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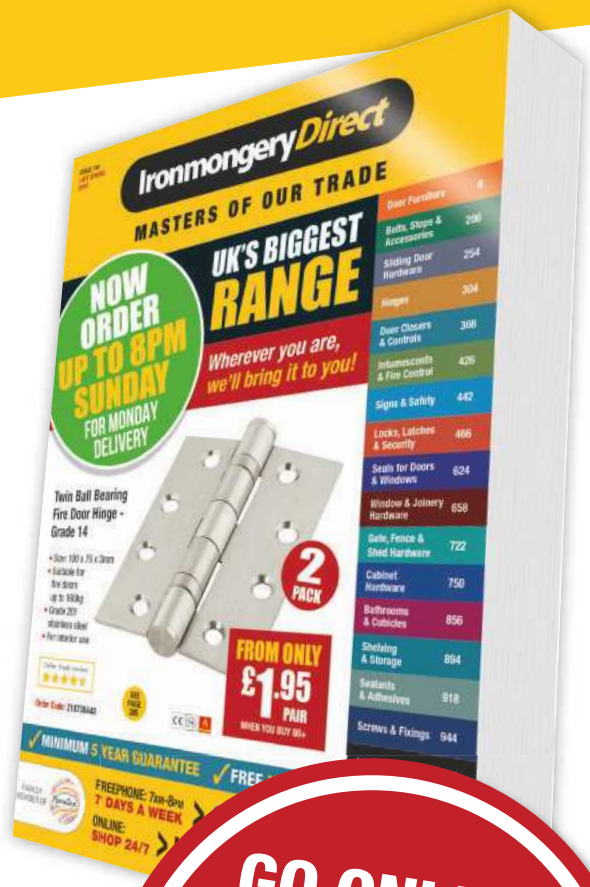

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Welcome

'Some of my favourite things from this issue'

Change seems to be a topic I often discuss on this page, and while I tend to find myself referring to it in a negative context – due to me being a bit stuck in my ways – this can be an extremely positive thing and one that can open the door to many new and exciting possibilities.

This magazine, launched in 1992, has certainly seen a lot of diversification during its time, in terms of staff adjustments and having to adapt to a changing woodworking climate, for example. What has not faltered during this time, however – some 26 years – is the constant support of you, the readers, who we really do have to thank for allowing us to keep producing a monthly read we all know and love. People may choose to have a break from the publication and come back further down the line, but it's so encouraging to hear from newcomers who are still discovering *GW* to this day. As I've said before, I love hearing your comments and stories, which help to paint a picture of your journeys through woodworking.

A 'super' magazine

And so it is with some trepidation, but mostly excitement for the future, that I must tell you that *Good Woodworking*, as of the next issue (July), will now be merging with our sister publication, *The Woodworker & Woodturner*, to create a 'super' magazine that will not only be larger in pagination, but also feature the best elements of both titles. While many of you are aware that the print industry is a challenging one to work in, this merger will aim to deliver an integrated title that will still include the usual mix of great projects, technical articles and interesting features as well as the latest woodworking news, plus much more – all of which will now simply be under the title of *The Woodworker incorporating Good Woodworking*. And don't fear as you can still enjoy content from all your favourite authors, including Phil Davy, who has been with the magazine since is inception; Edward Hopkins; Dave Roberts; Les Thorne; Peter Bishop and many others. You can also find articles from a whole host of new authors, such as Robin Gates, Rick Wheaton, Colin Simpson and Michael Forster. The new magazine will benefit from an extra eight pages, plus a brand-new design and feel.

New beginnings

We hope you're willing to embrace this new beginning as much as we are, but if you have any questions about any of the changes, please don't hesitate to contact me on the email address below. The next issue of this new integrated title will be on sale 29 May and to discover what you can expect to find in it, see page 76. New features for you to enjoy will be the regular 'me & my workshop' page, which gives you the opportunity to look inside other readers' workspaces, as well as 'archive', which details old articles from *The Woodworker* – the first copy of which was published back in 1905 – aiming to give you a real sense of woodworking nostalgia.

We also encourage you to keep sending in your workshop tips, so you can be in with a chance of winning a fantastic Veritas low-angle jack plane, and do continue to share your photos, projects and recent builds with us.

Thank you again for your continued support and we look forward to hearing your thoughts on this new, bigger and better magazine.

Email tegan.foley@mytimemedia.com

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USING VENEERS FOR FURNITURE MAKING

Continuing with his series, John Bullar gives a background on how veneers are produced commercially before discussing traditional and more modern methods

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Dave Long's simple design for furry friends, comprising of six frames, can easily be assembled, disassembled and stored by one person

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SHEFFIELD SAW FESTIVAL IS A CUT ABOVE THE REST

Chainsaws have a Kevlar PPE dress code but with hand saws the dress is optional!

Expect to see a wide range of demonstrations at this brand-new event

A new three-day festival, Sawfest, based at the Bamford Quaker Community on 27–29 July, will celebrate everything to do with traditional hand saws at the birthplace of the industry. Organiser Gavin Phillips claims the event is a first and promises 'three days of saw joy' for woodworking and traditional tool enthusiasts. "All human-powered saws of any length are welcome – especially the rusty, the bent and the blunt – because they are cheap and teach you a lot," he comments.

Among the highlights is a small, limited-capacity workshop on Friday at the Atkinson-Walker saw factory on saw-straightening and tensioning, led by a sawsmith apprenticed to Spear & Jackson in 1974. Also on Friday, your cross-pein or straight-pein hammers can be ground into the correct oval pattern to straighten and tension saws, and bring a junker saw to learn about taper-grinding and smithing.

At Bamford Quaker Community large-saw users can try welding or brazing a new tooth onto a broken one, fell trees, or try the mole-grip underbucker, which supports an upside-down saw below a horizontal log and allows you to cut upwards.

Small-saw users can compare dovetail results, or speed and accuracy of rip- and cross-cuts. They'll be particularly interested in Lui Rocca's fly-press.

On Sunday there is a guided tour to see and handle Simon Barley's hundreds of saws and tools at Ken Hawley Tool Collection at the Kelham Island Museum, and other events include tenon-saw maker Slava Rode from Greyhound Toolworks in Surrey, who will teach wooden handle-making and small-saw tooth filing and setting.

Barbara Czoch, a traditional timber frame carpenter from Portsmouth, and Joe Thompson, carpenter in residence from the Weald and Downland Living Museum, will cover pitsaw use and maintenance, and Gavin Phillips, who also curates the Bodgers' Ball green woodwork courses, will show you how to get your saws gleaming with methods including molasses, electrolysis or various hand-powered abrasives in rustless water.

To see the full event schedule and prices, visit **www.sawfest.co.uk**.

GORILLA GLUE CLEAR... IT'S VIRTUALLY INVISIBLE!

Adhesive brand Gorilla Glue has launched the new, extremely tough, and virtually invisible Gorilla Glue Clear, for crafters and hobbyists. Gorilla Glue Clear is an easy-to-use adhesive that will provide a strong bond across several applications and projects. It is the ideal adhesive solution for a range of craft projects, including woodwork, glasswork and intricate stonework and virtually all clear fixes.

Providing a highly-effective bond that combines strength with subtlety, the new adhesive is the perfect solution for people looking for a clear glue, to give them a professional-looking finish.

Gorilla Glue Clear, with its non-expanding foam-free formula, is highly versatile and water-resistant. This innovative new glue promises to deliver the same heavy-duty strength properties that are synonymous with the Gorilla Glue brand.

Gorilla Glue Clear is available to buy from Hobbycraft, Morrisons, B&Q and Amazon, in a 50ml bottle with a RRP of £7.29 and in a 110ml bottle with a RRP of £10.49.

To find out more, see **www.gorillatough.com**.

TRITON LAUNCHES NEW RANDOM ORBIT SANDER

Triton Tools has recently added the 280W random orbit sander (TROS125) to its popular and extensive product portfolio. The powerful tool has a 125mm diameter hook-and-loop backing pad for quick changes of sanding discs and features variable speeds of 7,000 to 12,000min-1. The speed is easily changed using an adjustable dial, and at 280W, the sander boasts ample power for a variety of sanding tasks, leaving a smooth, flawless finish.

Dust is effectively dealt with by multiple extraction holes on the backing pad. There is also a vacuum dust extraction port that can be rotated 360°, increasing user safety and creating a clean work space. Ergonomic rubber over-moulded grips reduce vibration and increase user comfort, precision and safety. Weighing just 1.75kg, the 280W random orbit sander is light and easy to manoeuvre across the wood.

Random orbit sanders differ from other sanders as they combine the oscillating action of an orbital version with the rotation of a disc sander. This two-pronged approach removes stock as well as giving smooth finishes, depending on the paper used. The risk of swirl marks is also reduced in comparison to regular power sanders.

Included with this model are a soft carry case for convenient storage and quick travel, three mesh sanding discs of various grits, a dust bag and a dust extraction port adaptor for different sanding applications. Visit **www.tritontools.com** to find your nearest stockist.

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LAKE DISTRICT WORLD HERITAGE SITE'S GREAT HOUSES CELEBRATE CHIPPENDALE'S 300TH BIRTHDAY

Chippendale furniture at Cumbria's Holker Hall

Historic houses within the forward-thinking Cumbria's Living Heritage group are celebrating Thomas Chippendale's 300th anniversary by highlighting fabulous Chippendale furniture creations that will wow visitors who appreciate first-class craftsmanship.

Meanwhile, others are inviting antique lovers journeying to the Lake District World Heritage Site to compare and contrast Chippendale masterpieces with other exquisite furniture, crafted by the renowned Gillows of Lancaster. This was another 18th century furniture business patronised by rich property owners and it is still much-admired and valued today.

Chippendale is known as 'the Shakespeare' of furniture and was the first furniture maker to publish a directory of designs to promote his business. *The Gentleman Cabinet Maker's Director – 1754* was a groundbreaking publication by the Otley-born furniture maestro.

Chippendale pieces are often owned by private collectors, but some can be viewed at two of Cumbria's Living Heritage members located within the Lake District World Heritage site – Holker Hall & Gardens and Levens Hall & Gardens.

Chippendale furniture is housed in both the drawing room and dining room of the Cartmel-based great house, Holker Hall. The first piece is a mahogany rectangular table, which features an intricate pierced fretwork 'gallery' around the table, as well as a blind-fretwork frieze on quadruple cluster supports.

The second piece is a Chippendale silver table featuring a three-quarter pierced gallery, square chamfered legs and fret-carved angle-brackets joined by shaped X-stretcher supports. On it sits an open book, housed in a wood and glass display case gifted to Holker by Buckingham Palace following a 1937 visit by Queen Mary, and in the dining room there is a collection of Harlequin chairs by Chippendale.

At Levens Hall near Kendal, Chippendale's craftsmanship can be seen in a stunning pair of candelabra (or torchères) dating from around 1750 and listed in Chippendale's 1754 directory. They were certainly in situ at Levens prior to 1849, as they feature in Joseph Nash's picture of the drawing room of that date. These marvellous pieces are carved giltwood and have three scrolling candle-arms carved with leaves and foliate drip pans. The stems are vigorously carved with acanthus leaf scrolls and decorated with trailing flowers and leaves. They rest on double-scrolled cabriole legs.

While Chippendale was a self-publicist, the modus operandi of Robert Gillows, founder of Gillows of Lancaster, was that of being highly secretive about his own sophisticated designs. This was a maker of superior and elegant furniture, well-known in society circles and referred to by authors such as Jane Austen and William Makepeace Thackeray in their literary works. Gillows also made some of his furniture to Chippendale's designs.

Robert Gillows preceded Chippendale by 20 years and was a leading cabinetmaker known for fashioning his furniture from mahogany imported from the West Indies. As staunch Catholics and financiers of the Catholic church built in Dalton Square, Lancaster, Robert and his sons, Richard and Robert, had many clients within the Lancastrian gentry. With such a reputation in the north, it is no surprise to find Gillows furniture in some of the great houses within Cumbria's Living Heritage, located just over the Lancashire border and beyond.

At Dalemain Mansion and Historic Gardens near Penrith, there are several furniture pieces made by Gillows of Lancaster to be seen in the dining room. There is a striking sideboard, a beautiful George III mahogany table, and chairs that form part of a set of 20 made specifically for the house.

In the incredible Chinese room, you can see chairs to a Chippendale chinoiserie design. The carved rococo chimneypiece, which features dragons, and the gilt-framed mirror above it, are also of the kind illustrated in Chippendale's '*Director*', but were actually made by craftsman and clockmaker, Nathaniel Hedge, in 1757.

At National Trust Sizergh, on the outskirts of Kendal, there are a number of Gillows chairs similar in design to some of Chippendale's. The design of the splat to a set of chairs is reminiscent of, although not identical to, several designs in Chippendale's *Director* of 1762.

At the Abbot Hall Art Gallery in Kendal, there are two attractive, shelled-back Gillows hall chairs dating back to 1810 and gifted to Lakeland Arts in 1967, as well as a Gillows folio stand acquired in 1994 and undated. At its sister attraction, the Museum of Lakeland Life and Industry, which is located just a few yards away, there is a Pembroke table made in 1820 for Gillows by craftsman Thomas Wotton.

More information about Cumbria's Living Heritage and its members is available at **www.cumbriaslivingheritage.co.uk**.

THE CONTEMPORARY CRAFT FESTIVAL RETURNS

With 15 years of making to celebrate, Made by Hand Events are delighted to announce the return of one of Europe's largest, most prestigious and much-loved craft event's, The Contemporary Craft Festival. Regularly attracting 10,000 visitors to Devon and 200 of the UK's finest designer-makers, the festival will be introducing some new activities to an already packed programme.

In recognition of its recent successes, the opening ceremony will this year be performed by Victoria Graham of BBC Spotlight and Darren Henley OBE, Chief Executive of Arts Council England. It's been a multi award winning year for the festival and the event has been recognised due to its commitment to excellence, people, partnerships, local provenance, education and to constant improvement and development.

This year, the event takes place from 8–10 June – advance tickets are now on sale – and the setting will be the central location of Mill Marsh Park in Bovey Tracey.

WESTONBIRT WOODWORKS

Many woodworkers living in the south west of England will have happy memories of the Festival of Wood and Treefest, the annual August bank holiday weekend extravaganza held at Westonbirt Arboretum, Gloucestershire. Since its demise almost two years ago, there's been a tree-shaped gap in the woodworking calendar. Although initially on a much smaller scale, a new event run by Westonbirt Woodworks will interest hand tool enthusiasts and admirers of traditional craft skills. Hopefully this will grow to become an essential summer date for woodworkers to meet up, swap ideas and watch a few pros in action.

The initial two-day Open Day takes place on Friday 29 June and Saturday 30 June, 2018. Located just below the impressive Stihl Walkway at the Westonbirt Woodworks site, the event will feature coppicing, chairmaking, woodturning, steam-bending and plenty of other craft demos. You'll be able to try out some fine tools courtesy of Classic Hand Tools, so don't forget your credit card! Westonbirt Woodworks plan to install timber milling and drying facilities in the near future, so visitors will be able to buy wood actually grown at the Arboretum.

Admission is free to the Open Day, though this does not include entry to the Arboretum itself. So, if you've ever wanted to try a shavehorse or pole-lathe but were afraid to ask, this could be your chance. And rumours are there'll be no shortage of tasty food... For further information, visit **www.greenwoodcourses.com or www.forestry.gov.uk/westonbirt**.

The Boat Building Academy

The event offers a range of demonstrations, adding to a fantastic line-up, and new for 2018 is The Boat Building Academy, from Dorset. The Boat Building Academy provides highly practical skills training with the emphasis on 'hands-on' learning. Demonstrating how to build a boat at the Contemporary Craft Festival will give a truly unique insight into this very specialised craft.

Otter Surfboards

The chaps from Otter Surfboards will also be on the demonstration line-up showing how to shape a board while explaining the satisfying process of planing it, making the perfect curls, as well as how to savour its sound, smell and feeling.

For full details of the 2018 exhibitors, programme, booking workshops and purchasing advanced tickets, visit the dedicated website: **www.craftsatboveytracey.co.uk**.

COURSES – JUNE

5–6* Bowls & platters
12* Pepper mills
14–15 Wood machining
15* Fine-tuning hand tools
19 Scrollsaws
26* Pen making
28–29* Advanced turned boxes
* Course held in Sittingbourne, Kent
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Unit 10 Weycroft Avenue
Axminster, Devon EX13 5PH
Tel: 08009 751 905
Web: www.axminster.co.uk

9 Bark basketry
10 Carve a wooden bowl
Weald & Downland Living Museum
Singleton, Chichester, West Sussex
PO18 0EU
Tel: 01243 811 363
Web: www.wealddown.co.uk

16 Green woodworking experience
16 & **18** Kuksa carving
17 Father's day Greenwood experience
29 Scything
30 Spoon carving
Greenwood Days
Ferrers Centre for Arts & Crafts,
Staunton Harold, Leicestershire LE65 1RU
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4–7 Marquetry – a decorated mirror
15–18 An introduction to picture framing
23 Woodcarving – a taster day
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1–4 Beginners' four-day course
8–10 Basic jointing weekend
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30–1 Wood machining
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9 Pyrography with Lisa Shackleton
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12 Pen turning
13–14 Woodturning
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THE ULTIMATE IN VERSATILITY AND FLEXIBILITY: BOSCH PROFESSIONAL 18V DRILL DRIVER WITH FLEXICLICK

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The main FlexiClick adaptors are:

1. **GFA 18-M Professional Drill Chuck Adaptor:** a highly robust attachment, with a solid metal construction, holding drill bits of up to 13mm diameter.
2. **GFA 18-W Professional Angle Screw Adaptor with HEX socket:** allowing easy and precise screwdriving even in very tight spaces, it effectively drives screws around corners.
3. **GFA 18-E Professional Offset Angle Screw Adaptor:** enabling precise screwdriving close to edges.
4. **GFA 18-H Professional Rotary Hammer Adaptor:** with this attachment the drill driver becomes a high-powered SDS-plus rotary hammer with an impact energy of 1J.

Also available are the **GFA 18-B Professional Drill Chuck Adaptor**, with a plastic construction for lighter tasks, and the **GFA 18-WB Professional Angle Screw Adaptor**, for round-shank drill bits. These are quickly and easily attached to the drill driver using the 'turn and click' motion already familiar to users of keyless chucks. Simply place the adaptor on the FlexiClick interface, turn it clockwise, and repeated clicking will indicate a secure connection. Uniquely, FlexiClick adaptors can be adjusted without removal from the tool. They offer adjustment through 360°, with 16 different locking positions.

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Thanks to the latest brushless EC technology, users can expect a long motor lifetime and maximum battery runtime. In addition, Electronic Motor Protection (EMP) uses an integrated temperature sensor management system to safeguard against overloads. Meanwhile, the battery features Electronic Cell Protection ECP, to avoid damage from overloading, overheating and deep discharge. Another electronic control function, Precision Clutch, prevents overtightening of screws. This saves wear and tear on the work material, the screw, the screwdriver bit, the clutch, and the tool.

Bosch connectivity

A Bosch connectivity module, slotted into the tool, establishes Bluetooth wireless communication between drill driver, smartphone and the Bosch Toolbox app. This connection can be used to configure the KickBack Control, Precision Clutch and other settings according to individual needs and preferences. Instructions for adjustment can be given via the phone, even at a distance, and the system will handily remember them for future reference. Other benefits of connectivity include warning of malfunctions, checking of essential indicators, advice on troubleshooting, plus more.

A choice of packages

The Bosch GSR 18 V-60 FCC Professional drill driver with FlexiClick is supplied with all attachments, 2 × 5.0Ah batteries, charger and L-BOXX, and is priced at £609.31; see **www.bosch-professional.com**.

NEWS IN BRIEF

The third Annual Woodworking & Power Tool Show at Westpoint Exeter will be held on 26 and 27 October, 2018. Demonstrators have been announced including Simon Hope, Margaret Gerrard, Tony Walton, Liz Kent, David Trewin, Sandra Adams and Steve Giles. You can expect free entry (registration required), free parking, plus a whole host of trade stands and rural crafts on display. To claim your free ticket, simply register at **www.wptwest/registration.co.uk**

TeknosPro's Woodex Aqua Solid exterior opaque wood stain is ideal for use on all doors, window casements and furniture indoors and outdoors. The waterborne acrylate/alkyd based coating offers a durable, gloss finish and has been developed for the professional by TeknosPro, the expert in high quality paints and coatings. Package sizes are 0.9, 2.7 and 9 litres; see **www.teknos.co.uk**

AXMINSTER TRADE BITZ PRO SCREWDRIVER BIT SET

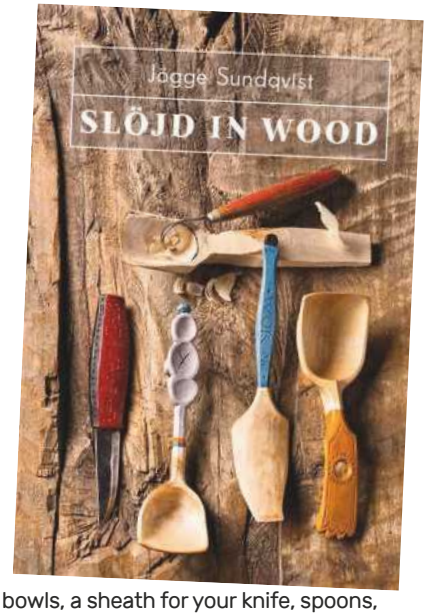
The Trade Bitz Professional screwdriver set contains 33 colour-coded, high quality coated bits for use in hand or power tool applications. The bits are manufactured from hard and wear-resistant S2 steel and come in a tough moulded storage case, which is extremely robust and locks securely.

Careful design and production ensure the tip of the bit fits securely in the screw head. These professional quality bits offer long life and faster, more accurate screwdriving. The set includes Torx bits featuring unique grip-ribs, which hold the screw even without magnetic assistance.

The set contains two universal shank bit holders, both compatible with all makes of tools including Festool Centrotec. The magnetic bit holder has a spring-loaded quick release. Changing bits takes seconds: simply pull the sleeve back, pop your chosen bit in the end, then let go. The second bit holder is depth adjustable allowing precise, controlled countersinking, ideal for putting screws in plasterboard, for example. The holder features a neodymium ring magnet that holds the screw on the driver bit making it easy to position and start to drive the screw.

For further details and information on pricing, see **www.axminster.co.uk**.

NEW FROM LOST ART PRESS: *SLÖJD IN WOOD* BY JÖGGE SUNDQVIST



Jögge Sundqvist would like you to visit the world of slöjd, a place where people make the things they need using simple tools and materials that are all around them. Jögge has been making things with his hands and little bits of steel since he was a boy, and to join in, you need only a knife and a few other simple tools to make useful and beautiful objects.

Slöjd in Wood begins with making a butter knife – a useful object that requires just a knife, boiling water and paint to make it, which will begin to unlock the world of slöjd for you.

You will then learn to make bowls, a sheath for your knife, spoons, a place to hang your clothes, cutting boards and much more. In the end, you will find yourself looking up into the branches of the trees around your home and seeing the things you need.

This book is the first English translation of Jögge's classic Swedish publication. It presents a gorgeous peek into a work that is dominated by saturated colours, crisp bevels and handmade work. In addition to introducing you to the pieces you can make for your home, Jögge shows you how to grip the knife to produce the cuts shown in the book safely and efficiently, as well as showing you how to replicate the deep colours on your pieces that are positively mesmerising.

The Lost Art Press edition of this book has been two years in the making, involving translators on two continents, plus additional drawings and text that help explain the work to an audience that is unfamiliar with the concepts of slöjd. Lost Art Press have sought to reproduce the Swedish edition of this book in every way possible, from the paper's opacity to the binding and endsheets. In short, this is a high-quality book that is designed to last for generations. Priced at £32.95, see **www.classichandtools.com** for more information.

FREE READER ADS

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

Collection of 10 Stanley and Record Planes, ranging from No.3 up to No.6. Would like to sell as a lot for around £450
01236 761 430 (N. Lanarkshire)

WoodRat 900 in very good condition, plus full instructions; OIEO £400. Also selling cutter set – price negotiable. Buyer collects or shipping extra
07905 235 820 (Surrey)

Leigh D4 24in dovetail jig & accessories. As new; around 50% discount on new price – £300
01278 457 619 (Somerset)

Acorn No.4 smoothing planes made by Stanley; £20 plus P&P
0208 641 4238 (Surrey)

2 × rosewood mortise gauges with brass fittings; £35 plus P&P
0208 641 4238 (Surrey)

MC-900 wood lathe; 30in bed; £220 - buyer collects
01872 823 874 (Rutland)

Freud spindle moulder, tooling rail & stile set, panel raising set, stacked groover set, plus 125mm rebate block. All 30mm bore; £400
01497 847 065 (Hereford)

Axminster AW19FM floor-standing mortiser – unused; £400 – buyer collects
01953 883 417 (Norfolk)

Old wooden carpenter's Victorian spokeshave with clamp for blade; £45 plus P&P
0208 641 4238 (Surrey)

Stanley plough plane No.13-52 – one blade with plastic handle; £30 plus P&P
0208 641 4238 (Surrey)

Stanley No.6 fore plane with wooden handles; £45 plus P&P
0208 641 4238 (Surrey)

Stanley No.5 jack plane - in original box with wooden handles; £40 plus P&P
0208 641 4238 (Surrey)

Perform chip extractor – in good working order; £45 – buyer to collect
07801 183 540 (Derbyshire)

Ryobi Pro RBS 5518 bandsaw – with cast-iron table, fence and mitre gauge; can be bench-mounted but is on a floor stand with two lockable castor wheels. In excellent condition; £150
01793 812 182 (Swindon)

MULTI-PURPOSE SHARPENING

Capable of sharpening chisels and plane blades as well as knives and scissors, this handy water-cooled sharpening device allows you to carry out cheap, quick regrinding

There are plenty of ways to sharpen edge tools, but when it comes to restoring the primary bevels on chisels or plane irons the wetstone method is arguably the best. A slow rotational speed means the steel is very unlikely to overheat, while the flow of water means waste particles are washed into a trough. With several relatively heavy machines on the market designed specifically for the job, some are way beyond the pocket of most woodworkers. Many of us would love a Tormek grinder in the workshop but simply cannot justify the cost. However, this budget wetstone grinder from Multi-Sharp may be the answer if you only want to do occasional regrinding. It's also small enough to keep in the toolbox if you're working away from the workshop but still need to revitalise those edge tools.

Although it's been around for a good few years, the Multi-Sharp is worth revisiting. You'll need either a cordless or 240V drill for power and it seems to work equally well with either tool. If you've a queue of tools waiting to be reground, then make sure you've got a spare battery if using a battery drill.

Planes & chisels

You first need to screw a plastic baseplate to the edge of a board or bench top. This incorporates a water trough and enables the wheel housing to be clipped into place over the top. Next, you insert the spindle of the grinding wheel into your drill, which just rests on the board and doesn't need clamping. Tighten the jaws, select the highest speed (max 3,000rpm) and you're ready for action. Before grinding it's necessary to fill the trough with water, a maximum level line helping to prevent overfilling.

Blades from 10mm to 60mm in width can be fitted in the blade holder, which accepts both plane irons and chisels. The rail above the wheel housing is adjusted to suit the grinding bevel, with four preset angles: 25, 30, 35 and 45°. Lifting up a bar enables you to slide the rail to the required setting, a small window indicating the angle. Push the bar down again to lock the setting.

Next, the blade holder is hooked over the rail and you insert the blade, which is clamped firmly and tightened with a knob. Once you've checked the blade is square you can switch on the drill. You'll need to clamp the power trigger in the on position if using a cordless tool. To prevent damage to the blade the holder sits slightly away from the wheel, coming into contact when you finally click the holder fully downwards. Then it's simply a case of moving the tool sideways along the rail for grinding. The flow of water starts as soon as the wetstone rotates.

You first need to screw a plastic baseplate to the edge of a board or bench top

This incorporates a water trough and enables the wheel housing to be clipped into place

Tighten the jaws, select the highest speed and you're ready for action

Before grinding it's necessary to fill the trough with water – a maximum level line helps to prevent overfilling

The blade holder is hooked over the rail and you insert the blade, which is clamped firmly and tightened with a knob

It's simply a case of moving the tool sideways along the rail for grinding

It's easy enough to remove the blade holder to check progress, and restoring the primary bevel on a wide plane iron was fairly quick

A leather strop is included with the kit if you need it, which can also be screwed to the board or bench

The drill should run at its slowest speed and the blade drawn across the wheel lightly on each side

It's easy enough to remove the blade holder to check progress, and I found that restoring the primary bevel on a wide plane iron was fairly quick. Obviously, the narrower the blade the faster it's reground. Getting the edge dead straight is not easy with a relatively small wheel, and you'll need to check for square every now and again. You'll get plenty of filings built up around the blade, but these can be brushed off.

You can use the wetstone for creating a secondary bevel, though the wheel alone will not give a polished finish, so for finer woodwork you'll still need to hone your tools. A leather strop is included with the kit if you need it, which can also be screwed to the board or bench.

Knives & scissors

For sharpening knives you remove the blade holder and clip on the knife guide. The drill should run at its slowest speed (ideally 1,200 to 1,500rpm) and the blade drawn across the wheel lightly on each side. Even though this guide is quite flimsy, it's easy enough to get a keen edge.

Turn the scissors over, repeat the action and that's it

With the toolrest attachment clipped over the scissor guide it's possible to restore the tips of nail punches, screwdriver blades, etc.

For scissors, life becomes even simpler as you don't need an attachment. With scissors resting on the guide directly in front of the wheel, draw the upper blade across it a couple of times. Turn the scissors over, repeat the action and that's it.

With the toolrest attachment clipped over the scissor guide it's possible to restore the tips of nail punches, screwdriver blades, small cold chisels and similar. A series of perpendicular and angled grooves give guidance for grinding here, so you choose whichever is closest to the existing tip. Multi-Sharp stress that you shouldn't attempt to regrind TCT tools on this device, though.

To change the 60mm aluminium oxide wheel, you just remove the centre screw and paper washer, then replace. Replacement wheels cost around £5, but see reader offer details below.

Conclusion

Unlike the Multi-Sharp drill bit sharpener (tested in *GW*324), the wetstone grinder works quite happily with a cordless drill. It's a fast, simple solution if you're not too fussed about getting a dead square edge to your chisels and plane blades. Handy for a range of other small tools, too. It's not a replacement for a Tormek, but cheap enough. **GW**

SPECIFICATION:

- Re-sharpens even badly damaged chisels/plane blades
- Clamp firmly holds the blade at the selected angle
- **Blade capacity:** 10-60mm wide
- **Sharpening angles:** 25°, 30°, 35° & 45° for primary & secondary bevels, plus rebate chisels
- **Grinding wheel:** High quality aluminium oxide (replaceable)
- **Construction:** Very strong glass-reinforced nylon
- **Power source:** Any electric drill

- **Typical price:** £19.95 (plus £4 P&P)
- **Web:** www.multi-sharp.com

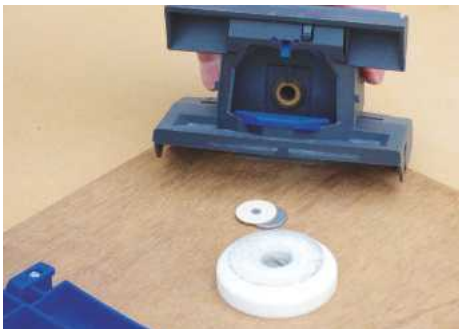
READER OFFER

Multi-Sharp is also offering a special reader offer on this product, which usually retails for £19.95 (plus £4 P&P) via their website – **www.multi-sharp.com**. The offer allows you to save 16.7% on this price – £17 – and also gives a reduced postage and packing rate of £2.95.

As an additional extra, there is also an offer on the replacement grinding wheels for the wetstone sharpener, when ordered with this product. Save £1.45 on aluminium oxide wheels, which are priced at only £3.50 each as opposed to the £4.95 stated on the website. When ordering, please email **admin@multi-sharp.com** and quote the following code: **'Good Woodworking Offer G2'**. Upon ordering, please quote your order (i.e. 1 × MS3001EM aluminium oxide replacement wheel), along with your name, delivery address and daytime phone number. On receipt, Multi-Sharp will call you to confirm your order, and take payment. Please note that this offer is not to be used in conjunction with any other Multi-Sharp offer

THE GW VERDICT

- **PROS:** Uses cordless or mains drill; cheap, quick regrinding
- **CONS:** Plastic construction means some flexing; cordless drill trigger requires clamp
- **RATING:** 3.5 **out of 5**



To change the 60mm aluminium oxide wheel, you just remove the centre screw and paper washer, then replace

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BEST SELLER

CTS10D

INCLUDES LEFT & RIGHT TABLE EXTENSION

MODEL	MOTOR	BLADE	EXC.VAT	INC.VAT
CTS800B	600W	200mm	£72.99	£87.59
CTS11	1500W	254mm	£154.99	£185.99
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°

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- 1500W motor
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Clarke WOODWORKING VICES

STANLEY Record

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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

BLACK & DECKER POWER PLANERS

TE-PL850

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MODEL	MOTOR	DEPTH OF CUT	EXC.VAT	INC.VAT
Einhell TE-PL850	850W	3mm	£54.99	£65.99
B&D KW750K - GB	750W#	2mm	£57.99	£69.59

Clarke 1" BELT/ 5" DISC SANDER

- Includes 2 tables that tilt & lock
- Quality Induction 300W motor

CBS1-5

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

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8/250

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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

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CS4-8

Clarke DUST EXTRACTOR/ CHIP COLLECTORS

CDE7B

CWVE1

FROM ONLY £109.98 EX.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

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20" BOX FAN

18" PEDESTAL FAN

NEW

CPF18B

CBF20

*chrome #black

MODEL	SIZE/TYPE	EXC.VAT	INC.VAT
CBF20	20" Box Fan	£36.99	£44.39
CFF18C* NEW	18" Floor Fan	£39.98	£47.98
CFF18B# NEW	18" Floor Fan	£39.98	£47.98
CPF18B NEW	18" Pedestal Fan	£49.98	£59.98

Clarke AIR TOOLS

CAT165

CAT111

FROM ONLY £21.99 EX.VAT £26.39 INC.VAT

HUGE CHOICE IN-STORE/ONLINE

MODEL	DESCRIPTION	EXC. VAT	INC. VAT
CAT111	Orbital Sander	£21.99	£26.39
CAT160	6" Dual Action Random Orbital Palm Sander	£39.98	£47.98
CAT165*	10mm Air Belt Sander	£39.98	£47.98
CAT168	50mm Right Angle Orbital Sander	£34.99	£41.99

*was £59.98 inc. VAT

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 EX.VAT £179.98 INC.VAT

Clarke DISC SANDER (305MM)

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

£129.98 EX.VAT £155.98 INC.VAT

CDS300B

Clarke BELT SANDERS

- Ideal for surface removal, sanding and finishing

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BS1

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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 DETAIL SANDERS

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

CDS-1V

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

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

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Clarke SHEET SANDERS

- Ergonomic design for optimum comfort

*was £41.99 inc.VAT

CON300

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

MODEL	SHEET SIZE	MOTOR	EXC.VAT	INC.VAT
COS200	190X90mm	150W	£16.99	£20.39
CON300*230X115mm		330W	£32.99	£39.59

Clarke RANDOM ORBITAL SANDER

- Adjustable front handle improves control
- 7000-14000rpm

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CROS3

INC DUST BAG AND SELECTION OF 125MM DIAMETER SANDING DISCS

Clarke ELECTRIC POWER FILE

CPF13

- Variable belt speed
- Tilting head

*Black & Decker

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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°)

CON185

*Includes laser guide

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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

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

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* 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 PORTABLE THICKNESSER

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- Planing depths adjustable from 0-2.5mm
- Powerful 1250W motor

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CPT250

Clarke 18V CORDLESS DRILL/DRIVERS

Clarke CONTRACTOR

powered by Li-Ion

CON18Li

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MODEL	VOLTS	BATTS	EXC. VAT	INC.VAT
CON18Ni	18V	2 x Ni-Cd	£69.98	£83.98
CON18Li	18V	2 x Li-Ion	£89.98	£107.98

Clarke CONTRACTOR 18V BRUSHLESS COMBI DRILLS

- 2 forward and reverse gears

NEW RANGE

powered by Li-Ion

CON180LI

FROM ONLY £109.98 EX.VAT £131.98 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	£169.98	£203.98

Clarke COBS1 OSCILLATING BOBBIN SANDER

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

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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

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CPT800

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- Dual purpose, for both finishing & sizing of timber

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MODEL	PLANING WIDTH	MAX THICK. CAPACITY	EXC. VAT	INC. VAT
CPT600	6"	120mm	£184.99	£221.99
CPT800	8"	120mm	£219.98	£263.98
CPT1000	10"	120mm	£299.00	£358.80

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- Dust collection port
- Inc. sleeves, drum & belt

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CBS350	340mm/14"	225mm	160mm	£498.00	£597.60

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*DIY

MODEL	MOTOR (W)	PLUNGE (mm)	EXC.VAT	INC.VAT
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

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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

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EDGE SANDING MADE EASY

Representing good value for money, this portable oscillating spindle sander from Triton, featuring four drum sizes, is ideal for tidying up internal edges although the lack of storage case is disappointing

Probably more so than any other type of power tool, there's a plethora of sander formats to choose from these days. Just when you thought there was probably nothing left to invent in the way of abrasive tools, along comes this latest product from Triton, a portable oscillating sander. When cleaning up internal cut-outs of panels, worktops and solid timber, it can be tricky to get edges dead square. Using a router with a suitable long, straight cutter is one alternative for tidying up curved work, though this can mean making an accurate template first. Fine for repeat operations, though not always feasible or cost effective for one-off tasks, but this sander should make such jobs much easier.

Handheld sanding

Designed for sanding perpendicular edges (rather than bevelled), the TSPSP650 is guided along the surface while a vertical rotating abrasive drum moves up and down. Unlike many sanders the tool is ideally held with both hands, though can be guided with just one. Rubber palm grips at both ends and on top of the chunky plastic casing give several options. Like many Triton tools this is quite beefy at 2.3kg, so it's simple to control if there's a sufficiently wide surface.

Motor rating is 650W, with a recessed on/off rocker switch easy to reach at the front. With variable-speed range from 1,800 to 3,200rpm, this is selected via a thumb dial below the power switch. Stroke length is 6.5mm, which may not sound much but it's pretty efficient. The spindle oscillates between 50 and 90opm.

The power cable is a reasonable length at 2.6m. A detachable plastic dust outlet (32mm diameter) twists into a port at the rear of the tool and enables you to hook up an extractor.

Four 75mm deep abrasive sleeves are included, with internal diameters of 13, 19, 26 and 38mm. The smallest fits directly over the steel spindle, while the other three sleeves each slide on to matching drums made from dense rubber. These are a cinch to fit over the spindle with locking thumbscrew and washer. As you tighten them the drum expands slightly to grip the abrasive sleeve. There's no indication of the abrasive grade, though I'd guess they're about 80 grit. Spare sanding sleeves are available in 80, 150 and 240 grit.

For sanding straight, rather than curved edges, a guide is provided that's screwed to the baseplate. There's some adjustment here to prevent digging in or too much material being removed when sanding.

Unscrewing the plastic cover reveals a steel plate and both should be removed occasionally to clean debris from around the extractor port, internal channel and drive belt. This is particularly important if using the sander without a vacuum extractor.

Benchtop sanding

For some sanding tasks it's easier to keep the tool stationary and move the workpiece instead. Triton include a couple of L-shaped steel clamps so you can invert the sander. These are threaded and the sander is secured with wingnuts. Maximum benchtop thickness is 103mm, and a rubber mat is provided to

Unlike many sanders, the tool is ideally held with both hands, though can be guided with just one

Motor rating is 650W, with a recessed on/off rocker switch easy to reach at the front

A detachable plastic dust outlet (32mm diameter) twists into a port at the rear of the tool and enables you to hook up an extractor

The smallest sleeve fits directly over the steel spindle

These are a cinch to fit over the spindle with locking thumbscrew and washer

As you tighten them the drum expands slightly to grip the abrasive sleeve

For sanding straight, rather than curved edges, a guide is provided that's screwed to the baseplate

There's some adjustment here to prevent digging in or too much material being removed when sanding

Unscrewing the plastic cover reveals a steel plate

prevent the sander marking the surface when these are tight. Once secure the tool is pretty solid, making it a useful device for sanding smaller items. I'm sure some owners will build a small platform to surround the baseplate, increasing both workpiece support area and the TSPSP650's potential.

Conclusion

This is not an especially quiet tool, though that's true of many powered sanders. It will appeal to kitchen installers or anyone working with solid timber worktops. Cleaning up internal cut-outs for sinks, basins or whatever may not always be crucial to the finished job, though fastidious woodworkers will prefer hidden edges to be as well finished as those on display. It's great for cleaning up shaped moulds such as those used for shallow stringed musical instruments, though limited depth capacity means that deeper guitars and similar are restricted. With several drum sizes included, it should make cleaning up electric guitar bodies or templates somewhat easier, however.

For sanding larger projects it's better to use the Triton handheld above a surface. It's more controllable than trying to balance items on the relatively small baseplate when inverted.

Disappointingly, there's no storage case included, simply a cardboard box. No doubt other manufacturers will jump on the oscillating sander bandwagon soon, but for now this Triton is almost alone. Typically priced around £80, it's good value, too. **GW**

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The L-shaped steel clamps are threaded and the sander is secured with wingnuts

For sanding larger projects, it's better to use the Triton handheld above a surface

SPECIFICATION:

- **No load speed:** 1,800-3,200rpm
- **Oscillations per minute:** 50-90opm
- **Power:** 650W
- **Dimensions (L × W × H):** 262 × 84 × 261mm
- **Weight:** 2.2kg
- **Sound power LW:** 97.4dB(A)
- **Sound pressure LPL:** 86.4dB(A)
- **Stroke length:** 6.5mm
- **Supplied with:** Sanding sleeves & drums (13, 19, 26 & 38mm); edge guide; pair of bench mounting clamps; bench mounting mat; dust extraction port adaptor; inversion kit & instruction manual

- **Typical price:** Under £90
- **Web:** www.tritontools.com

THE GW VERDICT

- **PROS:** Ideal for tidying up internal edges; can be inverted and clamped to bench; four drum sizes
- **CONS:** Cannot tilt base; limited abrasive grades; restricted to edge sanding
- **RATING:** 4 **out of 5**

Plastic cover and steel plate can be removed to allow cleaning of debris from around the extractor port, internal channel and drive belt

BEAUTY & THE BEAST

Edward Hopkins takes the Coronet Herald for a drive

I told myself that I wasn't a turner, and I was right. I have done a fair bit a long time ago, but as usual, I made it up as I went along, which often meant taking the long and perilous way round. I became wary. The lathe I had was a home-made beast, its massive motor often needing to be spun by hand to get it going; the lights would dim and I'd hope for take-off before it tripped the electrics. Then, although I had a proper chuck, I had to make my own from ply, which threatened to take my knuckles off. The centre of the tailstock was fixed rather than spinning, and often it would burn. So all in all, I thought I had better things to do, and I gave up.

Fast forward. I was given the splendid gift of two day's one-to-one tuition with a potter and I loved it. I was tempted to abandon woodwork altogether and throw pots full time, but common sense reminded me that I was a complete novice. What I liked about potting was the speed of production. Furniture making is a drawn out affair but a pot can be thrown in a matter of minutes. That dream faded in the light of day and though I would like to get back to it, I haven't thrown a pot since.

A thing of beauty

The resolution of these two interests came a week or so ago. I took receipt of a Record Power Coronet Herald heavy-duty cast-iron electronic variable-speed lathe (a bit of a mouthful) and all its bits and pieces (a chuck with enough jaws to make a movie – these cost extra). It was a simple matter to bolt it together, though very heavy for one person to safely manhandle upright, and after a couple of hours I stood back to look at it. It is a Beauty. Spanking new and simultaneously old-fashioned; cast-iron precisely machined, well designed and solid, it inspires confidence. Turn it on and its soft start whispers it into

The headstock swivelled through 90° for larger work, and the toolrest fitted with an additional crank

motion. The widely splayed legs afford good stability even without being bolted to the floor. For extra solidity they can be filled with sand – an amusing detail which shows something of the thoroughness of design.

I couldn't wait, so I mounted a block of burr oak and had a go at a bowl. Delight! My technique was as wrinkled and faulty as the wood itself, but I still managed a result. And this is my point. I would never have tried this on the Beast, but the Beauty invited it. While of course turning has its inherent hazards, the lathe itself oozes assurance. Turn the workpiece by the handwheel to ensure it clears the toolrest; set the variable-speed knob at its lowest, and switch on. It is gentleness itself; and it is also power, for compact it may be but it has all the umph! you'll need.

Turning tuition

I then had the brilliant idea of seeking tuition, and straightaway I knew from whom. Don White is a top class turner, now semi-retired and a good man. He lives a couple of hundred yards from the wind blasted North Cornwall coast, less than an hour's drive from me. I felt privileged to be able to avail myself, and off I went for a one-day masterclass. It's surprising how many things I'd done wrong and still turned what I needed to an adequate standard. He didn't suppress a smile as one by one he put me right, correcting my grip, my stance, my action (everything really) and the bevels of my chisels, restoring a shine to both them and me.

Turning is a joy. It's a perfect hobby – or profession. I know that many of you are already experienced, but if you're not, I recommend it. You'll need a bandsaw, a grinder and dust extraction but not much else. Oh yes, a clock on the wall because you'll lose track of time. 'All you need now is practice', Don said as we parted, so I started immediately before his wisdom deserted me. My first few efforts were encouraging. I had

In front: the heavy yet delightful Coronet Herald; behind: the heavy and horrible thing I've abandoned (though for not much money 35 years ago – it did the job and I am grateful)

the almost obligatory dig-in in the final moments of a thin-walled platter, which then became a two-part thin-walled platter, but hey-ho!

In use

The headstock of the Herald can swivel round so that larger platters, etc. can be turned. An additional casting (an 'outrigger') allows the toolrest to be cranked round to cope with this configuration. There are three positions for the belt. Most work, given the variable-speed, can be done on the middle setting, but

I have yet to learn about REVERSE. Presumably it's for when you've taken too much wood away and you want to put some back...

when I use some offcuts of James' wide ash table (boards 18in in diameter), I imagine the slowest setting might be appropriate. The Beast with its huge bed made of floor joists could accommodate a whole table leg or section of a four-poster bed. The Beauty in its standard mode will take 508mm between centres, but a bolt-on bed extension is available separately. It gives an extra 407mm, so the total capacity between centres when it's used is 915mm.

I was momentarily confused because on the Beast, the swing-over-bed was the same as the maximum bowl radius (not that I was ever that brave). I asked Record why the Herald's statistics are different. They replied: '533mm is the recommended limit based on the reach of the toolrest extension and also the size and power of the machine. I'm sure larger is possible, particularly if a floor-standing bowl rest is used, but that's what we recommend as a safe and realistic size'.

Conclusion

In terms of the control box, if I had to find fault (well, mild personal criticism), it would be with the ON and OFF switches, which, for all their modernity, are a bit fiddly – not as clear and authoritative as the rest of the machine. I'd rather have a more obvious physical switch especially for OFF, though of course the big red button is an emergency slap-to-OFF if anything awful happens.

And as for the price? It's a lot, and not a lot at the same time. I stood with Don White beside his impressive but elephantine Harrison Graduate lathes, and we discussed it briefly. Very briefly. 'Very reasonable' he said. **GW**

SPECIFICATION:

- **Max bowl diameter:** 533mm
- **Max between centres:** 508mm
- **Max swing over bed:** 355mm
- **Spindle speeds:** 95-3,980rpm
- **Motor input:** P1:1 kW
- **Motor output:** P2:0.75 kW
- **Thread:** M33
- **Taper:** 2 Morse taper
- **Weight:** 48kg
- **Dimensions (W × D × H):** 870 × 290 × 252mm

- **Typical price:** £999.99 (plus £59.99 carriage)
- **Web:** www.recordpower.co.uk

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FELDER GROUP UK SPRING IN HOUSE EXHIBITION

FELDER GROUP UK recently hosted their annual Spring In house Exhibition at their UK headquarters in Milton Keynes. Visitors were given a great opportunity to see one of the widest range of machines on the market and have one-on-one time with the technical sales team, product managers and service technicians. The real highlight of the show, however, was the live demonstrations that were performed on the Hammer A3-31 planer/thicknesser, which was equipped with the award-winning Silent-POWER spiral cutterblock.

Felder Group UK's Chief Executive, Matthew Applegarth, commented: "It was great to see so many people in our showroom across the two days and for us to be able to demonstrate just how good our machines really are!"

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For more information on any products and services from FELDER GROUP UK, visit **www.felder-group.co.uk** or call **01908 635 000** to speak to one of their expert advisors.

1 A veneer saw run against a straight edge is ideal for cutting across the grain

2 Veneer sheets, typically 0.6mm thick and 50mm to 400mm wide, are bought and stored in the sequence in which they were cut

USING VENEERS FOR FURNITURE MAKING

Continuing with his series, here, John Bullar gives a background on how veneers are produced commercially before discussing traditional and more modern methods

Many high-end furniture makers use veneering extensively, and it's not hard to see why – it means exotic timbers can be employed in the most environmentally friendly way possible and large surfaces can be created with matching figuring. Alternatively, contrasting grain patterns and colours can be used to create ornamentation or visual images.

Veneering also allows different materials to be used to build stable rigid designs, not trapped by the conventions of solid wood construction, while the grain of the veneer need not reveal the construction.

3 Traditional hot animal hide glue being spread on a plywood substrate with lipped edges ready to take the veneer

Commercial veneers

I'll start by giving a bit of background on how veneers are produced commercially. Large carefully selected logs are ripped into sections known as flitches. Laden with moisture, each flitch is mounted on the moving carriage of a veneer-slicing machine where a fixed knife blade repeatedly peels off sheet after sheet of veneer. The veneers pass in sequence through a warm air-drying machine while rollers press it flat.

Veneers typically come out from this process 0.6mm thick, although other gauges are available. Unlike a saw, the knife produces no kerf thickness so there is no waste – slicing in this way can produce thousands of square feet of veneer from a single tree trunk. Importantly, for the furniture maker, it gives excellent figure matching between adjacent pairs of veneers, provided they remain stored in sequence.

Rotary peeling is a variation on this system used like a pencil sharpener to extract long continuous sheets from a prepared rotating log. The figuring has a rather un-natural look and tends to be used as a value-for-money backing veneer.

Suppliers cut veneers to size using a guillotine while a small veneer saw, with straight set teeth working equally in both directions, does the job in the workshop (**Pic.1**).

Groundwork

To make veneered furniture it is most important that the groundwork (or substrate) on which the veneer is laid is well constructed and stable. Good marine ply or MDF are used for panels with solid wood for shaped features.

The veneer itself must be carefully planned and prepared then firmly bonded to the groundwork using suitable adhesive and pressure. Several different methods are used as described below. Once set, the surfaces must be suitably finished in such a way as to not cut through the veneer and expose the groundwork.

Solid lippings

Edge lipping is made from solid wood to match the veneer; this enables the maker to shape and profile edges so they are more robust than narrow veneer strips would be. Lippings can initially be made wider to apply even clamping pressure, then they are ripped down to width and shaped once the glue has set (**Pic.3**).

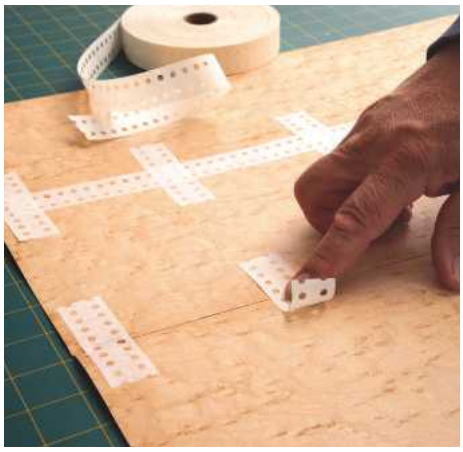
Traditional technique

Animal hide glue, once used extensively for most woodworking, has the property of forming a weak bond known as 'grab'

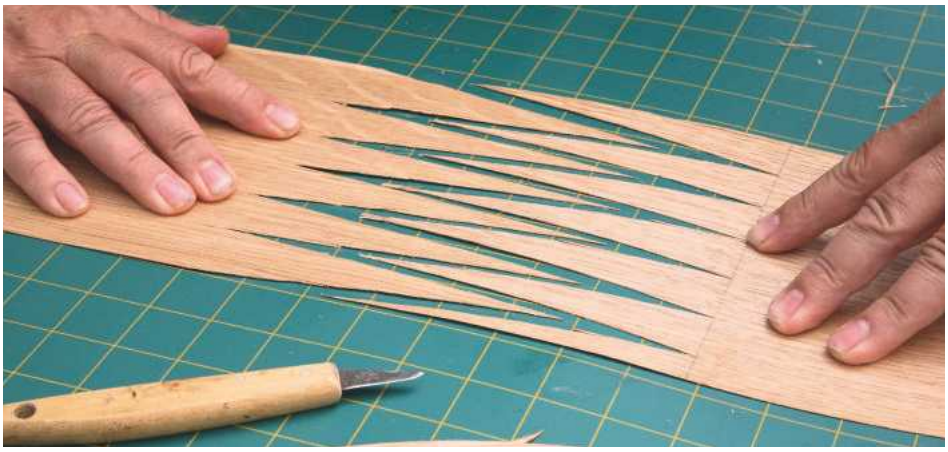
4 Pre-cut oversize the veneer is laid in hot glue, cut through with a craft knife then lifted at the edge to remove offcuts

5 The joint is finally pressed down firmly using a veneer hammer

6 Veneers cut on the bandsaw to a thickness of 1.5mm



7 Veneering tape pulls edges together when moistened while holes allow penetration of the glue



8 The integrity of end joints is improved by a series of interlocking 'V' cuts, which also disguise the joint

in a matter of seconds, while its final strength builds up over a day or two. If you want to see a video I put online showing this technique in action, search for 'John Bullar hide glue'.

Veneer pressed into hide glue that has been spread on a substrate board will cling in place before it finally bonds (**Pic.4**). Provided you work quickly, the veneer can be peeled up to remove offcuts or adjust its position, then pressed back into place with a tool called a 'veneer hammer' (**Pic.5**).

To counteract shrinking effects from drying, a balancing veneer is applied to the underside of any large panel in decent quality work.

Cut your own veneer

Cutting your own veneers allows for creative use of interesting timbers that would not otherwise be stable enough for furniture making. It also enables the maker to combine solid and veneered techniques from the same wood source.

Veneers cut on the bandsaw need to be twice or three times the thickness of commercial veneers (**Pic.6**). The bandsaw must have a sturdy high fence fitted and the face of the timber should be planed before it is sawn.

Jointing veneer sheets

Sheets of veneer can be cut and joined edgewise or endwise before they are laid in the glue (**Pics.7** & **8**). This is essential if the veneer is going to be put in a press to set, as described below.

If the veneers are cut from burrs (knotty growths common on hardwoods such as oak and walnut) they may need to be flattened before use (**Pic.9**). This is best done by spraying with water mist then pressing between cotton sheets with a clothes iron. Burr veneers are tricky to cut with accuracy so best glued to the substrate first (**Pic.10**).

Veneer presses

Screw presses, similar to an early printing press or cheese press, were traditionally used with animal glue for larger scale >

9 Burr veneers are particularly prone to buckling when they are dry and, being brittle, they need dampening with water before they can be flattened

10 More complex shaped groundwork like this dashboard can be glued up before details are cut in the veneer

13 Multiple layers of veneer can be cut with a fine-bladed scrollsaw

11 Glue is applied to a large substrate board using a rubber roller

12 With veneer carefully laid in the glue the board is inserted into a vacuum bag press

14 Bandsawn veneer sheets have been scrollsawn to make this interlocking pattern

veneering work. Synthetic resin glues or PVA types have little grab, so they can only be used for veneering with a press. Nowadays veneer presses are generally large hydraulic machines, sometimes heated to speed up the process or used with heat setting glues.

However, there is an alternative to these large expensive machines for the small-scale maker, and that is the vacuum press bag (**Pic.11**). Groundwork up to several square metres is spread with glue and veneer laid on it, taped in place if necessary.

The whole sandwich is then inserted in a heavy-duty vinyl bag connected to a vacuum pump (**Pic.12**). When the pump is turned on, atmospheric pressure pushes through the bag onto the veneer with a force of several tonnes per square metre.

Patterns & pictures

Veneer work can be used for parquetry, which is geometric patterning in wood, and marquetry, which is producing pictures in wood. Different species of wood and grain directions produce a range of visual textures and colours. Both these techniques, along with combinations of them and inlay work, are used to produce unique and beautiful furniture, often the sort that wins prizes in competitions.

Thick inlay, such as the kind cut on a bandsaw, needs to be sawn with a fretsaw or scrollsaw in order to produce patterns (**Pics.13** & **14**). The traditional tool for this work was a wooden frame known as a 'marquetry donkey'.

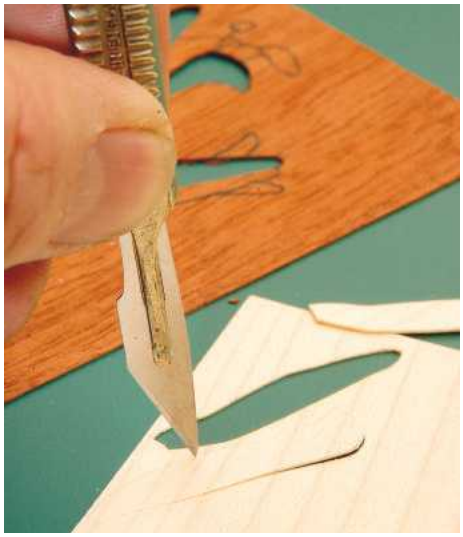
Thin commercial inlays can be cut into patterns with a craft knife. The technique when producing a simple marquetry picture is to first draw the pattern onto the background veneer. This can be cut out and then used as a template for the next sheet of veneer. Working through each veneer in turn like this will guarantee that every component of the picture fits perfectly with the others to which it is glued (**Pics.15** & **16**). The completed marquetry piece is then glued and pressed onto a substrate, such as a door panel or box lid.

Conclusions

Traditional veneering with hide glue and a veneering hammer is ideal for small-scale work or occasional veneering while a vacuum bag or press is better for larger work. In the past, some veneered furniture gave the technique a bad reputation – generally when veneer was poorly applied to cover badly constructed groundwork, driving costs down in a dishonest way. However, well-constructed furniture using veneers creatively is a different matter – good quality veneering opens up many possibilities to the innovative furniture maker. **GW**

NEXT MONTH

In the next issue, John will look at using laminating techniques in furniture making



15 Marquetry designs are pencil marked on the background veneer, which is then cut through and used as a template for other veneers

16 In order to build up a picture, individual components of the marquetry pattern are inserted and glued one inside the other

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RUN, RABBIT RUN!

Dave Long's simple design for furry friends, comprising of six frames, can easily be assembled, disassembled and stored by one person

We have owned pet rabbits for many years and in that time I've built quite a few variations on runs, but this design is my most practical yet; it's robust and can be easily assembled, disassembled and stored by one person. The one in my garden has six frames, so depending on how the garden is being used on any given day, the rabbits can have a big run (all six) or a smaller one (using four).

TIME TAKEN & COST

With the timber in the workshop, the process of cutting, jointing and fixing all six frames was completed in less than four hours. Cost is really driven by a few factors:

- **Length of each frame**. The gravel board cost £2.28 per metre, so a frame 1,500 × 620mm would use just under 2m (yields 4m linear at 75mm wide), so £4.79 assuming a standard 2.1m length was purchased. A 1,800mm frame uses 2.4m.
- **Gauge and size of mesh**. Shop around, and decide how much length you will need (as the cost per metre decreases the longer the role). A recent check on eBay showed 15m rolls of 1in mesh at 20 gauge were £18 and £26 for 16 gauge. A cheaper option is a 25m roll of 2in chicken wire for only £13, but this would not add rigidity to the frame. The cost of 1.5m of 16g works out at £2.60 (assuming you ultimately use all 15m).
- **Screw eyes**. These come in a range of sizes – as a minimum use 45 × 4.3mm eyes as the strength is required (the 4.3mm diameter shank). A pack of 50 delivered is £5 from eBay.
- **Connecting rod material**. Threaded 8mm rod is probably the dearest option. A pack of 3 × 1m on eBay is £8.95. You will also need some nuts and washers.

If you can find the items locally then ideally shop local, but eBay is a good benchmark for prices even with the delivery costs factored in. Based on my build of six frames (4 @ 1,800mm and 2 @ 1,500mm) and using two rods and 16g 1in mesh, the total cost of materials was approximately £70 (using prices from December 2017)

With the right tools, the entire frame can be built in less than four hours. If the mesh is attached manually (i.e. with U nails rather than an air stapler), allow a few extra hours, and a few bruised fingers! The length of each frame can be adjusted to suit the location, but the build process is the same.

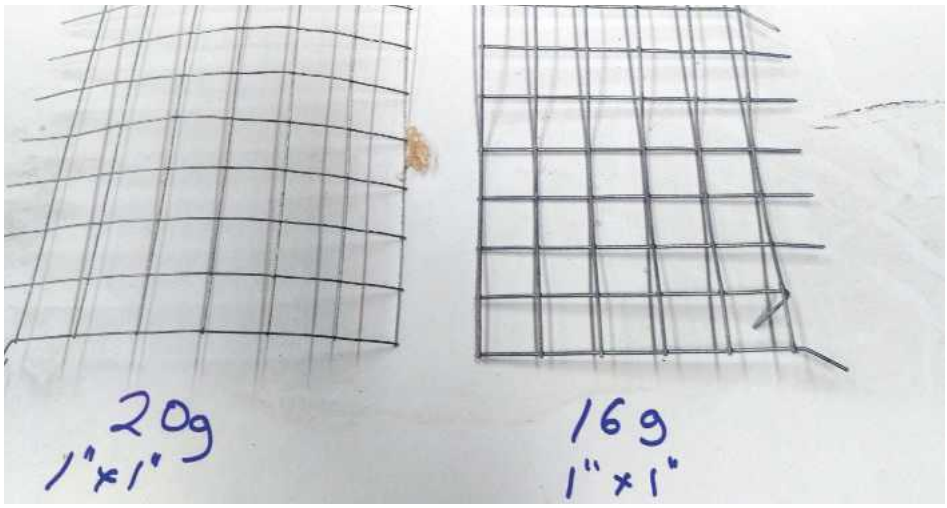
Design, dimension & material requirements

Height is an obvious factor as the rabbits (or whatever animal it will be used for) must not be able to jump out. Wire mesh is sold in various length rolls at 24in or 600mm wide (not quite the same as 24in), so setting the total height of the frames at 620mm avoids wastage and keeps the wire from the very edge of the frame. Rabbits are also not tempted to jump that high.

The length of each frame (they are all made the same way) can be adjusted to suit the location. The frames in the photos are a mix of 1,500 and 1,800mm long (this is a practical limit for handling and storage). Every frame also has to be identical except for length, so that any of the six can be fitted to any other as a straight line extension, or to form a corner – not just at right angles.

The run had to be able to 'store flat' and also be quick to assemble – the use of 'screw eyes' and metal connecting rods achieved this. The run also had to withstand being moved (typically by one person pulling a frame) so the screw eyes must therefore be big enough to exhibit the required strength. Earlier versions of this design used smaller eyes with thinner steel that tended to snap when pulled, so I now use 45 × 4.3mm (overall length and shank diameter).

The timber must also be treated for outdoor



1 Wire mesh gauge comparison

use and be thick enough to joint securely. The best compromise for weight and strength is 75 × 22mm finished section. I found the cheapest local option was to buy 'gravel board' from my local timber merchant and rip it down the centre; this is nominally 6 × 1in, but measured was 150 × 22mm.

The wire mesh needs to be strong enough with a mesh size to suit the animals. The thicker the gauge and the smaller the mesh you buy, the costlier it becomes. The run in this article uses 16g mesh with a 25mm spacing; this also helps to give rigidity to each frame. **Pic.1** shows 16g and 20g mesh side by side for comparison (both rolls were bought online; I found that DIY sheds seem to stock even thinner than 20g).

Connecting rods had to be no more than 500mm long, to be able to create two from a standard 1m length of threaded rod.

Finally, putting rabbits into a run is easy, but getting them out again can be a different matter entirely, so easy access was therefore required. Any frame connecting rod can be removed and that frame then moved to give access without needing to climb over anything.

Design & construction

This design is so simple: I just drew it onto a piece of paper then made a few test pieces to confirm that the frames could actually be >

2 Testing a straight joint

3 Testing a corner joint

4 Resawing gravel board to give 75mm wide planks

5 Cutting the rail mortise

6 With Domino referenced from the end

7 Setting the Domino position for the 22mm timber

8 Setting the pocket screw jig

9 Drilling the pocket screws

10 Ready for assembly

assembled in a straight line or as a corner using the screw eyes (**Pics.2** & **3**) – note the scrap timber is not full height. **Fig.1** shows the design that was created in SketchUp, just to create a neater image for this article.

The key part of the design is the positioning of the screw eyes. There are two at each end of each frame and they are located 170mm and 160mm from the top/bottom on the left-hand side and 160mm and 170mm on the right-hand side. When joined, there is a nominal 6mm between them (after allowing for the metal thickness). With this spacing, a 500mm rod with 18mm used for the washer and locking nuts will still reach down to beyond the lower set of screw eyes (which are 460mm from the top). Given that this length only just extends by 20mm, if the run is to be moved a lot then fitting a normal nut to the bottom of the rod will stop it 'jumping' out. In the photos, the rods are actually 550mm long as that is what I already had available.

At its simplest level, this is just a series of four pieces of timber jointed into a frame that is going to be used outdoors, so if you have very few tools, it can be made using just butt joints and metal joining plates. I have a well-equipped workshop, so used a glued Domino tenon reinforced with pocket hole screws. In earlier versions, however, I'd used 60mm wide timber that was 18mm thick and just pocket screws, but the joint didn't last well. Using 75 × 22mm timber gives more strength, as does the Domino, but you could use dowels instead.

Pics.4-7 show the Domino jointing process. This is straightforward once the reference edges are defined (these are demonstrated by the marks in **Pic.10**). With the Domino mortise cut, mark the location of the pocket

11 The joint once assembled

12 Fixing the mesh

13 The 19mm narrow crown staples used

14 Screw eyes fitted

15 Connecting rods

16 Ready for assembly…

17 … and five minutes later

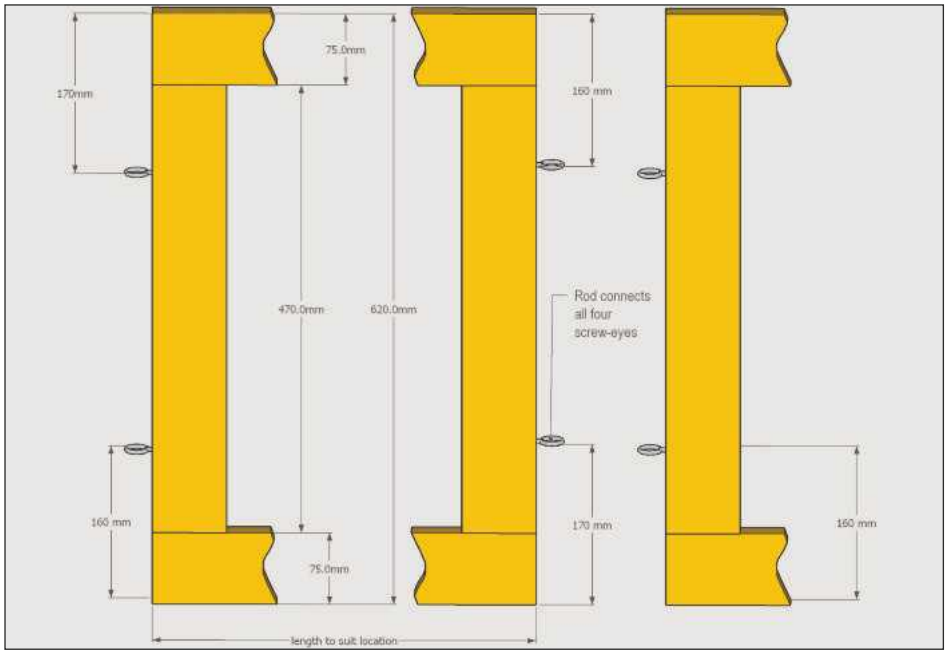


FIG 1. The rabbit run design

screws, set the jig width to that and drill the holes (**Pics.8** & **9**). You can then glue and assemble the frame (**Pics.10** & **11**).

With the frames assembled, it's time to fit the mesh. This is easier with a helper and spring clamps, particularly if the heavier 16g mesh is used. For many years I've used the little U nails to fit mesh, but last year I treated myself to an air powered narrow crown stapler – it can put in 40mm long staples – but for this, I used 19mm ones and the mesh was fitted to each frame in minutes (**Pics.12** & **13**). To give a better finished look, attach the mesh to the face that has the pocket holes visible, and with the frame assembled, drill pilot holes and attach the screw eyes (**Pic.14**), making sure to reverse the distances at each end of a frame (i.e. the top eye is 170mm from the top on the left side and 160mm from the top on the right side).

The final step is to make the connecting rods. I happened to have some spare 8mm threaded rod (which is typically available in 300 or 1,000mm lengths), so made the connecting rods using them and penny washers locked with nuts. This rod is actually quite expensive, but anything that fits through the screw eyes can be used. If buying rod just for this project, cut 3 × 1m lengths in half to give the six required. I had four rods at 550mm and four at 450mm, so rather than buy more rod, I bought some connectors from eBay for £1.50 (**Pic.15**).

Assembly

Pic.15 shows the six frames – all are identical except for their length (four are 1,800mm, and two are 1,500mm). Any frame can be joined to any other. Once the first frame is selected, join the next one to it – if you're lucky you will have presented it the correct way round and the eyes line up; if you're unlucky, just rotate the frame so that the other end's eyes are presented. Secure with a connecting rod and move on to the next one. I assembled the frame in less than five minutes on my own. The screw eyes are large enough to allow the completed run to then be set to any shape you desire (see sidebar below). **GW**

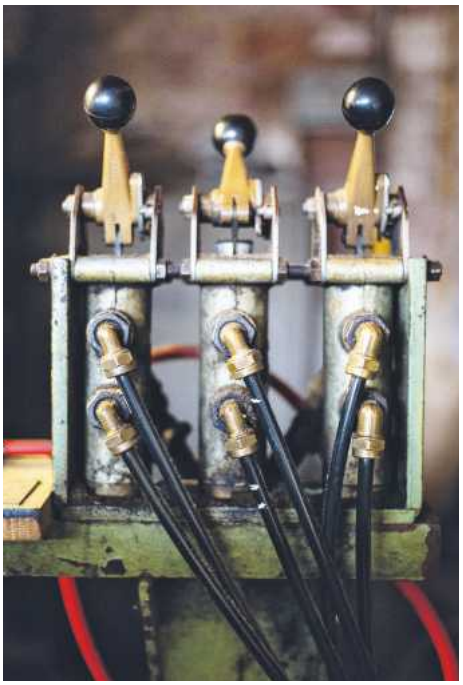
DIFFERENT RABBIT RUN CONFIGURATIONS

SAW-MILLING

North Shropshire Timber, **Dave Roberts** finds, delivers another slice of uniquely figured life in the borderlands

The creamy bands of yew's sap- and heartwood

400 years of epicormic growth gave this massive burr a parchment-like quality



Dave's Stenner bandmill was a paragon of 1964 technology, and is kept running today by cannibalising other machines

Sawn timber is sticked, stacked, and drying in air that's spiced with cedar and the tang of oak

The MT Sheds are a treasure trove of quarter-sawn, brown, pippy, and burr oak, ash, yew, beech, lime, cherry, and poplar

We're down in the lowlands along the border, where the tattered mists of a slow-springing April hang in the hedgerows; from Maesbury Marsh, a leaden stretch of the Montgomery Canal points like a compass needle to the old airfield at Rednal where Dave Hinton's North Shropshire Timber is quartered behind the old runway and its control tower.

The puddled hinterland of service roads and maintenance sheds, with their broken Crittal windows and outcrops of dismantled machinery, would be almost unrecognisable to anyone who knew this site as a wartime operational training unit. It is, however, an almost perfect metaphor for saw-milling: it looks – in its honest, working way – as rough and ready as some of the logs and butts that are hauled and stacked here, but beneath the superficial dirt of yard and timber you'll find the treasures of heartwood, burr and grain.

From Dave's office – where the warm heart of the wood-burner is surrounded by growth rings of paperwork, cutting lists, photographs, magazines, a bulldog clip stuffed with customers' returned cheques, and a rag in the roof where the rain comes through – down to the old motor transport workshops where sawn timber is sticked, stacked, and drying in air spiced with cedar and the tang of oak, you'll see everything you could want from a timber yard. There's stock, and plenty of it, the means to move it, and the facilities to machine it from in-the-round to planed-all-round. And in the few minutes that the walk will take you in the company of Dave and his terriers ("Have you got y'wellies?"), you'll also begin to discover the things that you want from a timber merchant but which can't be seen: experience, and plenty of it, and a friendly willingness to share knowledge. In fact, don't imagine that'll you'll be able to visit the yard without shooting the breeze for at least a little while. You're in the borderlands, after all; things are different here:

"I decided I was going to be a millionaire..."

"I used to put up milking parlours with my mate Polish," says Dave, who has lived on the Shropshire plain all 69 years of his life so far. "Then I decided I was going to be a millionaire, so I bought a Ford 3000 tractor for £650, a hedgecutter and a Wolsley 1300 car on the drip, and two suits from Hepworths, and off I went cutting hedges for farmers." This was back in 1976; the invoice book is still in a drawer in the desk, and Dave pulls it out to double-check. "Yes, '76. After six weeks the work's run out, so I take to me bed; one morning my mother shouts up the stairs, 'There's a letter here from the bank, you'd better get up!'"

From here the colourful story unfolds like something from H E Bates. From a job travelling the country, dismantling old sawmills and shipping them to Sierra Leone, there follows a plan to set up a sawmill at Rednal; this – "'cos I didn't know where you get the trees from" – leads to a chat over a pint with a lad called Pritch', who ends up being a life-long friend, but whose missing finger was, perhaps, the mark of an unreliable partner in business.

"I went out on a limb over more machinery, and me

and Pritch' got going. It was 1980, I had a wife and a baby at home, and I hadn't earned nothing. 'Hey Pritch', we're £480 overdrawn at the bank'. 'Dunna worry, Crockett,'" – Dave mimes a cigarette being held nonchalantly between one-and-a-half fingers – "'come and see me when we're £4,000 overdrawn'.

"We were working like dogs" – sawing pit props for the Coal Board, like many other mills in the area for whom the now-vanished mining industry was a major customer – "and not getting anywhere really. Then Pritch' says, 'Greasy Egg wants to come in'." Greasy Egg supplied the round timber for the pit props. "I said, 'Pritch', we're already cutting the cake in half; if we cut it into three it won't be worth having'. A few weeks later he comes back; he and Greasy Egg had put in a bid for the Wynnstay Sawmill in Ruabon. In one day," Dave recalls, "I lost half my workforce, half my capital, my timber supplier, and half my customers – and I've never looked back!"

A perfect storm

He survived on cutting pit props and pallet boards, and making bearers out of the waste, but the Great Storm of '87 came as a timely godsend. He'd just set up a softwood operation when the autumn gales created both a massive demand for softwood fencing panels – "I had 11 blokes sawing waney-edged slats. We sawed 11,500 slats a day for 25p a slat, working six days a week" – and a massive supply of hardwood. "I had a yard full of oak; you've never seen so much in your life. We were sawing for ETC" – Ellesmere Timber Company – "and it was going back down south. It was bloomin' chaos; I was either going to be a millionaire or have a heart attack, and the heart attack was coming first, but we must have made some money. Then suddenly, it stopped" – Portuguese imports drove prices down to 21p, 19p, and finally to 13p per slat. "So I quit softwood; I sold the kit and stuck to hardwood."

Dave likens the saw-miller's business to a gearwheel: if one tooth, a market, breaks off, the wheel has enough momentum to carry him through until the next tooth engages. The waste from the slat-sawing process, for example, was used for the pallet boards at first, but when that market died, it was cut for firewood to feed the demand created by the rising popularity of wood-burners. "If one door closes another opens; I'll cut for anyone" – oak finger posts for Shropshire County Council, barriers for the National Trust, 24ft-long sail spokes for the restoration of a local windmill, elm for a Liverpool firm that made non-sparking pulleyblocks for oil tankers, or mixed hardwood for pattern-makers. "That was a laugh," says Dave, recalling Midland Rollmakers' order of 6ft lengths of 6×2in ash, beech, and sycamore for its pattern-maker's shop. "I thought they were going to cast a cog for the *QE2* or something," but the reality was rather less glamorous: the timber was cut into 18in lengths of 3×2in and put on the end of a paddle that scraped the crust off the top of molten metal used in the casting processes. The only reason the firm ordered 6ft lengths, the crestfallen saw-miller was told, was because they were harder to steal.

More than 30 years after the Great Storm, Dave remains equally catholic in his cutting: "The only way I can survive is to cut something that you can't buy at a builder's merchants." To illustrate the point, he leafs through a batch of orders going through the mill: >

Bookmatched, 2in leaves of chestnut could make a dramatic table: "You wouldn't want anything on y'dinner plate, you'd just stare at the table"

SAWING HAZARDS

Dave keeps a black museum of the oddities his saws have encountered in trees. This gate hinge was hammered into a walnut tree when it was maybe 5in in diameter; the tree was felled when it was about 14in across, and the hinge was wholly grown over and hidden. While oak might've shown a tell-tale blue stain warning of an iron hazard like this, it can still throw up surprises: "Years ago, I bought five arctic' loads of Russian trees in the round; bloody hell they were nice." When he ran them through the mill, though, "I hit a bloody armour-piercing bullet; we bust a casting on the saw and lost two days' work"

SIC TRANSIT...

Dave has an anecdote for everything. A pile of poplars, belonging to the new Duke of Westminster, attracts a thoughtful stare. "I worked on a farm that was owned by the old Duke; I worked seven days a week for £7 10s. One day, someone was reading the newspaper: 'Hey, look at this; the Duke is going to school, and is having £20 a week to get him used to spending money'. The beauty of it is," Dave adds, "I'm still here and he's brown bread. 20 pounds a week!" he mutters and splashes on

In the office: the wood-burner is surrounded by layers of Dave's distinctive 'filing'

Unopened Christmas presents: there's no knowing what's waiting to be found inside some logs

skirting, door cases, and window boards; timber for the National Trust, for a window manufacturer, for tradesman and makers, and none of it in sizes you'll find on the racks at a builder's merchant.

The prices of the timber, meanwhile, are jotted on an old whiteboard: "If anybody comes in, doesn't matter if it's the Duke of Edinburgh, that's what [the price] is," says Dave. "It's the same for everybody; I'm not clever enough to remember all different prices" – though you only have to listen to his tales of a life in the timber trade to realise that while the tapestry of the last 40-odd years has been both rich and threadbare by turns, Dave has succeeded in carving out a distinct niche for himself supplying customers large and small. Strike up a conversation with a maker or tradesman on either side of this part of the border, and the chances are they'll agree, with an approving nod, that Dave is a singular phenomenon.

Happy accidents

"I'm in my own little world, I am; I just plod on. To survive, I only need one artic' load a week." Compare that to the monster that his erstwhile employer, ETC, has now become, consuming around 100,000m³ of round timber a year. Some of the volume delivered to Dave's yard comes via an agent: "Dan the Man comes from Bristol, once a month," and deals with the overseas suppliers; some comes from UK merchants and estates; and still other timber from Dave's doorstep: "I bought £22,000-worth of sweet chestnut from five miles that way," he points into the rain. "I used to have to beg for timber, but now people offer it to me" – though he's learned to treat the mouths of gift-horses with caution. Dave's blades have hit the porcelain insulators of PA systems grown into trees from around Cadwell and Oulton Park racetracks; and while town trees like London plane can be littered with nails, timber taken from hedgerows can be spiked with all manner of metalwork (See 'Sawing hazards').

The list of the challenges of domestic timber continues via pheasants – the shooting season, which runs to the beginning of February, can limit access for felling, and if timber is taken too late in the winter, when the sap has begun to rise, the sapwood will have a higher sugar content, making it prone to rotting – and turns, inevitably, to the Forestry Commission, for which Dave has few, if any, good words: "No-one's looking after forestry for the future; we've sold the crown jewels – the timber that was planted after the war," without bothering to replace it; he holds up, instead, the French approach to forestry management as an example of far-sightedness in cultivating woodlands as both a wildlife habitat and a vital natural resource.

However, while the uniformity of French oak or Swedish redwoods has its advantages in 'wooden engineering', it is the irregularities of our unfarmed native hardwoods that creates much of their appeal to makers, and makes those MT sheds such a treasure trove: there are oaks – quarter-sawn, brown, pippy, and burr as well as ordinary stuff – ash, yew, beech, lime, cherry, and poplar (some of it set aside, Dave says, "for a chap who wants to make his own coffin.") Other prizes are tucked away in odd corners of the site: slices of oak flea-bitten into striking beauty by impurities, 2in-thick leaves of curiously figured chestnut, the creamy bands of yew's sap- and heartwood, or an enormous oak burr textured by 400 or more years of epicormic growth. They are all, like Dave's progress, the happy accidents of time and circumstance; however, it is a heap of street trees waiting their turn for the mill that provide the perfect picture of his borderland approach to life and timber. "Conker trees," says Dave, looking at the sodden bark of the soiled horse chestnuts. "We've no idea what's inside, but there could be pieces that are mind-blowing. They're like a Christmas present we haven't opened yet." **GW**

Muck and brass: beneath the superficial dirt of yard and timber you'll find the treasures of heartwood, burr and grain

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APPLY FOR THE TORMEK SCHOLARSHIP AWARD NOW!

Alexandra Michelsen with her Tormek

Are you attending your last academic year in cabinetmaking or design in woodworking? If so, now's the time to apply for this year's Tormek Scholarship and have the chance to be awarded with a complete Tormek sharpening system, including accessories – a good foundation for your future projects! "The Tormek is really worth a lot to me," says Alexandra Michelsen, last year's Swedish recipient who has now opened her own cabinetmaking workshop.

Alexandra's story

Last year, Alexandra graduated from the advanced course in furniture and cabinetmaking at Capellagården's School of Craft and Design. She impressed the jury with her 'Skilla' wall cabinet, a modern piece of furniture with a retro design. The cabinet was designed to store note pads, pens, stamps and other creative materials. Inspired by the phone book shelves of the '50s, she began to sketch a functional wall cabinet with a retro aesthetic. The dimensions of the cabinet were carefully planned to accommodate both her creative materials and personal belongings.

"The middle section is made to fit my A3 sketch pads," says Alexandra, "and the upper part is high enough to store my pencil case so it is standing. The two boxes are for personal items such as my wallet, keys and mobile phone. I also included coin storage at the bottom of the cabinet because, for some reason, I always have change scattered everywhere."

Alexandra has greatly benefitted from her Tormek sharpening system, both during her studies at Capellagården and now in her cabinetmaking workshop. "At Capellagården, I really learnt how to sharpen using this system and realised how amazing it is, especially given how quickly and easily a sharp and long-lasting edge can be achieved. In my cabinetmaking, it's so much more fun for me to work with sharp tools."

Applying for the Tormek Scholarship Award

To apply for the Tormek Scholarship Award, simply submit photos of the workpiece or projects you are most proud of together with the reasons why you would like to own a Tormek. You can read more about the award and find the application form at **www.tormek.uk**. The final date for applications is 30 June 2018.

Alexandra's 'Skilla' wall cabinet

Alexandra unpacking her new Tormek T-8 sharpening system

One of the wall cabinet's carefully planned out drawers

POCKET HOLE PROJECTS MADE EASY

If you want to make a simple stool/table quickly and easily with the end result appearing as if you've used traditional methods, then try using the Trend Pocket Hole Jig

Pocket hole joinery is a fast, simple and quick way to achieve good looking results across a range of applications, from carcassing and framework through to joinery work. This method uses butted joints and just a few screws for strong and secure connections between the components without any additional jointing or complex marking out required. The strength belies the simplicity: a couple of screws is enough to hold incredibly well and can be made dry with no need for additional adhesive, although it can be applied if you wish.

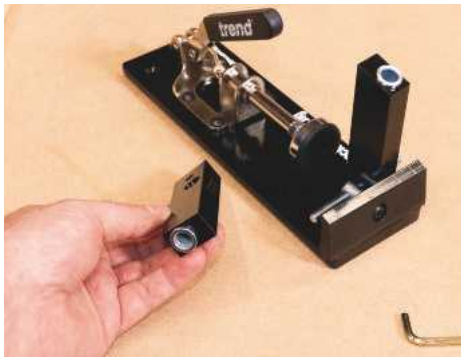
As with any project, no matter how simple, preparation and planning are key in helping to eliminate mistakes or errors and a setting out rod is the traditional way to work out positions and sizes of the components on more complex projects.

Alternatively, and in this instance, with square shoulders and flat stock, only some simple setting out is required in order to determine the length and spacings of the slats to give overall dimensions to cut to.

If you are preparing your own timber then you can alter to suit your own designs, but off-the-shelf 19mm thick stock, whether solid timber or sheet material, is ideal for the Trend Pocket Hole Jig, so a trip to the local timber merchant is a good option and can also prove prudent for initial experimentation of the joints that can be achieved.

1 The kit comes supplied with a special clamp to align the pieces when connecting joints together, which helps to keep the faces flush. It prevents the joint from creeping and leaving a step as the screws tighten. Also included are two driver bits with a square Robertson head, a shorter one for tighter spots and a long one for general use; a set of hex wrenches to make adjustments to the jig; a drill and depth collar; plus a pack of 100 screws so you can get cracking on a small project such as this right out of the box

2 The jig is quick to set up and adjust. Using the hex wrench, the drill guides can be altered for width to suit the timber



3 Each guide can also be removed and used away from the jig. This is ideal for repair work, allowing the guide to be clamped in situ and drilled to make the repair pocket, or for getting fixings into narrower stock or tighter spots

4 The clamping pressure is adjusted by winding the rubber-faced foot and securing with the locking nut. Only light pressure is required to secure the timber as you drill

5 The drill is set by placing a coin or small packer under the drill to prevent it drilling into the jig; the height can be secured with the depth stop collar

Layout & setting out the top

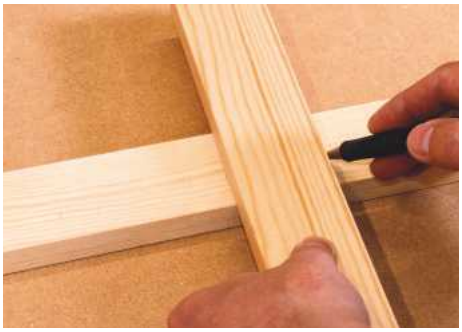
The beauty of pocket hole joinery is the ease in gaining finished component sizes as the system is predominantly reliant on butted joints. Whether angled or square, with no extra allowances to be made, the setting up and cutting stage is quick and simple.

For this project the use of off-the-shelf planed timber makes it very quick to knock up a project, with 45 × 19mm for the slatted top; 70 × 19mm for the aprons; and 45 × 45mm for the legs used, but the legs are planed down from 45mm to 38mm square to remove chunkiness and give better balance.

For a more elegant look, a tapered leg could easily be introduced, leaving the top section square where the apron pieces intersect.

Initial layout for the top is easiest to achieve using the actual components so that the lengths can be determined directly, but as previously mentioned, a rod can also be drawn up.

The setting out of the top spacings are easily determined by flipping a slat on edge to space it out so that the length can be stepped out using a slat, spacer, slat, spacer method until you have the required number of slats you want to use, ensuring you start and end on a slat. You can, of course, alter the spaces to anything you wish, including a close boarded top with no spacings. >



6 Using a piece of spare timber to make a basic rod, step out the slats and take the slat lengths from this

7 Flip the slat to set the spacings and continue laying flat and flipping on edge until you achieve the size you want. This project is six slats wide

8 Mark the longer top slats from the rod by setting the stock flush with the end and marking the position of the last slat

9 The shorter slats are marked from the inside edge positions of the first and last slats on the rod. The aprons are marked to the same length, but if you stick with 45 × 45mm legs, you will need to shorten the length by around 15-20mm; this will give an overhang on the leg frame once assembled

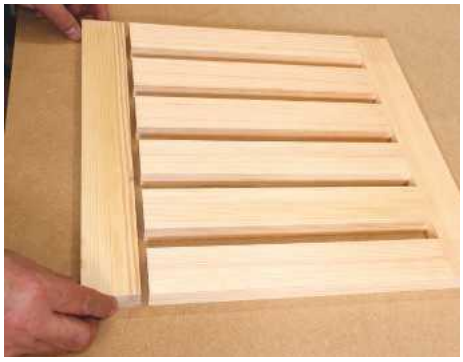
Stock sizing & prep

The top slats can now be cut from the rod. The leg height can be to your own requirements but 400-450mm is a good height for a short stool or low table.

Longer legs may require a lower leg rail to prevent the legs from splaying or becoming strained. If you have one, a mitre saw is ideal for cutting the components to length as it ensures square and clean cuts every time, but, if you don't, hand tools can be used equally effectively.

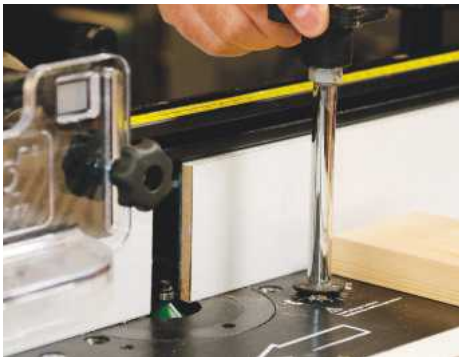
Once the stock is cut to size, a small chamfer is applied to the end-grain and long edges in order to ease the corners.

10 Using the markings from the rod, cut all the components to length



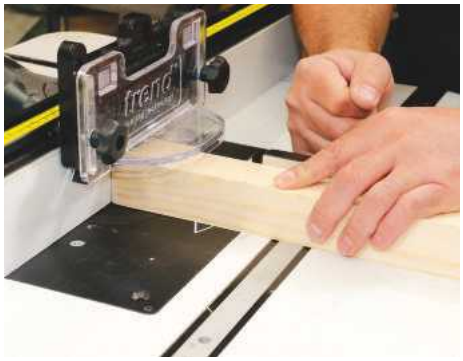
11 Using the rod to mark and make the cuts in this way will give a square top profile, which can easily be checked before assembly

12 The cut sections should now consist of four legs, six short slats and four aprons of the same length, plus two longer slats



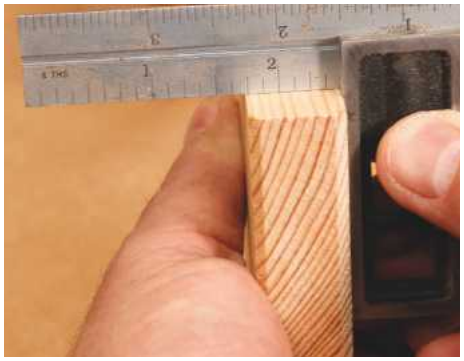
13 Fit a chamfer cutter into the router table and adjust the height to take a very fine cut; this will ease the component edges

14 Before making any cuts, check the fence is correctly positioned and the height is set

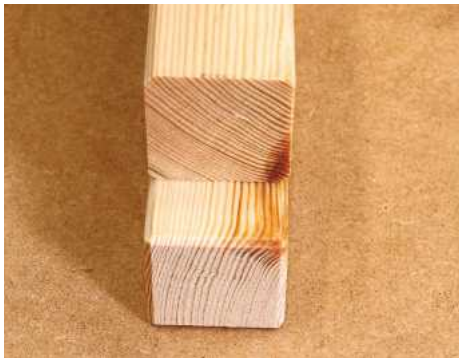


15 Start by running the chamfers on the end-grain profiles so that any breakout is removed on the long-grain passes. A spelch block can be used behind the workpiece to help prevent breakout

16 Set up the side featherboard and to ease the corners, run the pieces through on the long-grain edges



17 For a tight fit, the aprons can be left square on the edge that sits on the underside of the top, or the chamfer can be replicated to continue the same look throughout the project



18 The legs can also be left square on the top edges. A chamfer on the bottom helps prevent the legs from splitting away if the piece is dragged along the floor

19 The components should now have the end-grain and long edges chamfered, ready to go to the pocket hole stage

20 Drill each hole, retracting the drill occasionally to clear the chippings. Keep the drill straight as you work; this will prevent it binding

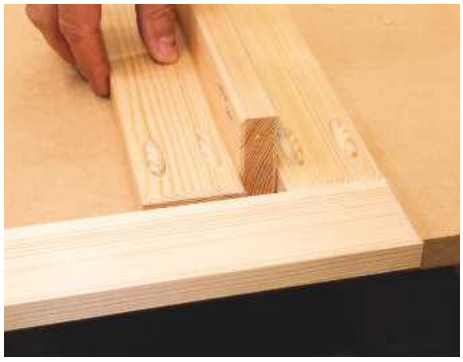
21 Using the supplied face frame clamp, secure the large flat shoe directly over both pieces, ensuring they are aligned and run in both screws

Drilling the pockets

With all the preparation work completed, the pockets are ready to be drilled. With the jig set up to suit the material size, a pair of holes are drilled in each short slat at either end, and repeated for the aprons.

The longer slats are not drilled as the short rails are screwed to these. The legs are also undrilled as the aprons are screwed to them.

When designing and making any project that has differing thicknesses of timber, it is always a good rule of thumb to fix the thinner component to the thicker one, and this works especially well when it comes to pocket hole work. >

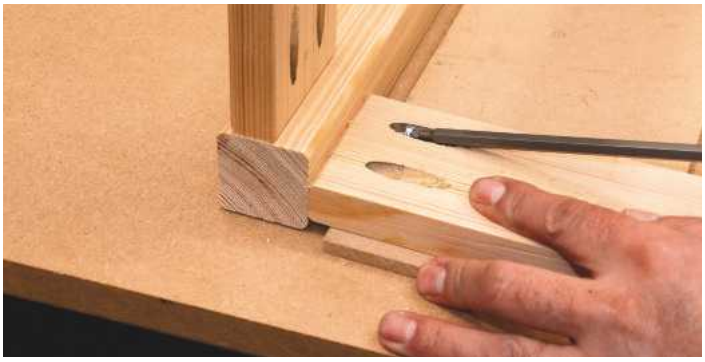


22 Use a slat or offcut as a spacer and position the next slat, then clamp and screw into place

23 Continue until all the short slats are secured to one long slat

24 Rotate the top and align the second long slat. Repeat the process until all the slats are secured

25 The legs are assembled using a packer beneath the apron, which steps it back from the leg to give a backset detail. 6mm MDF works well but a thicker alternative can be used if you want the rail to be more central on the leg



26 Align the next apron and repeat the process until all the legs and aprons are secured

27 Drop the legframe into the pocket hole jig and drill the aprons with four pockets; this will secure the frame to the top

28 Flip the top upside down and align the legs. Using aprons the same length as the slats allows these to align with the slats for easier positioning

29 & 30 Close-up detail of the top and legs shows the effectiveness of the simple chamfer detail as well as the step back of the apron. Making the legs thinner than the standard 45mm square stock allows the aprons to be cut the same size as the short slats while still allowing the top to overhang the leg frame as a detail

For tips on using the Trend Pocket Hole Jig to best advantage, see our how-to guide on page 44

31 With all the pocket holes on the underside and internal areas, the finished project looks like it has been made using traditional methods **GW**

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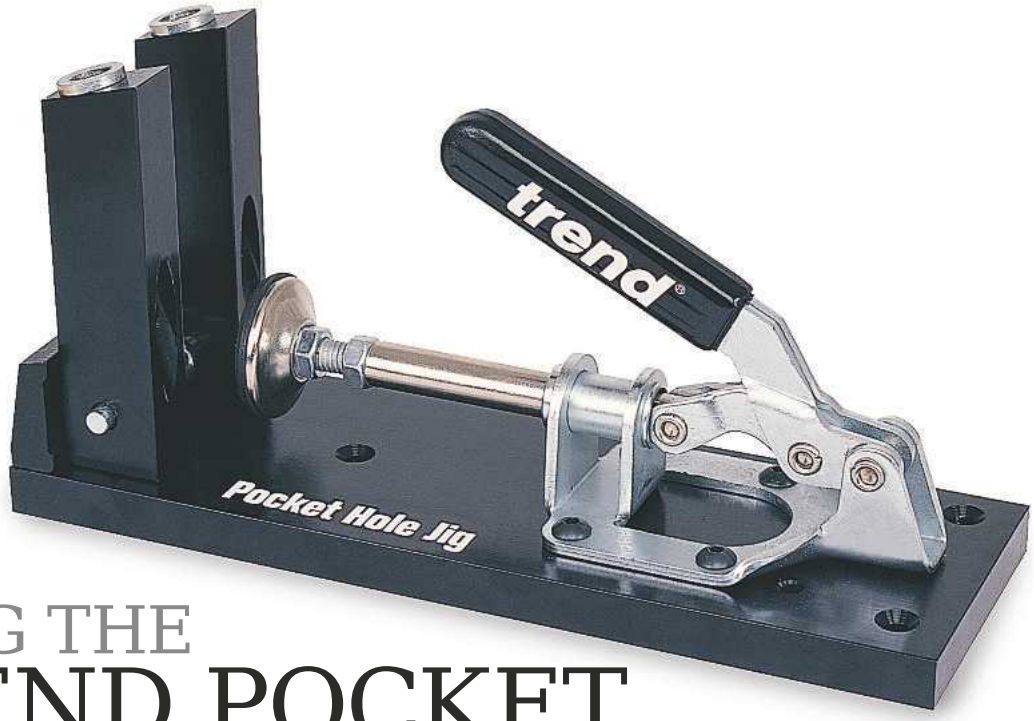


USING THE TREND POCKET HOLE JIG

The Trend Pocket Hole Jig allows for fast and accurate joining of timber. It's a great all-rounder and built to last in the trade environment as well as the home workshop

Using pocket holes to secure work has been commonplace in construction for many years. In traditional use it was often employed as a method to hold components together where a suitable joint was difficult to achieve, such as when securing a bullnose riser to a curved former, for example.

Making the joint using traditional methods can be time-consuming, requiring separate chisel, gouge and drill work in order to make the pocket.

The advent of specialist pocket hole jigs has not only simplified and sped up the task of making a pocket, but the main advantage has been opening up the areas in which pocket holes can be used to make quite elaborate pieces of furniture, cabinetry and joinery using just screws.

Using butted joints and just a few screws, the whole construction process becomes very easy, removing the need for the additional calculations and marking out that is required for traditional joints.

Jig of all trades

The Trend Pocket Hole Jig is an all-metal construction for durability and reliability and features an extra string to its bow in that it is able to be quickly dismantled in order to use the drill guides remotely.

This allows the jig to drill holes in areas that could be inaccessible to the assembled jig, or it can be taken to the workplace to make on-site repairs by clamping the guide directly to the area in need of mending and drilling the pocket to fix the problem.

Used as the bench-top jig, the guides can be adjusted from 29mm up to 63mm centres for paired holes using the supplied hex key. A fully adjustable toggle clamp securely holds stock from its minimum thickness capacity of 16mm up to its maximum thickness of 38mm. Only light pressure is required to secure the work for drilling, with the soft rubber foot holding the work firmly without leaving pressure marks. Additionally, a dedicated face frame clamp is supplied as part of the kit.

With its large disc-shaped jaw, it is designed to hold two components flat while the screws are applied. This prevents the joint from becoming stepped as the screws drive and tighten to achieve a perfectly flat and flush joint.

Also included are two driver bits with a square Robertson head, a shorter one for tighter spots and a long one for general use; a set of hex wrenches to make adjustments to the jig; a drill and depth collar; and a pack of 100 screws so you can get started on a small project with no delays.

The jig in use

The jig comes ready assembled so setting up is simply a matter of getting the drilling depth correctly set.

Placing the drill into one of the case hardened drill guides, a coin or washer is put below the drill to elevate it slightly up off the guide base and the depth collar is slipped over the drill shank before being tightened off.

With the jig set, it's simply a matter of drilling the pockets for your project. The guides have side ejection holes to discharge the waste as you drill, but it still pays to occasionally withdraw the drill to clear any waste that builds up in the drill flutes, especially on resinous timbers.

Design plays a part with this type of work, and a good rule of thumb is to secure thin stock to thick wherever possible, and this jig is designed with sheet stock and materials around 19mm thick as the optimal material for making the pockets.

With the all-metal construction and ability to quickly remove the guides for additional flexibility, as well as the inclusion of a face frame clamp and a pack of screws to get you going, it's a great all-rounder and built to last in the trade environment as well as the home workshop. **GW**

SPECIFICATION:

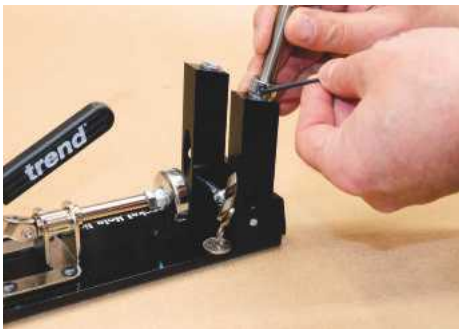
- **Material thickness min:** 16mm
- **Material thickness max:** 38mm
- **Material width min:** 38mm
- **Hole pitch:** 29-63mm
- **Drill diameter:** 9.5mm
- **Square drive bit size:** No.2
- **Screw sizes:** No.7 × 30mm

1 The kit is ready to go straight out of the box and comes complete with a drill, two driver bits, a face frame clamp and screws

2 The guides can be adjusted using the hex wrench. A scale on the jig allows quick setting to specific centres

3 The guides can also be removed for use in repairs, to work in situ, or on thinner stock

4 The toggle clamp features an easily adjustable pressure foot with a soft rubber facing



5 The drill depth is set by placing a coin below the bit and securing the collar

6 The drill should be withdrawn occasionally, which will help prevent the waste building up

7 The face frame clamp ensures stock of the same thickness is perfectly flush once screwed together

8 Viewed from below, the pocket hole configuration shows how they secure the various components

9 Viewed from the top, the same project looks like it has been made using traditional methods

10 Other joints, such as mitres, are equally easy to secure with a couple of fixings from the unseen face

11 You aren't limited to flat work: curves for coopered type projects are equally easy to make

FURTHER INFO

The Trend Pocket hole Jig (ref. PH/JIG) is currently priced at £85.73. To find out more about this and other specialist jigs in the range, see **www.trend-uk.com**

‘EAGON’ cabinet

Designing a bespoke cabinet to show off exquisite glassware is no easy task, but Simon Morris of Lufu Furniture executed the brief perfectly with his stunning ‘Eagon’ design in rare burr elm

After a number of meetings both at the client’s home and in Simon’s workshop, the brief for the project was agreed on. The client wished for a glassware cabinet measuring 1,300mm wide × 950mm high × 400mm deep, which would fit perfectly across an old filled in fireplace – a colourful painting with a light above would complete the room design. “The client loved the elm used on my ‘Facets’ cabinet (see *GW*328)” says Simon, “with its big swirly and burry grain and wished the cabinet to have an organic shape like the curved and rounded legs of my ‘Tree of Life’ dining table.” With doors either side of the cabinet’s intended position, some kind of curve to the ends was requested so as not to stick out too much and to give a free flowing feel to the room. The cabinet was also going to be in a position at the far end of a room that would be visible as you entered through the front door, so it therefore needed to have an initial visual impact from a distance. Lights inside and glass doors were also requested, which would help to showcase the crystal glassware the clients intended to place inside.

An evolving design

The design, which evolved through lots of sketches and development, is both curvaceous and organic; the splay of the legs gives the piece a solid grounding and real poise. Having a mirrored back gives the relatively shallow piece much more depth and produces a bookmatching effect on the inside bottom of the cabinet. The back of the curved panels inside are reflected perfectly into view when opening the doors, and the glowing swirling grain is highlighted by the warm lighting housed into the underside of the top.

Sourcing rare timber

Simon tells us that the rare burr elm took some months to find, but once sourced he was then able to purchase the veneer to match. “I used straight-grained elm from the same tree as the burr to make the legs, rails and doors, which ensured the colour matched throughout the cabinet,” he says. Straight-grained wood was required to make the narrow profile doors as it is more stable and less likely to move as elm is prone to doing over time. The frame of the cabinet (legs, rails and doors) also needed to be made out of a less decorative timber so it could create a contrast and visually frame the burr elm panels. **GW**

LUFU FURNITURE

Lufu Furniture was created by Simon Morris, who graduated from Buckingham Chilterns University College in 2002, with a BA honours degree in Furniture Design and Craftsmanship. One of Somerset’s most talented furniture makers, his workshop is based in the ancient city of Wells where innovative design is combined with fine craftsmanship to create unique hand-crafted furniture.

Simon and his team use traditional methods of construction together with modern manufacturing techniques to produce furniture that is both individual and distinctive. “We take pride in selecting and working with unusual and decorative sustainable hardwoods and our attention to detail is second to none,” says Simon.

Their work includes the design, manufacture and installation of high quality custom-made furniture, as well as cabinetmaking and interior woodwork for private and commercial customers, whether it is a one-off individual piece or bespoke furniture for an entire room, including dressers and bookcases. To find out more, see **www.lufufurniture.com**

Softwood jig to support the router at the correct height when cutting the rounded profile of the leg

"I used straight-grained elm from the same tree as the burr to make the legs, rails and doors, which ensured the colour matched throughout the cabinet"

Simon Morris – Lufu Furniture

My keen apprentice Owen shaping the glazing beading with a router. Carefully positioned small screws hold the beading from beneath

Laminating the panels

Routing the groove in the curved rail

Jig made from the original curved former, which clamps the panel in position when cutting it to width

SCULPTED ELEGANCE

MATERIALS & TOOLS REQUIRED

MATERIALS
- American white oak
- Maple for the drawer sides and back
- Plywood for the drawer bottoms
- Walnut dowel
- M6 and M10 insert nuts
- Connector bolts
- Threaded rod
- Wood glue
- Danish oil

TOOLS
- Table, mitre, circular, jigsaw & hand saws
- Drill & bits
- Biscuit jointer
- Router
- Screwdrivers & spanners
- Clamps
- Angle grinder with Kutzall carving disc & Dremel
- Planes & spokeshave
- Files, rasps & sander
- Measuring tape, squares & angle gauges
- Appropriate PPE: safety glasses, dust mask, dust extraction, etc.

Liam Barclay shares a build that took over 200 hours to complete, with the end result being a truly unique and elegant sculpted desk

Having not worked on a big project for far too long, I decided to use some holiday allowance to get back in the garage – it was time to make myself a desk!

The design started with hand sketching various ideas/forms. My requirements were to have a cabinet with a couple of drawers, one of which would be deep enough for document filing, additional drawers for pencils/drawing equipment, etc. under the top and a back panel I could mount a monitor stand to. The dimensions were based on my old desk but slightly bigger. After I was happy with an idea, I progressed into some CAD modelling. From this I produced some rough, dimensioned plans to get me started. Scans of these have been uploaded to my website. These don't detail all the steps required, and I did end up making some changes during the build, but they were sufficient to get me through. Please note that the build blog and rough plans, including dimensions for each of the desk components, can also be found on my website, details of which are given at the end of this article.

Desk top & main legs

I started with the desk top. Using the table and mitre saw, I cut four planks to the width and length required. The length was made long enough for the actual top and the two side pieces that slope down underneath. The plank edges were planed to ensure they fitted together without any gaps. Biscuit joints were then cut and the planks glued and clamped together.

The next day the desk top could be cut to length with 45° ends. The two sloping pieces then needed to be mitred at 20° and 30° to vertical. This required them to be passed through the table saw upright, so I made a simple jig that could slide along the table saw fence and allowed the workpiece to be clamped to it.

Pieces that would fit between the top

1 The required timber was bought planed to size as I don't own a planer/thicknesser

2 Biscuit joints were cut into the boards; these would make up the desk top

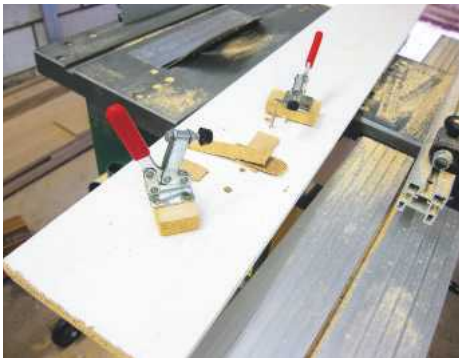
3 The desk top glued up and clamped together

4 The undersides of the desk top were cut vertically to achieve the required mitre angle

5 A compound mitre was cut at the top of the legs, allowing them to splay out

6 Screwed in place to make it easier to drill the holes for the actual mounted rods

7 Threaded rod, epoxied into the legs, was then bolted to the desk top



8 I created a simple tapering jig from scrap timber and toggle clamps

9 The legs were clamped to the jig and run through the table saw to cut the tapers

10 Planed smooth after tapering on the table saw

11 Both sides and supports glued in place

12 Here you can see the through dowels, which add a bit of strength between the top and sloping sides, as well as a routed slot to the right, which will allow cables to pass through to the top from the cable tray installed at the back

and sloping slides were then cut. These would provide support to the sides, which would be under load from the legs and cabinet, but also something to attach the drawer slides to.

The blanks for the main, long legs were then rough cut to length with a compound mitre cut at the top to allow them to splay out when fitted. These legs would be bolted through the left slope, but first they were held and screwed into position. This allowed me to use a 90° guide and 8mm bit to drill down through the slope piece and into the leg. Threaded rod with some epoxy could then be screwed into the leg. Each leg has two rods, which prevents them rotating. With the legs able to be attached to the desk top, they were then shaped. I made a simple tapering jig (sacrificial board with toggle clamps), which allowed me to pass the legs through the table saw and taper them from 70mm at the top down to 30mm. >

Using a spokeshave, a slight curve was worked into the underside and the edges rounded over. A piece to transition from the legs to the desk underside was also glued in place and later shaped.

With all the components finished for the desk top sub-assembly, they were then glued together.

Back shelf

Next, I cut two planks and glued them together to form a panel for the desk back. Once dried, the sides were cut at a 45° angle. The shelf was made from one plank. To follow the shape of the back it needed to have mitres cut at 45° and 22.5°; these were made to allow the wood grain to wrap up, across and down the shelf.

In order for my computer monitor to be mounted to the back panel, the width of the shelf needed to be reduced in the centre portion. This was marked then cut with a jigsaw. The entire front edge of the shelf was then chamfered at two different heights; using a router in the stepped back portion and the table saw for the sides. I used a spokeshave and rasp to blend between these.

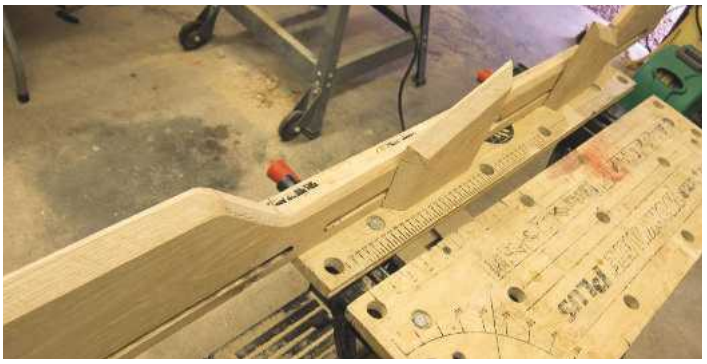
Slots were cut into the back of the shelf to allow cables to pass up to speakers that would sit on it and the shelf and side pieces were then glued together. The shelf is attached to the back panel using insert nuts and connector bolts. The back panel is then similarly bolted into the desk top.

13 Routing the cable channels

14 A section was cut out to allow a PC monitor to sit within the shelf

15 Cutting the shelf sides with a taper and chamfer along the front edge

16 The chamfer along the shelf front was refined using a spokeshave and files



17 The shelf was now ready to glue up

Cabinet

The design I settled on for the cabinet wasn't exactly square. Looking at it from the front, the left side is offset by 10°, the right by 5° and the entire front leans forward by 10°, so lots of interesting angles to cut!

I first needed to glue up another panel that would be long enough to create all sides of the cabinet; this followed the same process as the panel for the desk top: cut – biscuits – glue – clamps. This big panel was then rough cut with a circular saw to the lengths required for each of the cabinet sides.

Using an angle gauge, the table saw blade was set to the required angles and all the cabinet panels were mitred. Some pieces

18 Pieces to make up all sides of the cabinet were marked and rough cut

19 Mitre cuts were made on the edges of all cabinet panels

20 Sacrificial blocks were placed near the corners to allow the cabinet panels to be glued

21 Glued blocks allowed the clamps to work properly. These were later chiselled off

up by gave me a distance, and from this I could work out the height at which to set a pencil from the floor. I could then mark the required height.

Drawers

The drawers were all largely produced in the same way. The sides were cut to length, and the cabinet drawers were also mitred and bevelled to fit the cabinet shape. A rebate was cut into the back of each drawer and a slot routed to accept the drawer slides. The internal front of each drawer also had a rebate cut into it. The drawer back just needed to be cut to the correct shape and the four pieces could then have a groove cut near the bottom, which the floating bottom panel would fit into.

The bottom was cut in plywood and prior to gluing up the drawers, stained blue before being painted white. This was subsequently lightly sanded to give a washed out look.

The drawers could now be assembled and glued together. Once dry, I drilled and added some walnut dowel through the front of the side pieces into the front; this adds a bit of strength but is mainly for aesthetics.

The drawer slides could then be cut to width/length and screwed into the inside of the cabinet and underside of the desk >

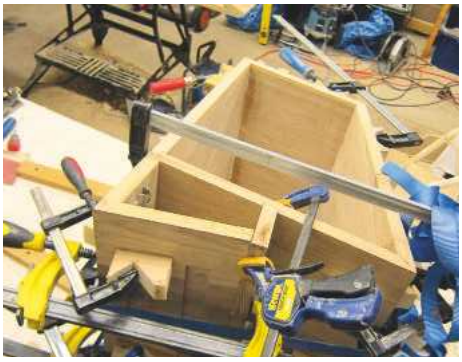
needed to be cut flat and others clamped to the sled to be cut vertically, depending on whether the angle was more or less than the 45° maximum the table saw blade could be set to.

The top of the cabinet would be bolted to the right side of the desk top, with spacers to give a shadow gap between them. Six holes were drilled to allow M10 bolts to be inserted through the cabinet's little top drawer, and screwed into insert nuts that would be in the underside of the desk top.

After all the pieces were cut and fitted, it was time for the glue up. So I was able to clamp the pieces properly, I glued small blocks near the edge of each panel with a notch cut in that would allow me to clamp perpendicularly across the angled joint. These could be chiselled off after the cabinet had dried and any marks sanded away. Lots of clamps were required and straps added for good measure!

After this had dried, I went back and drilled holes across the joint to add dowels for extra strength. These were attached to the non-visible side of the desk.

Small legs/feet were then cut, tapered and fitted to the bottom of the cabinet in a similar fashion to the main legs. With both sets able to be assembled the legs could now all be trimmed to their final length. The desk was raised up on a workbench and made level. Measuring down to the floor and subtracting the amount it was raised



22 To add strength, three dowels were later drilled and inserted across each corner. The spacer sits in the recess shown in the bottom middle of the photo and holes were later drilled to allow bolts to connect the cabinet to the desk top

23 Bolts go through the top of the cabinet and into the underside of the desk top. Here I am also marking up to the required height

24 Rebate cut by multiple passes on the table saw

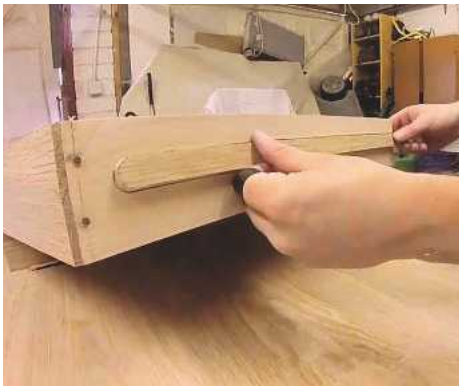
25 Groove cut for floating drawer bottom

26 Routing a dado for the drawer slide to sit in

27 One of the drawers clamped up: here you can see a rebate on each side and the floating drawer bottom panel

top. The drawers could now be fitted and tweaked to get them to slide properly.

It was now time to make the actual drawer fronts. I decided these would be sculpted to integrate the drawer handles/pulls. Multiple pieces of timber needed to be glued together to create sufficient thickness to be carved away. Before carving, I marked some rough guide lines, but I often find that my design ends up going in a totally different direction as I begin to see what it looks like. I used a carving disc on the angle grinder, a Dremel, spokeshave, gouges and rasps to produce all the flowing curves and lines. These were then screwed to the drawers and the transitions between adjoining drawers refined.



28 Walnut dowels add a bit of strength and detail, and the drawer runner fit is refined to allow it to slide

29 Here the drawer slides are being screwed to the inside of the cabinet. Nylon tape was later added to the top of the slides to reduce friction

30 Starting to sculpt the drawer fronts using a grinder fitted with a Kutzall carving disc

31 In tighter areas, such as the pocket in the top drawer, I used a Dremel with a carving burr

32 Power carving is dusty work, so ensure to wear the appropriate safety equipment

33-37 The photos here and above show the stages of progression for sculpting the drawer fronts

Finishing

With all the components now constructed, there was some final fettling required to get all the fits and gaps refined, then everything was sanded down to a 120 or 240 grit finish before adding a few coats of Danish oil.

The completed desk could then be assembled. The main legs, cabinet and back/shelf are all bolted into the desk top, which makes it easy to disassemble and move if needed. I have to say that the entire build is rather heavy! I later added a cable tray and laptop shelf to hang under the back of the top, which helps to keep things tidy.

I set out to challenge myself with this design/build and am very pleased with the outcome. It's sturdy and fulfils all my space, storage and unique look requirements. I hope you enjoyed this project. **GW**

38 The desk nearing completion; assembled and all sculpting roughed in

39 Hand tools (block planes, spokeshaves and rasps) were then used to refine the form before finish sanding

FURTHER INFO

Liam graduated from Glasgow University/Art School in 2013 with a first Class Masters Degree in Product Design Engineering. He is currently working as a Design Engineer at Dyson. As well as this he's also started a number of personal projects in his free time.

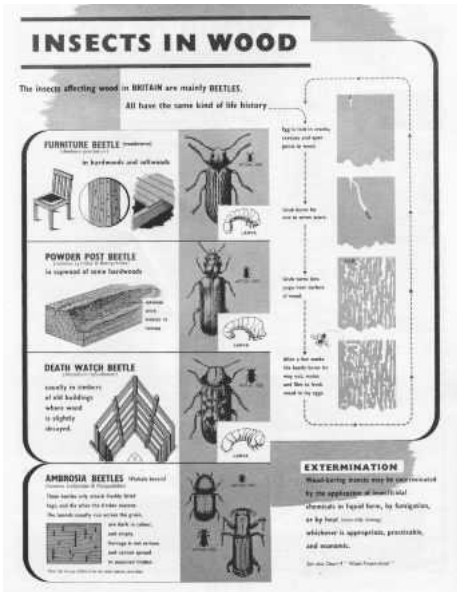
The build blog and rough plans, including dimensions for each of the desk components, can be found on his website: **liambarclaydesign.wixsite.com/portfolio**

40 The completed desk

41 The stained drawer interiors

WOOD-BORING INSECTS ‘WOODWORM’ TO YOU & ME!

As a wood restorer, Peter Bishop often encounters instances of wood-boring insect attack, and here he identifies the main culprits that we as woodworkers will come across



The life cycle of woodworm
Photograph courtesy of TRADA

Wood comes under attack from two different directions; wood-boring insects and fungi. Sometimes they are working alone and sometimes they work together. The most invasive are feeding off the wood and in that process physically destroying it. Wood-borers will chomp their way through your logs and planks at different stages. Sometimes the damage is superficial and limited; sometimes it’s terminal! The key to eradication or stabilisation is knowing which of the pesky critters you are dealing with. Some simple remedial action can be all it takes or, in the worst cases, total removal and destruction is required.

There is a range of insects that bore into wood. Beetles are the main culprits but wasps, bees, ants and marine borers contribute as well, depending on location, etc. Because beetle attack is the most common, it is this group of insects we will be concentrating on.

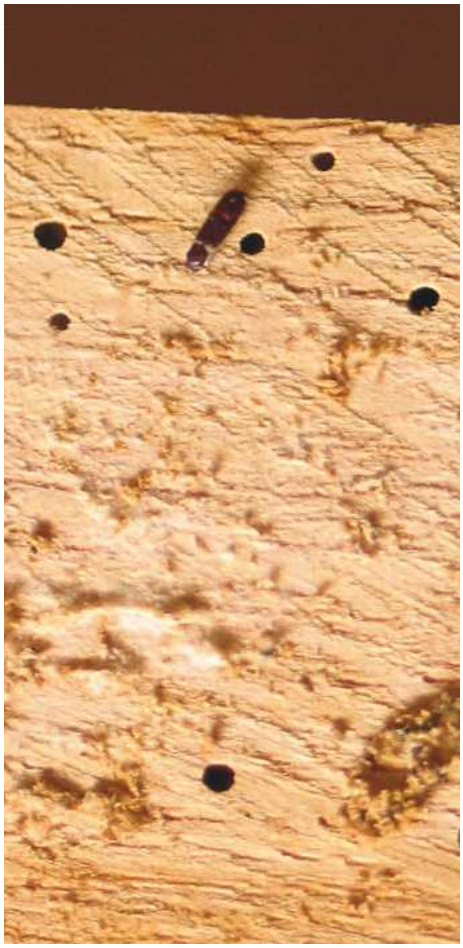
DEFINING THE CULPRITS

Beetles mate, lay eggs, and these hatch into grubs that later turn into pupa and subsequently metamorphose into a beetle, then the cycle starts again. In some cases, infestation is caused directly by the adult insect boring into the wood and laying its eggs in a breeding tunnel; in others, eggs are laid on the surface, in cracks and crevices or under bark. Once they hatch, the grub subsequently bores into the wood. It is this grub that actually does all the damage. The life cycle varies but is usually three to four years, sometimes longer. The effect of this activity can be devastating if not detected and dealt with in time. The physical clues to the attack may be few. Depending on how long it has been happening, the first knowledge you may have of it is the appearance of exit, or flight holes, by which point it may be too late.

Ambrosia beetle – *Platypodidae, Scolytidae & Lymexylidae*

This is the family of beetles that create the bore holes in wood called pinhole, pinworm and shot hole. The size of tunnel can vary, depending on the sub specie, from 1-3mm. Correspondingly, the beetle itself can vary in length from 1-13mm long. The ambrosia beetle is a forest insect found worldwide; however, they are most abundant in the tropics and this is the reason why we see their damage more often in exotic timbers.

The ambrosia beetle is not particular about the timbers it attacks. In Africa and the Far East tropical hardwoods; in North America Douglas fir and hemlock; in Europe and Scandinavia softwoods and hardwoods. The beetle will also infest standing timber, felled logs and, in some instances, cut



Ambrosia beetle and mound

Sapwood infestation alongside the heartwood

Deathwatch beetle (*Xestobium rufovillosum*) on wood

The ticking of the deathwatch

A real furniture beetle

lumber. The beetle bores into the wood and creates a tunnel system typically displaying right angle branches. This may be just under the bark or into the sap and heartwood. Into these tunnels the eggs are laid. The life cycle of the ambrosia beetle varies. In the tropics it can be a few weeks while in temperate zones it is likely to be a year or more.

On lighter woods there is often an associated fungal staining in and around the tunnel system. This can be more detrimental than the beetle attack itself. The fungi is introduced by the larvae and grown as a food source. As long as the wood remains over 20% moisture content, then the fungi will survive. Once dryer it dies, depriving the larvae of its food source and the infestation ceases. To prevent attack rapid, conversion and drying of the lumber is the best solution. Some chemical treatments can be applied to thicker material if it is to be pre-dried before kilning.

Deathwatch beetle – *Xestobium rufovillosum*

Deathwatch beetle is most prevalent in Europe with little significance elsewhere. It is a member of the *Anobiidae* family. The adult beetle itself can vary in size from 6-8mm long. This is a large predator that will cause significant damage to structural timbers in older buildings, such as churches. Deathwatch beetles operate in damp conditions and like to feed off woods that have been attacked by fungi. It mainly concentrates on hardwoods, particularly oak. If the conditions are right, then total degradation of timber components can take place.

The only evidence of attack may be from the emerging beetle's flight holes and piles of dust. The life cycle can vary. Eggs are laid in the spring after the beetles have emerged and mated. Up to 200 eggs at a time are laid by the female onto rough surfaces. Once the larvae hatch they disperse and bore into the host wood; it is the larvae that cause the devastation. They can stay within the wood for five years or more depending on the conditions under which the infestation has taken place. Interestingly, the name deathwatch comes from a mating habit of both the male and female beetles. In warmer weather they hit the front of their heads on wood to draw attention to themselves; this tapping is in short bursts of six to eight taps followed by a pause and repetition. Superstition suggests that this noise is the precursor of death, thus the name.

The key to avoiding attack by deathwatch beetle is to ensure that timbers are not liable to fungal attack under damp conditions. Therefore dry wood, in well designed buildings, will not be susceptible to attack. All sapwood should be removed or treated with an insecticide as a precaution. In older buildings the replacement of damaged timbers may have to take place. Where they are not accessible they can possibly be treated with a liquid or smoke insecticide. In all cases the source of moisture that may have caused the problem in the first place should be attended to.

Common furniture beetle – *Anobium punctatum*

The furniture beetle is indigenous to the temperate regions of Europe but has spread to other similar climates, probably through human migration. This 2.5-5mm long beetle is also a member of the *Anobiidae* family and is often simply referred to as 'woodworm'. The natural habitat of the furniture beetle is outdoors, but when the conditions are right, is has an ability to infest furniture and other wooden items inside.

Primary areas of attack are the sapwood of both hard- and softwoods. Typically, in older furniture, the grubs will bore into the carcass from the back, cracks or crevices and populate the piece over its life cycle. The furniture beetle likes to eat along natural glue lines. Therefore, in some older plywoods, made up using animal-based glues, the grub tracks between the sheets causing internal damage. Another favourite is wicker basketwork and similar light wood >

products. Depending on the nutritional quality of the host wood, the life cycle of the furniture beetle can vary from three to five years. Up to 100 eggs are laid by each female onto un-polished surfaces and the grubs hatch and bore into the wood. After the pupation the beetle bores out of the wood producing typically round exit holes. These are one of the recognition factors associated with furniture beetles, which are about 1/16in in diameter, 1.6mm across. Exit is in the spring through to early summer and bore-dust, 'frass', which is the beetle droppings, can often be found below the infestation.

Eradication of furniture beetles in affected pieces can follow the period of the life cycle. Insecticidal treatments should be applied to all surfaces and directly into old flight holes. Those grubs working within the area of penetration will die off fairly soon; those that are deeper will continue the infestation until they pupate and attempt to exit as a beetle. Hopefully, at this point, they will ingest treated materials and be eradicated. For expensive or heritage pieces of furniture, specialist conservation techniques can be employed. These may involve freezing the object for predetermined periods or specialist heat treatments. In some cases, the infestation will require replacement components. When this occurs, thorough treatment with preservatives should take place before reassembly.

House longhorn beetle – *Hylotrupes bajulus*

There are well over 20,000 species of the longhorn beetle that are members of the *Cerambycidae* family. However, the house longhorn beetle, in particular, can be a real threat to structural timbers because it is one of a limited number that attack seasoned woods. Probably one of the largest beetles, varying in length from 10-20mm, like all longhorn beetles the antennae are longer than the body. Originally indigenous in Europe and the Mediterranean it has spread throughout North and South America, Australia and southern regions of Africa. In the Americas it is often called 'Old House Borer' and in South Africa 'Italian Beetle'.

The house longhorn beetle is not housebound; it does breed outside in exposed timbers but not often in tree trunks. It primarily attacks the sapwood of softwood in house timbers: rafters, joists and other joinery products. Temperature is important to the breeding cycle and therefore in colder climates infestation does not occur or it might cease. Untreated timbers in newer buildings, where there is still moisture present from the construction process, provides ideal breeding grounds. In wood with high levels of sapwood the degradation can lead to total collapse of that section, thus causing structural failure. The adult beetle emerges from the wood between July and October and, after mating, each female lays up to 200 eggs. The grubs hatch and can travel some way before burrowing for four years or more. The beetle is a strong flyer and on warm days can fly to other locations, spreading the infestation.

To avoid attack, all new build timbers should be treated with an appropriate insecticidal preservative under pressure and the wood should be dried off before installation. In existing buildings, providing the infestation is not too advanced, sprayed or brushed on insecticide will contribute towards eradication over time. Where the damage is extensive, the affected timber should be removed and destroyed and new components installed.

A close-up of the house longhorn beetle

NEXT MONTH

Peter goes from looking at woodworm to wood rot – wood fungi in timber

Hylotrupes bajulus among its damage

Conclusion

So those are the main culprits. What we, as woodworkers, will come across most often are the furniture beetles. Clients turn up at my workshop with all sorts of odds and ends that appear, in the first instance, to be so riddled with woodworm that the best thing to do is burn them! The problem is that these pieces are often family heirlooms passed down from generation to generation – it seems a bit harsh to simply destroy them. So we often try to recover these pieces by removing some of the worst damage, making and jointing in new pieces and generally making work for ourselves. Hey ho, that's what it's all about isn't it? **GW**

Typical woodworm damage

This damage has destroyed the core strength

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A woodworking link with the past

Jim Sutherland tells us why, after all these years, his Grandfather's old tools still hold such a central place in his tool cupboard

An India oilstone, boxed in teak… with a story to tell

Growing up and learning woodwork in Shetland – an island archipelago with virtually no trees – I understood from an early age that wood was a precious commodity. All timber was imported so it meant that if you got an opportunity to recycle a piece of furniture, you took it, and if you got hold of a special piece of hardwood you did something worthwhile with it… or kept it for a 'special job'.

And so it was for my Grandfather, John Sutherland, who I never met, although it was his legacy that inspired me to take an interest in wood, tools and woodworking from an early age. This impacted on my choice of career and, now that I'm 60 years old, influences me still.

Sawdust in the veins

As a boy, I watched my father working with wood and was always intrigued by my Grandfather's tools, which were kept under lock and key to keep my inquisitive little fingers away from their sharp edges. This, of course, made me more curious and gave the tools a mystical quality, which was enhanced by the smell of beeswax, oil and wood shavings whenever the tool cupboard was unlocked.

My Grandfather died in 1948, some 10 years before I was born. He had been an ironmonger buying tools for the shop at Hay & Company, the islands' main general merchants and suppliers of coal and timber. His father had been a joiner, so I think there must be sawdust in my veins!

Teak oilstone box on workbench with some of my Grandfather's tools

John Sutherland, my Grandfather, who died in 1948

Card insert from oilstone box – written by my Grandfather in 1945

Oilstone – original packaging which bears the original price of 4/6 (22.5p

Among my Grandfather's extensive collection of tools is a little teak box holding a sharpening stone. There's nothing particularly startling about its appearance until you read the card insert that reveals its history:

'This Pike India Oil Set Stone 6 × 1⅝ × ¾in was bought for 4/6 in 1936. I boxed it in 1945 March 31 with a piece of teak wood from the rail of the* Athenia*, the first ship lost in the war. Now the end of the war is in sight.'

'The piece of wood was carried across Scotland and taken to Shetland by Captain Gifford of the little motor steamer* Earl of Zetland *and I got a piece of it from Laurie Leask at Hay & Co Saw Mill. John Sutherland spent over 50 years with H&Co.'

A few moments writing out the background of how this little oilstone came to be housed in a piece of wood with such a history has given me some insight into what was important to the man I never knew. The practice of putting my name on things that I make came from him and when I create something with a 'special piece of wood', I make sure I document the reason why it is so special.

Rediscovering a passion

My interest in woodworking grew throughout my teenage years and I progressed to college in Aberdeen where I trained as a technical teacher specialising in woodwork. I was Principal Teacher of Technical Education in Thurso High School when *GW* first hit the shelves in 1992, and I contributed a number of articles for the magazine at that time. More recently my career took me in to educational management, latterly as Head Teacher of Lochaber High School in Fort William, leaving me little spare time for woodworking. However, having just retired, I've been re-equipping my workshop, sharpening my tools, honing my rusty skills and I'm planning projects with those special cuttings of wood I've been saving for years.

The tool sharpening these days is much more likely to be done with my Tormek wetstone sharpening system and my diamond whetstones than with my 80-year-old oilstone, but it will still hold a central place in my tool cupboard, reminding me of the man who inspired me to pick up the tools all those years ago. **GW**

SS Athenia

The *Athenia* was the first UK ship to be sunk by Germany during World War II, and the incident accounted for the Donaldson Line's greatest single loss of life at sea. 117 civilian passengers and crew were killed with the sinking condemned as a war crime. The dead included 28 US citizens, leading Germany to fear that the US might react by joining the war on the side of the UK and France. Wartime German authorities denied that one of their vessels had sunk the ship, and a German admission of responsibility did not come until 1946

SS Athenia – the first ship sunk in World War II

MV Earl of Zetland

Built in 1939 by Hall Russell & Co. Ltd of Aberdeen as a passenger vessel she was named *EARL OF ZETLAND* from 1939/1975 and *CELTIC SURVEYOR* from 1975/1985, then *LA PASSERELLE*. She became a restaurant ship moored at Marsh Wall, West India Docks, London, but has since moved to a new location at Royal Quays, North Shields, Newcastle where you can see her today

MV Earl of Zetland used to serve the North Isles in Shetland; now a floating restaurant/bar in North Shields

LETTERS & MAKERS

LETTER OF THE MONTH

ONE HECK OF AN ORDER

Gluing up on the lathe

Rough disc cutting

The completed candle holders

I must admit it – I suffer from Disposophobia – so when I was asked by our local church to make some small, utility, candle holders I was very grateful. My pile of wood 'too small to save' was taking up a lot of room, and here was my opportunity. They could be made of any variety of wood, even mixed – marvellous.

First I found odd thin pieces of oak, and some ash, just long enough to go through the thicknesser, and greater than 90mm wide. I found that I could take them down to 3.5mm before marking out 85mm diameter circles. I made a 12.5mm hole in the centre of each one, then roughly cut out each disc, over-sized, using a fret saw – or scrollsaw - depending on which side of the Atlantic you grew up in.

I then bolted 10 of these discs together with a long bolt, tightly, so that 10 at a time could be turned to size – this time I chose to use an engineer's bit in the lathe.

I found a block of utile, 300mm long, thus too short to be utilised for anything else, but which could be sawn into lots of 35 × 35mm sticks. Perfect, for I do not own a woodturning lathe, but an engineer's lathe that my father bought second-hand in about the middle of the last century. It's an incredibly useful tool, for plumbing, woodwork, handles, and repairing many things. I even mended my work computer with it once! This length was the maximum it would easily hold, and I could use the fine feed on the bed to make them all the same size.

After sawing the rods to 75mm long, I remounted each one into the self-centring chuck, applied Titebond 3 to the exposed end, and then held each disc against the rod with the dead centre of the lathe. Yes, this put the lathe out of use for an hour, but there are always other things to be done. After allowing a day for the glue to really set, I then remounted each on the lathe, sanded, and turned a hole 12.5mm diameter, 19mm deep, to hold the candles.

I like Osmo Top Oil for finishing, so three coats were applied, and they were done! I thought that 150 would be sufficient, but how wrong can you get. Another church admired them. Yes, perhaps a compliment, but I like to make one of each, not hundreds!

It just proves it is always worth saving anything too small to ever be used, so now, my pile is slightly, only ever so slightly, smaller.
Best regards, **Michael Watson**

Hi Michael, and thank you for your letter. It sounds like your services are very much in demand! What a great exercise in copy turning and the fact your father's engineering lathe is still in action just goes to show that things were definitely built to last back then! The candle holders certainly turned (excuse the pun!) out well and we're glad to hear that your odds and ends pile is slowing decreasing – for now anyway!
Happy turning! **Tegan**

OLDEST DRILL IN THE COUNTRY?

Hello,

I am a 78-year-old retired joiner and it crossed my mind that I should write to you to establish whether or not I hold the record for having the oldest Wolf electric drill. In the mid '50s, as an apprentice joiner, I was chosen as the best apprentice in Anglesey, North Wales. As a prize, I was presented with the Wolf drill pictured here – model EG.2CHW, serial number 531071.

I still use the drill for odd jobs around the house, but hopefully my wife will buy me a cordless one for my upcoming birthday. We will see! It will be interesting to know if there is a woodworker out there with an older Wolf drill. Thank you for an enjoyable magazine.
Yours sincerely, **Mel Griffiths**

Hi Mel, thanks for your letter, and if that's not a testament to top quality design and manufacture – not to mention your own careful treatment of the drill – I don't know what is. A popular drill at the time and, until the growth of Black and Decker power tools in the early '60s, probably the best seller in the UK. I think that one had the 5⁄16in chuck and was originally painted a light grey-green. Wolf Tools, based in West London, started making its first DIY drills in 1949, and continued manufacturing right up until 1982. There are still plenty of the early ones to be found across the country, and dating may prove harder than we might imagine.

A lot of us still prefer a mains drill for some work, and it wouldn't surprise me at all to learn that other readers – or people they might know – are still using a venerable Wolf drill to this day. If that's you, please write in with a photo and some sort of age guide.
GW

Mel's Wolf drill is still going strong

READERS' HINTS & TIPS

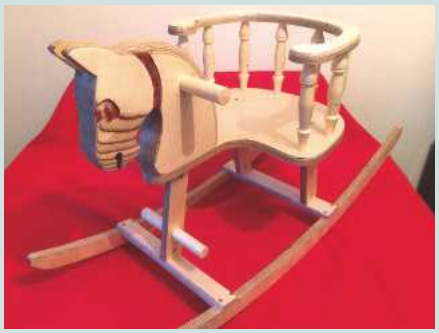
For the next 12 issues, in conjunction with Veritas and BriMarc Tools & Machinery, we're giving one lucky reader per month the chance to get their hands on a fantastic low-angle jack plane, worth over £250! Ideal for shooting mitres, working end-grain and initial smoothing, this must-have hand tool also 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**

This tip was discovered purely due to trial an error - I can confirm there was glue everywhere! When making the rocking horse design shown, putting the spindles into the top of the backrest is by far the best method I've found. I'm by no means a professional but hopefully one day, perhaps! In order for the spindles to fit into the 12mm Forstner holes, I pre-drill the seat and backrest. After the spindles get inserted into the top of the backrest, the structure needs to be turned upright so it can be inserted into the seat. This is the main reason for a tight fit, as the spindles would all fall out when turning. I use a 12mm spanner on the ends of the spindles, which is required both to ensure a good fit but also for assembling the backrest spindles and seat.
Barry Starkey

Hi Barry, and thanks for sending us your tip. I know many of our readers are rocking horse fans so hopefully others will be inspired by your design as well as your tips for placing the spindles. The end result is certainly very effective and we're all for learning how such tasks can be made easier! Best wishes, **Tegan**

Tenons are placed into the pre-drilled holes and glued in place

The seat assembly can now be added



The completed rocking horse design

WRITE & WIN!

We always love hearing about your projects, ideas, hints and tips, and/or like to receive feedback about *GW*'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!

DARING TO BE DIFFERENT

A unique learning establishment in an inspiring location, Tegan Foley visits the Chippendale International School of Furniture in East Lothian to learn how the team are helping students to develop creative careers in wood

As I was to discover, 2018 is a significant year for two reasons: 1) it marks Thomas Chippendale's 300th birthday, and 2) it's also the 200th birthday of Myreside Grange – the idyllic setting of the Chippendale International School of Furniture, which is situated in East Lothian, Scotland.

Remove all preconceptions you may have about a furniture school and leave them at the door, because this one, as I can attest to first hand, is different. And different is good. Karen Carruth of *The Scottish Farmer*'s description of the school being 'not as I expected' and 'a massive, slightly chaotic, rambling converted farmhouse' is entirely spot on. The school prides itself on being unique, and offering something above and beyond the competition. Students, who travel from all over the world to study here, are nurtured from the start and taught the importance of creating a viable business that is ready to go once they graduate. School Principal and Senior Lecturer Anselm Fraser's idea, and that of his son Tom, who is also Head of Admissions, is that in this way there is no gap between graduating and starting their businesses. The on-site incubation space is a great help and is invaluable to the students' careers once they qualify.

The school is certainly a vibrant hub of activity, with lots of smiling faces and a real positive energy. People obviously love what they do and there is a definite sense of community and support, which I felt as soon as I arrived.

A woodworking cooperative

Myreside Grange occupies some four acres and is home to not only the furniture school, but also a variety of on-site businesses, including Anselm's award-winning furniture making and restoration business, as well as those building bespoke kitchens and shepherd's huts – these all form part of a creative hub that helps to add a real sense of energy to the school.

The great thing about the campus is that there is so much going on, all in one spot. It is a huge site and every inch seems to have been utilised. As Anselm says: "It is creating employment opportunities where you don't need to drive to work, so it's great for the environment and really helps to put Scotland on the map. It's a cooperative of woodworkers, where students are able to learn from one another."

Anselm says that their aim is to create a nucleus that will go on to become a power house, actively encouraging people to come to East Lothian to study furniture making, and the school is certainly offering a very unique product, although as Anselm tells me, they are constantly looking for USPs.

In terms of how it all started, Anselm confirms that he set up 'The Anselm Fraser School of Furniture Restoration' in 1985, with just one student, which was subsequently followed by three and then five. When he had eight students signed up, he decided to change the name to 'Myreside International School of Furniture', which saw him recruiting a total of 14 students. The dynamic got easier as a result, and the students began to learn from each other – what Anselm and Tom refer to as 'peer-to-peer learning'. The final incarnation was 'The Chippendale International School of Furniture', which was to prove the most successful. It operates as an independent not-for-profit organisation, which ensures that any surplus revenue is reinvested to further improve the courses and facilities. It now takes on a maximum of 25 students per year. There are five tutors who guide them through, and each student makes at least five pieces during the nine-month (30 week) course. There are 40-50 people on the whole campus: those on the course, those who run their businesses on site, as well as alumni in the incubation workshops. It is certainly a community of happy people and many of the past students I spoke to told me how well looked after and supported they feel. Further evidence of this is the fact that tutors Alan McGovern, Graham Davies and Clare Charleston have all worked at the school since they were 16, and Anselm is confident in saying that he thinks they'll be there until retirement age.

Change of name, change of business

Those who don't know about the school could be excused for thinking that the pieces the students make are exclusively in the style of Thomas Chippendale, but this isn't the case, although the course does contain many references to the great man and students >

School exterior during the winter months

Anselm and Tom Fraser

are also given the opportunity to visit Paxton House to see Chippendale pieces for themselves, as well as other local antique and contemporary furniture collections of note. Rather, students are encouraged to explore their creativity and make pieces that reflect their own personal tastes. In choosing to use Chippendale's name, Anselm was looking to distinguish the school by referencing an established furniture maker, but what he really wanted was to take Chippendale's business ideas – as this man was fantastic at marketing, despite being alive 300 years ago – and apply these in a contemporary sense. He showed me the book that was the catalyst for all this – *The Gentleman & Cabinet-maker's Director* – 1754 – which contains the full catalogue of Chippendale's designs of household furniture in the Gothic, Chinese and modern tastes. This was the blueprint for each of his designs, all of which contained dimensions, ideas for alternative mouldings, etc. "He was the first person to publish his designs, and in that sense he was very much ahead of his time," says Anselm. The book cost three months' wages to buy back in the 1750s, but lots of people bought it in order to be able to recreate his furniture. "Chippendale was certainly the best at telling other people about his work," Anselm explains, and in short, changing the name of the school certainly changed the business.

Courses & modules

Tom and Charlie Laidlaw, Marketing and Public Relations Advisor, treated me to a full tour of the campus and even at 9:30am, there still seemed to be a lot going on, with many of the students busily working on their projects in the wonderful light and airy open plan workshop, which spans some 600sq.m.

Enquiring as to how Tom came to work for the school, he tells me that upon graduating from university he worked in the oil and gas industry for four years but always knew that he'd rather be in the workshop. He made the decision to move back to Scotland three years ago and clearly has a passion for creating a bright future for the school. It must be in the blood because Anselm's other son, Jamie, also has a furniture making business based in Bristol. Tom says that he's always had a fascination for woodworking, and remembers being intrigued by what was going on at the school back when he lived in the farmhouse next door. "The aim is to move the school forward," Tom says, "but to ultimately maintain what we do well, in addition to embracing new techniques along the way, such as CNC work and 3D printing. We have something very special here – it's definitely a balancing act." Tom explains that the plan is for Anselm to retire in around three years' time and for him to take over the day-to-day running of things.

Aiming to give students an enjoyable learning experience to take with them for the rest of their lives, the school prides itself on developing creative careers in wood, and as I discovered during my visit, they really do have all the tools in place to make this a very successful venture.

Tom outlines the courses on offer and the fact that the certifications and qualifications the students receive – Furniture Design & Making and Furniture Finishing Techniques – are both recognised by the SQA (Scottish Qualifications Authority), which is particularly important for the international students. In addition to a main workbench, students also have a glue-up bench and an area where they can store wood for their projects, as well as being given access to a variety of woodworking machine rooms, all of which are kitted out to a very high standard.

The Chippendale school's main workshop

A kitchen being made in one of the incubation spaces

The school runs three courses: the first is an introductory course, a week long, in which students make a box with a wooden hinge, plus a turned bowl and an upholstered stool. If students wish to then apply for the long course, their short course fees will be deducted from the final amount payable.

The second is a one-month intermediate course, which is in its infancy. It's designed to bridge the gap between the short and long course. A lot of students who are taking gardening leave for a few months, for example, will enrol, and here they can expect a 1:2 ratio, tutor to student. Eoin Gibbs is the first student to take this course and he's proving to be a natural. The sideboard he's made is stunning and given the fact he has no previous woodworking experience, it's tremendous what he's done. He tells me some of the skills he's picked up, such as learning to hand-cut dovetails and create mortise and tenon joints – the next piece he wants to make is a kitchen table.

The professional (long) course takes place over 30 weeks, whereas most furniture schools only offer an equivalent one over 2-3 years. The students seem to like the intensive and practical nature of the course, and the fact it is condensed means they are given the opportunity to earn money for two years rather than studying. It is divided into autumn, spring and summer terms and leads to the School's Certificate, where students have the opportunity to sit two Higher National Unit qualifications.

Tom explains that external tutors are invited into the school for one or two weeks to teach a particular skill, i.e. woodcarving, gilding, veneering, Windsor chairmaking, etc. They work at a special curved desk, so students can gather round and see the particular technique in action. An HD camera records what they are doing and is then shown close-up on a screen in detail. Students are encouraged to try the techniques for themselves. "Woodworkers notoriously have short attention spans," says Tom, "so information is shown to them in short, sharp bursts," Lectures are given in the morning when the students are fresh, and they are also shown the tutor's own work.

Tom then shows me the lecture room, which features audio visual facilities plus an extensive library containing a wide range of reference material. He explains that lectures are given in the morning with the aim of sparking students' imagination. Topics include PR, branding, diversification, encouraging women into furniture making, and the students are also shown inspiring videos from others in the field who have made this dream a reality. "It's all about making yourself stand out from the crowd," Tom says, "and creating pieces that tie in with something that's happening in the news is a great way of doing this." Students are taught how to save on PR but how to spend money wisely – i.e. setting up a professional looking website and taking good quality photos of their work, both of which, again, help them to rise above the competition.

While on the course the students are tasked with designing their own website, so that it's ready to launch once they graduate. That way, people can commission them to make pieces straight away.

Throughout the course, each student is given the opportunity to talk to both Anselm and Tom in what they call a 'business lunch'. These take place once a term for each student and during this one-on-one session they help them to work out a business plan. "It's very tough making a living as a furniture maker," says Anselm, "I find myself spending far too much time procrastinating, which the students are encouraged not to do!"

For example, term 1 involves establishing what the student wants to do on graduation; in term 2, they are asked to come up with a name for their business, create a logo, design a website, and even create business cards; and in term 3, they are asked to show physical evidence of all of the above. This really pushes them to sell their product and be ready to set up a viable business once they graduate. "The reality is," says Anselm, "if a student isn't proactive upon graduating, they are likely to return to a 9 to 5 job as they won't be able to support themselves," so therefore, having a business plan that works is of great importance. If, however, the student doesn't want to set up on their own, they then have the option of working for someone else – in which case, they are advised to spend more of their time making their apprentice's box; this will then become a physical CV, which shows off their wide range of skills to potential employers. "It's all about differentiating themselves from others out there and showing employers what they can add to their businesses," Anselm reiterates.

Machine shops

During the tour, I'm also shown the three very well equipped machine shops, many of which feature top quality Felder and Hammer kit, as well as some re-purposed Wadkins. The sheet goods store houses bendy ply and MDF, all of which are stored upright with a panel saw to facilitate vertical cutting. This also minimises any potential back injuries which may be caused by students lugging large pieces of wood around, and also helps to minimise waste, as, in theory, they are only using what they need. There is also a veneer guillotine, which, despite being old is still a great tool for bookmatching, and the veneer press – 'The Monarch' – is also very handy.

In the finishing room, students have access to a vacuum bag system, and this space also houses pieces of ash that are stored for steam-bending. Tom says the plan is to knock through these >

From left to right: tutors Matty Brebner, Clare Charleston, Graham Davies, Adam Stone, Tom Fraser, Alan McGovern and Anselm Fraser

two separate rooms and create an extended machine room, with the aim of utilising the available space in the most efficient way, which will also help to prevent queuing.

From the beginning, the importance of health and safety is instilled and students are encouraged to look after their workshop space and, more importantly, their lungs. As Tom says: "If your health packs in, then so does your business." Students are also provided with a respirator helmet, which they are encouraged to wear when in the machine shops.

The school has an expansive seasoning yard with a wide range of British hardwoods available to the students as part of their tuition fees. After a year or so the wood is brought in to the kiln where it dries for two weeks before being loaded onto shelves above the students' benches.

Incubation space

As mentioned previously, the school also has a lot of workshop space for graduates on site, which is kitted out with benches and machinery. In one of these areas I met two past students, Dan and Grant, both of whom graduated two years ago. They tell me how this space has been a great help since they completed the course, although they are now looking to fly the nest and move into their own workshop where they hope to develop and grow their respective businesses.

Tom tells me how a new machine shop is also in the pipeline, which will be kitted out with top quality kit. This will create a better work environment for the alumni once they leave the course.

One of the school's success stories is Ewan Ogilvie, who finished the course five years ago (he was an accountant beforehand), before going on to set up his own business – Ogilvies of Haddington – straight after he graduated. His business partner Michael Alcorn showed me one of the iconic rocking chairs he started out making, as well as some of the kitchen units they are now building. He tells me how they started working together, then took on another two students who they get in to help out during busy periods. The pieces they make use predominantly solid wood, boasting beautiful hand-cut dovetails and immaculate box joints, as well as utilising new materials such as Forbo for edging their kitchen units.

Meeting the students

One of the most enjoyable parts of my visit was meeting some of the students, learning more about the pieces they were working on as well as their different reasons for attending the course. Chatting to Timothy Low from Singapore, I learnt how his low coffee table has been designed with no permanent fixings, which will allow him to be able to transport it back to Singapore once he finishes. Tom says that this is an interesting idea for a viable business: hardwood furniture that can flat-pack. Timothy used to work in the oil industry but gave it up to explore woodworking. The table features a number of marquetry designs, including a central drawer with a beautiful lily pad motif.

I also met Italian student Gianluca Caregnato, who showed me his stunning rocking chair in ash. As I discovered, initially the chair didn't quite rock as it was intended, so his solution was to add another section into the base of the chair, giving it more weight and balance. Gianluca's elegant solution seamlessly fits into the overall construction, proving that a design miscalculation can be turned around to good effect. Gianluca originally went on a one-week introductory course at the school, which helped him to decide that a career in woodworking was for him.

There's also a healthy number of female woodworkers too, including Charlie Camp from New Zealand who used to work

Candace Roberts at her bench and, inset, showing the drawings for her sideboard project

Charlie Camp with her completed bench

Former student Ewan Ogilvie in one of his iconic rocking chairs

Brian London's completed table with hand-carved cabriole legs

in building construction but decided she wanted to diversify and work with wood instead, as well as Honor Dalyrmple from the UK, who studied structural engineering for three years before deciding to try her hand at woodworking. She said she wanted to explore her creative side and try something with a more hands-on approach. She gets a lot of satisfaction from making things herself, and her style is definitely influenced by Mid-Century design and the Shakers. After graduating, she says she would like to start her own business.

A piece that particularly caught my eye was Candace Roberts' sideboard, which features an interesting latticework pattern on several surfaces. Originally from Trinidad and Tobago, Candace comes from a family of architects and used to work in a high-end furniture shop back in the Caribbean before deciding to relocate to Scotland, commenting that she wanted a fresh start and the chance to be more creative. A lover of colour, she aims to include pops of vibrant pink veneer within the design, which will contrast really nicely with the piece's dark, fumed legs.

I was also struck by the work of Brian London, one of the school's American students – an ex-law enforcement officer who now lives in France. He showed me his beautiful side table with wooden hinges, made in cherry with hand-carved cabriole legs, and I was stunned to learn that he'd never done any woodworking before enrolling on the course. His next piece is going to be a low boy. A self-confessed 'legacy person', Brian wants to leave wooden treasures for friends and family to enjoy after he is gone.

All of the students I met were incredibly enthusiastic and keen to tell me just how much they were enjoying the course. It was great to see the students chatting to each other, helping one another out, and all seemingly very excited about their furniture making futures.

Tom tells me that once it comes to graduation, the students' final pieces are shown in the great hall on site as well as at Greyfriars Kirk, in the heart of Edinburgh's Old Town, in June. An open day also takes place at the school, with lots of local dignitaries being invited, and a great deal of the pieces are in fact sold. There is also a prize giving ceremony, with a variety of awards being given.

Future plans

As Anselm says during my visit: "The success of the school is graded on the successful businesses of the students," and luckily for him, there are many graduates who have gone on to do great things, establish very successful furniture making enterprises, and who really are flying the flag for the school. The recently established Fine Furniture Guild, a website that connects Chippendale graduates with potential customers, shows the school's commitment to supporting its alumni in driving business to them once they have set up.

In terms of future plans, Anselm and Tom say that what they are missing – and this really is the final piece of the puzzle in creating a learning establishment that ticks all the boxes – is in offering accommodation for the students. Anselm tells me that a turreted farm steading has recently been acquired, located about five miles away, which they aim to convert into halls of residence. Apparently rental prices in the area can be high, and offering this service will allow them to deliver a total package. They hope the renovation will be complete in four years' time, in which case, once Anselm comes to hand the reins over to Tom, he will be in charge of an educational tour de force, and then the sky really will be the limit… **GW**

FURTHER INFO

To find out more about the school, to plan a visit or request a prospectus, visit **www.chippendaleschool.com**

Gianluca Cavagnato tries out his rocking chair

Timothy Low shows the inlaid drawer on his easy-to-dismantle table

One of the school's well equipped machine shops

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SETTING SAIL IN SENEGAL

Barrie Scott continues to investigate different craft cultures as he learns about the making of a traditional West African 'pirogue'

When lucky enough to be overseas, it can be interesting to get beyond tourism by meeting fellow woodworkers in their different cultures and finding common ground. At the busy beachside fish market at Tanje, Gambia, you come across the fishermen's allied trade: the carpenters that construct and maintain wooden boats on the beach where they are used. In common with many tropical coasts, local inshore fishing, since early times, provides a crucial food source. The design and construction of their boats will be tried and trusted, well known within the expertise of the boatbuilder, dictated by the nature of locally available timber, and the conditions in nearby waters.

Watch your toes! The customised angle grinder

A canoe at heart

On the Atlantic shores of Gambia and Senegal, currents can be deadly, with the wide estuary of the Gambia River nearby. Drownings are regular for swimmers on the wrong day. A suitable and stable craft has evolved: the wooden 'pirogue'. Pirogue is French for canoe; the French had some colonial 'dealings' in West Africa. The name 'pirogue' also crops up in Louisiana, USA, which was also once French. There they are mostly modern, fibreglass or aluminium affairs, but the distinctive common ground with these craft is the flat hull, which allows the boat to be beached upright.

Although pirogues are built up to 30 metres long, at heart they remain a canoe. There is no internal framework; the hull is an open shell construction built from wide boards, edge-jointed in the 'carvel' fashion, rather than overlapping as in the clinker method. The technique of fixing these boards together is not immediately obvious. Its only internal structure is a system of thwarts: planks, running across the top of the boat, resisting inward pressure and providing positions for the fishermen to work. The flat keel, on which the pirogue rests on the beach, is formed from a hefty slab around 125 × 500mm in section, which also provides a stabilising system of ballast.

An unusual design

A distinctive feature, which may be of interest to the boat designer, is the way this keel sweeps up at the prow, or bow (the pointy front bit!) where a bowsprit is attached. Behind where this bowsprit rises is a gap behind which the front of the actual hull finishes in a fairly unusual flat surface. One can only speculate that the bowsprit does the work of cutting into the water and the gap behind allows a useful run-off.

The fish market of Tanje is a dramatic, lively spot to visit. Hundreds or thousands of people gather to haul in the catch, wheel and deal and a regiment of labourers line up with shining wheelbarrows to shift tons of fish to the cold-store, the smoke house or to waiting trucks. Nearby the women run stalls for the domestic market, bartering and bantering (I would recommend the red snapper).

Enhancing this spectacle is the fabulous, bright

In the raw, solid Senegalese mahogany

The unusual construction of the prow

The secret of the construction: the rebar's tip

Senegalese boatbuilder and the internal caulking

The pirogue's vivid colours

and individual paintwork of the pirogue – many include stylised Arabic script and religious symbols and some celebrate major soccer teams such as Real Madrid. There are also more mythical symbols, hard to define, among which there will often be eyes, set near the front, a common feature in vernacular boat styles, so the vessel knows where it's going. Sea-goers are traditionally a superstitious breed!

The carpentry

In the middle of the market, there it was, a new fishing boat under construction, and more of them further along. And with this I find the discovery of what is under the paint, a treat for the eyes – the deep rich red of solid mahogany! Mahogany is a widely used term, sometimes abused, for any red tropical timbers, but the carpenters at work assured me this was mahogany from Senegal. It is lighter in weight and colour than its central and South American relatives, but sure enough, a little online dabble assured me of a species called *Khaya Senegalensis*. It is described as 'dryzone mahogany' – not inappropriate, as not far north is a wee dryish zone called the Sahara.

The basic finish was seemingly crude. The carpenters, also from Senegal, tell me they are built by small experienced crews in three weeks. The only power tool in evidence was a 9in angle grinder with the disc replaced with a circular saw blade. The sole sophistication was a 400mm stick rammed into the side handle for enhanced control! It made my eyes water just to watch the thing used, but it's tough and effective. The construction begins with the flat keel set on wooden bearers in the sand. The boards are built up, scribed to a close fit with adze and handsaw, and initially skew nailed into position using square shank 100mm zinc coated nails – a relation to the square copper 'roves' used in European boatbuilding – and here's where the mystery of the fixing unfolds. The carpenters bore a system of 10-12mm wide holes, using hand augers, from edge to edge through the width of the board and into the board below, an exacting process with great care taken not to burst through the face of the timber. Through these holes they hammer lengths of what Americans call rebar, the Aussies call reo, and to us reinforcement steel, the stuff with diagonal ridges – a beast of a nail. Using oil to ease its passage, when hammered into place it forms a tight and rigid fixing, that will tighten further as the timber takes up water and expands slightly.

It's an unusual technique, originally done with hardwood rods. The steel is a much used locally available material, undoubtedly stronger than wood, though one might speculate what occurs if the rod becomes rusty and expands – possibly a split in the timber! This is where the paintwork comes in and the caulking. From the outside they use a mortar mix, sand and cement with mashed coarse paper and a plasticising agent to reduce absorbency – I would speculate fish oil for a mastic-like flexibility. On the inside every joint, crack or fault is crammed with coconut fibre mixed with coal-tar. This, in turn, is covered in a 50mm tough compound industrial tape that is nailed in place. The first coats of paint, before the artwork, serve to bind and seal these mixtures. None of these curious boats appeared to leak at all and the catches they haul home are awesome.

Cross the continent to East Africa and the coastal fish market scene is near enough the same; the boats are similarly handmade but of an unrelated design with an entirely different history. **GW**

The square-shanked rove-style nail

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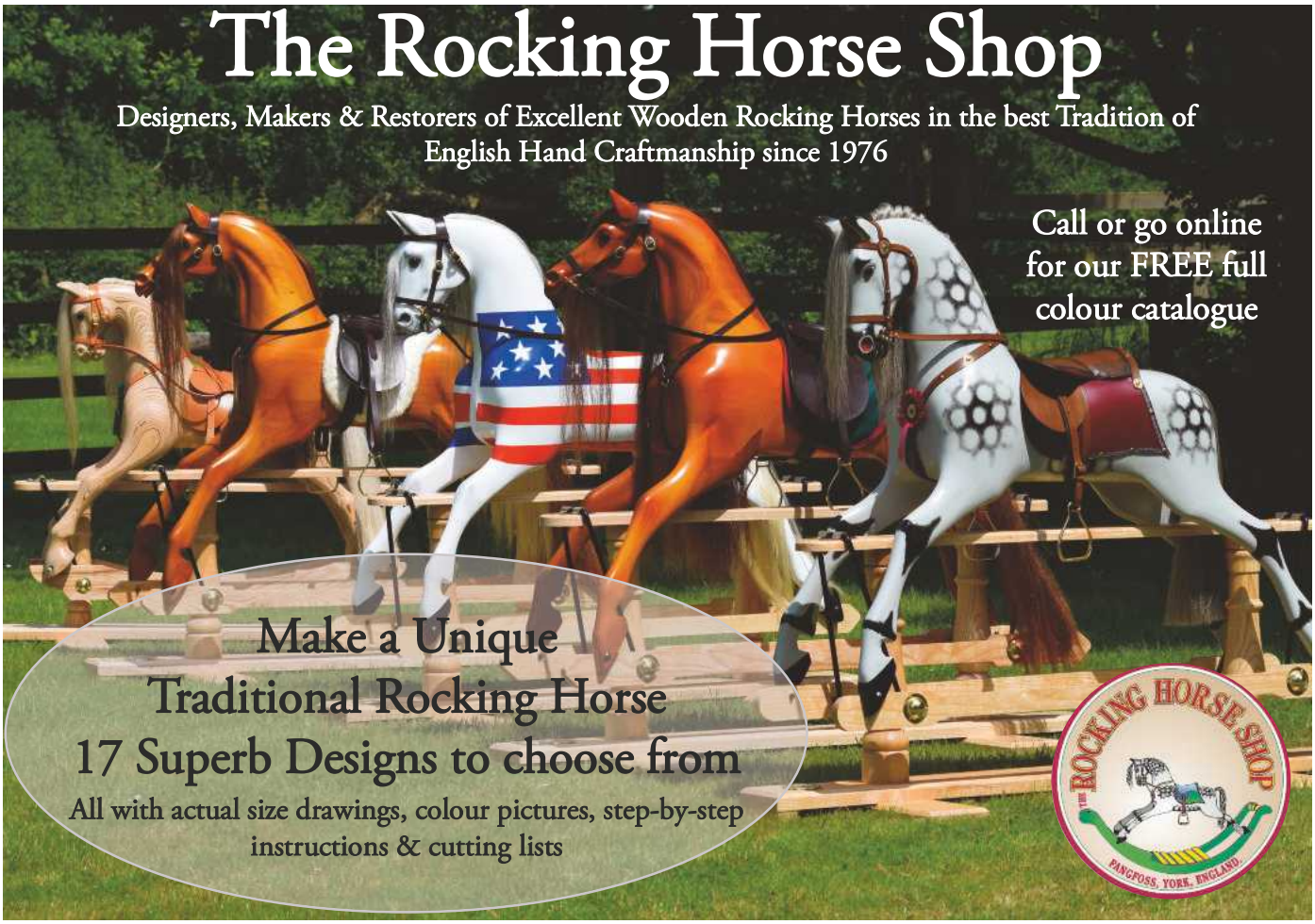

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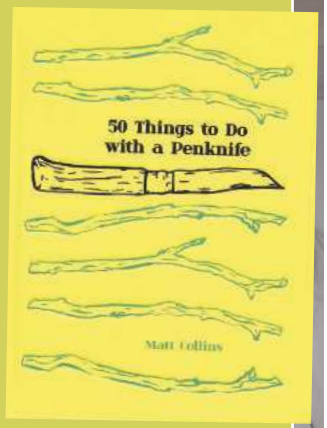
AROUND THE HOUSE WITH PHIL DAVY

Plenty of woodworkers use a shed as their workshop, but I wonder if there is a crossover point? When does the former become the latter? It sounds far more impressive to admit that you have a workshop, rather than just a shed, which seems more the domain of the DIYer. Is that being snobbish? Probably, if all you do out there is build the occasional project and avoid the building completely during the cold, winter months. Maybe it's down to how many hours you spend there each week or month. Or perhaps it's according to size, rather like the difference between a boat and a ship. Of course, it doesn't matter what you call it, though has anybody come up with a clear definition? Let us know what you think.

BOOK REVIEW: 50 THINGS TO DO WITH A PENKNIFE



It's not clear exactly who this small hardback is aimed at, although from the title it would suggest a good old *Boys' Own* style readership. As under 16s are restricted when it comes to buying or carrying knives we'll assume it's probably adults. I remember as a nipper buying a penknife while on holiday and managing to cut my finger before the end of the day, so maybe that's no bad thing!

An entertaining read

The appeal of whittling is that you only really need one tool, plus a whetstone. After a short introduction to knife selection and maintaining the blade, there are brief pages on carving materials and techniques. Delightful rustic drawings accompany each step and are easier to follow than photos.

Sharpening a pencil kicks things off, a useful primer on controlling the knife. What follows is a mix of household and outdoor items including letter openers, tent pegs, spoons, even a walking stick. I'm not sure about the inclusion of a slingshot, though I can see its appeal. There are projects from cork, while a chapter on ornamental carving includes a rather funky mobile, small toys and decorations. As if to emphasise the fun element, the final chapter explores kitchen carving using fruit and vegetables. How about an apple candle, or even a playable carrot flute?!

While not pretending to be a definitive carving guide, this is an entertaining book, which should appeal to anyone with a creative streak, whether woodworker or not.

THE GW VERDICT

- **RATING:** 4 **out of 5**
- Published by **Pavilion**
  Written by **Matt Collins**
- **PRICE:** £9.99
- **WEB: www.pavilionbooks.com**

Q&A: Combi choice

Q: I want to buy a new drill with hammer action for drilling into brickwork and possibly concrete. However, I'm uncertain whether to choose a mains-powered or a cordless tool. I'd prefer the convenience of cordless, but am worried that a cordless version won't have enough guts. Any help would be appreciated.
Tim Carter, Coventry

A: Cordless tools these days are comparable with 240V versions in terms of performance, particularly if you go for a decent 18V model. Most major brands such as Bosch, Ryobi, Makita or DeWalt have their own battery system, so the same power pack can be used across their own individual cordless tool ranges. Cordless drills are far more convenient and safer than mains-powered versions, especially for outdoor work. You don't really want to be using a 240V tool up a ladder or trailing an extension cable across wet ground.

If choosing cordless make sure it's a combi tool, with hammer action. You'll need at least two batteries, which can get quite pricey if you go for a professional tool. I'd recommend at least one 4Ah Li-ion battery if you're regularly drilling into concrete, though a smaller capacity (2.0Ah, say) power pack will be OK as a spare and keep costs down. A fast charger is handy, and most brands will recharge in about an hour or less. Industrial tools tend to be faster, though this is reflected in their cost.

Mains power

Of course, you'll never run out of juice with a 240V drill, unless there's a power cut. Performance is consistent and they tend to be cheaper than their cordless cousins (after factoring in battery/charger costs). Although less convenient, they do offer a significant advantage. Most 240V drills have a 43mm diameter collar behind the chuck, enabling them to be fitted into a bench-mounted drillstand. This means you can use them for precision drilling work. A vertical drum sander inserted in the chuck is another bonus, allowing both hands to guide the workpiece.

Whatever format you choose, make sure the tool has hammer action and don't forget you'll need TCT masonry bits for drilling into masonry. A frequent problem when drilling this material is that the tool can catch and twist, so a detachable side handle will help.

USEFUL KIT/PRODUCT:
TREND DLB DIGITAL LEVEL BOX

Digital levels are nothing new, but one as compact as Trend's DLB box is handy for a wide variety of work

Its tough alloy rim has a magnetic base so will attach itself happily to steeply tilted, vertical steel or cast-iron surfaces

Long gone are the days when you needed a school protractor to measure the angle on a piece of joinery or similar around the house. A sliding bevel and spirit level are still often the most reliable tools in some situations, especially when it comes to carpentry work such as roofing timbers. But checking these angles can be quite awkward. Digital levels are nothing new, but one as compact as Trend's DLB box is handy for a wide variety of work. Setting machine tables, mitre or table saw blades precisely can be tricky if you're relying on a sliding bevel alone, but a digital level will give the required angle instantly.

Digital accuracy

Measuring less than 60mm square, the DLB box is small enough to keep in your pocket and dead easy to use. Its tough alloy rim has a magnetic base so will attach itself happily to steeply tilted, vertical steel or cast-iron surfaces. Front and rear panels are tough ABS plastic, with a clear window for the backlit LCD display.

Powered by a single AAA battery (included), this is inserted in the rear compartment. Two buttons are provided: on/off and zero. Initially the LCD displays ERROR when you switch on, but quickly resets to read the angle of the surface. Pressing the zero button enables you to take both relative and absolute measurements, whether a surface is dead level or not. Accuracy is plus or minus 0.2° for any angle.

The green backlight shuts down after 30 seconds, though the readout is still displayed. Pick the box up and the backlight activates again without having to resort to the power button. The unit switches itself off after five minutes of inactivity to save battery life.

Should you need to check the underside of a sloping surface that's awkward to reach, the DLB automatically inverts the reading when turned upside down. Particularly handy if you're relying on the strong magnet to secure it to a metal surface.

Conclusion

If you've never used a digital level before you'll probably find yourself checking all sorts, from slightly crooked pictures to more important constructional work. The digital display is easy to read and arguably better than your eyesight! Supplied with a fabric protective pouch, this has a belt loop on the back so there's little chance of losing the box. A clever little device from Trend, then, which will save time when needing to tilt blades or tables on machinery in particular.

Front and rear panels are tough ABS plastic, with a clear window for the backlit LCD display

Powered by a single AAA battery (included), this is inserted in the rear compartment

Supplied with a fabric protective pouch, this has a belt loop on the back so there's little chance of losing the box

THE GW VERDICT

- **PROS:** Guaranteed accuracy for machine tables and blades; fast to use; compact; handy pouch to protect the tool
- **CONS:** None
- **RATING:** 4.5 **out of 5**

SPECIFICATION:

- Accuracy to +/- 0.2° for all angles
- Auto shutdown in 5 minutes
- Angle sensor technology
- Zero button to determine the angle changes from initial measurement
- Absolute level sensor
- Large backlight for easy reading of angle
- Automatic digital inversion
- Battery included

- **Typical price:** £23.94
- **Web:** www.trend-uk.com

SPRING PROJECT – COOK BOX

TAKES: One weekend

TOOLS NEEDED: Marking gauge, straightedge, saw, chisels, hammer, drill and bits, router and bits, shoulder or rebate plane, bench plane, sander

The finished cook box. It's up to you if you want to fit handles or not – polypropylene rope is ideal

CAMPING ESSENTIALS

Phil Davy shows you how to improve your basic camping kit by making a box for storing your cooking essentials

Have you ever been on a camping trip and wondered how you could improve on the basic kit? During a fine summer last year I decided a priority was storage for those cooking essentials when they were not in use. A favourable weather forecast meant everything would be ready to load in the car along with tent and sleeping gear, instead of scattered around the house in various cupboards. All cooking kit would be together, including the stove, fuel, pots, pans, cutlery and first aid pack; every camper's requirements will be different, depending on how many people you're catering for. Stoves vary widely in type, size and fuel requirements, so you'll need to plan a storage box around gas canister sizes, water bottles and so on. But what's wrong with a good old plastic crate? Nothing particularly, except that they tend to shatter if dropped and are not really rigid enough to provide a sturdy seat or table. Of course, you can simply replace a crate if this happens, but where's the fun in that?

There's a danger of building too big a box which is far too heavy. It should be portable and could double up as a table for food preparation and dining, too. This box is definitely for car campers, as its size and bulk is just too great for it to be lugged any distance. Adding castors helps, though small wheels in long, wet grass are not ideal. I toyed with the idea of adding 200mm pneumatic wheels, but these would take up too much space in the car. I had some 50mm castors already, so fitted these temporarily before replacing them with larger wheels. You could simply cut out handles at each end, fit hinged chest handles or use rope, which would make it easier to haul the box across grass.

The carcass is built with simple lap joints, easy to make with a router or sliding mitre saw, then pinned and glued together. For extra strength you could use dovetails or finger joints. You could glue plastic laminate on the top to give a tough, wipe-clean surface, though you'd need to balance this with laminate underneath to prevent the timber bowing. The front panel simply slides across for access. This could be in two halves, or made to slide down from the top. Hinged or lift-off doors are another option. In my local B&Q store I found some 7mm laminated MDF in the offcuts bin. Dense and hard wearing, it cost me just £2 for a couple of large sheets. In hindsight I would reduce the thickness of the carcass timber. Although 20mm PAR pine is pretty solid, bringing this down to about 16mm would save weight but still retain rigidity. I would prefer to have used birch ply for the divider panels, but this is expensive and not readily available. For external use MDF is not perfect, but as long as it's sealed before being exposed to the elements it should be OK. With this in mind, I built the box so that all the internal panels could be removed fairly easily. If the MDF simply does not stand up to the weather, it's easy enough to remove the back panel (it's pinned but not glued) and the dividers will just slide out and can be replaced with exterior ply.

1 Assemble all the cooking equipment you'll need to fit into the box, so you can work out the overall size

2 If using softwood you will probably need to glue boards edge to edge in order to get sufficient width

3 Once the glue is dry, sand the boards, or better still, you could pass them through a wide thicknesser

4 Saw the two sections exactly to length. Use a guide rail or batten if using a powered saw

5 Cramp both pieces together and plane the end-grain square, working in towards the centre for best results

6 Set a gauge to one third of the timber thickness and mark the ends for the lap joints. You can then pencil in the waste

7 With a straight cutter, rout a rebate at each end of both top and bottom panels to create the join

8 If necessary, carefully clean up the rebates with a finely-set shoulder or rebate plane – it's worth the effort

9 Place utensils where you want them and mark out positions for divider panels. These are 12mm MDF

10 This box has a sliding front panel, so rout a 7mm groove along each inside edge

11 Using a 12mm cutter, rout housings for the divider panels across the top and bottom pieces

12 Housings are stopped 7mm before the groove for the front panel. Square up the ends with a chisel

13 It's easier to sand the inner surfaces before gluing the carcass sections together

14 Do a dry run with sash clamps before gluing the carcass together. Use an exterior glue if possible

15 Check everything is square before nailing the joints, adjusting the clamps if you need to

16 Pre-drill the holes to prevent splitting, and then use 20mm oval nails to assemble the joints

17 Clean up excess end-grain from the lap joints with a plane, then shoot the front and rear edges

18 Rout a rebate around the inner edges for a rear panel, squaring the rounded ends with a chisel

19 Make the vertical dividers from 12mm MDF. Slide these into place without using glue

20 All outer edges are routed with a round-over bit to soften the cabinet

21 Finish the interior with a suitable exterior varnish. Yacht varnish is best for the outside of the box

22 The rear panel is from 6mm MDF. Cut it to size and fix it to the rebate with hardboard pins

23 Mark castor positions and screw to the box. These will be replaced with larger wheels

24 Check the front panel slides properly and drill a 22mm diameter finger hole

Gifts for gardeners

No matter if you're green fingered or not, these handy garden aids by Les Thorne will either prove useful to yourself or make great gifts for friends

Believe me, I'm no gardener – I could kill artificial flowers. My dad, on the other hand, has always grown vegetables on a biblical scale. Saying that, if you haven't got green fingers you will probably know someone who has, and the simple projects shown here will make great gifts. The paper pot maker is a great eco-friendly way of recycling newspapers and I had fun making the pots even though I wouldn't be using them for the intended purpose. The garden dibber is something I used to make with beginners as it teaches basic spindle turning techniques along with practising turning tapers. Plus, burning lines on the wood is always a satisfying thing to do. When you are making something that's either going to be used or left in a damp environment, you need to choose a timber that will not mark or rot too easily, so I settled on oak for the project, although sweet chestnut would also have been a good choice. I would like to thank Alan Sturgess from the Hampshire Woodturners' Association, who drew up the plan below as well as providing me with the idea of making one of the projects shown here. **GW**

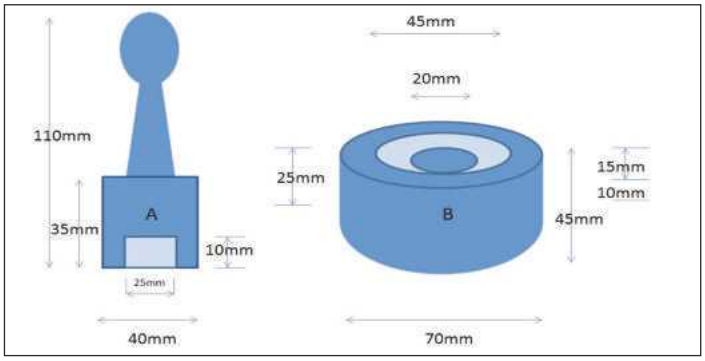
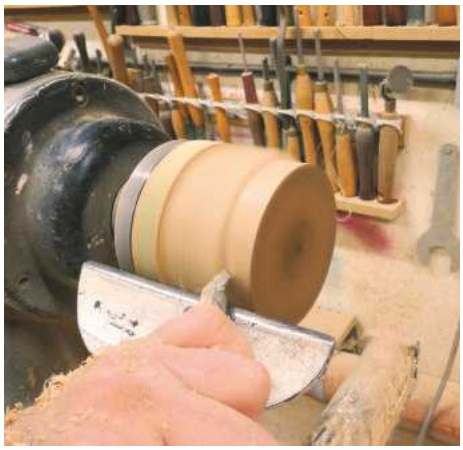


FIG.1 Dimensions for the paper pot maker and garden dibber

1 The base is made from a piece of side-grain timber. On a blank this size, it's not worth making it round on the bandsaw so I just take the corners off using my bandsaw's tilt feature

2 All ready to go. Cutting the blanks round on the bandsaw would wear the blade more on one side than the other, which means it would struggle to cut in a straight line

3 I needed to mount the blank on the lathe without any screw holes in the top, so the best option would be a glue chuck. A hot glue gun is both quick and easy to use, but do make sure the glue is dry before you start up the lathe



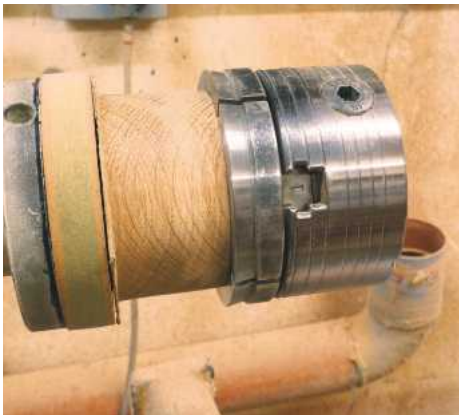
4 Use a bowl gouge to take the blank down to the required size. To make the piece parallel and to get the best cut, run your finger along the toolrest; this will fix the depth of cut but you must move the tool at the optimum speed in order to achieve the best surface finish

5 Using a long-grind bowl gouge means I can clean the bottom surface up with a pull cut. Remember to start the tool cutting on the centre point of the wood and make the base slightly concave

6 These are the large jaws of a Nova chuck and they are going to be the perfect size for gripping the oak. I learnt this technique when making trophy bases, and it means that I don't need to use a dedicated chuck recess or spigot

7 The size of the jaws' internal diameter needs to be transferred onto the wood and for this I use a pair of dividers. This does need to be accurate or you will leave chuck marks on the blank

8 I use a signature gouge to cut a small groove about 5mm up from the bottom. If you struggle to do this, a small 'V' type scraper will work fine just as long as you take small cuts



9 Here I'm just trying the chuck for size. The jaws need to make a perfect circle so as not to compress the wood unevenly. You can see there's just a tiny gap between the jaws

10 Complete the bead using the spindle gouge. Best results will be achieved with the bevel in contact and a push cut. In the photo you can see the direction the tool needs to be presented in so it cuts with the grain

11 Carefully sand the bead from 120 to 400 grit. You'll have to fold the abrasive over to make sure you get into the tight groove at the top of the bead

12 The chuck is on the lathe and the oak is gripped on the bead. You can see I've put a piece of tissue between the jaws and the timber, which will stop the metal of the chuck reacting with the tannins of the wood

13 You'll need to true up the top face making sure you remove all the glue. Use a gauge for this as sanding it just melts the glue and spreads it around. Use the dividers to mark on the measurements shown in the drawing

14 The 10mm multi-purpose tool is best for turning the large slot in the top. Line the tool up with the bed of the lathe in order to keep it parallel and try not to force the tool through the timber - allow the tool to cut cleanly

15 It does need to be accurate, so I used the depth gauge on my Vernier callipers to get the right size. Take it steady at this stage; you can always go deeper but making it shallower is a little more tricky

16 All that's left to do on the base is to take off the sharp edges so the paper doesn't get ripped. You could sand them off with a piece of 120 grit but I use the 10mm skew chisel in scraping mode

17 I've had this Veritas centre finder attached to the wall of my workshop for about 15 years and I'd forgotten how well it works on square and round stock

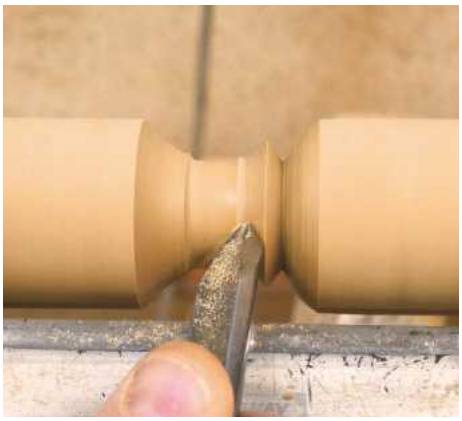
18 Mount the plunger between centres and after making it round, put a chucking point on one end. Once again, I use the Vernier callipers to achieve an accurate size

19 The end will need to be faced off, with a skew chisel using a slicing cut to clean up the end, if you're confident. A gouge, however, will be a little more forgiving. For the best cut, you'll need to ensure to get the height of the toolrest correct

20 Use a 25mm sawtooth machine bit mounted in the tailstock to drill the required depth hole in the end. If you make a tiny dimple in the end with the chisel, the drill will always start off dead centre

21 At this stage, I've marked out two things on the blank: one is the size of the plunger and just as important, the waste on the handle end, which is taken down to give me two points to work between

22 This is good practice with the skew: open a 'V' using the point of the tool in a slicing type cut, then roll a convex shape on the left-hand side. Make sure the bevel of the tool is constantly in contact with the wood or you'll experience a dig-in



23 Here I've changed over to the gouge in order to turn the concave shape in the handle. This is a classic handle shape and is particularly good to look at and comfortable to use. Keep the bevel rubbing for the best finish

24 Because I have held one end in the chuck I can almost turn the end to a finish. I keep making slicing cuts until there is about 5mm of material left. I then add finger tip support and keep going until it falls into my waiting hand

GARDEN DIBBER

25 A liberal coating of oil will help to protect the wood from moisture and in this case I am using lemon oil. When the oil is dry, give it a light rub with 400 grit and apply another coat

26 I found that a piece of newspaper around 200mm long × 80mm wide was about the right size and amazingly they do stay together – I might have to plant something now!

27 The dibber blank is about 200mm long and 40mm square. Once you have made it round, take the waste down on either end; this will stop you having those annoying little drive marks in the end of the piece

28 All marked out and ready to go. Take care not to weaken the blank by making the detail too thin at this stage as vibration will lead to difficult cuts

29 Learning how to turn a taper is important in your turning life. I have set the toolrest up on an angle to give me a guide to work to. The bulk of the stock is taken down with the spindle roughing gouge

30 The spindle roughing gouge is good and the finish will be pretty good as a result, but the skew will give a brilliant finish needing little or no sanding. This is a planing cut and the photo shows the optimum position of the cutting edge

31 The shine on the wood shows that the bevel is in contact with the surface and causing the timber to be burnished as the tool goes through the cut. The ball on the end will make the dibber easy to use

32 The last parts to be completed are the small thin details; first the cove underneath the ball followed by the rounded over point at the tailstock end. The secret is to leave just enough to support the wood through the last stage

33 Mark a series of increments on the shaft of the dibber - I've used 10mm steps on this particular one – then using the point of the skew, cut a small groove on each line

34 One of the most satisfying things you can do on the lathe is to burn lines with a friction wire. I use a strong steel wire held in some handles. Do not try and hold it in your fingers as it will get hot

35 You should only have a small amount to finish by hand. For the piece to look its best you want to make sure you don't flatten off the top of the ball. A good soaking of lemon oil and the dibber is ready to use

36 The completed paper pot maker and garden dibber should look something like this

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BACK TO SCHOOL

A project to make good use of wood scraps turned into a lesson on how businesses and schools can collaborate to help solve the industry's skills gap, explains Ben Naylor, MD Jack Badger Ltd

TOOLS & TECHNIQUES

Robin Gates describes some favourite hand tools and shares tips on using them to advantage

MAGIC MOMENT

Colin Simpson takes an age-old magic trick and incorporates the concept into a turned box design

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PLUS: EDWARD HOPKINS' 'HOME TRUTHS' ➔ BAROQUE CABINET
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A ROCKING HORSE FOR LAUREN ➔ USING LAMINATING TECHNIQUES IN FURNITURE MAKING

BAD LANGUAGE

How one word can spoil your day

I've banned it in the workshop. I've banned it in the building. I don't use it myself and I don't let other people use it. It sets the wrong tone entirely. You're lining up disappointment because two times it might be appropriate, but eight times it isn't. It isn't an expletive (there's always a place for them) and it isn't blasphemous. It appears to be a nice little word – compliant, relaxed, and easy-going; chilled out, you might say (though I wouldn't); friendly, but be warned! Nothing could be further from the truth. It can sabotage your work, and confound your mind.

The perversity is that it isn't necessary. It's merely a bad habit. You do it to yourself. It is a word that carries a penalty and it should carry one itself: a porcelain piggy and a pound a time could send some people on holiday. It points you in the wrong direction. The word tells you that soon it will be over. You don't want to do it (whatever it is) but it won't take long. Grin and bear it. Or, less dramatically, don't get emotionally involved. It is peripheral: of no direct importance, that's what you're telling yourself. You're shrugging it off. You have better things to do. You'll fit it in between coffee and lunch while listening to the cricket.

You're fooling yourself. It won't be like that. It'll take half the afternoon and another compendium of unpleasant words to get through it and out the other side. You should have known this. You've been doing it for long enough. So why did you use it? Why did you hobble yourself?

You can hobble yourself and you can hobble others. You thrust this word upon them and, lovely folk that they are, they don't want to appear evasive so they agree. You pass on the curse. It's they now who feel inadequate, inefficient, and beholden. You've been unkind. You didn't mean to, but you didn't think. I'm here to tell you to think. Think before you use this word, or rather, do not use it at all.

Come back next Tuesday

The word is 'just'. 'Just sew this zip in for me would you?'. 'Just ask the bloke downstairs to turn the music down'. 'Just fit the cat flap in the door'. It's the bane of tradesmen: 'Oh, while you're here would you just…' unblock that geyser, ease a window, and/or work out why the bathroom door won't open and where the damp is coming from. You should say no! I'll come back next Tuesday! You don't. You've been trapped. The customer believes it will only take a few smidgeons of your expert time and magic touch, and so you partly believe it yourself and the latent superman within you wants to fly to the rescue. Dream on. Any time anyone says 'just', alarm bells should clatter the dead awake.

The people who say just (and this includes you) don't know what the job involves. They assume it'll be easy because they've never found out that it isn't (because they've never tried it). If they had any idea, they'd be more deferential, more supplicatory. They'd give you an escape route. You'd give yourself one.

Before you took it you would, of course, do your best. Your best would begin with the right mind-set. 'Just' is trivial, dismissive, and hardly worth bothering with. This is not a good attitude. Start a job in calm acceptance that a hundred things can go wrong, and a couple probably will do so out of spite, and you will have the resilience required. Every part of the job is a job in itself. Every part should be enjoyed. Be efficient, but don't hurry the job away. Don't wish it gone. Don't expect it gone. And don't damn it with a four-letter word. **GW**

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