove as much as you dare

31 Clamp the wood and remove the remnants of the hot glue with a sharp chisel. Keep the chisel completely flat so you do not cut into the base of the box

32 I have a platform that fits into my toolrest meaning that I have a perfect machine for finishing the sides. The main advantage is the variable speed, meaning I can slow the disc down when working on the end-grain, so I'm less likely to burn it

33 When I'd finished I felt something was missing, so I decided to put some small feet on the base; these will slightly lift it up. They are 15mm diameter × 10mm tall

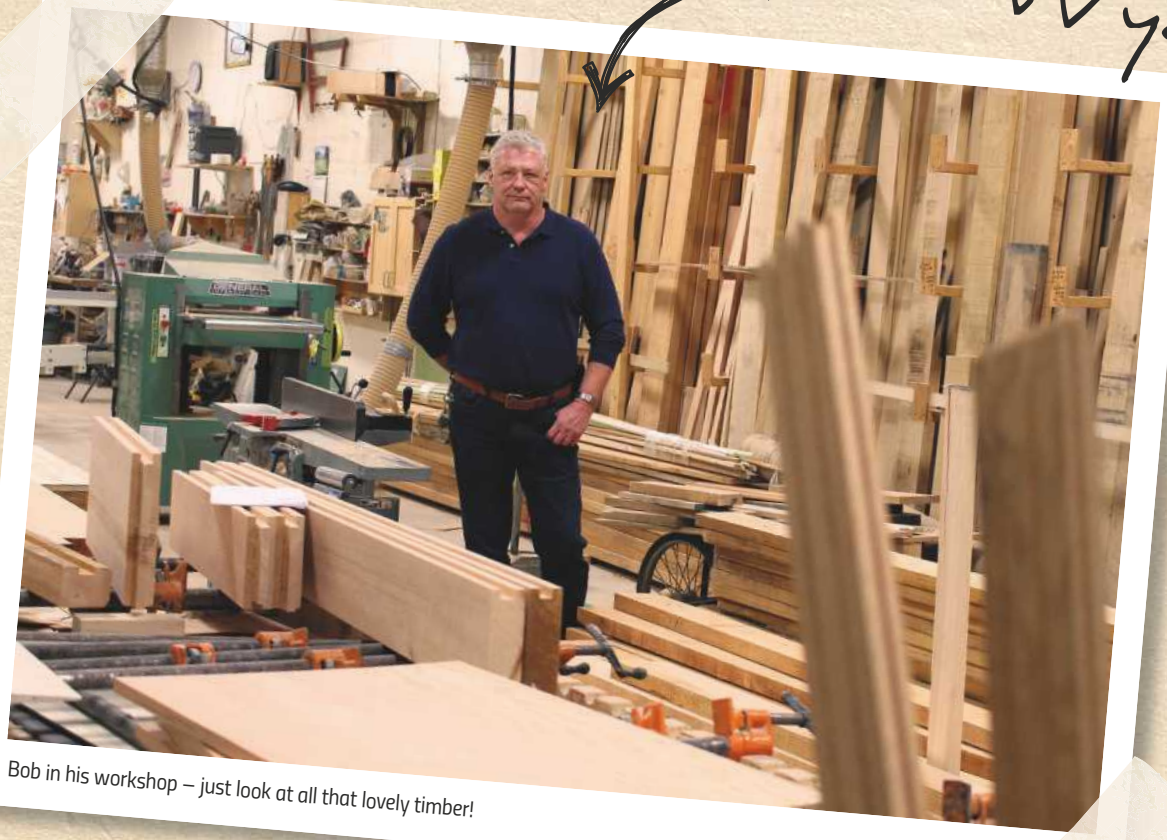
34 Use a mortise gauge to mark the position in the corners for the feet. You can then drill 10mm holes on the drill press to get them as accurate as possible. Next, sand the sharpness of the edges away using a piece of 240 grit abrasive

35 I really like using this food-safe oil, not only for its obvious safe properties but you can see how beautiful the colour of the oiled lid is against the still plain timber of the base

36 The completed lidded square box in oak should look something like this

ME AND MY WORKSHOP

Bob Wyatt



Bob in his workshop – just look at all that lovely timber!

This month we look around the workshop of 55-year-old Facilities & Maintenance Manager, **Bob Wyatt**

1. What is it – and where is it?
Heritage Park is a Historical Village in Calgary, Alberta, Canada.

2. What's the best thing about it?
The endless variety of restoration and repair jobs we face. Every day is different.

3. And what's the worst?
I'd like more space!

4. How important is it to you?
It's absolutely vital. We get around 750,000 visitors a year, and without it the park just wouldn't run.

5. What do you make in it?
Whatever's needed to keep thousands of wood and metal artefacts in good shape, most of it dating between 1890 and 1930. Wagons, furniture, rail cars, tools, everything from a working steam locomotive to a windmill.

6. What is your favourite workshop tip?
Stay organised.

7. What's your best piece of kit?
The dust extractors.

8. If your workshop caught fire, what one thing would you rescue?
My amazing staff. Everything else is definitely replaceable.

9. What's your biggest workshop mistake?
I once glued a table to a bench. And it was proper glue.

10. What's the nicest thing you've ever made?
A priceless 1905 Colonist Rail Car, fully restored, the only one of its kind in Canada. We used mainly birch, but the bogies are oak, and the structural members are Douglas fir.

11. And what's the worst?
A horribly twisted and gnarled spindle, my first effort at woodturning.

12. What's the best lesson you've learned?
My annual budget is around $1.2 million, so I have to plan ahead ruthlessly.

13. If you won the lottery, what would you buy for your workshop?
I'd fit all my saws with instant blade stops.

NEXT MONTH

In the next issue, we take a look around the spare bedroom workshop of retired head gardener and avid woodworker, Tony Bryant. We'd love to hear about your workshops too, so do feel free to send in a photo of your beloved workspace, and please answer the same questions as shown here – just email **tegan.foley@mytimemedia.com**

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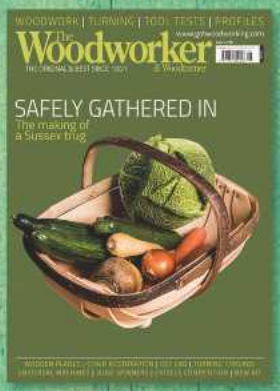

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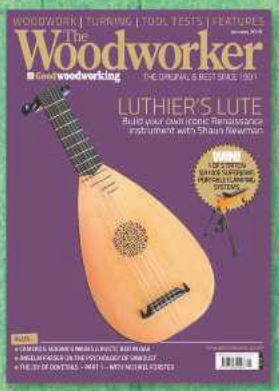

January 2019 issue

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NECESSITY IS THE MOTHER OF INVENTION

Professional woodworker **Paul Nolan** shares two of his award-winning inventions with us here, both of which aim to make life easier for users

They say necessity is the mother of invention, and in 2001, Paul Nolan needed a machine for turning spindles and large posts for his furniture making business/hobby. This led him to develop the Pro-Am woodworking router lathe, which has allowed Paul to expand the range of products he can produce.

Paul displayed the Pro-Am at The Alexander Palace woodworking show for some years leading to further orders for ornamental posts and spindles.

Products produced using the Pro-Am include ornamental garden stands, plant stands, four poster beds, etc.

While displaying the machine at Earl's Court BBC Tomorrow's World inventors show, Trevor Baylis, inventor of the clockwork radio, liked the prototype and was impressed by the finished products that could be made using the lathe. Paul then went on to design and patent the Pro-Am with aid from the University of Greenwich, Chatham, Kent.

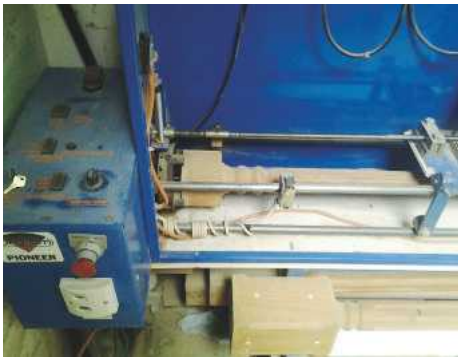
"At the University," says Paul, "a group of talented students redesigned and refined the machine to today's EEC standards. The student project was a year long and the work produced by the students led to the group of five gaining their Honours Degrees in Mechanical Engineering."

The Pro-Am in action

The machine is easy to use and allows the user to produce professional results with little turning experience. Machining the workpiece from a 100 × 100mm square blank is the first operation. By inserting the workpiece between the chuck and end piece and setting the distance of cut, you simply lower the router to the revolving workpiece. This rounding off will take three or four passes to complete. By changing the router bit in the router, the different shapes are made.

To produce a barley twist, you insert the barley

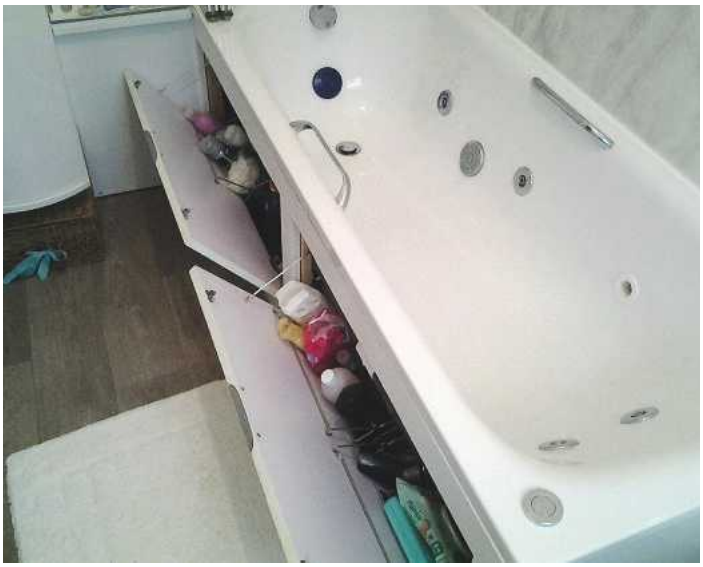
Pro-Am Pioneer to create small posts



Pro-Am lathe to create long posts

Control box, headstock and router

Stowaway storage bath panel closed



Stowaway panel open, revealing products

cutter bit and lower the router to meet the revolving workpiece. Set the router table speed to max and engage the router table switch. The barley shape will be formed in one run from tailstock to headstock. A video showing this operation in action can be found on YouTube by searching for 'Pro-Am lathe doing barley twist'.

Rotation of the workpiece is achieved thanks to a 44RMP motor, with the cutting of the workpiece completed by the router along the length of the guide tubes. The router table is moved by a leadscrew connected to the variable-speed motor.

Adjustable micro switches cut power to the router table, which sets the distance between headstock and tail piece. The chuck has indexing pin holes, and once the chuck is locked down, the router machines along the length of the workpiece.

Practical Woodworking featured a test on the lathe some years ago. Gordon Warr summarised the following: "An ingenious lathe, which succeeds in its aim of producing professional work without the user having prior woodworking skills."

The Stowaway storage bath panel

Paul was installing a bath panel he had made for his new bathroom, during which he noticed the unused space behind the panel, and some time later, his daughter asked if he could make a bath panel for her bathroom. Remembering the unused space, he designed the Stowaway storage bath panel.

"Without telling her," says Paul, "I installed the storage panel and it took her two days to realise that it could indeed be used for storage. She was blown away with the idea. This led to my other daughter and my wife also requesting one."

Again, Paul presented the prototype panel to the Inventors Forum UOG, which led to Business Link Kent sponsoring his stand at the British invention show 2007, held at Alexander Palace, and the Stowaway was a very successful product.

Paul was awarded Triple Gold for the best invention of the year for a domestic product, Triple Gold for the best invention of the year for a commercial product, and a Gold medal for inventor of the year. This led to the Stowaway being manufactured and marketed by GW Wilkinson, Burnley, Lancs. The company was established in the bathroom trade and supplied the Stowaway to B&Q, Argos, Wicks, Homebase and various other smaller regional retail outlets.

Future projects

Paul has recently retired and would like to sell the Pro-Am router lathes and finishing lathes to fund his next project. If anyone is interested, please see contact details below.

BUDDING INVENTORS

Each year, the University of Greenwich looks for projects for students to develop. The Forum meet on the first Wednesday of each month at Blake house UOG, Chatham. More information can be found on the Inventors Forum website – **www.thenet.uk.net/company-details/kent-inventors-forum**

FURTHER INFORMATION

To contact Paul Nolan, please call **07811 037 582** or email **ubspanel@hotmail.co.uk**

Paul and his Triple Gold awards from the British Invention Show

Coming up in the next issue...

The Woodworker & *Good Woodworking*
April issue – on sale 1 March

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MILLWRIGHTING – THERE'S MORE TO IT THAN A DAY'S WORK

John Greeves talks to Malcolm Cooper about his work as a millwright with particular focus on the Bursledon Windmill restoration

CLAMPING DOWN
A woodworking workshop can never have too many clamps. Here, Lance Winter shows you how to make your very own wooden version, using threaded rod and rare earth magnets

STORAGE SORTED
Glen Scott uses pieces of pre-dimensioned timber to make this effective bookshelf and storage solution

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FOR SALE

Minimax combi – saw, planer/thicknesser, spindle moulder, plus full set of new cutters; £500
01388 832 342 (Bishop Auckland)

Elektra Beckum UK220/PK200 portable saw bench with sliding carriage for panel work – cost £550; selling for £250
01939 290 405 (Shropshire)

Stanley 06 fore plane; £45 – in very good condition. Also, Stanley 05 jack plane; £36 – also in very good condition
0208 641 4238 (Surrey)

Kity 609 combination saw bench/spindle moulder with some tooling; £1,000. Also, Plano press clamp; £150, and Record mortiser; £50
01833 631 427 (County Durham)

Tormek 1204 tool grinder & extras – in good condition; £80. Also, Leigh Super 18 dovetail jig & VRS vacuum kit – never used. Some tooling; £150
01698 262 531 (Lanarkshire)

Record Power RHMS-Mk11 router table – as new, used once – buyer collects; £175
07598 280 644 (Manchester)

Coronet No.1 wood lathe with chucks & tools on a bench; £180 ONO – can deliver at cost – call for details
07944 526 089 (Stoke-on-Trent)

Microclene air filter – 34cm high × 20cm dia – has removable washable foam filter, in very good condition; £45 – buyer to collect or pay extra for P&P **01912 672 121** (Newcastle)

Apprentice wooden tool chest with 2 × sliding drawers & ironmongery dovetail construction – 870 × 520 × 510mm; £50
07910 357 291 (Wolverhampton)

Union Jubilee lathe – with 15 × 8 sanding table, 8 × faceplates, 11 × turning tools, 4in chuck; £350
01403 263 564 (West Sussex)

Small Swiss bandsaw; 73 blade; new small scrollsaw; cross saw & various carpenter's tools – call for details
01952 618 304 (Shropshire)

WoodRat – one of the originals, in very good condition – precision tool, hardly used; £100
01206 826 615 (Essex)

Multi 12in saw bench – 16Amp single-phase. A good, clean machine & little used; £300
01371 870 759 (Essex)

Veritas 5¼in bench plane; £150. Also, Veritas MKII honing guide; £30
01444 246 922 (West Sussex)

Japanese bevel edge chisels – special alloy, set of five, unused; £200 inc postage
07910 357 291 (Wolverhampton)

Delta two-speed scrollsaw – open to offers. Is heavy but could be sent at a cost
07541 409 835 (Leeds)

Axminster mortiser on stand – red & white model – call for details
07541 409 835 (Leeds)

Elektra Bekum BAS 315 bandsaw – excellent condition, had only light domestic use. Moving forces sale; £200 – could transport
07971 617 911 (Devon)

Table saw attachment for Myford ML8 wood lathe – includes table, fence, bed attachment, arbor & 2 × blades; £25 plus postage
01288 355 427 (Cornwall)

Axminster SK80 chuck – ¾in × 16tpi – as new condition, with chuck key; cost £135 – lathe change hence only £55 – collect or pay for P&P
07816 371 694 (Newcastle-on-Tyne)

Stanley Bailey block plane – new – 15-12-020 – in packaging. Swap for coffin plane; + £30 – will pay for postage
07541 409 835 (Leeds)

WANTED

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 and 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 and 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
PLEASE TICK: FOR SALE ❑ WANTED ❑

- 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.
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ALTOGETHER NOW!

Make your own kind of music

There's something bigger than old or young. Bigger than male or female, or a bit of both. Bigger even than country or town. It is employed or self-employed. These involve different mind-sets. Different attitudes. Different views on life. It boils down to doing what you're told: or not. I prefer not. Lots of us do.

The drawbacks of self-employment are many. There's no one to take up the slack. This is a serious constraint: when you stop, everything stops. There is no sick pay, but curiously, you don't fall sick anything like so often, if at all; not because this way of working is more wholesome (though it is) but because you can't afford to be ill. You don't want to be. You're not trying to escape. That's just as well because also, there is no holiday pay. There probably isn't much pay at all. "The only way for a craftsperson to become a millionaire is to start off as a billionaire" (Don White, master woodturner). That must not matter. You'll get used to it.

Photograph courtesy of **imgur.com**

Go jump off a cliff

The difficulty is in switching from regular pay cheques to none. It's scary. It's easier before you have a mortgage and a family. Later on it can feel like jumping off a cliff. Will the ground come up to meet you, or will this have been the most disastrous decision of your life? Better play safe, you tell yourself, and postpone your divorce from normality. Don't do it, I say; don't put off the decision. Listen to your bones! If you are psychologically configured to be self-employed, the sooner you get on with it the better.

You don't have to be religious to have faith. Not faith in anything in particular but in the general beneficence of life. Call it positive thinking. Courage. Trust. I don't know quite how it works, but the World does come up with answers if you look for them. There are no promises or guarantees: it is still a bit scary. Think of it instead as exciting, interesting, fascinating, and nowhere near as dangerous as you thought. The ground does come up to meet you, time and time again.

Be prepared, of course. Don't throw yourself into a wild idea. Don't think that because your friends and family say your woodwork is wonderful, it will sell. Do some research. Find tradesmen who might sub work out to you so that at least you won't starve. Advertise locally. Make the advert match the product in style as well as content so that you subliminally target your clientele. Don't say 'No' unless you must. Allow prevailing currents to change your course – you may end up in happy places that you could not have anticipated. Be flexible. Sensitive. Unafraid.

Don't be shy. Many craftspeople feel abashed in the early days about proclaiming their profession. Can you put 'Furniture Maker' or 'Joiner' on your letterhead and website when you've only made half a dozen pieces? Doesn't that make you look like a fraud and an imposter? Well maybe, but not for long. With another dozen pieces under your belt, you look back on what you've done and… of course you are what you say you are. We are what we do. We are what we can't stop doing. This is all the reassurance you need.

Don't borrow any more than you have to. Don't overspend. This is not confined to woodwork! Be inventive. Clever. And here we're coming down to it. To be a self-employed woodworker you have to be a problem solver. You have to enjoy puzzles. If you want to follow instructions and tick boxes and cannot manage without them, you're reading the wrong magazine. If you are not willing to engage with the forest of problems that woodwork throws up, you will not see the light sparkling through the trees. That might sound a bit rhapsodic, but it does feel like that. Each successful job is a victory. It's good when the customer thinks so too, but you don't need to be told. You know it. It's called job satisfaction, and whatever else you might go without, you'll have oodles of it.

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Twin blade speeds and an optional range of blades give flexibility for many jobs. With its extra capacities, this bandsaw will handle many tasks required by the keen home woodworker.

AC2606B
£599.95 Inc.vat **105095**

The largest and most powerful model within the Craft range, designed for home woodturners and serious woodworkers. With its big capacities, the AC2606B is great for creating large bowl blanks or for general sizing of timber.

More than just a hobby, this is your craft

The bandsaw has the enviable reputation for being the most useful machine in the workshop, and making something these days is much more than just a hobby.

Axminster Craft bandsaws are designed to meet the demands of dedicated creators and deliver the performance you need to perfect your projects.

Martin Saban-Smith, professional turner and creator of Hampshire Sheen, will be demonstrating his woodturning skills in these Axminster stores during 2019.

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- ***Sittingbourne*** *– 16 March*
- ***High Wycombe*** *– 30 March*
- ***Warrington*** *– 20 April*
- ***Cardiff*** *– 25 May*

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Trustpilot 9.7/10

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"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

"**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

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

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Specifications

Maximum bowl diameter:	533 mm
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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
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