WOODWORK | TURNING | TOOL TESTS | FEATURES

August 2023

The Woodworker

& Good woodworking

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CHIPPENDALE SCHOOL 2023 GRADUATE SHOWCASE

25 exquisite pieces that represent the *future of furniture making*

PLUS...

- **TURNING:** THREE-TIERED TRINKET BOX WITH FLOCKED DETAIL
- JIM STICKINGS' ALL-WOOD CLOCK BUILD DECONSTRUCTED – PART 1
- **HAMMER A2-26 PLANER/THICKESSER:** WHY 'SMALL' IS THE NEW BIG

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Welcome

Award-winning furniture designer-maker, Fernanda Nuñez, is guest judge for 2024

Alan Peters and Andrew Lawton, pictured back in 2005, working on Alan's last piece of furniture

Bench made by Alan Peters OBE

Alan Peters' maker's stamp, shown on the underside of a turned and adzed bowl in Devon walnut, circa 1975

Stave assembly for Andrew Lapthorn's winning 'Remnant' table (2021 Award)

2022 Award winners

The time has come once again to sing the praises of furniture school graduates as well as marvelling at the fantastic pieces they've produced. Gracing our front cover this month is the work of 25 Professional Course graduates from the prestigious Chippendale International School of Furniture in East Lothian, Scotland, who, after nine months, have created some truly exceptional work.

A creative destination

Reading each student's story, you soon realise that many have come from unlikely backgrounds, such as banking and IT, for example. Those bitten by the furniture making bug have bravely walked away from long-term careers, choosing to listen to their inner woodworker as furniture making becomes the creative destination. Looking at these accomplished pieces, one can't help but be filled with hope for the craft's future, and shining a light on this work is pivotal to ensuring such a future exists at all.

Regardless of age, nationality or background, all share a common goal as they collectively embark on a wonderful journey and seek to pursue individual business ventures. A notable mention goes to 2023 Student of the Year, Nicholas Davis, whose 'Occasional Seating' perfectly encapsulates the multi-functional usage concept and looks fantastic in American white ash. Many congratulations to Nicholas, and indeed all 25 Chippendale School graduates.

The Alan Peters Online Furniture Award 2024

On a similar vein of unearthing future talent, we have some exciting announcements to make regarding the next Alan Peters Furniture Award, which is now open for entries. After much deliberation, as well as now shifting to a bi-annual format, we can confirm that the 2024 Award will in fact be an online only event – similar to 2021 – which will feature an online prize-giving ceremony followed by a virtual exhibition. A certificate will be issued to the three winners along with the two runners-up.

We're honoured to be able to continue championing British furniture design and making talent while flying the flag for Alan Peters OBE, whose work and ethos are still incredibly relevant to this day. Organiser Jeremy Broun will head up the judging panel along with furniture designer-maker, Andrew Lawton.

Fernanda Nuñez

We've also been able to secure our 2024 guest judge, and are thrilled to welcome the incredibly talented Fernanda Nuñez – herself an award-winning furniture designer-maker – who comments that: "It's a real honour to be invited as guest judge for the prestigious Alan Peters Furniture Award, which celebrates the legacy of one of the most prominent furniture designer-makers of all time. It's our duty to encourage talent within the craft while celebrating creativity, and ensuring standards are kept high."

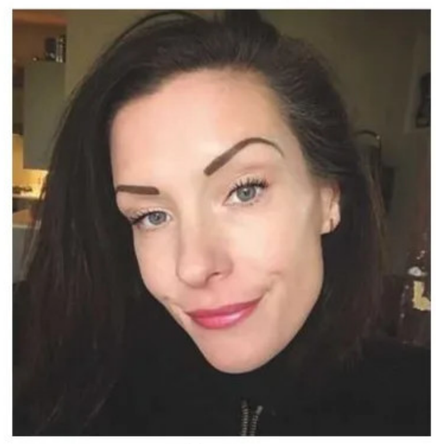
We're also pleased to confirm that Workshop Heaven – renowned supplier of the finest woodworking tools – are first prize sponsor of the 2024 Award, and will present the deserving winner with a £1,000 voucher to spend in-store. A big thank you to Matthew Platt and the team for their great support.

Thirdly and finally, 2024 Award entry deadline will be the end of July 2024 – exact date to follow in the next issue – so now's the time to start thinking about your winning piece(s) and putting those creative wheels in motion!

For anyone needing inspiration, take a look at Jeremy Broun's website – **www.jeremybroun.co.uk** – where you can find videos showing the 2022 winners and their pieces; delve into the Award's history; learn more about Alan Peters himself, and familiarise yourself with the entry guidelines. Be sure to stay tuned for further exciting news!

Tegan

Email tegan.foley@dhpub.co.uk



Tegan Foley
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Phil Davy
Technical & Consultant Editor

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

veritas

SEND IN YOUR TOP WORKSHOP HINT/TIP/POINTER OR PIECE OF ADVICE & YOU COULD BE IN WITH A CHANCE OF WINNING A **VERITAS APRON PLANE**

– see page 55 for details

“ HAMMER A2-26: ‘SMALL’ IS THE NEW BIG

Designed to provide quality and precision in more compact workshops, this new ‘small’ planer/thicknesser from Felder Group’s Hammer range boasts user-friendly operation and impresses with solid cast-iron planer tables

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Good luck!

CHISEL RATING

PROJECT DIFFICULTY 1-5

Each project in this issue includes a difficulty rating from 1-5, so you can readily see whether or not a particular one is suited to you. While it’s good to try and push yourself and develop skills, workshop safety should always be a main consideration and we urge you not to attempt a project/use specified tools or machinery, if you’re unsure how to do so in a safe manner. A wide range of safety information is available online and a good place to start is **www.hse.gov.uk**

1 **Very easy**; only requires basic tools
2 **Simple to make**; only a few tools required
3 **Aimed at beginners-intermediate**; some specific equipment/tools required
4 **Aimed at intermediate-advanced**; sound woodworking knowledge required in addition to a wide range of hand/power tools
5 **Advanced skills/knowledge required**; a wide range of specialist equipment is needed to complete the project

The Woodworker & Good Woodworking
AUGUST 2023

PROJECTS & TURNING

TECHNICAL

REGULARS

ON TEST

FEATURES

www.thewoodworkermag.com
Published by David Hall Publishing,
1st Floor, Nene House, Sopwith Way,
Daventry NN11 8EA
UK and Overseas Tel: +44 (0) 0327 311 999

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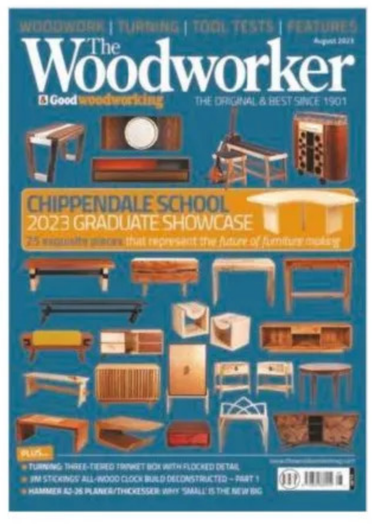

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CIG81216	4.9 x 3.7 x 2.5	£329.00	£430.80	£394.80
CIG81020	6.1 x 3 x 2.4	£349.00	£466.80	£418.80
CIG81220	6.1 x 3.7 x 2.5	£399.00	£514.80	£478.80
CIG81224	7.3 x 3.7 x 2.5	£499.00	£646.80	£598.80
CIG1432	9.7x4.3x3.65	£1099.00	–	£1318.80
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CDP102B	350 / 5	£115.95		£139.14
CDP152B	450 / 12	£209.98		£251.98
CDP202B	450 / 16	£269.00		£322.80
CDP352F	550 / 16	£339.00	£418.80	£406.80
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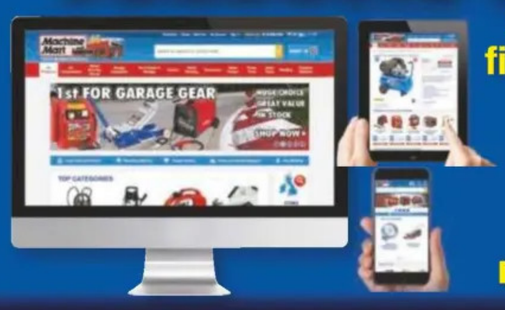

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BACK FOR 2023: THE NORTH OF ENGLAND WOODWORKING & POWER TOOL SHOW: 10–12 NOVEMBER

The 'Harrogate' show is a great day out for all

Last year's event attracted around 8,500 visitors over the three days

Following the success of the 28th show, which returned to the Great Yorkshire Showground last year following a two-year hiatus, we're pleased to announce that the UK's most extensive woodworking event is back for 2023, and due to place from 10–12 November.

Last year, the show attracted around 8,500 visitors over three days, all of whom were looking forward to getting back out there and attending the country's longest established, highest attended retail woodworking event.

Top demonstrators

As with the usual show format, visitors can expect to see a wide range of demonstrations from some of the industry's leading names, across various woodworking disciplines. These will take place at various points over the show's duration in one of five dedicated 'mini' theatres. We're pleased to confirm that the following demonstrators will be in attendance:

- **AWGB** *(Association of Woodturners of Great Britain)*
- **Andrew Hall** – *Woodturning*
- **Bob Neill** – *Pyrography*
- **Emma Cook** (AKA Tiny Turner) – *Woodcarving & woodturning*
- **Jorvik Woodturning Group**
- **Leeds Marquetry Group**
- **Les Thorne** – *Woodturning*
- **Peter Sefton** – *Wood Workers Workshop*
- **Peter Tree** – *Chairmaking*
- **Philip Greenwood** – *Woodturning*
- **Margaret Garrard** – *Piercing & texturing*
- **Mike Tupper** – *International Boat Building Training College (IBTC)*
- **Nic Westermann** – *Sharpening*
- **North Yorkshire Woodworkers Club**
- **Shane Skelton** – *Hand saws*
- **Simon Hope** – *Woodturning*
- **Steve Langton** – *Tom Thackray Windsor Chairs*
- **Woodcarvers UK**
- **West Riding Woodcarvers' Association**
- **West Riding Woodturners' Group**

Exhibitors

In addition to the host of demonstrations on offer, there'll also be in excess of 80 exhibitors in attendance, giving you the chance to try before you buy, see the latest woodworking kit, tools and timber, and go home with a show offer or two. We're pleased to welcome lots of new names this year and several returning companies, as well as the usual favourites and industry leaders. The full demonstrator and exhibitor list is available to view via the website, so ensure to keep checking as it's updated.

Emma Cook – The Tiny Turner – will be demonstrating at this year's event

New for 2023

- Charnwood Machinery Ltd
- Kinsley Timber
- Klingspor Abrasives Ltd
- Wood-Mizer
- TOMACO
- Woodshop Direct

Returning for 2023

- Trend
- Wood Workers Workshop

Advance tickets

Don't forget to purchase your advance tickets for the 2023 event, which will be available to buy from 31 August. Be sure to set yourself a reminder of when these go on sale and visit the show website for further details: **www.harrogatewoodworkingshow.co.uk**.

The 'Harrogate' show – as it's affectionately known – offers a great day out for all. We look forward to welcoming you back to Hall 1 of the Great Yorkshire Showground from 10–12 November. In the meantime, if you have any questions, please email **exhibitions@dhpub.co.uk**.

Timber Suppliers Directory – August 2023

Adhectic Ltd (Berkshire)
Tel: 01235 5
Web: www.adhectic.co.uk

A Harrison (Northants)
Tel: 01536 725 192
Web: www.aharrisonwoodturning.co.uk

Bennetts Timber (Lincolnshire)
Tel: 01472 350 151
Web: www.bennettstimber.co.uk

Black Isle Woodturning (Scotland)
Tel: 07842 189 743
Web: www.blackislewoodturning.com

Brodies Timber (Perthshire)
Tel: 01350 727 723
Web: www.brodiestimber.co.uk

Brooks Brothers Timber (Essex)
Tel: 01621 877 400
Web: www.brookstimber.co.uk

C&G Barrett Ltd, Cilfiegan Sawmill (South Wales)
Tel: 01291 672 805
Web: www.cilfiegansawmill.com

Clive Walker Timber Ltd (West Yorkshire)
Tel: 01132 704 928
Web: www.clivewalkertimber.co.uk

D Emmerson Timber (Lincolnshire)
Tel: 01507 524 728
Web: www.emmersontimber.co.uk

Earlswood Interiors (West Midlands)
Tel: 01564 703 706
Web: www.earlswoodinteriors.co.uk

English Woodlands Timber (West Sussex)
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Web: www.englishwoodlandstimber.co.uk

Exotic Hardwoods (Kent)
Tel: 01732 355 626
Web: www.exotichardwoods.co.uk

EO Burton, Thorndon Sawmills (Essex)
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Web: www.eoburton.com

Eynsham Park Sawmill (Oxfordshire)
Tel: 01993 881 391
Web: www.eynshamparksawmill.co.uk

FH Ives (Essex)
Tel: 01268 732 373
Web: www.fhives.com

Fulham Timber (London)
Tel: 0208 685 5340
Web: www.fulhamtimber.co.uk

G&S Specialist Timber (Cumbria)
Tel: 01768 891 445
Web: www.toolsandtimber.co.uk

Good Timber (Northamptonshire)
Tel: 01327 344 550
Web: www.goodtimber.com

The Hardwood off cut shop (Essex)
The Wood Yard, Canterbury Tye Farm, Doddinghurst road, Brentwood, Essex, CM15 OSD
Tel: 01277 205990
Web: www.hardwoodoffcuts.co.uk
sales@hardwoodoffcuts.co.uk

Horndon Timber Products
Unit 8-9 Orsett Industrial Park
Stanford Road, Orsett, Grays
Essex. RM16 3BX
Tel: 01375 679 999
Web: sales@horndontimber.co.uk

Interesting Timbers (Somerset)
Tel: 01761 241 333
Web: www.interestingtimbers.co.uk

ISCA Woodcrafts (South Wales)
Tel: 01633 810 148/07854 349 045
Web: www.iscawoodcrafts.co.uk

Joyce Timber (London)
Tel: 0208 883 1610
Web: www.joycetimber.co.uk

Lincolnshire Woodcraft (Lincolnshire)
Tel: 01780 757 825
Web: www.lincolnshirewoodcraft.co.uk

Nottage Timber (South Wales)
Tel: 01656 745 959
Web: www.nottagetimber.co.uk

Ockenden Timber (Powys)
Tel: 01588 620 884
Web: www.ockenden-timber.co.uk

Olivers Woodturning (Kent)
Tel: 01622 370 280
Web: www.oliverswoodturning.co.uk

Oxford Wood Recycling (Oxfordshire)
Tel: 01235 861 228
Web: www.owr.org.uk

Stiles & Bates (Kent)
Tel: 01304 366 360
Web: www.stilesandbates.co.uk

Scadding Timber (Avon)
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Web: www.scadding-son-ltd.co.uk

Scawton Sawmill (North Yorkshire)
Tel: 01845 597 733
Web: www.scawtonsawmill.co.uk

S.L. Hardwoods (Croydon)
Tel: 020 3051 4794
Web: www.slhardwoods.co.uk

St. Andrews Timber (Scotland)
Tel: 01316 611 333
Web: www.standrewstimbersupplies.co.uk

Surrey Timbers Ltd (Guildford)
Tel: 01483 457 826
Web: www.surreytimbers.co.uk

Sykes Timber (Warwickshire)
Tel: 01827 718 951
Web: www.sykestimber.co.uk

The Timber Mill (Cornwall)
Tel: 07966 396 419
Web: www.thetimbermill.com

The Wood Recycling Store (East Sussex)
Tel: 01273 570 500
Web: www.woodrecycling.org.uk

Thorogood Timber Ltd (Essex)
Tel: 01206 233 100
Web: www.thorogood.co.uk

Timberman (Carmarthenshire)
Tel: 01267 232 621
Web: www.timberman.co.uk

Tree Station (Lancashire)
Tel: 01612 313 333
Web: www.treestation.co.uk

UK Timber Ltd (Northamptonshire)
Tel: 01536 267 107
Web: www.uk-timber.co.uk

Waterloo Timber Ltd (Lancashire)
Tel: 01200 423 263
Web: No website

Wenban Smith (West Sussex)
Tel: 01903 230 311
Web: www.wenbans.com

Wentwood Timber Centre (South Wales)
Tel: 01633 400 720
Web: www.wentwoodtimbercentre.co.uk

W L West & Sons Ltd (Surrey)
Tel: 01798 861 611
Web: www.wlwest.co.uk

Yandle & Sons Ltd (Somerset)
Tel: 01935 822 207
Web: www.yandles.co.uk

SHAPER TRACE – The easiest vector conversion tool for hand sketches

Shaper is focused on making precision cutting easy and accessible to craftspeople everywhere. The company's latest product – Trace – provides a simple method of turning a hand-drawn sketch into vector graphics, which are native to digital fabrication and digital design tools.

Trace is the easiest vector conversion tool for hand sketches on the market, which essentially turns any smartphone into a high-quality vector scanner. A single sketch can transform into a multitude of different outputs in terms of size, material or fabrication technique. It can be used in the workshop, and there's no need to return to your desk.

The end result? A vector file (SVG) that can be used on virtually any fabrication machine, and no more getting stuck in the creative process with difficult-to-use software.

How it works

- Draw on any surface within the frame size and place the frame over it;
- Capture and convert the drawing to scaled, flattened vectors in the Trace App;
- Cut with Origin or other digital fabrication tools.

What's in the box?

- Frame – 338 × 248mm;
- Technical drawing pen;
- Free and unlimited access to Trace App.

SHAPER

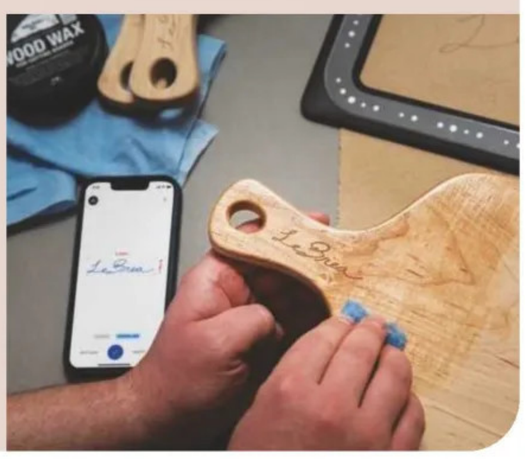
Features

- **Centreline/outline trace** – choose either option for automatic and accurate conversion of hand-drawn lines into a single vector path – no complicated steps or adjustments required;
- **Built-in post-processing tools** – select individual vector paths from a drawing, smooth your drawing and more;
- **Preserves drawing scale and accuracy** – hold your phone at any angle and the Trace App automatically corrects for distortion;
- **Works with any modern web browser** – quickly and easily access the tool from your smartphone or tablet.

Technical specs

- SVG file format;
- Compatible with any modern browser;
- No subscription required.

Visit **www.shapertools.com** for further information on this new product.



MAKITA launches powerful new cordless circular saw

Makita recently launched the HS012G 40VMax XGT Brushless 165mm circular saw, which further bolsters its XGT range of cordless offerings. This lightweight yet powerful tool delivers the performance and run-times demanded by woodworking professionals.

The HS012G circular saw adds a new, compact option to Makita's existing range of saws and is the first 165mm model within the XGT range. The combination of 40VMax XGT power and energy efficient brushless motor means it can achieve a maximum output of 1,300W – nearly twice that of the equivalent 18V saw – coupled with a no-load speed of 5,200rpm. To maintain consistent blade speed under load, it also features constant speed control, which allows for improved cutting performance.

The HS012G has a bevel range of up to 50°, with positive stops at 22.5° and 45°, making it easy to select these commonly used bevel angles. It achieves a maximum cutting depth of 57mm at 0° and 41mm at 45°.

To ensure user safety, the HS012G features an electric brake, which quickly slows the blade along with an anti-restart function to prevent accidental start up. It also includes Makita's Auto-start Wireless System (AWS), meaning the HS012G can be wirelessly connected to a compatible dust extractor via Bluetooth; this allows the dust extractor to automatically run when the tool's activated, thus simplifying dust management.

The HS012G features twin LED job lights with pre-glow and afterglow functions for better workpiece illumination; an integrated tool hanger and a removable parallel guide ensures accurate, straight line cutting.

The circular saw can be used with Makita guide rails, making it ideal for any jobs that require greater precision. Using a guide rail eliminates the accidental inaccuracies associated with freehand cuts that employ a pre-marked line, especially on larger pieces of material where parallel guides can't be used.

The HS012G is available as a body only option (HS012GZ), body only in a Makpac case (HS012GZ01) or as a kit with two 2.5Ah batteries and XGT battery charger, supplied in a Makpac case (HS012GD201).

Marketing Manager at Makita UK, Kevin Brannigan, says: "165mm circular saws have always been a popular part of our cordless range. The HS012G provides professionals with a versatile, compact and lightweight 165mm saw, but with the performance customers expect from Makita's brushless 40VMax XGT machines."

For more information on Makita's product range, visit **www.makitauk.com**.

Introducing **MATERIALS & FINISHES SHOW** – formerly W Exhibition – from **19–22 May 2024** at **NEC, Birmingham**

materials & finishes SHOW 2024
19 – 22 May | NEC Birmingham

The UK's flagship trade show for the furniture manufacturing and joinery industries – formerly W Exhibition – has relaunched as Materials & Finishes Show and is now aimed at manufacturers, processors and installers of wood & associated materials.

In its new format, the event will run from 19–22 May 2024 at the NEC, Birmingham, and is the reimagined concept developed by Montgomery Group. The show will continue to provide a platform for manufacturers, processors and installers of timber, components and supporting services, alongside complementary materials, such as stone.

Event Director, David Todd, comments: "It gives me great pleasure to announce the launch of Materials & Finishes Show, which aims to build on the W Exhibition's success. Since the show's inception in 1974, it's passed from being a woodworking machinery exhibition to covering the full range of technology and materials for industrial woodworking. We aim to take this further by providing a more valuable, time and resource effective solution for both our exhibitors and visitors from a more diverse community. Wood and stone are two of the most widely used natural materials in construction and design, often used together in various ways. While wood and timber will remain a core focus, it was a natural progression for us to incorporate stone and broaden the delivery for our community."

All areas of the material journey – from initial stages of raw processing through to finishing and component supply for completed products – will be represented. Visitors will have the opportunity to see machinery in action together with components, materials, technology and services for the manufacturing and processing phases of materials, alongside the latest products and developments for finishes.

Materials & Finishes Show will bring together some of the world's leading suppliers of woodworking and stone machinery, materials and tooling. Formerly W Exhibition, the event has over 50 years of heritage and will return to the NEC in its new format from 19–22 May 2024. For further information, see **www.materialsandfinishesshow.com.**

LIBERON launches new range of decking stains

When it comes to caring for exterior decking, Liberon's decking oil is one of the woodcare expert's flagship products. The company has recently launched a new range of decking stains, which makes the selection of Liberon decking woodcare options comprehensive. Liberon's new Superior Decking Stain affords users several benefits.

Sunnier, longer days mean that now is the ideal time to undertake decking maintenance to make sure it's not only looking its best, but is well protected from the elements. A high-quality decking stain can not only help to transform the appearance of decking, but also boost its longevity. Liberon Superior Decking Stain is water-repellent, protects against damage from sunlight, looks great and has a 'biosourced' formula. This formula, based on vegetable oils and modified bio-based resins, reduces environmental impact while still maintaining superior product performance.

Liberon Superior Decking Stain's protection against moisture and sunlight is long-lasting; the stain's water-based formulation includes anti-slip properties; is easy to apply thanks partly to an excellent spreading rate compared to other available options; is quick-drying; and produces a natural, semi-transparent finish once dry. The new decking stain is offered in Light Silver, Gunmetal, Light Oak, Teak, Black and Clear colour options. Available in 2.5l tins, two coats is sufficient to cover 15m², or a 5l option, two coats of which is sufficient to cover 30m².

The new product not only marks a turning point in Liberon's decking woodcare offering, but ushers in a whole new livery of packaging, including a revamped logo. The impactful new look is the result of brand investment to modernise and help move the market forward. This investment will see other products in the range follow suit. For further information, see **www.liberon.co.uk**.

CLARKE CBG6SC Bench Grinder with sanding belt & lamp (250W)

Sharp cutting tools are vitally important in any workshop, require less user effort and often make for a much safer experience. That's why bench grinders are often crucial pieces of kit, and essential additions to many workshops.

Newly introduced to Machine Mart's extensive range, the Clarke CBG6SC is a useful bench grinder designed to help keep drills, chisels, shears, etc. in top condition as well as being generally useful for metal shaping, smoothing and polishing.

The CBG6SC also includes a 50mm sanding belt, which is suitable for wood, metal and plastic, a wheel dressing tool, plus a flexible worklight to ensure maximum precision and visibility during use.

Other useful features include combined eye shield/spark arrestors for safe usage and a base-mounted on/off switch. There's also adjustable toolrests and a coolant tray. Currently priced at £118.79, visit **www.machinemart.co.uk** for more information.

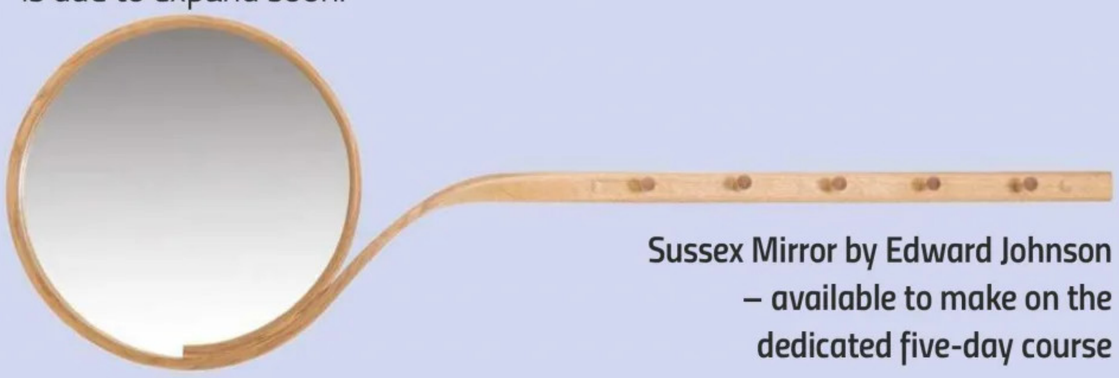
TECHNICAL SPECIFICATION
Grinding wheel: 36 grit
Sanding belt: 80 grit
Wheel dimensions: Ø150 × 20mm
Belt dimensions: 50 × 686mm
Bore: 12.7mm (½in)
Max wheel speed: 2,850rpm
Max belt speed: 15.6m/sec

Edward Johnson's SCHOOL OF CRAFT

Having run a successful bespoke furniture making business since 2009, award-winning designer-maker, Edward Johnson, has now expanded the business and set up his own craft school in a bid to share valuable skills and knowledge. Edward is passionate about keeping traditional cabinetmaking skills alive, which was the main driving force behind him establishing the School of Craft.

The School offers a new range of in-house courses – suitable for hobbyists and budding professionals alike – including ones that focus on tool sharpening, spokeshaving and steam-bending, and the list of those available is due to expand soon.

Edward Johnson in the workshop. This furniture designer-maker describes his work as "being led by a core desire to challenge and innovate"



Sussex Mirror by Edward Johnson – available to make on the dedicated five-day course

A focus on steam-bending

Most of the short courses currently run at the School are strongly focused on steam-bending – a traditional and beguiling technique that's been used for years and was once widely employed in the production of weapons, tools and vessels. It's still used today in the manufacture of furniture, crafting of musical instruments, in addition to boatbuilding, and offers a very effective method of shaping timber to add beautiful twists, bends and turns to a wide range of designs and projects.

Those familiar with Edward's pieces will know that curves are a major feature. This is often the starting point of many conversations surrounding his furniture, and in fact, the designer-maker is frequently asked as to whether he uses steam-bending techniques. The answer to this question is yes – in some cases at least – although Edward is also a master of laminating and hand-shaping to produce the organic curves regularly exhibited in his work.

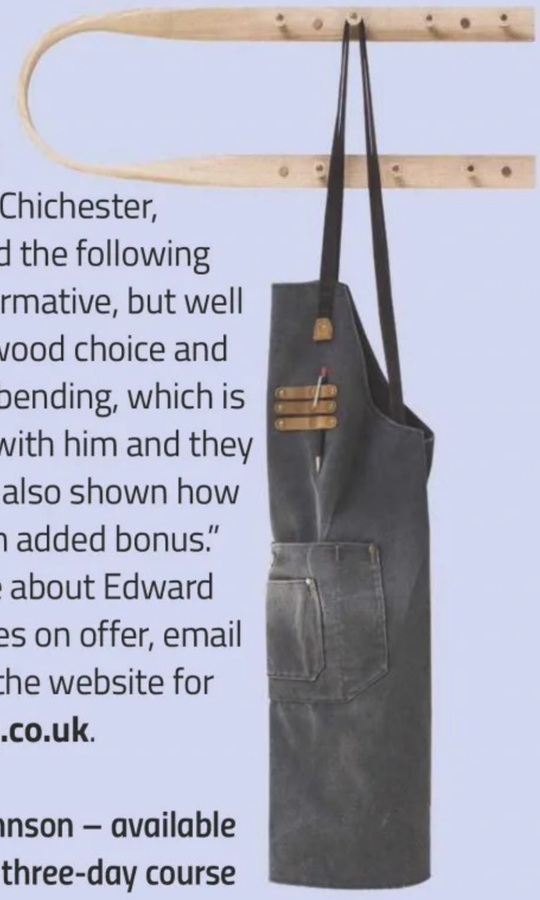
It can be magical to observe the process of steam-bending where timber is manipulated into various curved forms, as Edward describes: "It's great fun seeing a solid 50mm piece of oak bend round a former with ease and no matter how often I witness it, I'm still amazed."

Hone & learn new skills

Working alongside Edward and his team of highly skilled cabinetmakers provides an opportunity to be taught by professionals who're active in the industry and working in a commercial furniture studio. The workshop is well equipped with everything you'd expect, from hand tools to high-end machinery, but more than that, any potential students are sure to receive a very warm welcome from the team. It's a place where you can come and chat about tools, machines and timber with like-minded others, while honing and learning new skills, all in a friendly, professional environment.

Edward Johnson's rural studio, workshop and School of Craft is located just outside the village of Bosham near Chichester, West Sussex. One past student provided the following feedback: "Not only was the course informative, but well planned with everything covered from wood choice and preparation prior to introducing steam-bending, which is a real art. Ed has a great team working with him and they really were a joy to be around. We were also shown how to correctly sharpen tools, which was an added bonus."

If you're interested in finding out more about Edward Johnson's School of Craft and the courses on offer, email **courses@steambending.co.uk** or visit the website for more information: **www.steambending.co.uk**.



Hairpin coat hook by Edward Johnson – available to make on the dedicated three-day course

A student chisels a steam-bent mirror during the five-day steam-bending course

Steam-bending in progress on the five-day 'Make your own Sussex Mirror' course

A student works on steam-bending a hairpin coat hook while on the three-day course

Kent homeowner **saves money on kitchen renovation** by painting cupboards with **V33 SPECIALIST PAINT**


Emma's kitchen – before...

A Kent homeowner wishing to revamp her kitchen was recently able to save money by painting the cupboards as opposed to ripping them out and buying new ones. Emma from Sittingbourne commented that she's over the moon with her new-look kitchen, which was brought up-to-date using V33's Renovation Cupboard & Worktop paint.

Emma continues: "My kitchen is 20-years-old and was looking tired and a bit old-fashioned. V33's Renovation paint was really easy to apply. I chose the white shade, and it's given the room a great new look, and so much cheaper than having to buy a whole new kitchen. I simply purchased new door handles for the cupboards, which completes the look. I'd definitely recommend others try this themselves. The paint has been on for months now and still looks as good as new."

V33's Renovation paints for cupboards and worktops is now available in a wider range of colours and has been reformulated using Teflon™ technology. The new paint range prevents culinary and domestic staining, and allows regular and easy cleaning without altering the paint's colour and finish. This is what makes it suitable for use not only on cupboards but also worktops, where its complex combination of exclusive polymers also means it's highly resistant to heat, scratches, knocks, water and changes in humidity.

With testers available, you can choose from neutral tones or, to stamp your individual style on a kitchen, there's also blue, green and black options. A total of eight on-trend shades provides the opportunity to renovate your kitchen without having to go to the expense of ripping out cupboards and worktops. What's more, V33 Renovation Cupboard & Worktop paint's high level of adhesion means it can be applied direct to surfaces without having to use an undercoat.

The paint is easy to apply using a roller for main areas and a round-edged brush for angles and corners. This renovation task is easy enough for even novice DIYers to take on, but nevertheless, the paint's superior quality ensures a professional-looking result. Offered in both 0.75l and 2l pack options, the former is available from B&Q, priced at £27, and provides 10m² of coverage.

Also included in the V33 Renovation range are paints for wall tiles, floor tiles, radiators and appliances, such as refrigerators and dishwashers, giving the option to refresh all of your kitchen without having to go to the expense of buying replacement items. The V33 Renovation range for B&Q is also available via the retailer's website: **www.diy.com**.


... and after, using V33's Renovation range of specialist paints

For more information on V33, visit **www.v33.co.uk**.

SHENTON REPEAT-EDGE SHARPENING SYSTEM

If there's one thing **Jonathan Salisbury** doesn't like about woodturning, it's sharpening gouges. Perhaps the **Shenton Repeat-Edge Sharpening System** could turn out to be just what he's looking for?

I've undertaken safety training for the bench grinder, but that didn't help me to get better at using it. The edges on my bowl gouges have never been anything to boast about, and I just don't seem to have enough time to practise. Perhaps I ought to get a jig…

One of my previous employers had a 'proper' grinding wheel – the one that begins with a T – with a whole range of jigs, including one for gouges. My machine has a large geared-down waterstone set at 90° with one faster-spinning aluminium oxide wheel and no jigs, but it's got me through so far; most of my sharpening tasks involve chisels and plane irons on flat stones and diamond plates, so when I do have to sharpen the gouges, I make do and put up with the result. But edges don't last.

However, Nigel Shenton may have come to my rescue with the Repeat-Edge Sharpening System. Having become frustrated with the performance of existing jigs, he developed his own – patent pending – version. I'd been assured that it was simple to use, but I opened the box knowing that it required some assembling, that the grinder needed raising, and both it and the baseplates had to be mounted on a board. I began to follow the instructions provided.

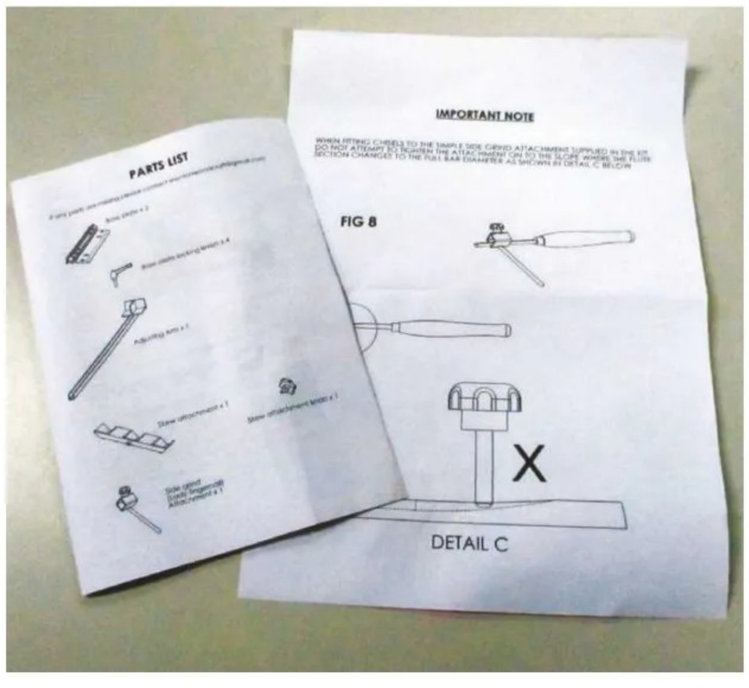
Setting up

I already had a board a little bigger than the stated size, and I decided not to cut it further; this meant that I had to adjust some of the dimensions set out in the diagrams. The instructions are detailed, although after the first read, I wasn't always sure that I understood what I was supposed to do. Taking it in stages was a good idea, beginning with cutting a block to raise the grinder up off the surface. I used a piece of 50mm-thick worktop instead of the suggested two pieces of 18 or 25mm plywood. I set this back from the edge the same distance as it would've been had I used the correct sized board, and used screws to fix it in place. The baseplate – I could only fit one – was placed so that the top of the support at the back of the adjusting arm lined up centrally with the grinding wheel and the front of the plate was 30mm from the board's front. It was then fixed down using M10 coach bolts. I rechecked centrality with a gouge, adjusted it, then made sure that everything was tight. All good and ready to test, I think.

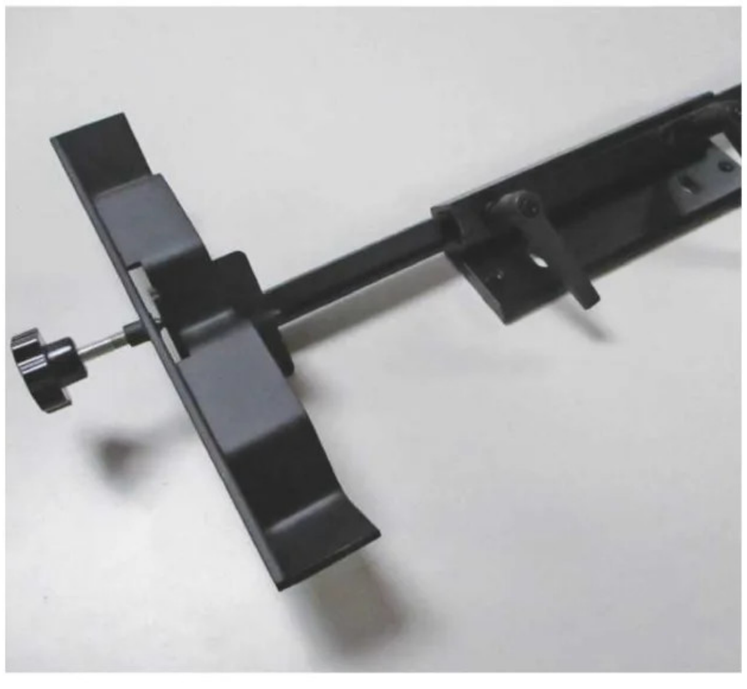
Problems

Most of my turning tools have been acquired second-hand and their previous owners seem to have been, at best, as bad at sharpening as me, but I decided to keep the same angles anyway – and start with one of my least-precious spindle roughing gouges, just in case. With the grinder switched off, the sequence begins by placing a gouge in the support and moving the adjustable arm until the bevel aligns with the stone; the arm's tightened up, the chisel lifted from the stone's surface, and the grinder switched on. Once up to speed, the chisel is brought very lightly into contact with the stone and rotated in order to produce a new edge.

Before coming across the Shenton jig, I'd been used to a slightly uneven freehand grind that somewhat matched the original profile – if I was lucky. But the finish from the Shenton jig is something else, with my first attempt at regrinding an immediate success. Almost perfectly aligned grinding marks, smoothly flowing from centre to

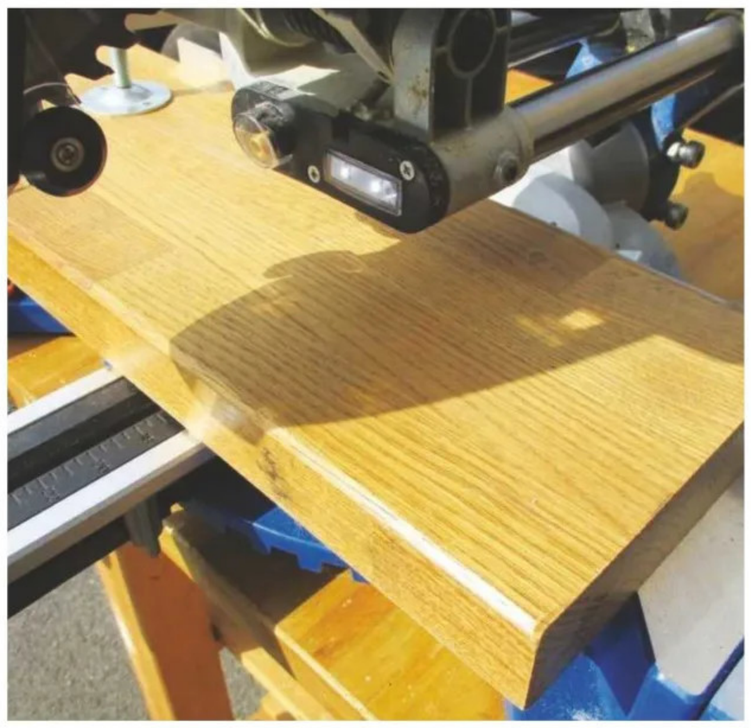


Instructions are detailed



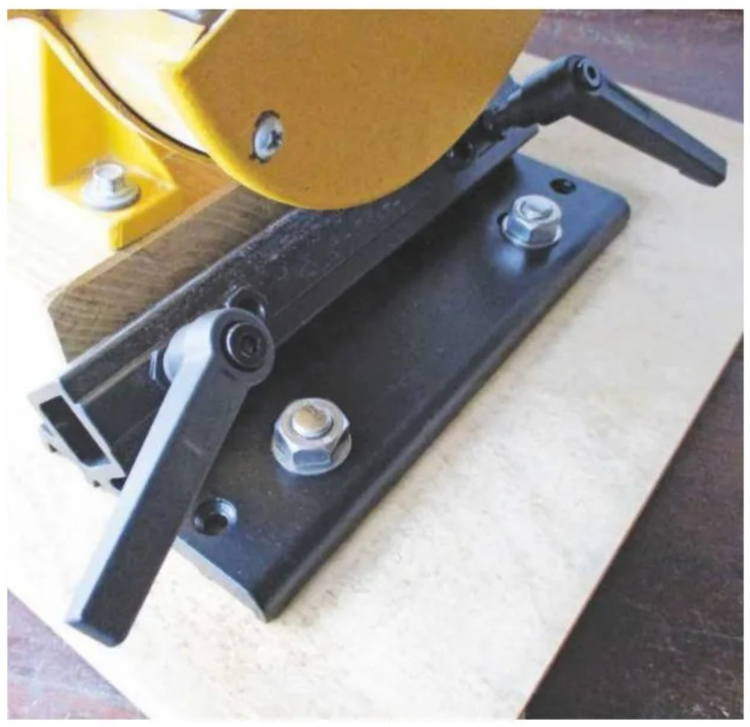
Skew attachment – but the wrong screw

Fixing holes – 10mm for bolts; countersunk for screws



Cutting the raise block

Just right!



The base bolted in position

tip and a thin, sharp edge. Easy to use? It was amazing...

Better results

With my new-found confidence, I moved onto a new spindle gouge. No problems there. Then a bowl gouge with what I knew to be a decent profile. Adjusting the support to match this new victim I switched on, rotated a couple of times and … once again, an almost perfectly symmetrical grind in less than one minute. This is too good to be true, I thought, but I was able to true up an old woodcarving gouge in less than a minute as well. How about a skew chisel, then?

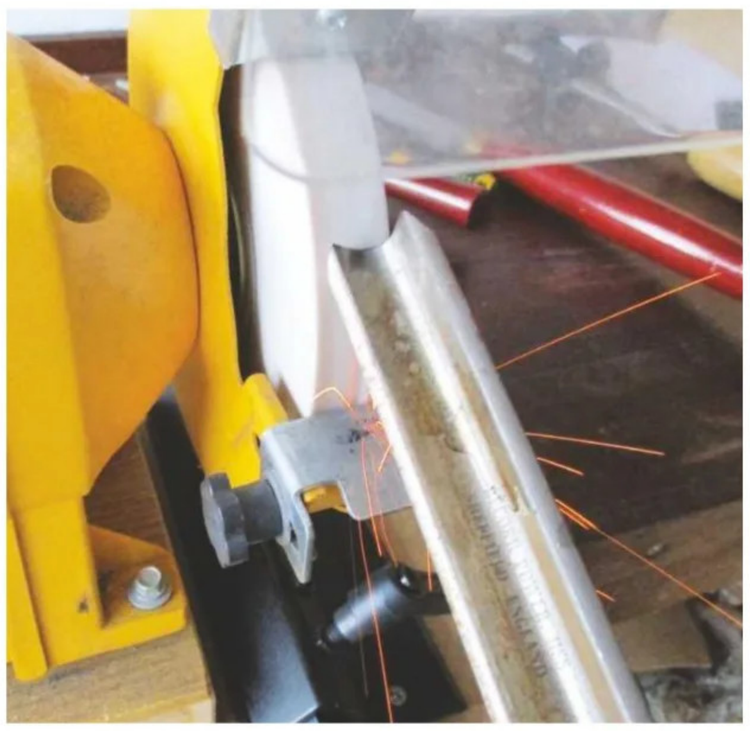
The jig comes with a separate attachment for holding skew chisels, which sits on the adjusting arm and is tightened with a screw. Setting up was similar to the gouges, except that the handle is placed offcentre to ensure the correct angle at the tip. It was almost as easy to move the skew chisel side-to-side, but I found that the bevel wasn't always easy to keep flat due to the tool's swing. At this point, I decided to dress the grinding wheel; after a couple more passes it was better – but not as satisfying a result as with the gouges.

A little off the sides?

The final grind is the so-called 'fingernail', where the gouge needs to lose a little metal from the sides to provide a more tapered shape. This looked like the grind on one of my spindle gouges, so I gave it a go. It was while trying to tighten the screw that I realised I'd inadvertently used the side-grind screw to attach the skew rest. They have the same size thread, you see.

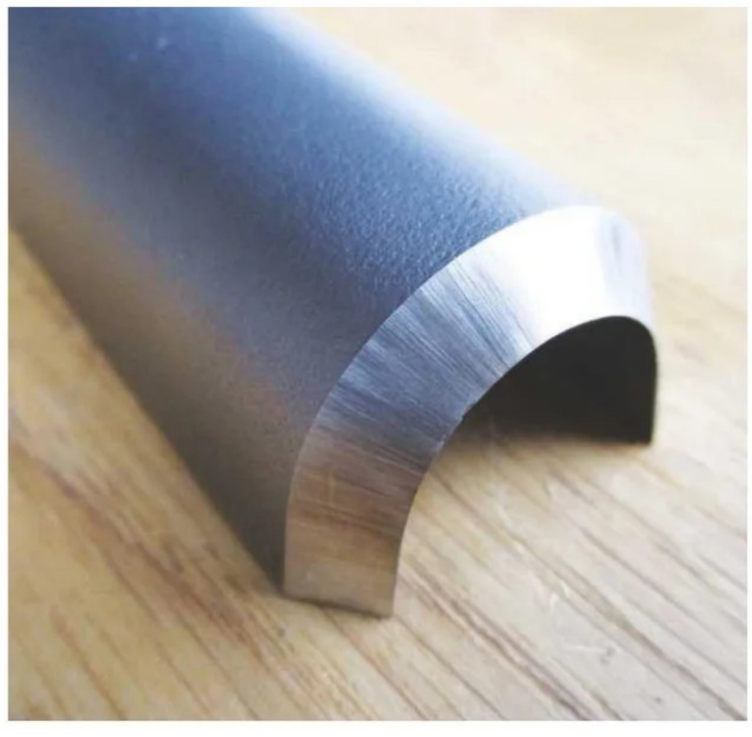
Even with the correct screw, this is more difficult to set up than a plain grind; although it did what it was supposed to, I couldn't quite get the profile I was looking for. I tried a number of combinations of positions and started to get a more refined shape, but it still didn't come out quite like the original grind. It was certainly very sharp, though. There's a lot of advice online about suitable grinding angles for a variety of different tools and I think I might just need to keep experimenting and practising.

Initial alignment check

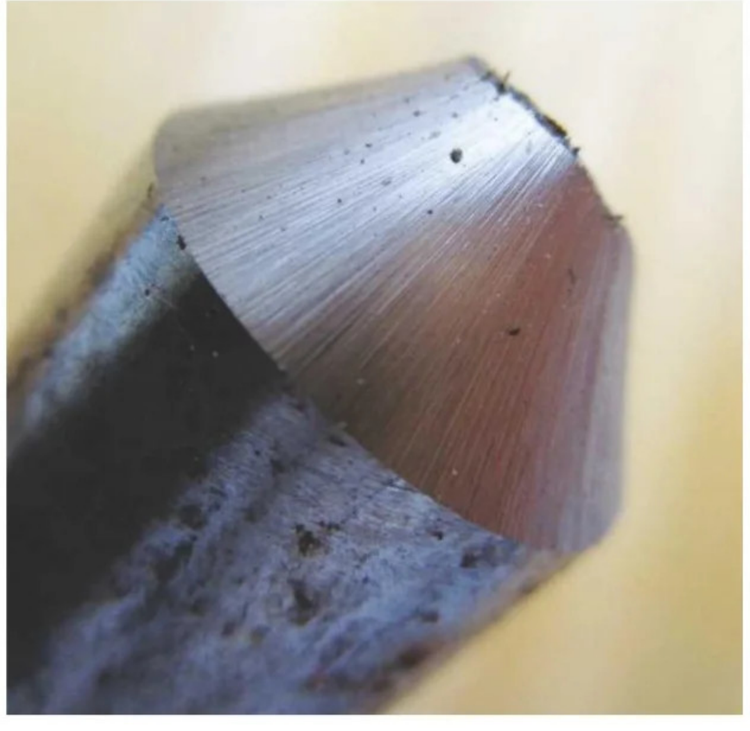


Starting the first test grind

Impressive results with an old gouge, even if the angle is unusual



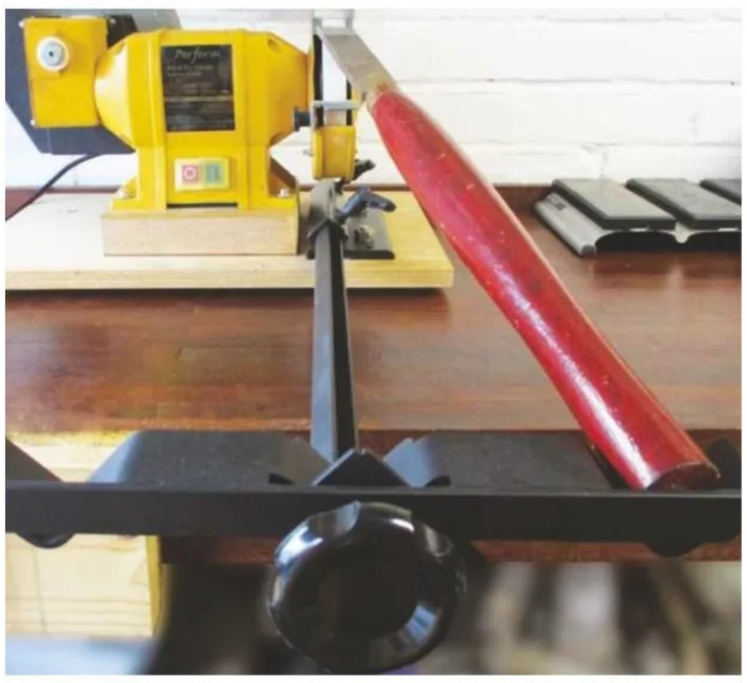
Better still with a new one



So too with a bowl gouge

The jig also works with smaller gouges

Much better than freehand



Skew chisel set up – power off, correct screw!

Getting ready to go

Repeatability

Once a satisfactory angle and sharp edge has been achieved, you really want to be able to repeat it. My biggest problem has always been that when I've wanted to just restore the edge on a gouge, I've generally ended up with an inadvertent and complete change of profile. Practice makes perfect here – as I may have said before.

However, the Shenton jig does provide a solution. Before moving the support arm, a piece of wood is cut to fit the gap between the support and base. Labelled to match the chisel and stored for the next time you grind, you just place the wood back into the channel to help set the distance last used. Beginning where you left off, without having to remember any measurements, in the right place and at the right angle, makes the job much faster. And since you then only remove a tiny amount of metal, less heat is generated as a result, which means that it's less likely to draw the temper.

Scrap wood can be used to reset the position for your next grind

The side grind attachment in use

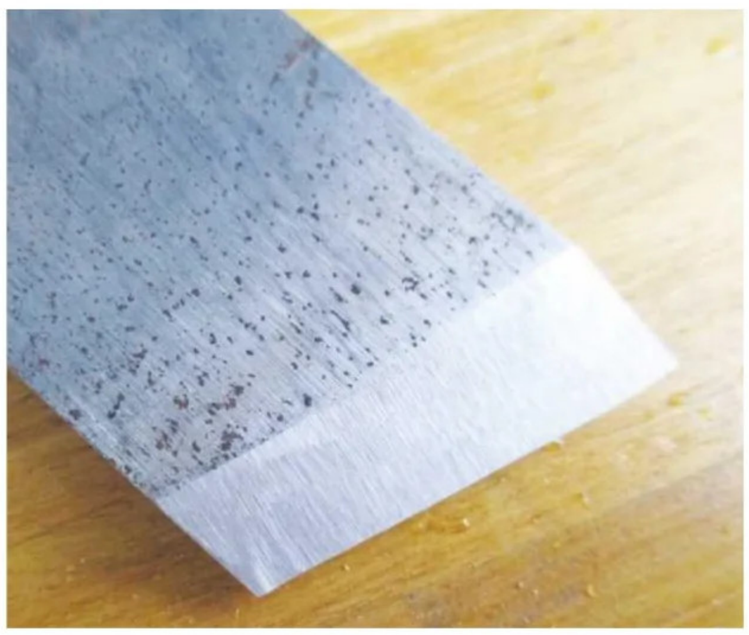
The resulting grind on a spindle gouge looks good

A little more off the sides?

Conclusion

This jig would be a real boost for everyone who'd like to spend more time turning with super-sharp tools and less time practising how to grind the right angles; that said, it isn't a panacea and there will be edges that are difficult to replicate. A straightforward bowl or spindle roughing gouge bevel is so simple to be child's play – not recommended – but the techniques required to match skew chisel or spindle gouge profiles take longer to develop. It's also very easy to over-rotate on spindle roughing gouges and round off the corners. Newly created profiles can of course be easily replicated and, in the end, a slightly different shape isn't going to make as much difference as a blunt edge.

The cost of this system is one that I might describe as a 'modest investment', but it's markedly less than that of a grindstone system with gouge jig, and even less if you already have a standard grinding wheel. In my opinion, it's definitely an investment worth making if you're more adept at using gouges than regrinding them. That's me – and you too, if you've ever put off a bit of turning because your gouges were blunt.



I need more practice!

SPECIFICATION

Included are the following:

- Two baseplates for mounting under each grinding wheel
- Four locking levers
- One adjusting arm
- One skew attachment
- One side-grind attachment

Typical price: £115 (plus delivery)
Web: www.shentonwoodcraft.co.uk

THE VERDICT

PROS

- Easy to use, even for beginners; speeds up gouge and skew chisel sharpening; less heat generated, preventing tool damage and grinding wheel wear; can be set up to repeat angles accurately; doesn't obstruct the grinding wheels, allowing them to be used as normal

CONS

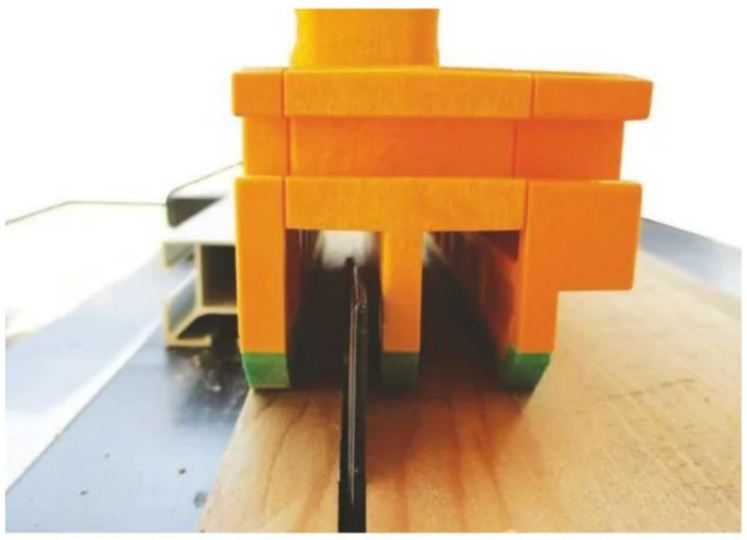
- Skew chisels are more difficult to grind evenly; the side-grind attachment can be tricky to set up for a precise copy of an existing grind pattern

RATING – *PERFORMANCE*: 4.5 OUT OF 5
RATING – *VALUE*: 4.5 OUT OF 5

MICROJIG GRR-RIPPER 2GO™

Using circular saws safely is a priority for all woodworkers, but push-sticks aren't always the best solution. **Jonathan Salisbury** finds out whether the **Microjig Grr-ripper 2Go™** offers a suitable alternative

Offset handles provide comfort



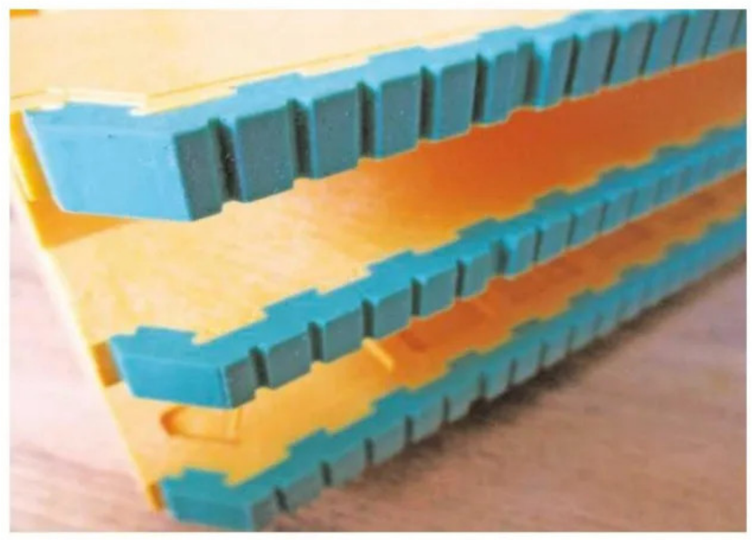
Gaps to clear the saw blade

Microjig has been producing a variety of jigs and guides for a number of years, creating innovative solutions that improve on traditional methods and solve problems that still exist. The Grr-ripper2 Go™ – aka GR2G – has been specifically designed for use on a circular saw and, as well as protecting hands, aims to improve quality by controlling the wood throughout the entire cut without removing it from the surface. The GR2G can be used one handed to keep the wood against the fence and push it into the blade – something that can't be done with a push-stick alone. Soft 'rubber' strips – a Grr-rips – dovetailed to the bottom of each of the three staggered legs hold the pieces to be cut in the same relative position after they've been separated. By stopping them from coming into contact with the back edge of the blade, there's less likelihood of kickback occurring.

The GR2G works by placing it on top of the wood and up to the fence, switching on the saw, and pushing the wood right through, from in front of the blade to behind it, without removing the block at any time. To ensure the gap is correctly positioned, a supplied colour-coded index sticker is added to the saw table's gauge. This indicates which way round the GR2G needs to be used to ensure the blade passes between the legs. I was a little hesitant to rely on this, but it does work. The minimum width that can be cut is either 51mm – with the green/yellow end towards you – or 63mm – with the blue/orange – as all three of the GR2G's legs need to be in contact with the wood to ensure stability during the cut.

Crown guard dilemma

It sounds great, but there is a catch. In order to work, the GR2G has to remain in the same position on the wood from the time you press the go switch until you remove the two pieces from behind the blade. The GR2G's legs bridge the blade and riving knife – so it can't be used in this way if the crown guard is in place. Using circular saws with the blade fully exposed, though still with a riving knife, is pretty much the norm in the USA, where the GR2G was designed; in the UK, however, the guard is retained, either by choice or because it's required*. The main function of the Grr-ripper2 Go™ is therefore based on an American need for improved safety during certain operations.



Soft grip surfaces

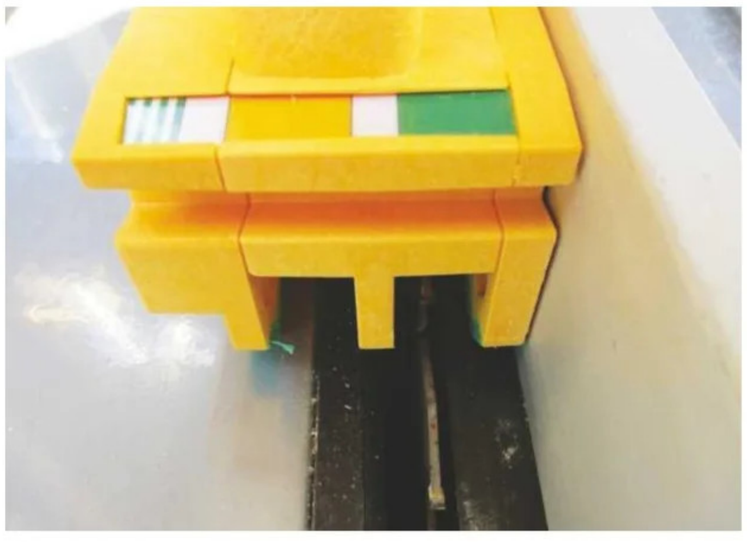
In my photos showing the GR2G in use, you may have already noticed the lack of a crown guard. For the purpose of this test, I used it American-style, but was very careful when doing so. Yes, it worked very effectively – exactly as it's supposed to, in fact – but the safety features provided by the GR2G, particularly keeping my hand away from the blade, only became necessary due to the crown guard's absence. I'll never be convinced that kickback prevention is a good enough reason to remove a guard, even if the GR2G does makes it 'safe' to do so. It can, of course, be used as a push block when the crown guard is in place, but then the gaps are unnecessary as it's not straddling the blade, and you still need a push-stick to complete the cut and clear the wood from behind it.

Other user benefits

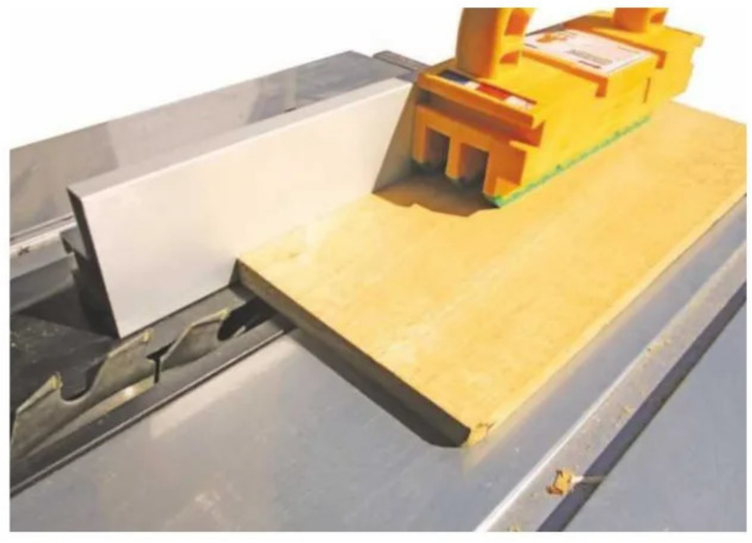
Of course, the GR2G's benefits aren't only restricted to the circular saw; used flat and on their sides for cutting on bandsaws; for moving pieces around on a router table; for pushing timber over a set of planer blades; keeping offcuts in place on a mitre saw; or holding wood in a jig when drilling. The GR2G's body has four dovetail slots for attaching further guides – either from the Microjig range or homemade – and the gap

Colour-coded index

Check which way round it needs to be placed



Testing the gap



Ready to go

Completed cut

Excellent for machine planing...

provided by using it from the blue/orange end is especially useful when routing edges with a cutter that extends beyond the top of the wood.

Conclusion

Whether using it to press down or sideways, against a fence or forwards into a blade, the Grr-ripper 2Go™ will help you feed wood more smoothly and hold it more securely. Although destined for use in countries where it's still common to run machines with completely exposed cutters and blades, it's still easy to use around guards, and superior to many of the push blocks included with machines. The handles are large and comfortable to hold, even though they're not cushioned; the replaceable soft grip-strips provide secure contact at all times without needing to press hard; and the grip's reduced surface area, where the gaps between the three legs bridge the circular saw blade, doesn't stop it from working in other circumstances.

These benefits, however, do come at a price. In its homeland, the GR2G will cost you $29.99, whilst in the UK it's £55. Excellent as it is, this is... disappointingly high.

But can you put a price on safety and convenience? I'll leave that for you to decide!

... and table routing

* There are a variety of regulations and codes of practice for the guarding of machinery, which differ from country to country. What's required by law is particularly relevant to those using machines for work, but best practice is also recommended for home users. In the UK, the HSE website – **www.hse.gov.uk** – is a very good source of helpful information

SPECIFICATION

Minimum cutting width: 8mm
Colour-coded index for Grr-ripper positioning
Reversible for any cut

Typical price: £55.19
Web: www.microjig.com/products/grr-ripper2-go; www.woodworkersworkshop.co.uk

THE VERDICT

PROS

- Easy and comfortable to use; protects your hands and fingers from cuts and injuries; virtually eliminates kickback on circular saws; can be used for guiding workpieces on other machines; no assembly required

CONS

- Intended function isn't possible when the crown guard is fitted; expensive

RATING – *PERFORMANCE*: 5 OUT OF 5
RATING – *VALUE*: 2 OUT OF 5

WIN!

1 of 2 SBS Triple Diamond Stone Sharpening Stations – worth £195.95 each

Offering a complete sharpening solution in one convenient platform that can be easily stowed away when not in use, in conjunction with **MPOWER Tools**, we have two to give away

Make your workshop the home of the sharpest tools on the block. Create the perfect edge on the most comprehensive freehand diamond sharpening station ever created.

A six-stage sharpening journey across three grades of super durable monocrystalline diamond, finished on three real leather strops with three grades of polishing wax – all backed up by a 10-year guarantee.

A lifetime of sharpening

MPOWER's revolutionary Side By Side (SBS) sharpening station means this diamond stone really will last forever, rather than having to throw away an expensive tool due to a small part of it being worn.

Owing to the unique manufacturing process used, a damaged diamond surface can be inexpensively and easily replaced.

The sharpening station features three grades of super durable monocrystalline diamond

Complete sharpening package

The Side by Side (SBS) has been in development for over four years and is the most complete sharpening package available. The process of correctly sharpening a tool, be it a 6mm bevel-edge chisel or plane iron, involves a number of essential elements, all of which are cunningly stored in the SBS canvas carry/storage case.

Easier to use – plain & simple

Compared to using a traditional double-sided 8in diamond stone, where you set up to use one side/grade, mount it in the stone holder, use it, clean it off, reset it to the other grade, place it back into the stone holder and start again, the SBS is on your bench ready to go, instantly offering three grades of diamond to sharpen on.

The SBS is also the first diamond stone that's fitted with three leather-topped magnetic protective covers with two different grades of leather: firm and soft. Three grade sharpening is followed by three strop finishing, all without moving from the job.

Manufacturing process

MPOWER has developed a unique process in manufacturing diamond stones. Six years ago, they pioneered the use of high tolerance aluminium extruded cores with 3M adhesive bonded electro plating diamond plates as the surface, resulting in the flattest diamond stones available with a tolerance of +/- 0.00175in. Each Side by Side is made in MPOWER's factory in Salisbury, Wiltshire, UK.

During manufacture every stone undergoes 11 different QA tests to ensure that each one meets the very highest standards possible.

Contents

A high tolerance machined single platform mounted with three grades of diamond stone: 300, 600 and 1,200 grit; three 'on board' click-on, click-off, magnetic leather strop covers in two different leathers – firm and soft; three uniquely formulated grades of polishing wax – 1,800, 2,500 and 5,000; 30ml fully synthetic diamond lapping fluid and diamond stone cleaning block, all supplied in a bespoke tough canvas storage case.

Dimensions

- **Overall size:** 8 × 12in
- **Diamond surface:** 3 × 8 × 2.75in
- **Total diamond surface:** 66sq.in
- **Weight not including ancillaries:** 1.8kg
- **Gross weight:** 2.5kg
- **10-year bench stone guarantee** – MPOWER's new SBS Bench Stone Plates are so tough they're covered by a 'no quibble' 10-year guarantee – double the industry standard. Even if the damage is down to years and years of regular sharpening, MPOWER will supply free replacement diamond plates and free shipping

For more information on MPOWER Tools, visit **www.mpower-tools.co.uk**.

HOW TO ENTER

To be in with a chance of winning 1 of 2 **SBS Triple Diamond Stone Sharpening Stations**, visit **www.thewoodworkermag.com/category/win** and answer the multiple choice question below:

QUESTION: How many leather strops does the SBS Triple Diamond Stone Sharpening Station contain?

A: Five
B: Three
C: Four

The winners will be randomly drawn from all correct entries. The closing date for the competition is **15 September 2023**. Only one entry per person; multiple entries will be discarded. Employees of David Hall Publishing Ltd and MPOWER Tools are not eligible to enter this competition

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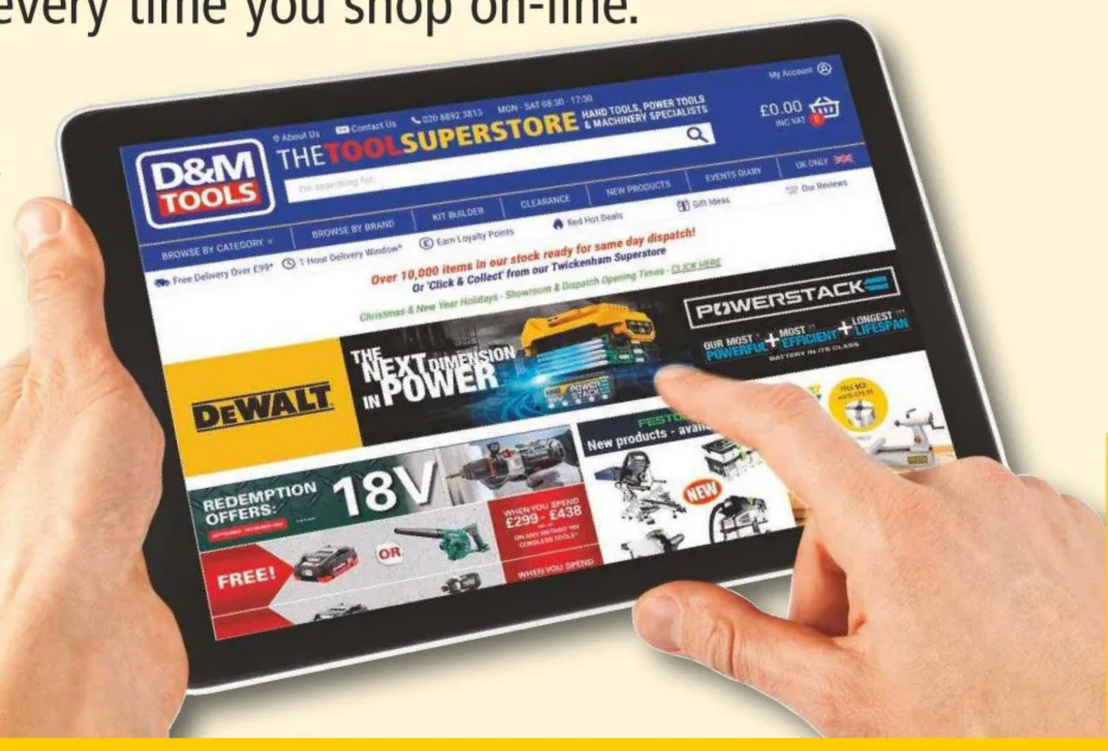

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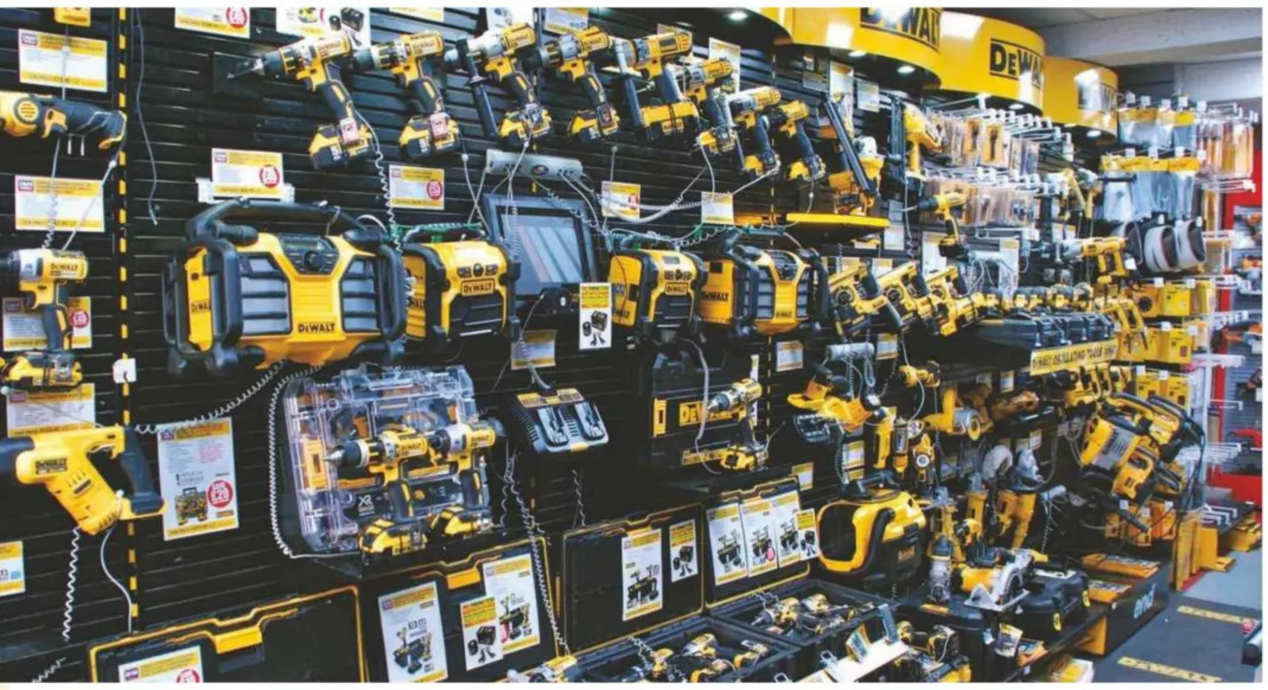

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What's new from D&M TOOLS

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DEWALT NEW SOFT STORAGE RANGE

MANUFACTURER: DeWalt
D&M GUIDE PRICE: £TBC

DeWalt has launched a new range of soft storage products, which are made using high quality durable fabrics. These are all 1680D and dirt repellant, with reinforced stitches and details that feature unique IP54 water-resistant welded compartments and innovative designed zipper protection.

Each soft storage product benefits from a unique, powerful, high visual signature design with yellow welded waterproof tarpaulin pocket and zipper. The inners also have a high visibility yellow lining, which makes locating tools an easy task.

The range comprises a Pro Backpack on wheels; 11in Electrician Tote; 18in Rolling Tool Bag; 20in Pro Tool Tote; plus 16in and 20in Pro Open Mouth Tool Bags.

MAKITA DAS180Z 18V LXT BRUSHLESS DUST BLOWER – BODY ONLY

MANUFACTURER: Makita
D&M GUIDE PRICE: £137.95 (inc VAT)

Makita has added a handheld blower to its expanding LXT cordless collection. The versatile 18V DAS180 LXT Brushless Blower is the latest product from the leading power tool manufacturer, which is also capable of inflating and deflating, simply by changing the nozzle tip.

The new 18V DAS180 LXT Blower – powered by a brushless motor with variable speed control – is suitable for a wide range of applications from cleaning off workbenches, machinery, cleaning out blocked filters, through to inflating inner tubes and play pools. Simply put, this handy tool makes a useful companion to any kit bag.

The body, which weighs just 1.7kg, is designed with an ergonomic rubberised grip, making the tool easy to operate one-handed. Despite its compact size, the unit is extremely powerful and offers a maximum sealed suction of 10.3kPa. Its four-stage air volume settings deliver a blowing force of up to 2.8N with maximum 200m/second air velocity and air volume of 1.1m³/min.

Other features include a one-touch, tool-less nozzle attachment, so the blower can be quickly adjusted for each application. The variable speed trigger comfortably controls the blowing force and can be locked in the 'on' position for extended use. Lastly, a tether feature offers a safe hanging point for securing the tool in overhead applications.

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Rebating around the bend

Long delayed for want of a special tool, **Robin Gates** finds a workaround in *The Woodworker* of November 1944

Cutting a curved rebate by contemporary methods would seem to require an electric router or spindle moulder, which poses something of a problem in my hand-powered shed where the tools arrayed in wonky racks around the walls would be more familiar to the pre-industrial village carpenter as opposed to one favouring 21st century methods. Planers and table saws may screech from faraway workshops but on a typical August day in my shed, a bumble bee banging its head against the window, or a wood pigeon making a heavy landing on the roof, are likely the noisiest intruders. Bucolic it is but also rather unproductive, and on hot summer days especially the shed is less a place for working wood than for sitting and thinking about the very topic.

New front gate

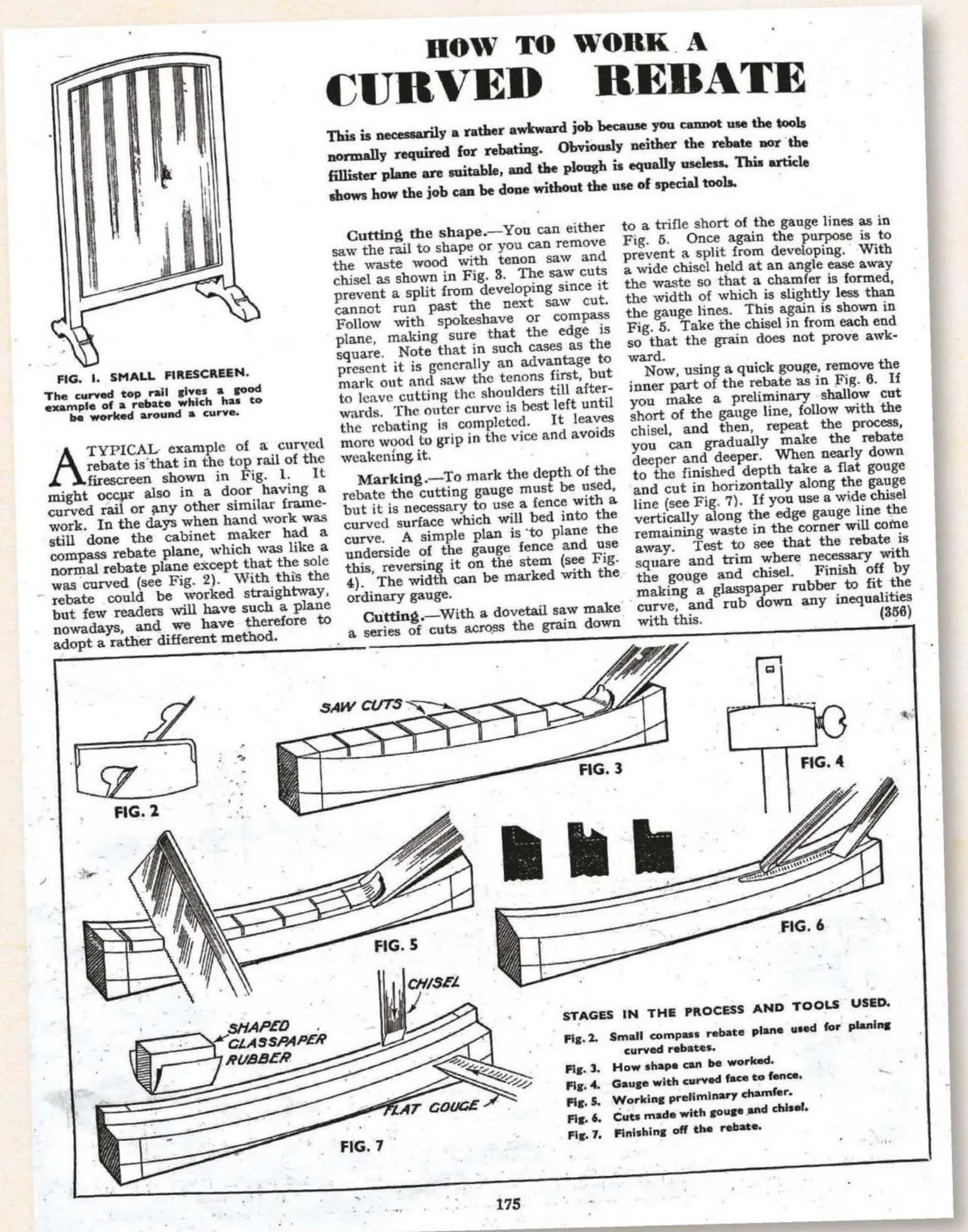
One project I've been thinking about for an embarrassingly long time is making a new front gate. Our present gate – a veteran of 20 winters that grows weaker by the day – has become a conspicuous blot on my reputation as a woodworker. By rights it should've been pensioned off to peacefully rot in some shady corner of the garden, there to provide sanctuary and sustenance for the invertebrate world that keeps our vital carbon cycle turning. Hanging by little more than fungal threads, and on its last legs of lignification, this gate has served its time and earned its rest and should be spared the swings and slams of outrageous postmen. Truth be told, the wood to make a new gate has been standing in the shed since before the pandemic, but the problem holding me back until now has been that every time I feel ready to begin, I find myself stymied for want of the special tool required to cut a curved rebate.

The design I sketched on the back of an envelope a year or two – or three – ago has a curved top rail rebated to accommodate ship-lap boards, and thus far I'd failed to find whatever special hand tool was required to cut it. My usual rebating woodies weren't suitable, being far too flat in their soles, nor my old Record plough plane for the same reason. I did toy with improvising a curved guide for the vintage Stanley 71 router but that Heath Robinson arrangement collapsed like a house of cards, besides which my only cutter is too small. Would an over-sized scratchstock work? Even if it did, how long would scratching out a 30in rebate take, 1in wide and ½in deep. Mulling over such impractical possibilities invariably returns my front gate to the back burner and I proceed to other things, like boiling the kettle for a cup of tea – electric kettle, mind you – and browsing old copies of *The Woodworker*...

'How to work a curved rebate'

... which is exactly how I stumbled upon this article, entitled 'How to work a curved rebate', and published in the November 1944 issue of this very journal, soon realising that, all along, I've not so much lacked the tools but rather the techniques. The example project is the making of a fire screen rather than a garden gate, and in 1944, our problem-solving author was explaining how to overcome the absence of a rare coach maker's compass rebate plane rather than a powered router, but the core problem of rebating a curved top rail is essentially the same in both cases. It's simply done with tenon saw, chisel, gauge, gouge and glasspaper.

The problem, then, is solved! So much for the theory. Now it appears I have no excuse not to start making that new garden gate, except that I can't seem to find the envelope containing my sketched out design...



HOW TO WORK A
CURVED REBATE

This is necessarily a rather awkward job because you cannot use the tools normally required for rebating. Obviously neither the rebate nor the fillister plane are suitable, and the plough is equally useless. This article shows how the job can be done without the use of special tools.

FIG. 1. SMALL FIRESCREEN.
The curved top rail gives a good example of a rebate which has to be worked around a curve.

A TYPICAL example of a curved rebate is that in the top rail of the firescreen shown in Fig. 1. It might occur also in a door having a curved rail or any other similar framework. In the days when hand work was still done the cabinet maker had a compass rebate plane, which was like a normal rebate plane except that the sole was curved (see Fig. 2). With this the rebate could be worked straightway, but few readers will have such a plane nowadays, and we have therefore to adopt a rather different method.

Cutting the shape.—You can either saw the rail to shape or you can remove the waste wood with tenon saw and chisel as shown in Fig. 3. The saw cuts prevent a split from developing since it cannot run past the next saw cut. Follow with spokeshave or compass plane, making sure that the edge is square. Note that in such cases as the present it is generally an advantage to mark out and saw the tenons first, but to leave cutting the shoulders till afterwards. The outer curve is best left until the rebating is completed. It leaves more wood to grip in the vice and avoids weakening it.

Marking.—To mark the depth of the rebate the cutting gauge must be used, but it is necessary to use a fence with a curved surface which will bed into the curve. A simple plan is to plane the underside of the gauge fence and use this, reversing it on the stem (see Fig. 4). The width can be marked with the ordinary gauge.

Cutting.—With a dovetail saw make a series of cuts across the grain down to a trifle short of the gauge lines as in Fig. 5. Once again the purpose is to prevent a split from developing. With a wide chisel held at an angle ease away the waste so that a chamfer is formed, the width of which is slightly less than the gauge lines. This again is shown in Fig. 5. Take the chisel in from each end so that the grain does not prove awkward.

Now, using a quick gouge, remove the inner part of the rebate as in Fig. 6. If you make a preliminary shallow cut short of the gauge line, follow with the chisel, and then, repeat the process, you can gradually make the rebate deeper and deeper. When nearly down to the finished depth take a flat gouge and cut in horizontally along the gauge line (see Fig. 7). If you use a wide chisel vertically along the edge gauge line the remaining waste in the corner will come away. Test to see that the rebate is square and trim where necessary with the gouge and chisel. Finish off by making a glasspaper rubber to fit the curve, and rub down any inequalities with this. (356)

STAGES IN THE PROCESS AND TOOLS USED.
Fig. 2. Small compass rebate plane used for planing curved rebates.
Fig. 3. How shape can be worked.
Fig. 4. Gauge with curved face to fence.
Fig. 5. Working preliminary chamfer.
Fig. 6. Cuts made with gouge and chisel.
Fig. 7. Finishing off the rebate.

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CHIPPENDALE INTERNATIONAL SCHOOL OF FURNITURE 2023 GRADUATE SHOWCASE

Featuring a multitude of international talent, join us as we celebrate the exquisite work of the **Chippendale School of Furniture**'s 2023 Professional Course graduates

The Chippendale International School of Furniture recently celebrated its 38th Graduate Exhibition and Fine Furniture Sale. The four-day event, held between 14–17 June at the School's East Lothian premises, near Edinburgh, saw an impressive display of talent, skill and craftsmanship from the School's 25 Professional Course graduates.

Travelling from across the globe to attend the nine-month furniture making course, this year's graduating students have crafted some truly exquisite pieces, which made for an exceptional graduate show.

In addition to teaching students key woodworking skills and techniques, the Professional Course also places a focus on marketing and business development to ensure that graduates can go on to successfully establish and run their own furniture making businesses.

School Principal, Tom Fraser, described the annual event as a "celebration of woodworking and a momentous occasion for graduates as they begin the next chapter of their furniture making careers."

The students' fine furniture designs were available to view both at the School itself, online via the virtual show, and through the School's social media channels.

FURTHER INFORMATION

To find out more about the Chippendale School's intensive 30-week Professional Course, see **www.chippendaleschool.com/cabinet-making-courses/professional-course**

Nicholas Davis
Nicholas Davis Studio – UK

Nicholas studied at the Glasgow School of Art before moving to London to work in art direction and graphic design, followed by Manchester. The next step, however, led him towards a more connected and practical career, that involved working with wood.

Nicholas now aims to combine his love of making with design experience, in a bid to create careful and timeless pieces of furniture.

NICHOLAS DAVIS **2023 'STUDENT OF THE YEAR'**

Student of the Year

Nicholas was also recognised as 2023 'Student of the Year'; he was incredibly pleased – and justifiably so – to be awarded this prestigious accolade. Congratulations from everyone at *The Woodworker*!

'Occasional Seating' – American white ash – a modular, multi-functional family of low surfaces. Together it can be used as a coffee table, with the option of pulling your nearest component a bit closer to reach a cup, for example. Individual components can be used as seating or side tables

The piece is comprised of three seating components and a central round table

The central element serves as a coffee table

Individual components can be used as seating or side tables

Instagram: @nicholasdavisstudio
Email: nicholasjuliandavis@gmail.com
Web: www.nicholasdavisstudio.com

David Hood
Fiddle & Switch – USA

David learnt various construction skills from a young age, which were passed on to him by his father – a construction company owner – who built large commercial projects all over Southern California. Learning how to successfully swing a hammer was one of many skills required to construct a building, but David never possessed the necessary woodworking knowledge to make him a proficient fine furniture maker.

Having spent over 30 years as a collegiate football coach, mentoring and developing young sporting professionals, David found this left little time for creative woodworking. Over the past eight years, he's remodelled kitchens and bathrooms for others, as well as making a few pieces of furniture. Undertaking the Chippendale School's Professional Course has helped him to hone a wide range of associated skills, which he'll continue to develop with the launch of Fiddle & Switch.

'Gameday Cabinet' – American black walnut, walnut and bird's eye maple veneer

Email: dhood017@gmail.com

Samuel Pekarsky
Samuel Pekarsky Woodworks – Canada

Samuel has been disassembling and rebuiling things, only to put them back together again, from the age of 10. He was in high school when the pandemic hit and suddenly found himself spending a lot of time in the garage-cum-workshop. With not much else to do, Samuel quickly found himself falling in love with woodworking.

Once Samuel had graduated from high school, rather than going to college, he soon realised that taking an alternative path was the right choice, and one which led him to the Chippendale School. According to Samuel, he knew it'd be the perfect fit from the very beginning.

Samuel's furniture is modern yet functional and, most importantly, well built. He prides himself on being a perfectionist and strives to implement this quality into his work. A proud Canadian, Samuel looks forward to returning home, where he'll ply his craft and put the many learnings into practice.

'Slatted Sideboard' – European oak and pebble Forbo – featuring soft-close full extension under-mounted drawer runners and magnetic door latches

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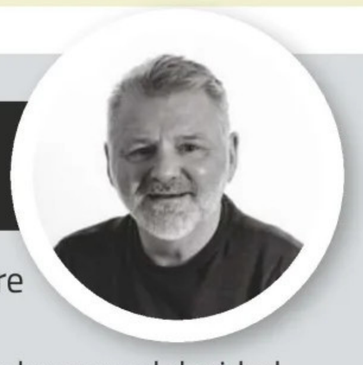
Email: samuelpekarsky@gmail.com
Web: www.samuelpekarskywoodworks.com

Robert Edwards
Scotland



Having worked in the offshore oil industry for the past 35 years, Rob recently took the plunge and decided the time was right for a change in direction, and owing to a long-time love of carpentry, he began to look into the availability of woodworking courses. Rob discovered the Chippendale School online, and thinking "that looks interesting," he proceeded to set the wheels in motion.

Wanting to find out what he was letting himself in for, Rob attended the one-week course as something of a recce, and due to the immense enjoyment he felt, quickly signed up for one of the last remaining places on the School's Professional Course. Rob's love of Arts and Crafts and mid-century furniture has a huge influence on his furniture designs, while ensuring that any wood wastage is kept to an absolute minimum.

'Mismatched pair of Bedside Cabinets' – Scottish olive ash carcasses with brass door pulls

Email: robert@finnery.co.uk

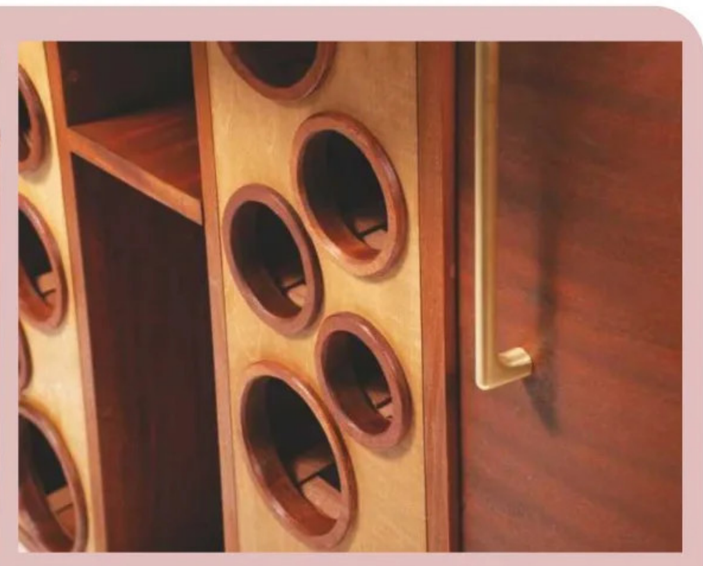
Kelsey Hershey
Cowgirl Carpentry – USA

Kelsey's story begins with the tale of an Old Fart and a passion. Her grandfather – Bruce Hershey – was always building, fixing, and – unbeknownst to Kelsey – inspiring others.

Recalling a childhood filled with "helping" Bruce fix things, she was always there sitting in the backseat of ol' red, learning everything she could. Inspired by the man who helped shape her, Kelsey started Old Fart Creations in 2015, knowing that woodworking was something she too was passionate about.

Once Kelsey had learnt all she could from the Old Fart, she discovered Chippendale. This experience was Kelsey and her grandfather's last big hurrah, and Bruce subsequently passed away in February 2022. She's proud to have been a part of her grandfather's story, and their shared passion for woodworking will continue to live on through Kelsey's new venture – Cowgirl Carpentry.

'Bar...James Bar' – African sapele, maple, sapele and sycamore veneer



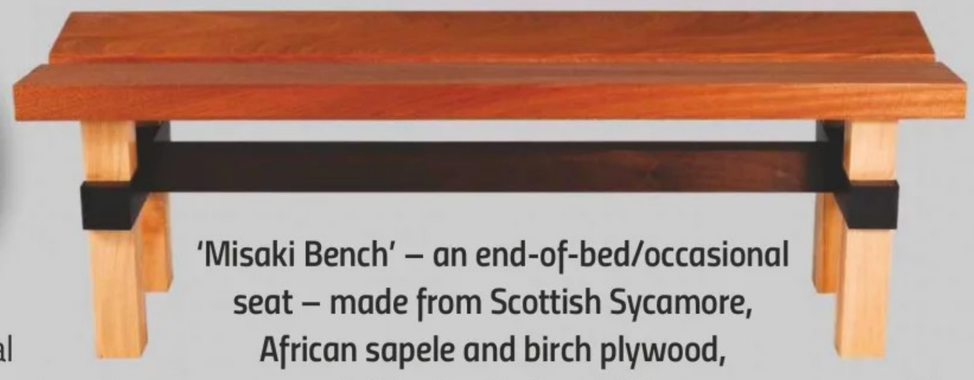
Instagram: @cowgirlcarpentry
Email: cowgirlcarpentrywoodworks@gmail.com

Dina Quaas
Nettle & Bone – Germany

Leaving her German home back in 2010 to begin an IT career in Ireland, Dina worked as a Professional Service and Customer Success Consultant. Here, she learnt a great deal about customer relationships, project management and really enjoyed being able to network with many wonderful people across the globe.

Having worked 50 hour weeks for over a decade, Dina decided to take a step back and rediscover herself. Naturally, this was a scary proposition as it meant leaving behind an established career in order to find something more fulfilling, which would in fact turn out to be one of her most fruitful moves. Doing so allowed Dina to step outside her comfort zone, try new things, put an advocacy for lifelong learning into action, and eventually fall in love with something that'd change her entire career and life trajectories for the better – woodworking.

Dina has since launched Nettle & Bone Furniture, located in East Lothian, UK, which is founded on the pillars of sustainability, material quality, placing customer needs first, along with a passion for cultivating timeless pieces that others can genuinely be proud to call their own.



'Misaki Bench' – an end-of-bed/occasional seat – made from Scottish Sycamore, African sapele and birch plywood, finished with Osmo Oil

The angled split top guarantees a comfortable sitting experience

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Web: www.nettleandbonefurniture.co.uk

Harris Le Derf
n a m a r a – Scotland

Pursuing a passion for music, Harris began his career as an accomplished drummer, but with the pandemic affecting the industry, he decided to change direction and instead pursue a lifelong passion for woodworking.

Inspired by modernist architecture and mid-century design, Harris enjoys exploring the relationship between geometric shapes and natural forms. He champions the use of locally sourced materials and has an appreciation for the hand-crafted elements found in Arts and Crafts furniture.

Looking forward, Harris plans to set up his own fine furniture business specialising in both fitted and free-standing pieces for recording studios, with an emphasis on the character of wild Scottish wood, although he also plans to take commissions for bespoke work.

'The Gloaming Record Cabinet' – featuring a drawer handle that's concealed and textured in the same way as the drawer bottom, so you only experience this texture when interacting with the piece – Scottish wych elm and American black walnut

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Web: www.studionamara.co.uk

Daphne Kipreos – Chile

Having worked as a teacher in her home country of Chile for the past seven years, Daphne found herself beginning to feel that something was missing. As such, she made the decision to quit her job and in doing so, finally discovered her true passion – woodworking.

From a young age, Daphne could always be found making things, which allowed her to combine a love of art with design and manufacture. When something piques her interest, she'll do anything possible to learn more about it, which is why Daphne ended up in a workshop in Scotland, far away from the Chippendale School classroom.

Extremely motivated and determined, she always strives to find new things to learn, and considers herself detail oriented – maybe even a perfectionist. Daphne loves working as part of a team, which allows her to push the boundaries and excel in a professional capacity.

'Greco Bench' – African sapele and brass

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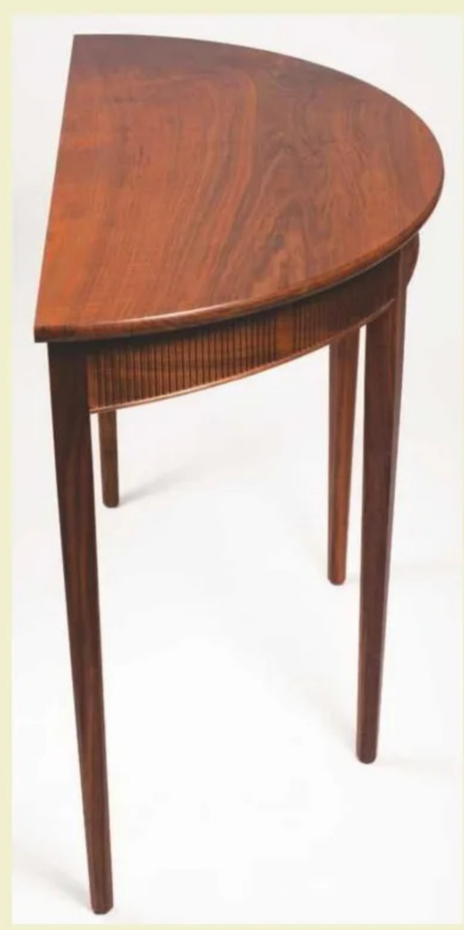
Christophe Blunt – by.christophe – UK

After more than 30 years working in the financial services sector in both Edinburgh and London, Christophe wanted to take a more creative turn and develop his inner amateur woodworker that lay beneath.

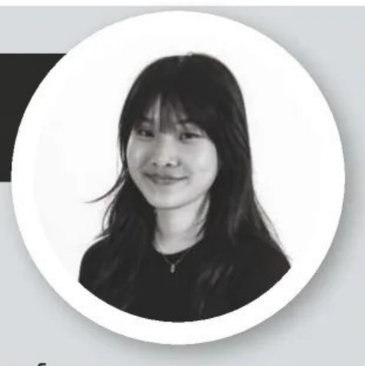
Christophe joined the Chippendale School's Professional Course, combining a love of making wooden items with his undergraduate experience as an engineer. With a focus on free-standing and sustainable pieces of furniture, Christophe enjoys the subtle details in his designs, marrying contemporary components with classical styles. In every case, he strives to make fine furniture that celebrates the use of simple lines while maximising the chosen raw materials' potential. Based near Kelso in the Scottish Borders, Christophe loves the abundance and availability of locally sourced timbers, which he utilises when making his pieces.

Matching pair of walnut demi-lune tables –featuring book-matched table tops – mirrored grain from one table to the other – designed to be used individually, as a pair, or as a complete oval. A tribute to Christophe's 93 year old father-in-law, Jim, who cut down the walnut tree in the 1970s and has been lovingly storing it ever since – made using English walnut, American black walnut, Scottish beech and brass



Instagram: @by.christophe
Email: madebychristophe@gmail.com

Anya Popattanachai – Mudii Works – Thailand

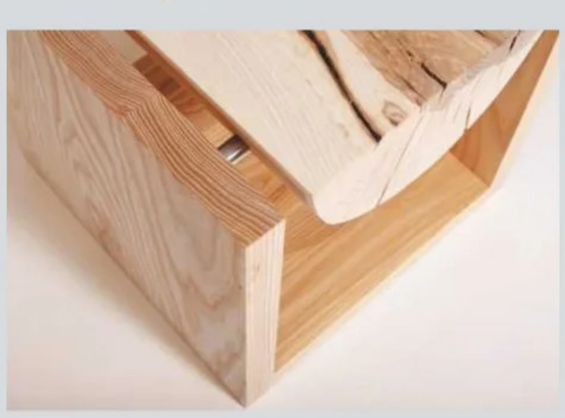


Prior to attending the Professional Course, Anya pursued a degree in International Relations and History. Having felt that creativity was missing from her current field and career trajectory, choosing to enrol on the course offered a way for Anya to start creating again.

On completion of the course, Anya wishes to build her portfolio and continue to find a way to create objects that're both functional and beautiful in everyday life. Importantly, this will be achieved by incorporating various mediums – particularly painting and drawing – into future pieces.

The business name – 'Mudii' – stems from the Sanskrit word 'Mudita', meaning to find joy in the happiness of others. Anya hopes that the future will be reflective of the joy she'll also find, seeing other people's appreciation of her pieces of fine furniture.

'Cubic Stools' – Scottish olive ash, American white ash and steel



Christopher Alley – Alaska

Chris was born and raised in Alaska where he worked as a commercial fisherman for 15 years. When not out to sea, Chris would tinker in his workshop, making various items of furniture for the home.

Deciding he wanted to learn more and intrigued by the idea of doing so in Scotland in addition to the broad skillset taught at the Chippendale School of Furniture, Chris duly enrolled on the nine-month Professional Course. Since the very beginning, Chris comments on how he's enjoyed every day in the workshop and looks forward to setting up his fine furniture making business following graduation.

'The Peeled Walnut' – American black walnut, American white maple and bird's eye maple veneer

CHRIS ALLEY 'STUDENT'S CHOICE'

Email: chriswa@live.com

Ivan Barretto – Slice of Ivan – India

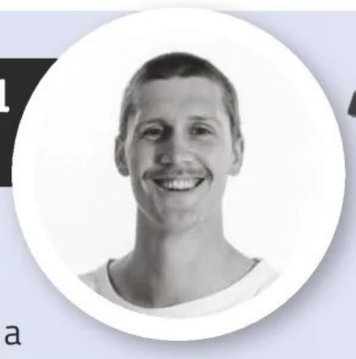
Before joining the Professional Course, Ivan spent 10 years working as an accountant, but the COVID-19 pandemic made him increasingly mindful of the value of time and how preciously scarce it is. Having always enjoyed working with his hands, Ivan decided to start afresh and learn how to make fine furniture at the Chippendale International School.

Having loved his time studying in Scotland, Ivan's furniture captures the emotions felt and experienced during the course's duration and aims to pique those same emotions in others. The more time he spends in the workshop, the more Ivan falls in love with the craft. His journey is just beginning, however, and he hopes to walk this path for a very long time to come.

'Coorie' – American red cherry, African idigbo, African utile, European oak and brass

Instagram: @sliceofivan

Eivind Smedal – Norway



Coming from a varied career background and having worked as both a healthcare worker and furniture making apprentice, Eivind realised he wanted to expand his current skillset within the traditional craft that led him to the Chippendale School.

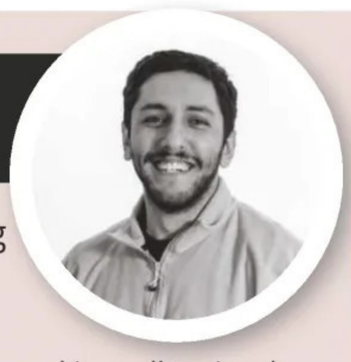
Drawing ideas and inspirations from age-old craft, Scandinavian design and materials experimentation, Eivind plans to make pieces of furniture that could not only be housed in private homes, but also placed in a public space for a broad range of people to enjoy, either as functional furniture or art installations.

On completion of the Professional Course, Eivind plans to return to a studio situated on the West coast of Norway where he'll work alongside another designer-maker. Here, the pair will aim to strike a balance between functional art and fine furniture.

'The Sastrugi Bench' – Scottish ash

Instagram: @eivind.i.tre
Email: Eivind.smedal@outlook.com
Web: www.eivindsmedal.com

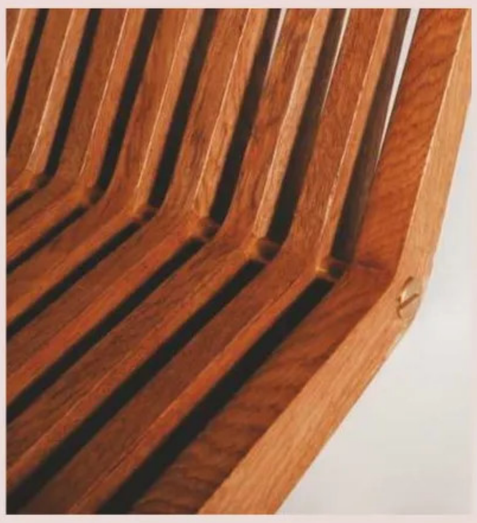
Fahad Aljurbua – Saudi Arabia

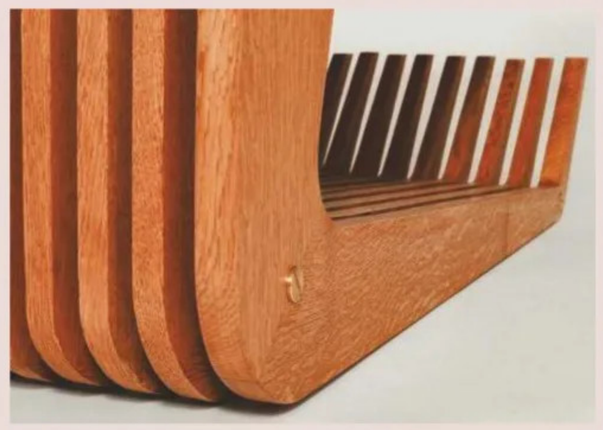


A passionate and emerging furniture designer from Saudi Arabia, Fahad has a bachelor's degree in design and is well trained in this area, although lacking the craftsmanship aspect of fine furniture making, which led him to the Chippendale School.

The Professional Course proved instrumental in honing Fahad's skills, and ultimately enabling him to construct high quality pieces of fine furniture. Looking forward, Fahad plans to return to his home in Riyadh – Saudi Arabia's capital – where he'll launch his own furniture making business.

'Cantilever Table' – Scottish oak, brass, oak veneer and birch plywood





Instagram: @fahad_jarbou

Douglas Wilkie – Lytham Studio – Scotland

Having worked and studied as a civil engineer for the past 10 years, Douglas felt it was time for a career change. Engineering provided an opportunity to make the most of his practical skills, but he found himself yearning for a more creative outlet.

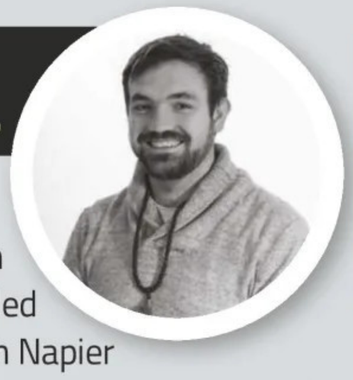
When designing furniture, Douglas prefers to focus on the shapes and lines that complement the particular piece of wood he's working with as opposed to limiting himself to a specific era or style. Doing so allows him the freedom to mix traditional and contemporary elements. As an engineer, Douglas likes to concentrate on structural integrity and function to create pieces that blend practicality with design.

Following graduation, Douglas plans to start his own business – Lytham Studio – at the Chippendale School's Myreside Studios, where he'll design and produce furniture of the highest quality for a number of different clients.

'Arch Desk' – 100cm long × 50cm wide × 100cm high; desk surface 75cm high – built in locally sourced olive ash

Instagram: @lythamstudio
Email: LythamStudio@gmail.com

Matthew Armstrong – MBAO Studios – UK/Kenya

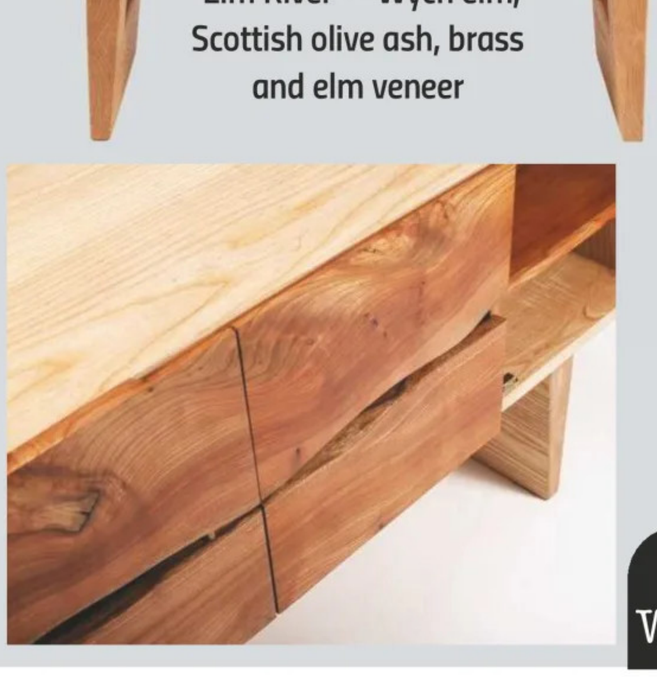


Matthew's passion for woodworking began in Kenya while helping his father in the workshop. A love of nature and craft led him to study Product Design at Edinburgh Napier University, and during his time on the course, Matthew created work for the Scottish Design Exchange – a social enterprise that supports local creative talent in Scotland's capital.

Matthew's design aesthetic is hugely influenced by a childhood spent in Kenya and travels around Africa, culminating in the creation of modern, rustic furniture with a particular focus on timber's natural grain. During his travels, Matthew loves to pick up new woodworking techniques from local craftspeople, which helps to develop and hone his skillset.

Upon graduation, Matthew plans to continue developing his skills at Myreside Studios, creating fine furniture that brings nature indoors as well as outdoor pieces, with an aim of helping people spend more time in nature.

'Elm River' – Wych elm, Scottish olive ash, brass and elm veneer



The piece features a mirrored live-edge elm front, brass rod connectors for the cupboard doors, with two soft-close drawers and a frame in dovetailed Scottish olive ash

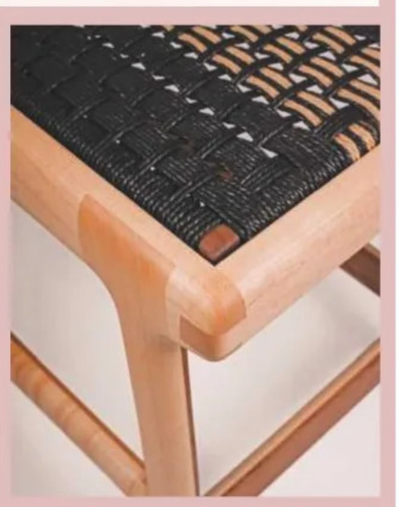
Instagram: @mbao_studios
Web: www.mbaostudios.com

Colin Mackie
Eskwood Furniture – Scotland

COLIN MACKIE **'THOMAS CHIPPENDALE AWARD FOR MARKETING'**

After 21 years working as a civil engineer and environmental consultant, Colin decided the time was right to make a major career change. The answer to this epiphany came in the form of fine furniture making, which Colin realised would provide a great opportunity for him to put his design and problem-solving skills to good use, albeit in a more practical and creative way.

Upon graduation, Colin intends to design and make hand-crafted bespoke pieces of furniture on a commission basis, under the business name 'Eskwood Furniture', based at the School's Myreside Studios. Colin finds inspiration in many places, including music, instruments, ancient woodland, folklore, history, space and time, and he's never happier than when a great idea drops out of a good pun!



'The Chord Bench & Stool' – designed and made for guitar players – bench: American white maple, American black walnut and Danish woven cord; stool: American white oak and Danish woven cord

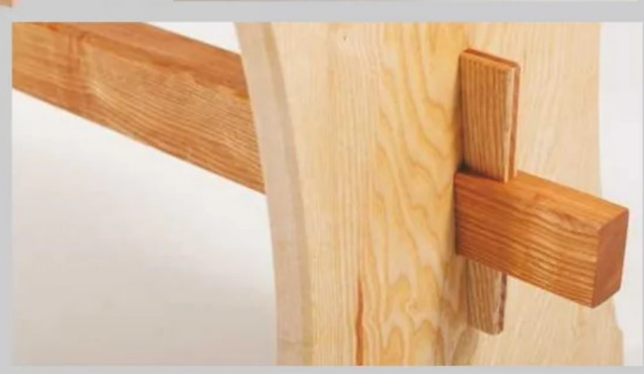
Instagram: @eskwood_furniture
Email: colin@eskwood.com
Web: www.eskwood.com

Helene Sundt
Sundt Studios – Norway

Helene studied archaeology at Newcastle University before working on archaeological digs and seasonal outdoor jobs. After some time, she began to miss her design and technology school days, and made the decision to pursue a career in woodworking.

Helene is inspired by rustic Scandinavian furniture, that features much traditional joinery and is reminiscent of her fine furniture designs. After graduation, she plans to start a small bespoke woodworking business – Sundt Studios – at Chippendale's Myreside Studios, where all progress will be documented via Helene's instagram page: **@sundt_studios**.

'Scandinavian Ash Bench & Rustic Elm Bench' – Scottish olive ash and Scottish Wych elm



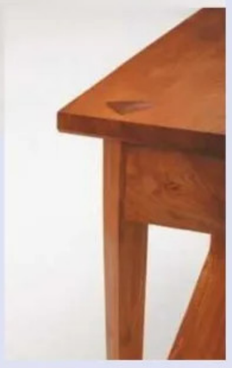
Instagram: @sundt_studios
Email: hegsun@gmail.com
Web: www.sundtstudios.co.uk

Mark Hoskyns-Abrahall
Stenton Studios – UK

From studying Civil Engineering at Edinburgh University to 32 years working as a Chartered Accountant, the saying "you can't teach an old dog new tricks" seems apt when it comes to describing Mark's journey. Over the past nine months, Mark has relished exploring his creativity, through developing design ideas in addition to woodworking skills.

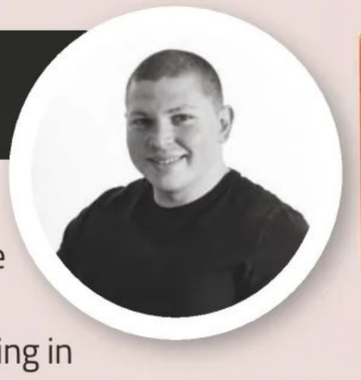
Mark loves working with characterful wood, which is evidenced by the timber choice found in his main projects this year. He lives in the beautiful village of Stenton, which is handily located close to the Chippendale School, and will continue to develop his practice next year at Myreside Studios. Here, Mark plans to work on one-off pieces and commissions, practising traditional techniques and spending his time learning more "new tricks." The ultimate aim, however, is to set up a home workshop, where Mark can further hone and broaden his furniture making repertoire.

'Hall Table' – Scottish Wych elm, Scottish oak and brass



Instagram: @stentonstudios
Email: mark.hoskyhall@me.com

Harry Shonk
Harry's Studio – UK

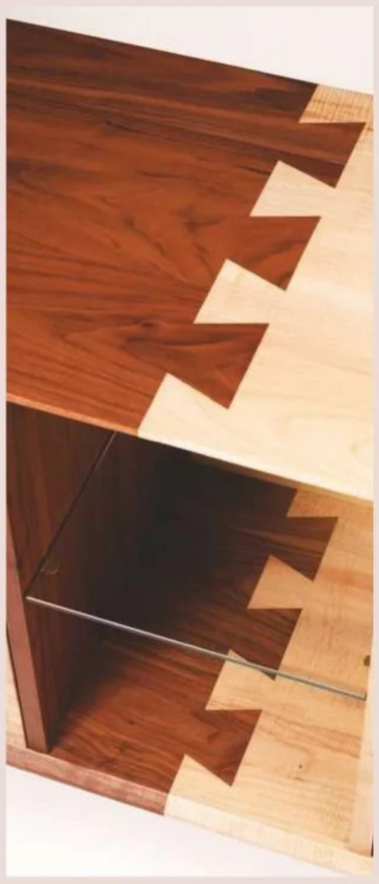


Harry's passion for woodworking began during the COVID-19 pandemic, and was discovered as a result of tinkering in the garage with his brother. Having previously worked for local government, Harry decided to take the plunge and enrol on the Chippendale School's nine-month Professional Course.

According to Harry, it's all about letting the wood do the talking, and his designs celebrate the contrast between light and dark, with stunning rippled sycamore against burr walnut.

After graduating, Harry plans to continue developing his skills as a furniture designer-maker, with a particular focus on wood's natural colour and the concept of bringing nature indoors.

'The Dovetail Cabinet' – a combination of Scottish spalted and rippled sycamore along with American black walnut, brought together by precise and eye-catching dovetails



The cabinet features push-to-open drawers with contrasting mitre splines

Instagram: @harrys.woodwork.studio
Web: www.harrysstudio.co.uk

Tony Matthew
Singapore/India

A banker turned woodworker, having spent more than 15 years in the banking industry, the transition from this to working with wood may sound a tad daunting, not to mention challenging; however, for Tony, it has in fact proved to be the most rewarding and fulfilling experience.

In his book *The Soul a Tree*, George Nakashima puts forward the notion of furniture being the second life of a tree. Tony is inspired by the idea of transforming wood into beautiful, meaningful, functional pieces of furniture and giving the raw material a new purpose and. His hope is that the piece will occupy a space and in turn, tell a story.

Wishing to make curvy organic furniture, Tony's aim is that each piece will add its own sense of fluidity and movement to a space, thus creating flow and energy.

'Mikhael Cabinet' – African sapele and bird's eye maple veneer

Email: tonymath24@yahoo.com

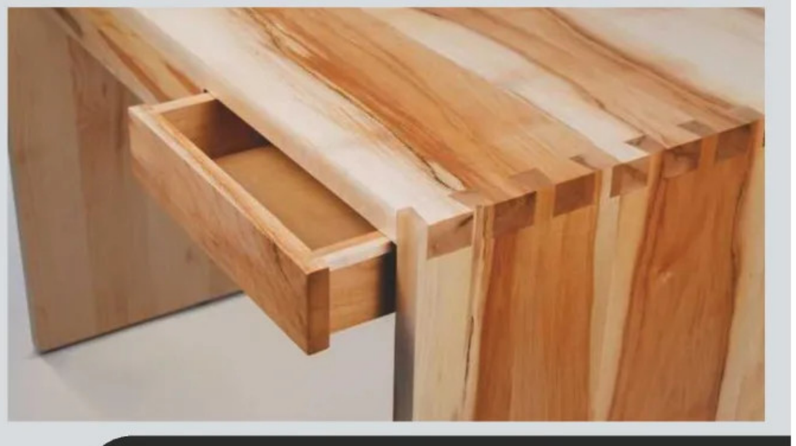
John Floyd
– Scotland

With 38 years' experience in professional construction civil engineering and the surveying industry, John decided to turn it all on its head and learn how to design and create fine furniture.

Inspired by both traditional and modern styles, John strives to enhance the inherent beauty of local materials in each and every one of his furniture designs.

Looking forward, John will continue to create pieces of fine furniture at the Chippendale School's Myreside Studios, with an overall aim of further developing his craft and continuing a passion for the use of locally grown timber design solutions.

'The Dovetail Desk' – Scottish sycamore and birch plywood



Email: floydiemail@yahoo.com

IF YOU GO DOWN TO THE WOODS TODAY...

... YOU MAY WELL SPOT ONE OF THESE 15 WILDERNESS CREATURES

Peter Scaife looks at this small but genuinely impressive step-by-step guide to whittling, by master carver **Peter Benson**. Featuring 15 characterful designs, it's perfect for those beginners new to this relaxing and rewarding hobby

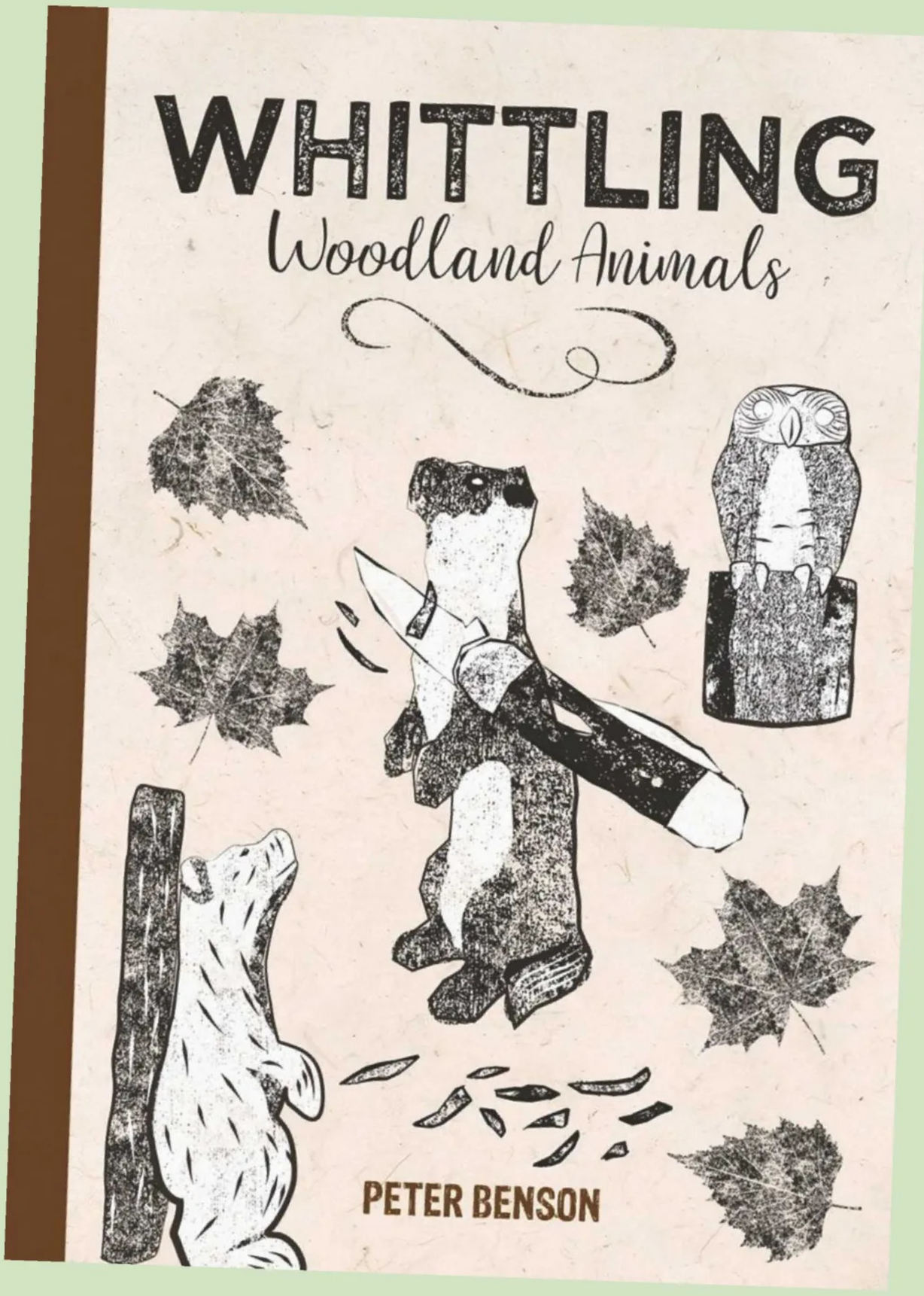
A small but genuinely impressive book, this should tell you all you need to know from the hand and, more importantly, eyes of a master carver.

Peter Benson is chairman of the British Woodcarvers' Association (BWA), runs courses in this country, and gives talks in the USA. And here you'll get the benefit of his extensive knowledge, experience and wisdom. For instance, I'd never have thought that such work could be done with half-a-dozen tools that together will fit into one spectacle case. Or that most of the work can be completed with timber measuring no more than 38mm square. And there's also advice on which timbers to choose and those to avoid.

Ample guidelines

15 woodland creatures are included, from snake and mouse to bear and hawk, all with ample guidelines to ensure you get off to a good start and, if learning as you go, a good finish. In the section dedicated to sharpening, the author provides two tips that I'd never heard before, and if you're really looking to learn this skill, these alone are worth the price of the book.

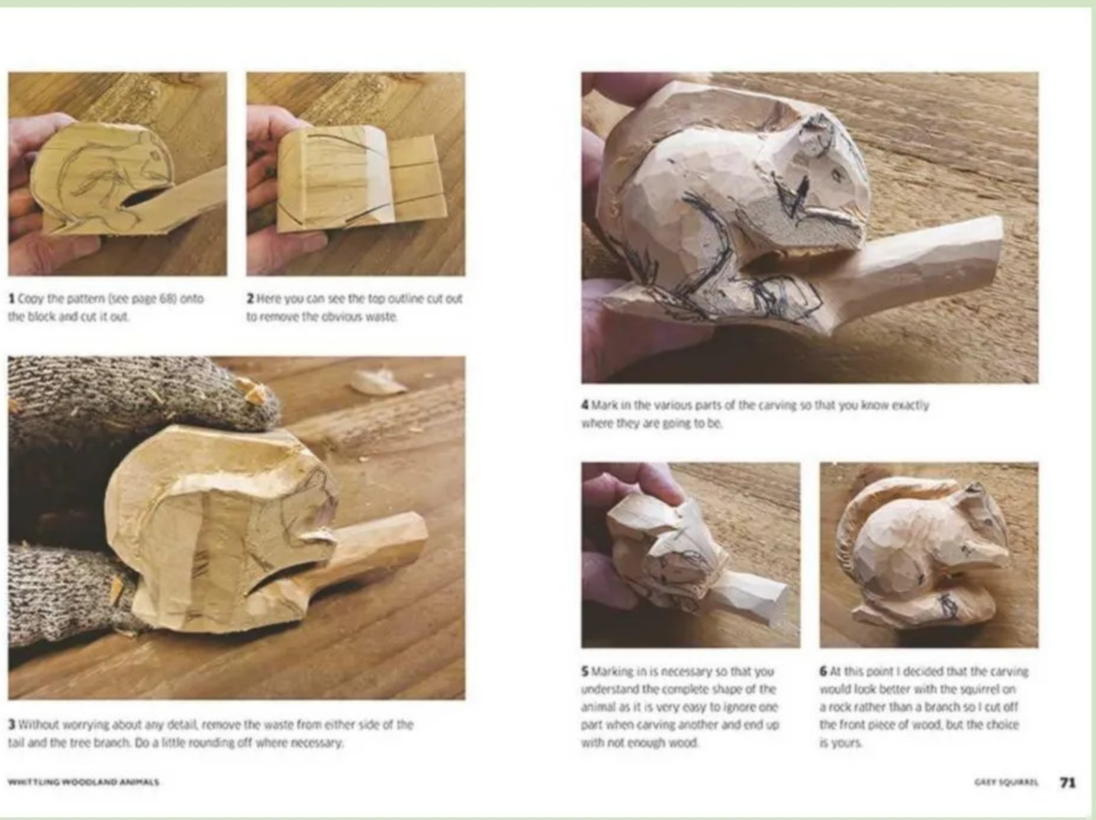
One further point that's not covered but which I think might be useful is that working on this small scale could be employed elsewhere. For example, in making furniture, knobs and handles are often an afterthought. Similarly, simple or elaborate shapes could be carved to enhance a piece's appearance. All in all, highly recommended.



FURTHER INFORMATION

Whittling Woodland Animals, by Peter Benson
Typical price: £14.99 (136 pages)
ISBN-13: 9781784946586
Web: www.gmcbooks.com

A lovely carved hedgehog in basswood is one of the 15 designs featured, all of which are well introduced along with explanations of tools and techniques



Each project is tackled in a step-by-step manner – such as the squirrel carving shown here – along with clear photos throughout

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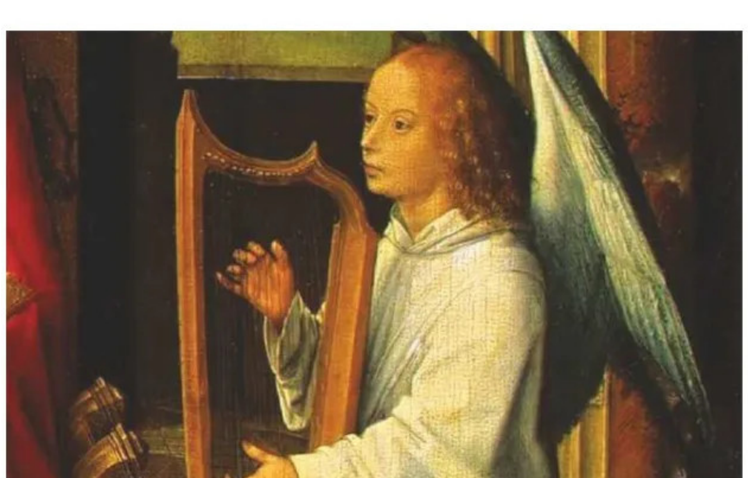
CHISEL RATING

AN INSTRUMENT OF CHARM FROM THE RENAISSANCE

Shaun Newman takes a break from the usual guitar builds and turns his attention to making a Gothic harp. Featuring just four joints – three mortise & tenons and one 'butt' join between the soundbox halves – all of which are well within the capabilities of someone with relatively little woodworking experience

The first time I saw a Gothic harp, at an early music exhibition, I was immediately taken with its elegance and charm. The sound was haunting and the shape stayed with me for many years. At the time – nearly 50 years ago now – I'd not yet begun to make musical instruments. In fact, I came to the craft some 15 years later, after a bone crushing accident that forced me to give up my sporting interests and instead pursue a new passion.

The impetus to embark on making a Gothic harp came from my daughter, who, in her own words, liked the harps "the angels play," (**photo 1**). At that time she had no idea how to play one herself, but being a pretty competent flautist, I felt it'd not be long before she'd be able to. So, how could I resist the challenge?



1 A renaissance angel with harp

Simple, practical & elegant

Before opening my toolbox, I started by carrying out some research, and what a rewarding exercise that turned out to be. I discovered that these instruments originally had a soundbox hollowed out from the trunk of a small tree with the supporting pillar and pin block made from solid wood. The joints were almost certainly simple mortise & tenons and the strings would've been made from gut. The design was very simple, very practical, but above all, very elegant.

Further research revealed that the Gothic harp was played throughout Europe from as early as the 12th century and survived as a popular instrument for several hundred years. Certainly no pictured group of angels in Renaissance times would've been complete without at least one lute, one psaltery and a Gothic harp. There's a clear image of one such harp in Hieronymus Bosch's triptych '*The Garden of Earthly Delights*', which was painted between 1503 and 1504. A little more delving led me to discover that, in fact, the harp's origins are much earlier than the 12th century. In both Mesopotamia and Egypt, instruments recognisable as harps can be seen on stone relief sculptures, wall paintings and papyrus fragments from as long ago as 2,500BC. What a legacy!

The ancient harp of Queen Shub-Ad

Indeed one outstanding example of an extremely ancient harp has become known as that of Queen Shub-Ad. Discovered within the Royal Cemetery in the Sumerian city of Ur, it had a rectangular soundbox, which would've been made of wood decorated with gold and inlaid with a mosaic of red stone, white shell and lapis lazuli. The wooden parts had rotted away but the whole instrument was so perfectly impressed into the surrounding earth, with the gold and inlays held in what would've

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The Early Music Shop – for strings, tuning wrenches, wrest pins and cases
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David Dyke Luthiers Supplies – for well-seasoned, high quality timber, bridge pins, purflings and finishing materials
www.luthierssupplies.co.uk

Exotic Hardwoods – for less common timbers
www.exotichardwoodsukltd.com

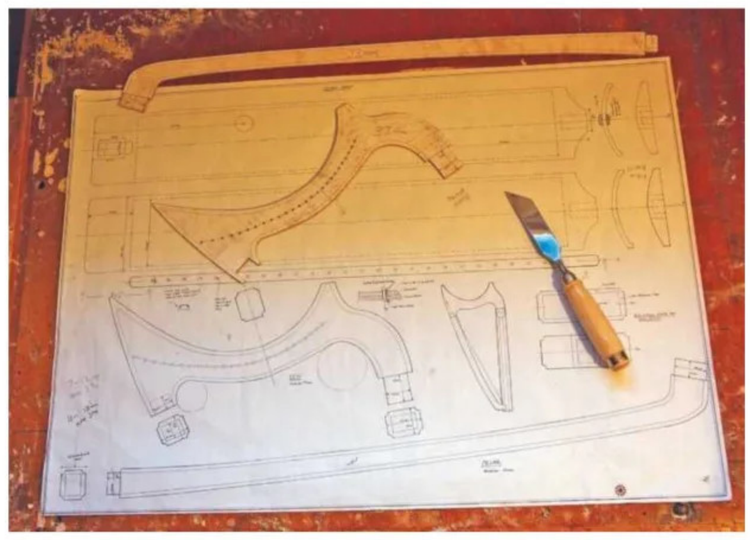
been their original position, that a restoration was possible. **Photo 2** below shows the reconstruction; this reveals that the component parts are very similar to any instrument of the harp family with a clearly defined neck – also known as the pillar – and soundbox. It's only the scale and number of strings that can differ, as well as the overall shape, of course.

What's clear from archive writings, paintings and sculptures is that the increasing complexity of music as it was played over time accounted for the many changes in the structures of harps, though the basics remained. A principal modern change to the harp has been the addition of tuning or semitone levers. An original Gothic version would be tuned to a single key, but today, semitone levers allow the string length to be altered, which in turn, gives the instrument a wide range of flexibility. Interestingly, some Irish harps were fitted with 'brays' – small wooden pins fitted to the soundboard at an angle – that cause the strings to make a highly distinctive buzzing sound. Some brays were simply made from hawthorns, which reminds me of the way in which the low string action on a flamenco guitar allows for characteristic buzzes.

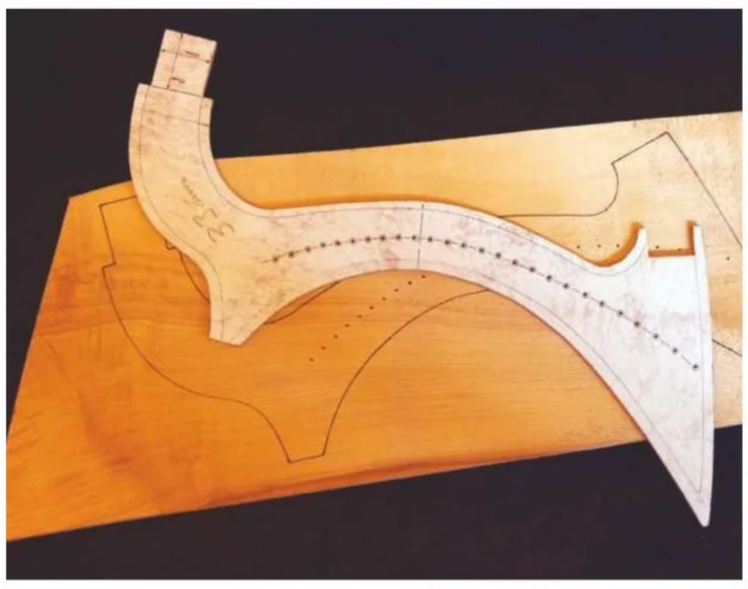
Two methods of attaching the strings to the soundboard

At some point during the harp's evolution, a means had to be found of attaching the strings to the soundboard. Two solutions were developed and remain in use up to the present day. In the first method, the string passes through an eyelet in the soundboard and is tied to a small dowel, which holds it in place from inside the instrument's body. Doing so requires holes to be cut into the instrument's back, which are large enough to allow access for tying the string ends. The second method is to pass a knotted string through the soundboard, then secure it using a tapered bridge pin, exactly as used in acoustic and some classical and flamenco guitars. I chose to go with the latter method for this project.

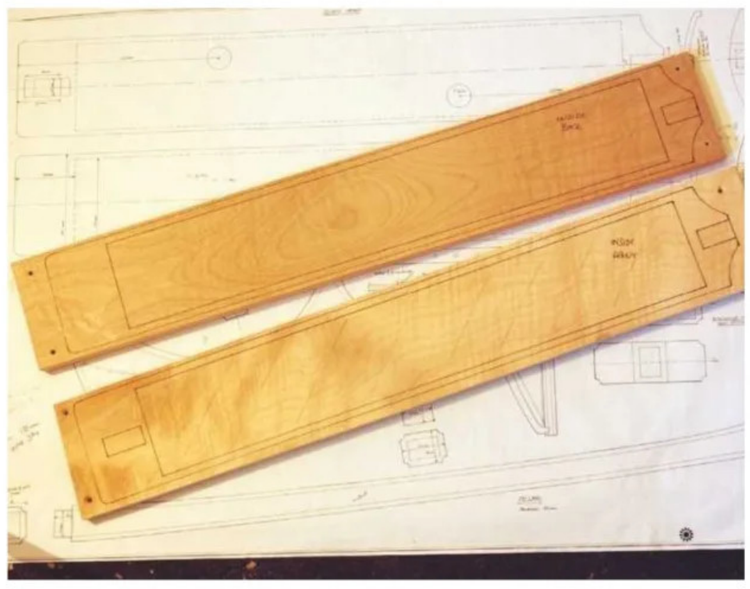
2 The reconstructed Queen Shub-Ad harp



3 Outline plans for Gothic harp



4 Pin block template



5 Soundbox halves

6 Hollowing the soundbox with a router

Four joints & 19 strings

But now to work! The first task was to locate a suitable drawing, which I could then use to make up a set of templates. I managed to buy an outline plan from Luthiers' Supplies in Horsham, though it's now out of print (**photo 3**). I later discovered that a detailed plan isn't really necessary as once the instrument's overall size has been decided upon, and provided that the shortest string is around 14cm long, and the longest 76cm, it's easy to make up your own design. There are only four joints in the whole instrument – three mortise & tenons and one 'butt' join between the soundbox halves – all of which are well within the capability of someone with relatively little woodworking experience.

Before going any further with my description of the build stages, however, I should point out that the harp pictured here has 26 strings, but I'd recommend that 19 are sufficient. Firstly, this is because 26 strings put a considerable amount of tension into the frame, and they're very close together once fitted, thus making the instrument a little more difficult to play. Secondly, 19 strings makes the whole build and tuning process much easier.

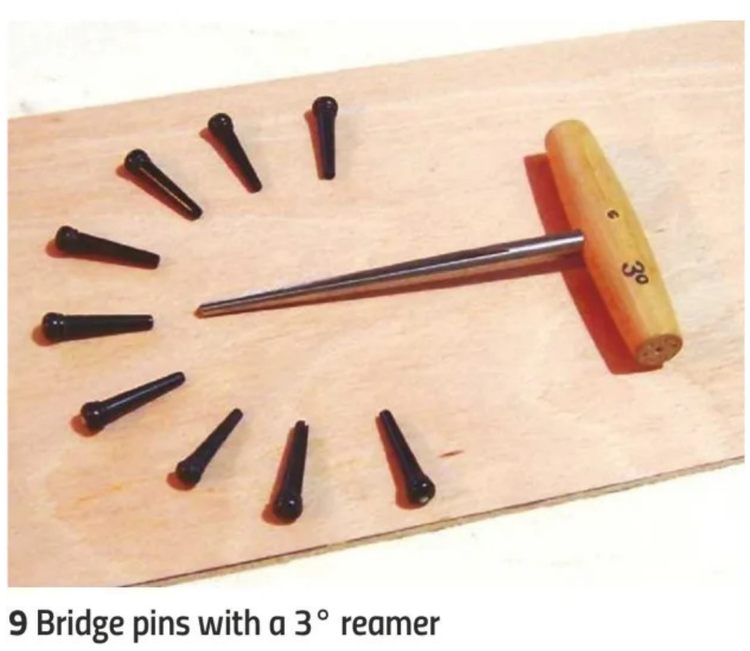
The soundbox is taken from a billet of sycamore measuring 71cm × 12cm × 46mm, and the pillar requires one that's 78cm × 10cm × 33mm, which is 33mm square at its narrowest point. The pin block calls for a very hard timber and is cut from a billet of rock maple with the following dimensions: 37cm × 19cm × 33mm (**photo 4**).

The soundbox

The soundbox was made first and this entailed cutting the sycamore board along its length to produce two halves, each around 22mm thick – 2mm is permitted to allow for sawblade thickness (**photo 5**). Next, the two halves were hollowed out so that the sides were just 7mm thick and the base and top 5mm each. Sufficient material must be left at either end of the soundbox to allow for the pillar and pin block to be housed – around 65mm at the tail end and 45mm at the head. Once hollowed, the two halves should fit together like two halves of a pea pod, and as they came from the same piece of timber, the grain pattern matched nicely. I used a router with a flat-bottomed rebate cutter for this task and to keep it steady and minimise any rocking from side to side, fitted a transparent base; this meant I could see clearly what was going on (**photo 6**). Before attaching the two halves to one another, the sound holes had to be cut into the front. These can just be simple circles with a 13mm radius, but I felt it'd be more in keeping to use the 'weeping heart' shape, which can be seen on a number of mediaeval instruments (**photo 7**). However, a further task was required before the soundbox could be constructed. To help strengthen the top of the box against the considerable tension created, a string bar was required. This is made from hard maple – 15mm wide × 5mm thick – with an overall length of 60cm. I chose to make the ends of the string bar attractive by cutting a simple two dimensional finial with a fret saw (**photo 8**). Along the centreline, the bridge pin positions should be marked with equal spacings and once the bar is attached along the centre of the soundbox's top, holes for the pins need to be carefully drilled. Each hole should start at 4mm, then finished with a 3° reamer to a depth that allows the pin to fit snugly

7 The mediaeval 'weeping heart' soundhole

8 Cutting the string bar finial



9 Bridge pins with a 3° reamer

10 Black tulipwood insert between the two soundbox halves

11 1911 gentleman's treadle lathe

12 The lathe's cast-iron flywheel

13 Side supports in place, which help with cutting accurate flutes in the pillar

(**photo 9**). It's advisable to fit a brass staple just behind each hole, over which the string will pass, rather like a guitar fret. This will help to produce a clearer note, though original Gothic harps would almost certainly not have had these.

Bridge pins

For a little more decoration, I added a line of black tulipwood veneer between the two halves (**photo 10**), which shows up clearly against the pale sycamore. At this point, as mentioned earlier, I'd advise the use of standard acoustic guitar bridge pins to hold the strings in place, but it's also possible to turn your own. For me, this was one of the most fascinating, yet challenging parts of the build.

One of my friends has a 'gentleman's treadle lathe', which he's restored. Built in 1911 by the Francis Engineering Company in Bristol (**photo 11**), it runs on leg power, or as my friend John Willman used to say: "It runs on porridge oats!" I decided to give it a go and proceeded to make all 26 pins from boxwood. I had no idea what lay ahead...

However fascinating the lathe may be, it's fiendishly difficult to use. While exerting all of your body weight against the treadle in order to spin the cast-iron flywheel (**photo 12**), you're homing in on a piece of boxwood no more than 8mm thick, and just 30mm long! Most frustrating was the moment where I thought I'd very nearly completed a pin only for it to spin out of the machine and end up in the shavings, never to be seen again! This happened with monotonous regularity, but the whole exercise was very rewarding nonetheless.

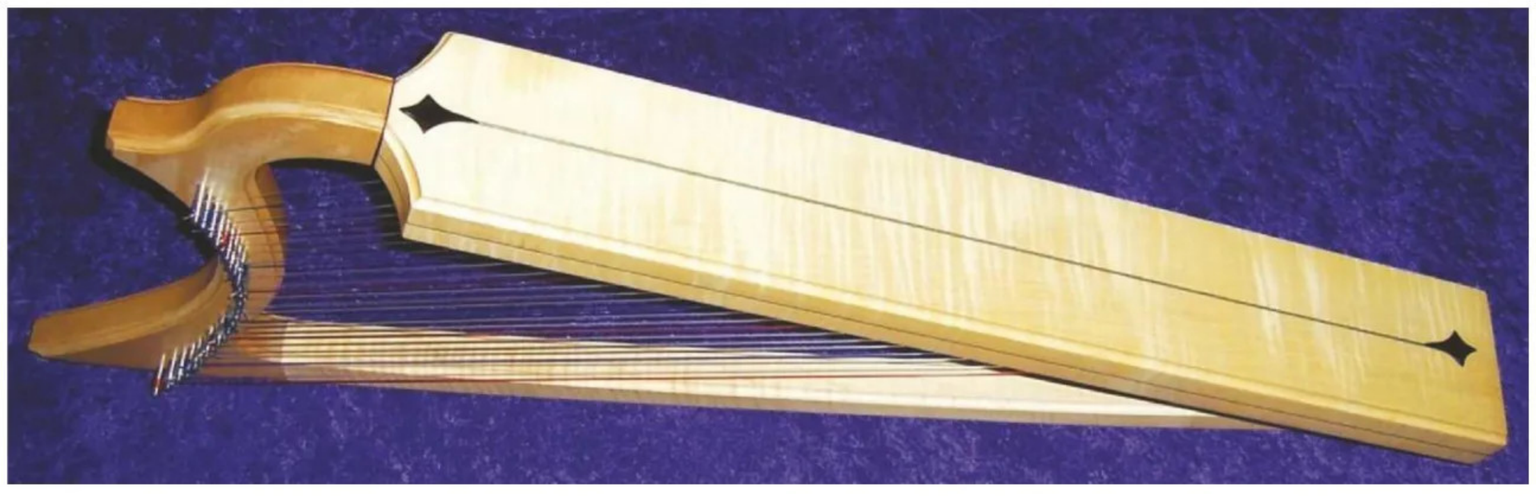
Bandsaw-cut pillar

The pillar came next, which I cut out with the bandsaw, from a billet of sycamore measuring 81.5cm × 45mm deep × 33mm wide. The flutes along the pillar's edges aren't strictly necessary but do add a certain charm. I was keen not to allow the router to wander while cutting the flutes, so using double-sided adhesive tape, I anchored the offcuts from either side of the pillar onto a board. I left enough space between the pieces to avoid the router cutter from fouling and was able to slide the tool along the top surface with considerable ease (**photo 13**). For this, I used a self-guiding cove bit with a 5mm edge. To avoid ugly gaps appearing in the woodwork, it was important to stop routing at the junction between the pillar and would-be soundbox (**photo 14**). To obtain a smooth line, it's possible to join the headstock to the pillar before cutting the flutes. Provided that care is taken earlier in the process, however, this isn't essential.

Kite motifs

Before putting the whole instrument together, I felt there was still a little room for some tasteful decoration. As such, I decided to add the kite motifs to either end of the back with a strip of black/white/black guitar purfling inlaid along the centre. The kites are made from ebony and the purfling is tulipwood (**photo 15**). The motifs weren't only decorative as they also hid the hardwood dowels, which I inserted into the end of the pin block and pillar respectively. These dowels were added to provide extra strength to the joints and tapped in with a little epoxy resin. Further stability was also offered to the pillar's tail end by attaching a small ebony block and epoxy resin (**photo 16**).

14 Stop just short of the tenon's length

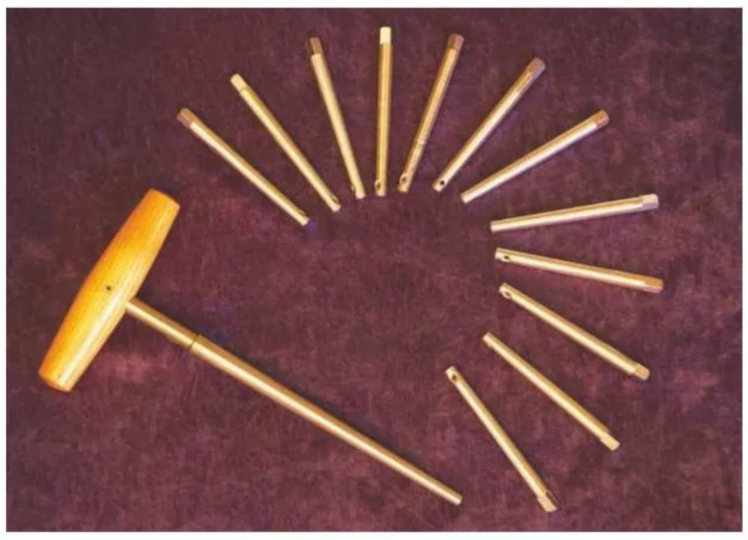


15 Decoration on the harp's reverse

16 An ebony block keeps the lower mortise & tenon joint fixed

Pin block & strings

By now the harp components were nearing completion – just the pin block remained. This was cut from a billet of rock maple and flutes



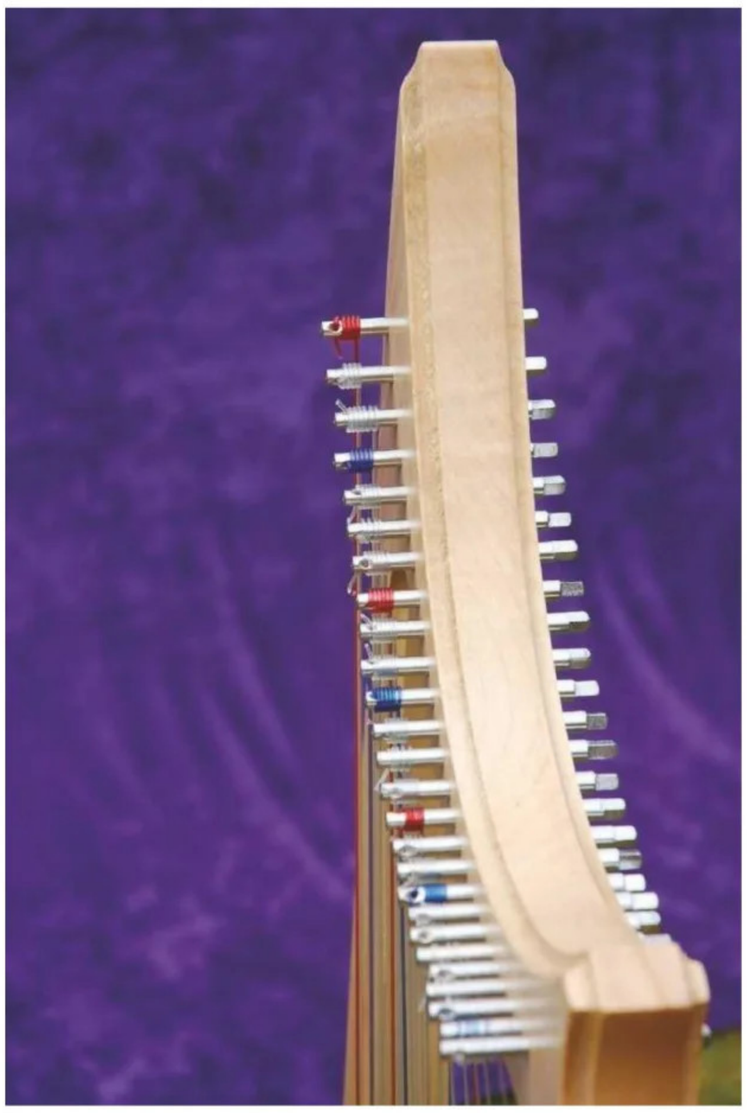
17 Wrest pins and 1:40 taper reamer

routed in the same way as for the pillar. Once the tuning pin holes were drilled, they too could be reamed to ensure the pins sat firmly in place – I used a violin reamer with 1:40 taper (**photo 17**). Once fitted, the tuning pins should protrude from the string end by a good 18mm (**photo 18**).

Once assembled, it was time to consider the finish. I felt it'd be in keeping to use a natural oil and chose Liberon finishing oil. This product is very easy to use and produces fantastic results. A total of four coats were applied and using '0000' grade steel wool, I rubbed down the surface between each one. The final coat was applied with 2,500 grit wet and dry paper and once buffed, a soft sheen was achieved.

The moment of truth lay ahead, and I had to – pardon the pun – pluck up the courage to put the strings on, bring them up to tension... then pluck them! As I brought the strings up to pitch – a life shortening moment – the pillar began to bend marginally and the soundbox arched. I became quite worried and before proceeding to full pitch, rang a friend who happens to be a competent harpist. He laughed and told me that this was quite normal, and besides, all harps sound at their very best a few moments before they explode...

At this point, it should be noted that it's customary to fit a red string for each 'C' note



18 Wrest pin ends protruding from pin block

and a blue string for each 'F'. This helps enormously in letting the player know where they are among the many strings.

Bespoke case & tuning wrench

Having completed the instrument, I had to consider a case for it and looked at a number of suppliers both in the UK and abroad. There are many harp cases available – mostly made from nylon and some with a polystyrene interior – but I couldn't spot one that was of just the right dimensions, and custom-made cases are naturally very expensive. As such, I decided to make my own, which would allow me to guarantee that it'd be a close fit. The task is to make a simple box into which the instrument will fit snugly (**photo 20**), and I began by building the sides from pine boards, with the top and bottom from 3mm ply. In time honoured fashion, I cut the top off about one third of the way down, which ensures an exact match of top to bottom, then set about lining the whole structure, using 13mm sheet foam rubber covered in polyester crushed velvet. The padding is held in place in the lower part of the case with heavy-duty carpet fitter's tape and in the top with a scotia bead. A tuning lever is always needed and conveniently stored at one end of the case with two spring steel clips, which prevent it from moving around (**photo 21**).

19 A slight curve occurs as the strings are brought to tension

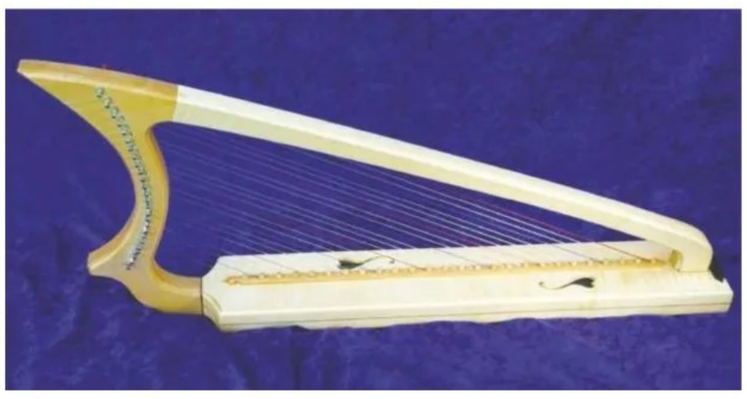
20 The harp in its home-made case

The case exterior is hand-painted with extra hard oil-based eggshell cupboard paint and decorated using home-made stencils, which are cut with a scalpel from acetate sheet (**photos 22** & **23**). The clasps are those seen on suitcases and the handle from nice, old-fashioned looking leather. In taking this approach, I felt I was in some sense doing justice to the harp and giving a nod to the early makers. I wonder whether they'd have smiled at this work as I do when thinking of theirs...?

21 The tuning wrench sits neatly at the case's end

23 Detail of one stencilled corner...

22 ... and here showing the entire decoration



24 The completed Gothic harp

25 Standing next to the harp helps to provide a sense of scale

Hammer A2-26 'SMALL' IS THE NEW BIG

Designed to provide quality and precision in more compact workshops, this new 'small' planer/thicknesser from **Felder Group**'s Hammer range boasts user-friendly operation and impresses with solid cast-iron planer tables

Affordable functionality & reliability

With the Hammer brand for do-it-yourselfers and small business owners, the Felder Group has been producing high quality yet affordable woodworking machines since 1997. Robust, durable, space-saving and precise in their operation, these quality products are simply designed to make woodworking fun.

Not only does the new A2-26 impress with compact dimensions for smaller workshops, it also meets Hammer planer standards that've been tried and tested for decades. The solid cast-iron planer tables, user-friendly operation, quick and easy changeover from planing to thicknessing and, above all, the reliable Hammer self-setting cutterblock, ensure perfectly finished wood surfaces – just some of the remarkable details that shouldn't be missed in any workshop.

The most important highlights at a glance

Three knife quick-change, self-setting cutterblock system – at the heart of every Hammer planer: This system guarantees excellent planed wood surfaces and simple operating comfort. Since 1987, the cutterblock quick-change system – only available from the Felder Group – has proven itself a thousand times over. As such, Felder customers all over the world have saved on expensive additional investment in standard planer cutterblocks

Solid planer tables for absolute precision: The strong, ribbed Hammer planer/thicknesser tables are made from solid cast-iron and ensure excellent precision in every situation. The planing table's width equates to that of the planing width, which means that workpieces can be planed safely across the planing table's full length

HAMMER – DECISION MAKING RELIABILITY FOR MANY YEARS TO COME

0° end position saves valuable workspace – a space-saving solution with optimum ergonomics: The planing table tilts away from the user operating area; this ensures that working with the Hammer planer is made as user-friendly as possible and also requires less workshop space

Durability, functionality and reliability made in Austria – Hammer woodworking machines are top-quality products from Felder. Since 1997, Hammer has been producing high-quality yet affordable woodworking machines for the skilled trades and crafts. The models have been specifically designed for this customer group and are available in the basic, winner and perform configurations, offering price optimised solutions for every requirement.

Decades of experience building machines, Austrian craftsmanship, strict quality standards and tried and tested Felder system solutions guarantee excellent woodworking machines, the best operating results and customer satisfaction for many years to come. From the passionate woodworker to the business owner with high demands, investing in a

Compact yet powerful – the Hammer A2-26

Hammer machine guarantees reliability and precise results.

TECHNICAL Hammer A2-26 planer/thicknesser

REASONS TO BUY A HAMMER MACHINE

- Excellent value for money
- Decision making reliability for many years to come
- State-of-the-art machine technology
- Solid cast-iron tables and units
- High quality, unique detail solutions as part of the standard package
- Top quality manufacturing with strict quality guidelines
- User friendly, classic design
- Quality and precision from Austria
- Compact functionality
- Mobile as an option
- Minimal space requirement
- Quickest changeover times

Maximum thicknessing height for large dimension requirements: Maximum cutting height is 184mm, with thicknessing height indicated on a large scale, located on the machine stand. An even more precise – 0.1mm – accurate adjustment of thicknessing height is made possible thanks to an optional handwheel and integrated digital clock

Quick stats

- **Surface planing width:** 260mm
- **Surface planer table length:** 1,045mm
- **Cutterblock:** self-aligning knife cutterblock
- **Maximum depth of cut:** 3mm
- **Thicknessing height:** 3-184mm
- **Feed speed:** 6m/min

Minimal space requirement – mobile in every workshop: Hammer woodworking machines are very unique owing to their efficient machine design, which means that space can be found in even the smallest of workshops. A rolling carriage can be fitted as an optional extra, offering mobility and freeing up additional space

Quick and simple depth of cut adjustment when planing: The cut depth is set via a turning knob located on the machine's rear side; this ensures quick and precise depth of cut adjustment with maximum ease of use. Maximum depth of cut amounts to 3mm

Planer fence for exact joining & bevelling: The planer fence can be tilted very easily from 90-45° by loosening the two turning knobs. Furthermore, a very broad scale provides a great deal of benefit. Two end stops at 90° and 45° positions ensure precision, save time and provide additional operator comfort

Perfect extraction technology – a clean solution: The dust extraction hood's aerodynamically optimised construction, with its ample chip space, guarantees ideal extraction along with a clean work surface and environment

TECHNICAL SPECIFICATION

Electrics

- 1 × 230V motor voltage; motor power 2.6HP (1.9kW) – *standard*
- 50Hz motor frequency – *standard*
- 005 60Hz motor frequency – *optional*

Planing unit & cutterblock

- Three knife quick-change, self-setting cutterblock system – *standard*
- Anodised planer fence tilts from 90°-45° – *standard*
- **Length of surface planer fence:** 700mm
- **Surface planer width:** 260mm
- **Planing table length:** 1,045mm

Planer & feed drive

- **Thicknessing width:** 254mm
- **Thicknessing height min-max:** 4-225mm – *standard*
- **Thicknessing table length:** 497mm
- **Minimum workpiece length:** 145mm
- **Maximum depth of cut:** 3mm
- **Synchronous feed speed:** 4,5m/min (50Hz); 5,4m/min (60Hz) – *standard*

General

- **Extraction connection Ø** – 100mm
- **Gross weight – with standard configuration:** 175kg

Important accessories

- **01.1.202** – Indicator clock with digital readout; 0.1mm resolution; counting counterclockwise – 2mm increments – *optional*
- **12.1.311** – aluminium – system – hand-wheel – *optional*
- **210** – Rolling carriage without lifting bar – *optional*
- **211** – Lifting bar – *optional*

Customer service & maintenance

Specially trained service personnel are always available to provide specialised on-site customer service. For urgent enquiries, customers can call the hotline centre, where they can expect to receive straightforward, immediate assistance. Team members can be contacted directly or requests conveniently reported online 24/7.

FURTHER INFORMATION

Typical price: £1,450 (inc VAT)
Contact: Felder UK
Address: 2 Joplin Court, Sovereign Business Park, Presley Way, Crownhill, Milton Keynes MK8 0JP
Tel: 01908 635 000
Email: sales@felder-group.com
Web: www.felder-group.com

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MADE IN SHEFFIELD

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GIVE YOUR GARDEN THE MAGICAL TOUCH

Using pieces of Leyland cypress – leylandii – branchwood, **Andrew Hall** creates various garden ornaments that are very much the stuff of fairy tales, and provide perfect inspiration for story-telling

Sometimes it's nice to go into the workshop and just play around, which is what happened with this project. You could say, however, that it also ended up being a labour of love...

Janet – my wife – and I have two great friends – Anne and Carl – who we've known for many years. Last year, they bought a bungalow that was surrounded on three sides by a Leyland cypress – commonly called leylandii – hedge, which was fairly sizeable and established. Once removed, however, we were amazed at how much extra garden was revealed. The leylandii were all cut down at the beginning of October 2022, so there wasn't any danger of disturbing nesting birds, and I thought that by winter 2023, it'd be nicely dried and ready for the fire. Leylandii doesn't make the best firewood and can be quite sticky and resinous, as I'll go on to show here.

Work on the bungalow is now well on the way to being completed, and Anne and Carl moved in at the start of June this year. I wanted to make them a little moving in present, thinking it'd be nice to turn something for the garden, although

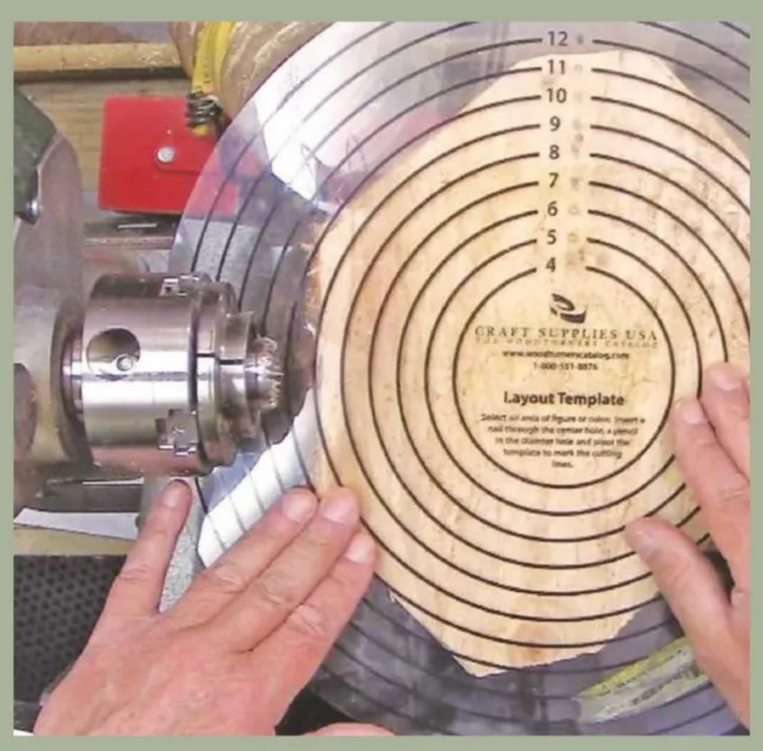
1 The bungalow was surrounded on three sides by a Leyland cypress – leylandii – hedge, which was fairly sizeable and established

2 With the hedge taken out, we were amazed at how much extra garden was revealed. In fact, this space was increased by an extraordinary 4m in width and 2m in length. I helped to remove some of the larger section trunks. Carl had already cut down the foliage and small section trunks, as well as hiring a chipper/mulcher to reduce all branchwood and smaller pieces to chips; these could then be used as mulch in the garden, so nothing was wasted

3 After three separate car trips, I'd harvested all trunks and larger branches to be used as firewood next winter. I kept the pieces in quite long lengths as I wanted to have a go at turning some of it

4 Using my trusty DeWalt cordless chainsaw in addition to safety trousers and equipment/relevant PPE – including a full-face visor, mask and disposable/tearable gloves – I proceeded to cut up some bowl blanks and logs for the pedestals. I used my usual magnificent seven tools: 10mm and 12mm bowl gouges; spindle roughing gouge; spindle gouge; parting tool; skew chisel and scraper, in addition to bow callipers and dividers.

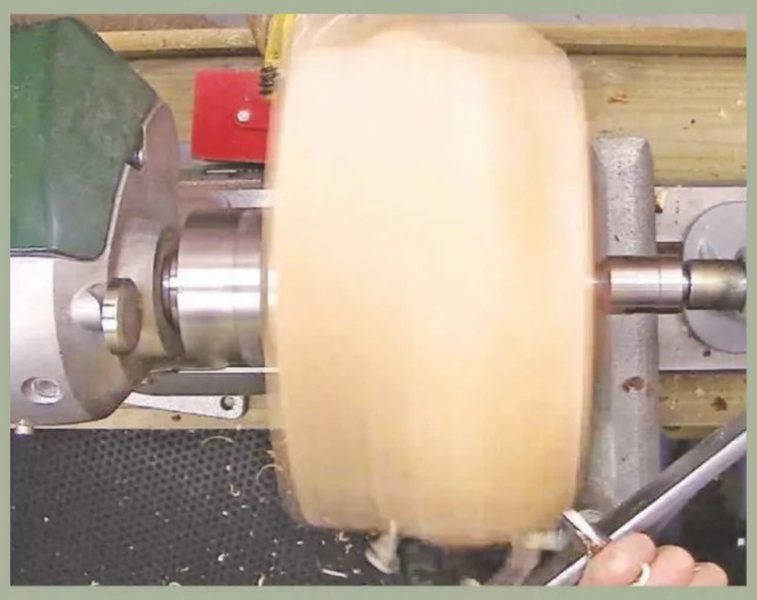
I started with the bowl, and ended up making two different styles – one shallow and one deep – but for this exercise, I'll focus on the steps required for turning the deep version



5 To begin, I found the blank's centre using my Craft Supplies USA Layout Template. Available from Lakeland Plastics, they're actually designed for determining cake diameters, and do exactly the same job on turning blanks

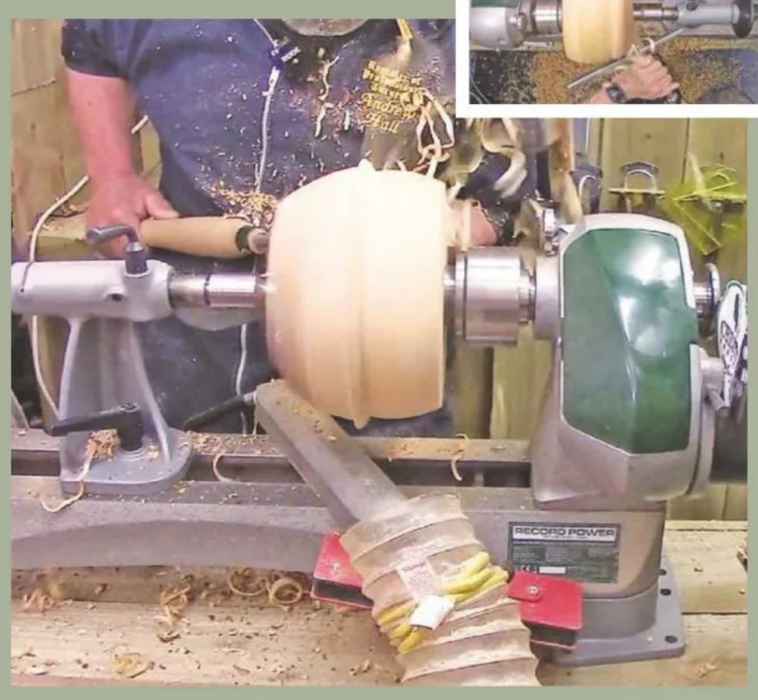
not exactly sure what. Talking to Janet, I soon learned how Anne had shared her love of inventing stories for their granddaughters. Janet buys Anne an Alex Clarke calendar every Christmas, featuring lovely animal paintings, which serves as inspiration for these fairy tales. I toyed with the idea of creating some mushrooms from the leylandii, as well as a pedestal bowl, for use as a bird bath. But putting a magical spin on things, the bowl becomes a pixie/fairy swimming pool, while the mushrooms provide hiding places and suitable areas for drying their wings in the sun.

6 I drilled a 7mm hole for a 9mm screw chuck to hold on, with added support from the tailstock



7 Using my 12mm bowl gouge with swept-back grind, I trued up the blank and got it into balance, working from both sides to create a pleasant curve

8 Always start with lathe speed on the lowest setting. On my Coronet Herald, in order to create maximum torque, I checked to ensure the belt was placed on the slowest pulley



9 Creating a nice flowing shape isn't always easy to achieve, but I find that locking the tool into the side of my body and using a body rather than arm movement, creates a nicer shape

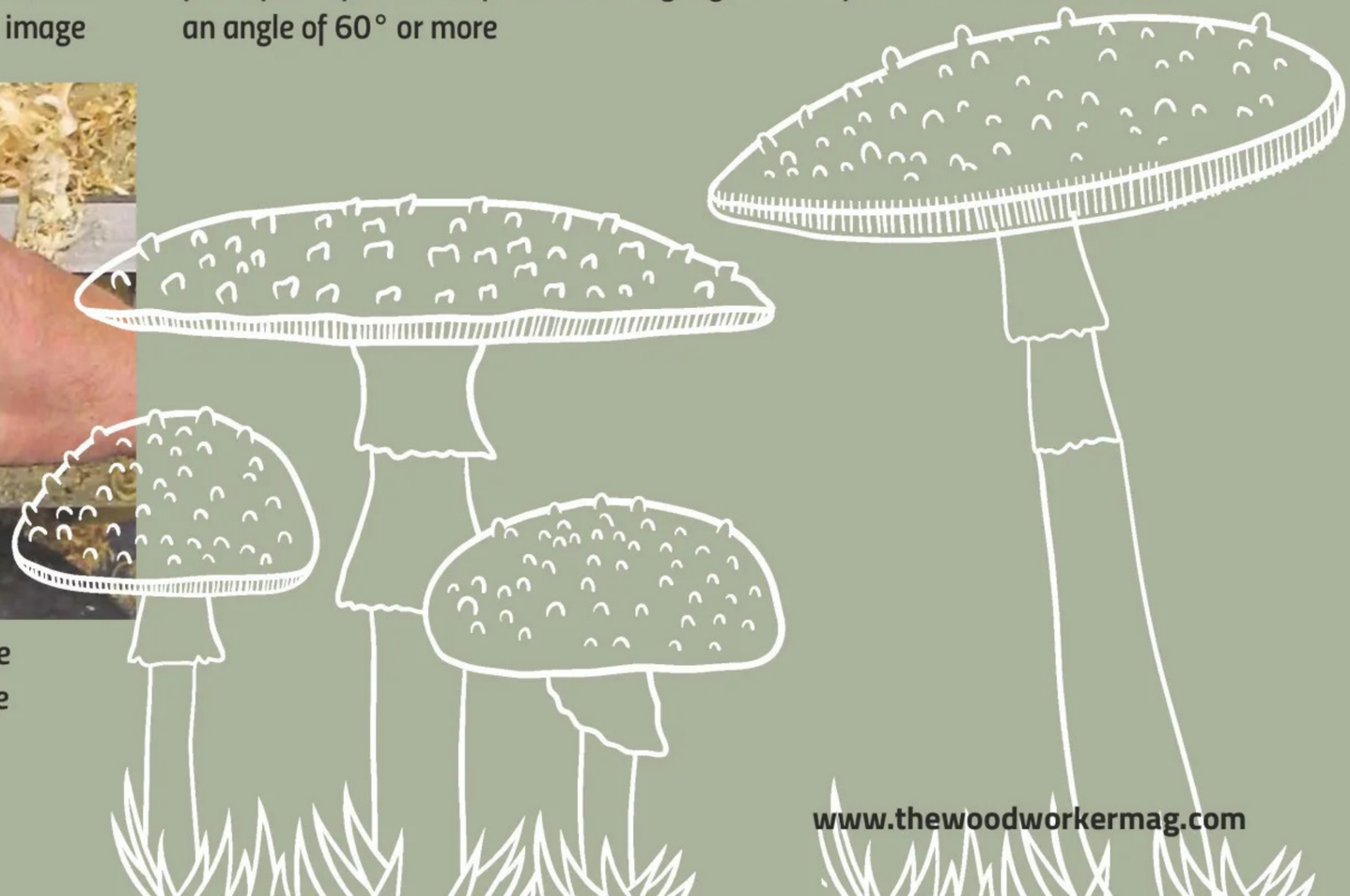
10 After truing up the shape, I measured the pedestal's recess, which needed to be the same size as the optimum circle on my Record Power SC3 chuck

11 Using standard 50mm jaws and a set of dividers, I cut the recess with a 4mm parting tool

12 Next, I trued up and balanced the face surface of my bowl – so it at least matched the rim's width – using the wing's bottom third on the 12mm swept-back bowl gouge. Here I'm stood at the headstock side of the lathe, which allows the shavings to disperse and also helps to capture a clear image

13 As shown in previous photos, leylandii can be very furry, and I find the best way to improve the cut is to employ a shear-scraping method. Here, I use a freshly-sharpened swept-back bowl gouge with my back hand held down at an angle of 60° or more

14 Having achieved the best possible finish on the material, I turned the bowl around and held it in the chuck jaws, cutting a recess to match the jaws' optimum circle size



15 Using the 12mm swept-back bowl gouge as before, I created a series of 'V' cuts, allowing for the tool's bevel to make contact with the material while hollowing, and thus preventing skate back

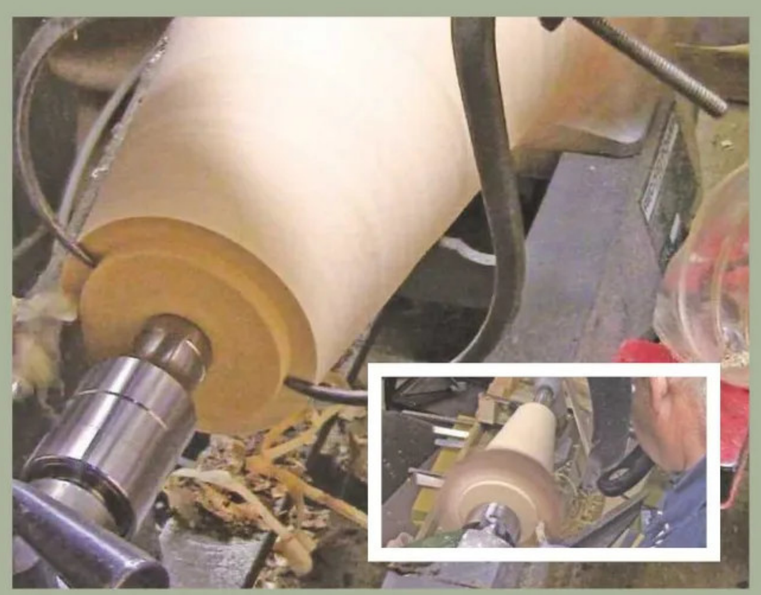
16 Next, I moved the toolrest into the bowl and focused on maintaining maximum support with minimal vibration. Always aim to achieve the best finish possible with projects intended for external use, which therefore won't be sanded. I've started turning a lot of garden projects and as they'll be constantly rained on and exposed to the elements, I choose not to sand them. I believe this is helping both my tool and sharpening skills, and from a health and safety point of view, not creating any dust has surely got to be a good thing. If you do want to sand the piece, however, try doing so using water as a lubricant – wax or oil will also work – which minimises the dust produced. By way of an experiment, in a future article I'll wet sand using various oils, including deck and teak, for exterior pieces

PEDESTAL

17 Moving on to the pedestal, I mounted the material between centres using the new Record Power multi-tooth sprung point drive centres, which are very useful for spindle turning. I'm looking to remove wood, then try the tenon in the bowl's recess, and if necessary, replace back between centres in order to fine-tune the pedestal's profile. Standing to one side and starting at the lowest lathe speed, I safely begin and increase the rpm until it's running as fast as possible without causing any vibration. As the torque required isn't as great in comparison to bowl turning, I've now moved the belt to the middle position

18 Using both the 12mm bowl gouge and spindle roughing gouge, I turn the spindle into a true shape and examine the surface for knots and defects

19 Here you'll notice I'm wearing a pair of blue lightweight disposable gloves. Gloves and woodturning have always sparked a debate in terms of safety and safe usage. I don't wear gloves unless the material is sticky or resinous, as with the leylandii at the beginning. If you do need to wear gloves, I suggest trying the ones shown here. Some of my friends have skin complaints, which affects their hands, so therefore always require protection. With the disposable variety, in the case of potential catches, they'd just be torn from your hand and not get wrapped in with the turned piece, which would result in the hand and fingers being dragged towards the chuck. Some pine species and monkey puzzle are notorious for their sticky sap content, and even fresh yew can be on the resinous side. Once balanced and examined for defects, I was then able to increase lathe speed



20 Using a square parting tool/skew, I cleaned up the end and turned a spigot on the tailstock end to match the bowl's recess size. Use a set of bow callipers for this.

Safety note: With new callipers, always round off the ends if you intend to use them with the material revolving. Fresh out of the packet, they're sharp, so therefore likely to catch the wood and cause an accident. If you're a beginner, it's best to stop the material from revolving and check the diameter once all's stationary.

Next, I trued up the base at the headstock end using the 12mm swept-back bowl gouge

21 Using a series of chisel cuts to reduce the diameter and create a pleasing shape, I cut a bead at the tailstock end onto the spigot; this leaves a nice transition where pedestal meets bowl. This is a great opportunity to practice using the tools for both shape and design purposes

22 The pedestal and bowl once completed

23 With the pixie/fairy swimming pool complete, I decided to turn four mushrooms to accompany the project – one for each of Anne and Carl's granddaughters. As before, I mounted a piece of leylandii branchwood and held between centres using the multi-tooth drives. Creating a series of 'V' cuts to balance the timber, I experimented with shape using the swept-back bowl gouge in the mushroom's head. By now, the workshop was filled with a lovely fragrance, thanks to the wonderful smelling, fresh turned leylandii

24 Next, I created the shape on the mushroom's stem using a combination of bowl gouge and parting tool. A spindle gouge could be used to create the undercut on the mushroom's head, and as I've said many times before, my go-to tool will always be a bowl gouge sharpened with a long, swept-back grind

25 Turning mushrooms is a great warm up/cool down exercise. At the start/end of a session, they're ideal for practising hand skills and hand-eye dexterity in coordination. I often turn either a mushroom, baby rattle, spinning top, or bow tie. My articles and videos are produced over a few sessions, and in the next photo, you'll see the smaller bowl on its pedestal along with a selection of mushrooms

26 Having completed Anne and Carl's house/garden warming gift, Janet asked if I could make a set for our garden, which I proceeded to do but this time using some of our friend's wind-blown ash. There's no finish applied to these and they're not sanded. Turning such items is great fun, but you may be wondering if they'll crack in accordance with changes in temperature and climate. The answer is yes, and in some cases, this actually adds to their interest. Some of my turnings have been in the garden for 20 years, and while some have cracked, most are still going strong and mature into a lovely silvery colour – I call this natural ageing

27 Being something of a silver surfer myself, I like natural ageing, as demonstrated by the items shown above. However, it doesn't matter if they do end up cracking and are committed to the garden fire pit. Overall, these items were really good fun to make and a great excuse to make more. The wood used is low-cost and often harvested through labour rather than purchase. And just think of all the stories they could inspire...

28 Here you can see some new leylandii turnings in a flower bed along with a couple of end-grain slices, which were mulched using the shavings

29 The final photo shows a bowl I turned for our Silkie chickens, which we had from hatchlings and lived to the grand age of 11 and 12. They loved to roost together in this oak bowl

Have fun making shavings and if you'd like to see a video of this project being made, visit my YouTube channel – go to **www.youtube.com** and search for '**Andrew Hall Woodturner**'

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LETTERS

LETTER OF THE MONTH

HARD GRAFT

Dear Editor,
Your feature on hedgelaying immediately brought back memories of my grandfather who had a lifetime as a Buckinghamshire farm worker. It was his custom, if not duty, to go hedging and ditching every autumn/winter to ensure field boundaries were maintained and almost impossible to penetrate except at proper points – i.e. gates and stiles.

As a teenager, he'd lost an eye as the result of a branch hooking it out of its socket, but still he carried on working as if nothing of any significance had happened! He was forced to work beyond the age of retirement; there was no accepted custom of private pension given to all and sundry. This meant that, after the age of 91, he was still working, gathering the cereal crop using horse and cart. He'd catch the bundles of cereal as they were thrown from ground level, which were then spread to ensure equal weight distribution as the horse pulled the cart.

At one point, a huge horse moved without warning and my grandfather was thrown off balance, falling from the back of the hay cart. His neck was fractured and he died five days later in the village hospital. Such was his stamina and determination that I only have one clear memory of this man. Along with my mother, we visited him at his cottage, where he sat in a darkened room, wearing boots and garters, which protected his legs from rat bites.
He spoke in a quiet way with a broad Buckinghamshire accent using some words that were localised.

Despite all the problems we now face, it's only when I consider the lack of empathy my grandfather faced throughout his entire life that I realise how fortunate I am, and we are. Thank you for an interesting magazine, which is always a joy to read, a skill my grandfather was denied as he was born long before 1872, the year after which education had been provided to all – no ifs and buts allowed.
Yours sincerely, **David Girdler**

Bert Clark (1925–2007), thought by many to be the finest hedgelayer of his generation, using a 7lb axe in the days before chainsaws were commonplace

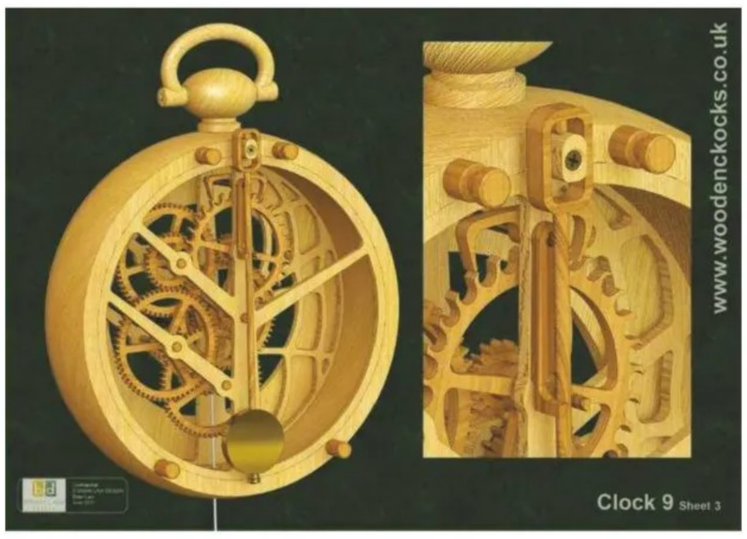
Hi David, it's a pleasure to hear from you and thank you for taking the time to write in response to Paul Greer's recent article on hedgelaying. There's a fantastic archive of images online that show this skill throughout the years, long before chainsaws were used or even invented. I find it fascinating that so many different styles exist, and I assume your grandfather would've practised a particular one relevant to his region. I have to admit that your story of him losing an eye did make me wince slightly, but as you allude to, it was a different time back then and the mentality was to just get on with things. There was no disability benefit and no doubt your grandfather put on a brave face and soldiered on, only to receive another injury, that sadly proved fatal. Reading stories such as this are sobering indeed, and as you rightfully point out, one can't help but think how lucky and privileged we are. Thank you again for sharing this wonderful story.
Best wishes, **Tegan**

BUILDING A WOODEN CLOCK

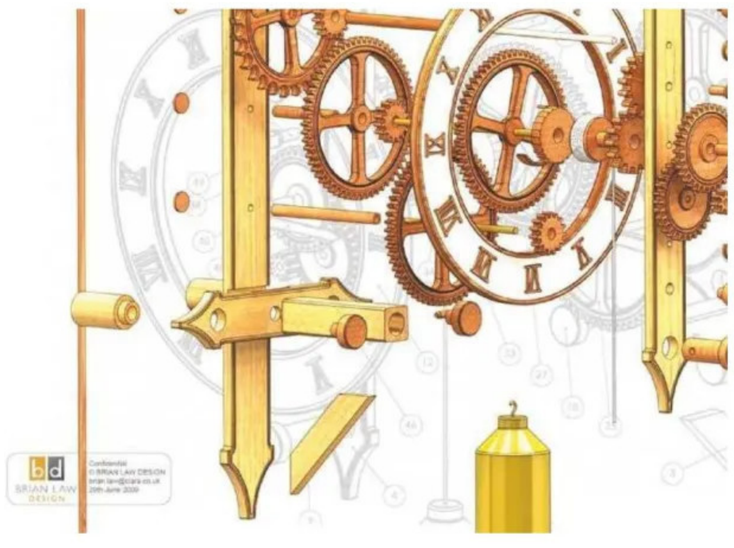
Hi Tegan,
Once again, *The Woodworker* has inspired me to expand my woodworking horizons – this time into making wooden clocks. Not being able to wait for the upcoming August issue where Jim Stickings' all-wood clock plans would be highlighted in an article, I've since discovered the wooden clock designs and patterns of Brian Law – **www.woodenclocks.co.uk**.

Over 50 clock patterns are shown, each with superbly detailed downloadable PDF and dxf files from easy to hard, and several of the PDF plans are free of charge. Brian has also authored several books relating to the techniques and design of wooden clockmaking, including how to go about designing your own clock.

The website itself is a joy to peruse – and I can't wait to start building one of these clocks.
With best regards, **Colin Lloyd**



Clock 9 – Brian's design for a compact clock with short pendulum, which has an oscillation period of 1 second



Clock 1 was seen by Brian as something of a challenge. It involved producing a design with in-line gearing that reflected the style of much earlier Verge and Foliot designs

Hi Colin, how wonderful that we were able to pique your interest so much that you couldn't even wait for the next issue! You've clearly caught the clockmaking bug! I can certainly see similarities between the two makers' designs, and no doubt Jim would've been aware of Brian's fantastic work. I've shown a few examples of downloadable designs here, but there's so many to choose from and a plethora of useful information on the website. Please do share photos of your completed clock and have fun making it!
Best wishes, **Tegan**

WOODWORKING POETRY

Doug Nicholls' next instalment may be short and sweet, but it talks of possibly the greatest ever invention, and one that woodworkers certainly couldn't do without...

INVENTING THE WHEEL

We've shaped a good idea

To spin a pot and ease the pull from there to here.

It has contempt for bumpy ground

Ascending only the highest mounds.

It draws one ever curling line.

It's haulage great, its circumference fine.

One side rises as the other kneels.

This is our first feeling of a wheel.

Will it endure?

Will it help our future?

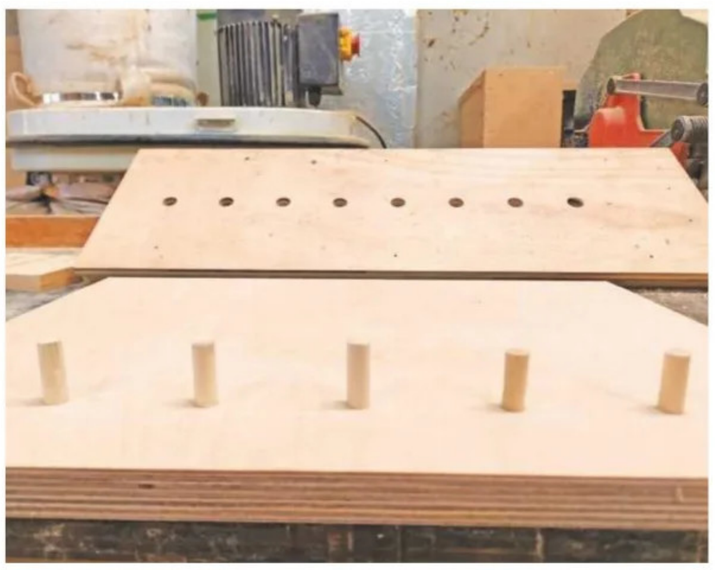
What will be its lifespan?

A good idea serves everyman

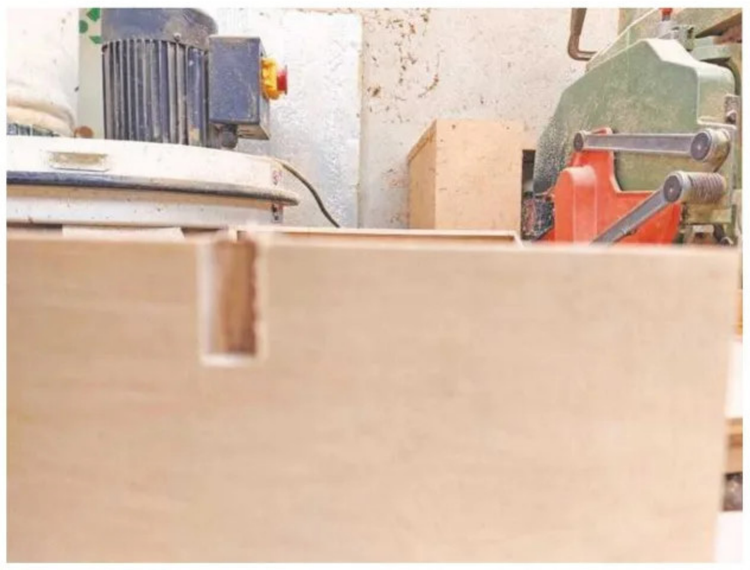
READERS' HINTS & TIPS

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

HANDY HINT: HOLE DRILLING JIG/TEMPLATE



1 9mm dowels inserted into drilled holes – standard dowel used



2 Half depth hole drilled into shelf underside

3 Shelf underside showing support dowels locked in position

Good afternoon,
I recently received a commission to build five identical bookcases for a travelling book exhibition. The dimensions of these were to be 300mm deep × 900mm wide × 2.2m tall. Following discussions with the client, we agreed to use 18mm birch plywood, which would provide the necessary strength and stability. The main problem, however, was that the shelves were to be adjustable and not permanently fixed. In addition, the client wished to have these set at a 14° angle, particularly when the vehicle would be travelling to avoid books being vibrated off the shelves. They also wished to have the option of returning the shelves to a horizontal position when the truck was stationary for exhibition purposes, etc. It was decided that the shelf supports would be of circular dowels rather than purpose-made shelving brackets, as any attempt to set these in at a 14° angle would've created further problems. By matter of trial-and-error, it was discovered that if the peg holes were located approximately 50mm in from the gables' front and rear and at 60mm centre-to-centre spacings, this would provide options for the shelves in both positions as required.

Drilling the holes

But the problem still remained regarding the drilling of holes – approximately 600 in total – and ensuring these were perfectly uniform without any surface break out. It was decided that a plunge router would be suitable for this purpose. There was also the matter of creating a custom-made guide system for locating holes in each of the gables. I managed to overcome this by using a section of 12mm MDF and fixing two rails at approximately 110mm spacings to accommodate the router base, allowing this to slide freely from top to bottom.

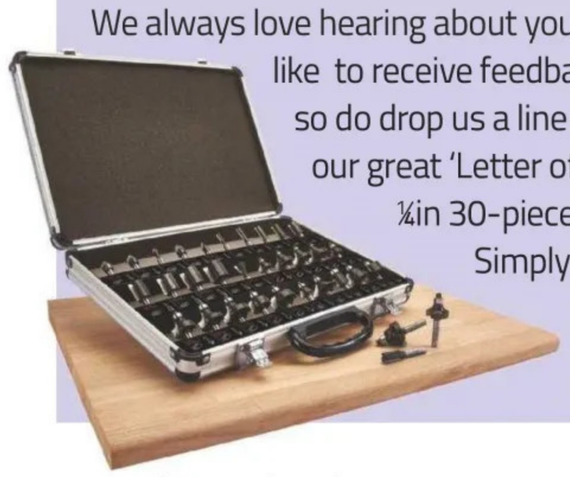
Hole alignment

The issue of providing a quick and accurate system of aligning holes at exactly 60mm centre-to-centre spacings also needed to be solved, which required me to machine a section of timber to 600mm wide, then cut this into 110mm lengths. Once the first hole had been drilled into the template using a 15.9mm plunge router bit, it was then a matter of fixing the machined battens in sequence, resulting in the holes being drilled at exactly the correct spacings. Once the required number of holes had been drilled, the guide battens were removed and a spacer batten fixed to the MDF's front edge, with hole centres at 60mm in from the edge. With the batten fixed in position and using a 15.8(OD) guide bush, this provided the necessary clearance to allow 9mm holes to be drilled in sequence without any further difficulties.

Locking dowels in place

There was also a possibility of the dowels vibrating out of position, so to remedy this, I created half-depth holes on the shelf undersides, which effectively locked the dowels in place and prevented any movement. I've since spoken to the client as to the system's effectiveness, and he assured me that it all worked perfectly, just as it'd been designed. It is possible that other readers may have encountered similar problems? This proved to be a very simple but effective method of creating a purpose-made template for drilling the peg holes. **Ray McCleery**

WRITE & WIN!



We always love hearing about your projects, ideas, hints and tips, and/or like to receive feedback about the magazine's features, so do drop us a line – you never know, you might win our great 'Letter of the Month' prize, currently the Trend ¼in 30-piece Router Cutter Set, worth over £100. Simply email **tegan.foley@dhpub.co.uk** for a chance to get your hands on this fantastic prize – good luck!

CHISEL RATING

A HOME FOR TURNED TREASURES

Using a little-known technique called 'flocking', **Colin Simpson** sets about turning a charming three-tiered trinket box

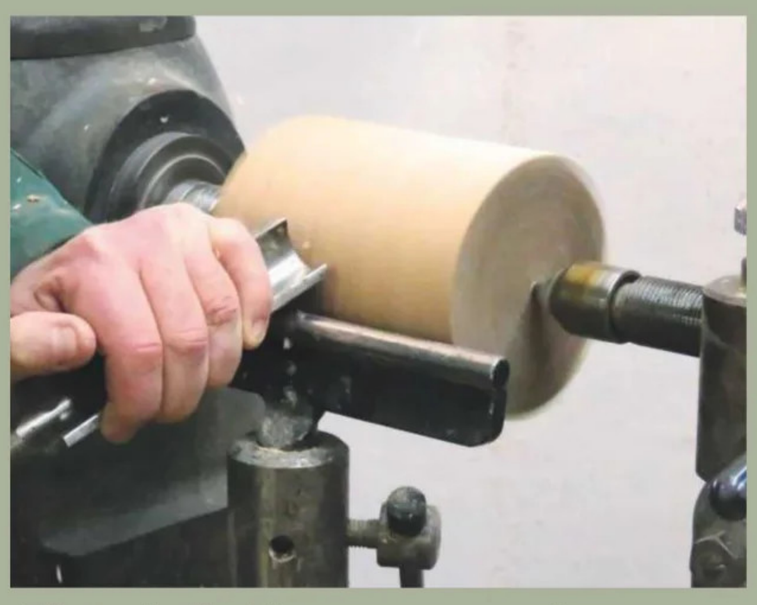
In this article, I'm going to make a three-tiered trinket box and also introduce a technique that may be new to many of you: 'flocking'.

While not an essential part of this project – you can make the box without it – the technique does line the tiers nicely. You can buy a flocking starter kit online via Turners Retreat – **www.turners-retreat.co.uk** – which is where I got mine some years ago.

Mounting he blank

As always, this project is scalable to whichever size you like. I started with a piece of ash that measured around 130mm long × 100mm square. You'll also need a piece of 6mm diameter metal rod – I used brass here. Next, find the centre of both ends of the blank, mount between centres and turn to a cylinder using a spindle roughing gouge (**photo 1**). Square off one end and cut a chucking spigot on it with a skew chisel (**photo 2**).

Start at the end opposite the spigot and mark approximately 20mm in from this point, then place marks at around every 35mm, so they're evenly spaced. The 20mm part will later become the box's lid and the three 35mm pieces, the tiers. Draw these marks around the box's circumference (**photo 3**), then use a parting tool to cut a 10mm deep groove at each of the lines (**photo 4**). Mount your piece on the chuck



1 Mount the blank between centres and convert to a cylinder

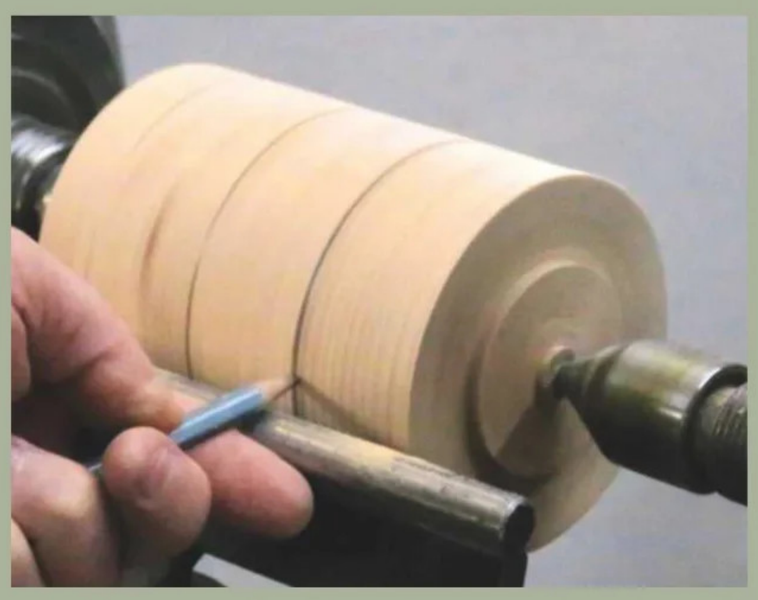
2 Square off one end and cut a chucking spigot

spigot and face off the top of the lid. I have some chuck jaws – the Axminster jumbo jaws – that'll comfortably hold the outside diameter of my box, but if you don't have this luxury, you'll need to turn another chucking point on the box's lid, or, alternatively, make a jam chuck. Draw a reference line along the piece's entire length and proceed to number each 'part' (**photo 5**).

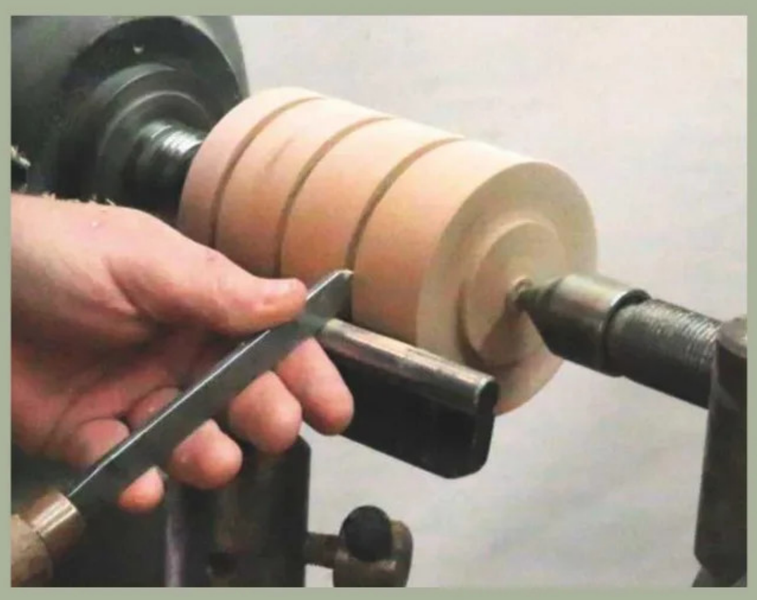
Drilling the tiers

Now remove the blank from the lathe and use a pillar drill for the next step. Unless you have a long enough twist drill to drill the piece's entire length, you'll, like me, have to do this in stages. Mount a twist drill bit in the pillar drill, which matches the diameter of your metal rod – 6mm in my case. Start at the bottom of the box and drill a hole about 15mm in from the circumference. Ensure to drill all the way through the bottom tier and into the middle one, starting the hole at this point (**photo 6**).

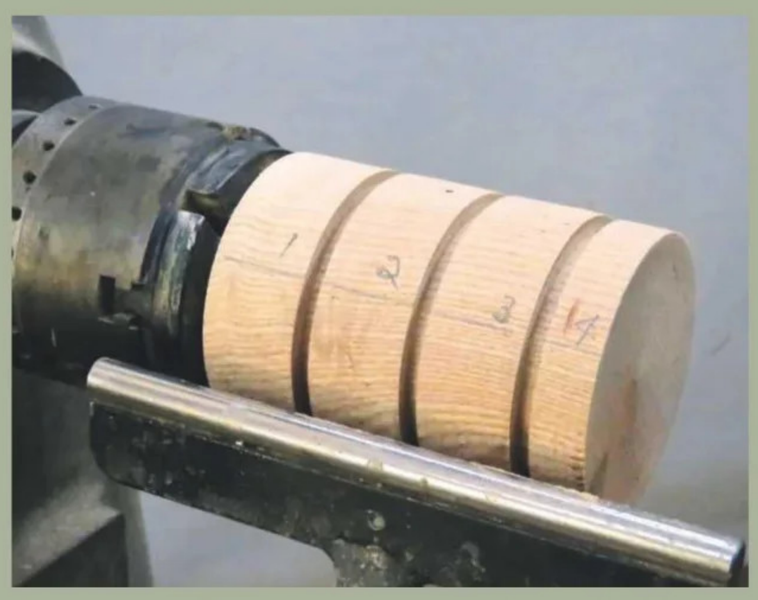
Remount your piece on the lathe, chucking it on the lid and parting off the first tier using a narrow parting tool (**photo 7**). This parting cut should be made on the right-hand side of the 10mm deep groove made earlier, leaving a spigot on the middle tier. I'm happy to part all the way through using a narrow parting tool, but if preferred, cut part way through, then use a saw to separate the two pieces (**photo 8**).



3 Mark out the lid and three tiers...

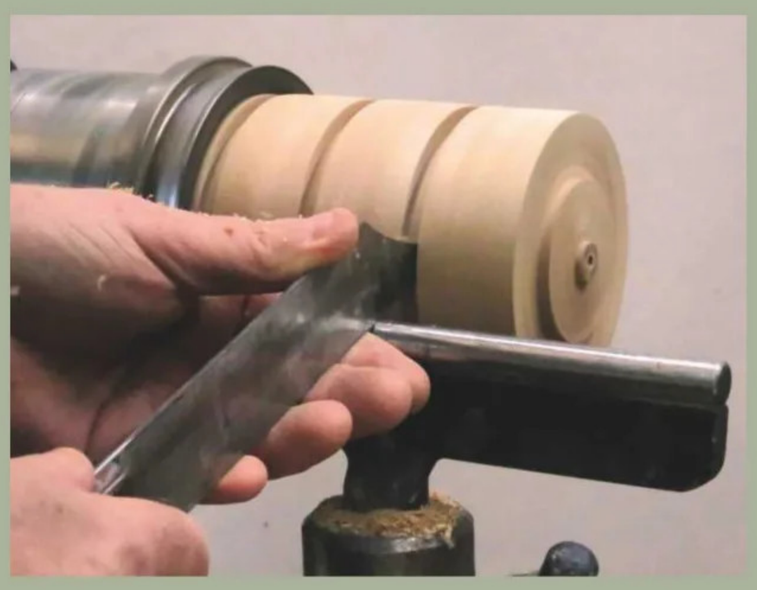


4 ... and make a 10mm deep parting cut at each one of the marks

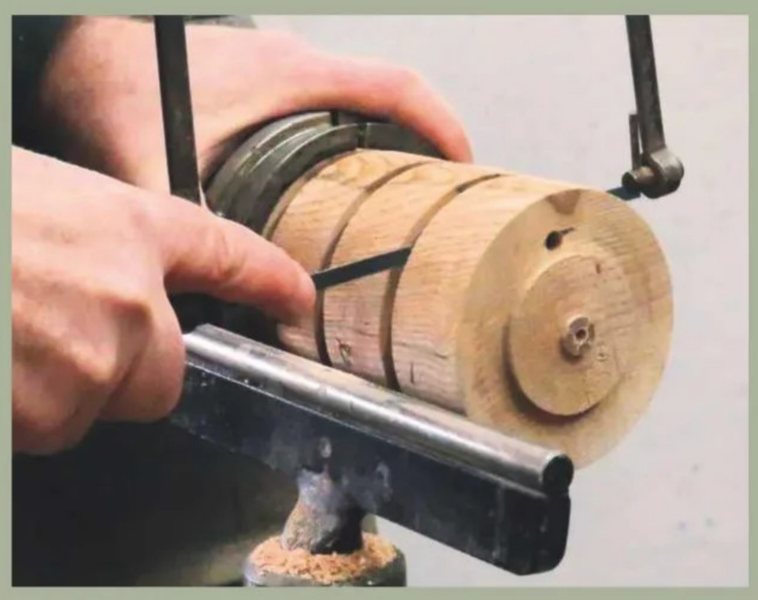


5 Draw on a reference line and number each piece

6 Drill a 6mm hole in the base, ensuring it's deep enough to mark the middle tier



7 Return to the lathe and part off the base completely...



8 ... or cut it off with a saw

The remains of the hole should be visible in the middle tier. Next, remove the piece from the lathe and repeat steps 6, 7 and 8, continuing the hole in the middle tier through to the top one (**photo 9**). Repeat these steps again to complete the hole in the top tier and part off from the lid; however, be careful not to drill all the way through the lid – a blind hole about 10mm deep is sufficient here. This may seem like a tedious process, but it does ensure that the hole in each of the pieces is exactly aligned, and that the grain matches as closely as possible on the finished piece. Clearly, if you had a long enough drill bit, you could drill once from the base through to the lid and part off each tier without having to return to the pillar drill.

Hollowing the tiers

The next step is to hollow out each of the tiers. Mount the bottom one in the chuck, using the spigot made in step 2, and drill a hole around 20mm deep in the centre using a spindle gouge (**photo 10**). Hollow it out, starting in the hole and cutting towards the rim (**photo 11**). Most of the waste wood can be removed using a spindle gouge. To cut a straight-sided, flat bottomed hollow, I used a hardwood scraper (**photo 12**), but a skew chisel held on its side will work just as well. Keep checking the hollow's depth and don't make the base too thin (**photo 13**). The hollow's diameter must be wide enough for the middle tier's spigot to fit into comfortably, while not being too tight.

If you aren't going to flock the tier interiors, you'll need to sand and polish it now. Remove the bottom tier from the lathe and mount the middle tier in order to face off the spigot (**photo 14**). Sand and polish the spigot, then reverse in the chuck to hollow in the same way shown in steps 10-13. Repeat again for the top tier, then mount the lid so you can face off the underside. Sand and polish the lid's underside and reverse it in the chuck; this will allow you to work on the top. I decided to cut a number of small beads on mine, using a skew chisel (**photo 15**). You can then sand and polish the top of the lid.

Flocking

Flocking allows you to create a professional looking, suede-like textured surface in a number of different colours. The kit comprises a tin of undercoat adhesive, nylon or rayon fibres, and a mini flocker, which is basically a cardboard pump (**photo 16**).

Coat the area you wish to flock with a generous amount of the colour coordinated undercoat adhesive (**photo 17**), then fill the pump with the fibres and blow them onto the adhesive. Don't skimp on the fibres; give the glue a very generous amount (**photo 18**). Don't be tempted to pat down or otherwise touch the flocked area until the adhesive has dried. I left mine overnight. At this point, I sanded and polished each tier's exterior, but in hindsight, it would've been far better to sand and polish the outside before parting off at step 7. Remove the spigot on the bottom tier by mounting it against a dolly held in the chuck and bring the tailstock up to the original centre mark in the spigot. Use a spindle gouge to remove most of the spigot (**photo 19**).

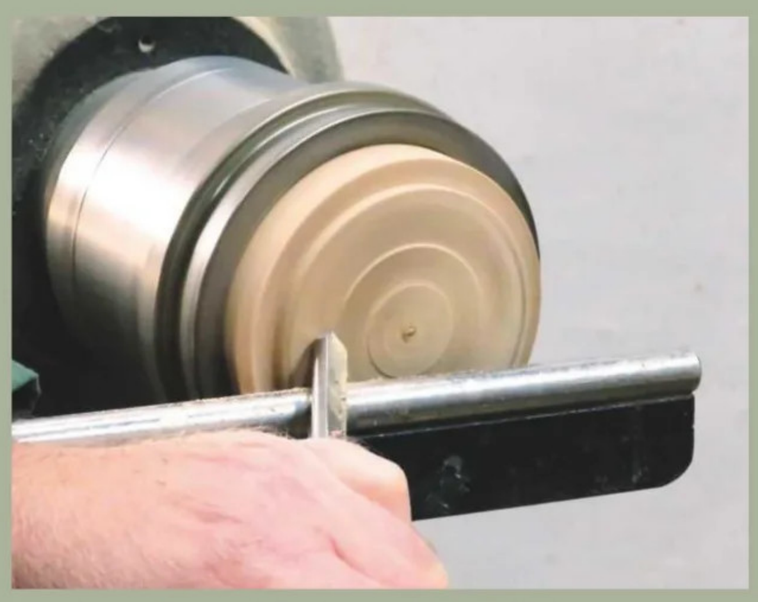
9 Back at the pillar drill, continue to make a hole in the middle tier

10 Hollow the base by first drilling a hole in the centre with a spindle gouge...

11 ... then make cuts from this hole towards the rim

12 Use a scraper to square up the hollow's side and flatten the bottom

13 You can then check the hollow's depth using a depth gauge



14 Mount the middle tier and face off the spigot, then reverse and hollow as before

15 Using a skew chisel, cut a number of decorative beads on top of the lid

16 The Suede-Tex Fibre Starter Kit – for flocking – which is available from Turners Retreat

17 Paint on a generous amount of adhesive...

Assembly

To assemble the box, put the pieces together in order, with the lid at the bottom. Insert the metal rod so that it goes through all the pieces, ensuring it sits in the lid's blind hole. Mark the rod's length, then cut accordingly (**photo 20**).

Counterbore the hole located on the bottom tier's underside using an 8mm hole and drill around 6mm deep, taking care not to drill out all of the previous 6mm hole (**photo 21**). You need to create a step in this hole by using a ball pein hammer to flare over one end of the metal rod; this will ensure it slides easily in the 8mm hole but not go through the 6mm section (**photo 22**).

Next, reassemble the tiers in numerical order and glue the rod's unflared end into the blind hole located in the lid. I used epoxy resin here (**photo 23**). It's important to ensure there's sufficient up and down movement of the metal rod, which will allow each spigot on the bottom of the tiers to clear the hole in the one underneath (**photo 24**).

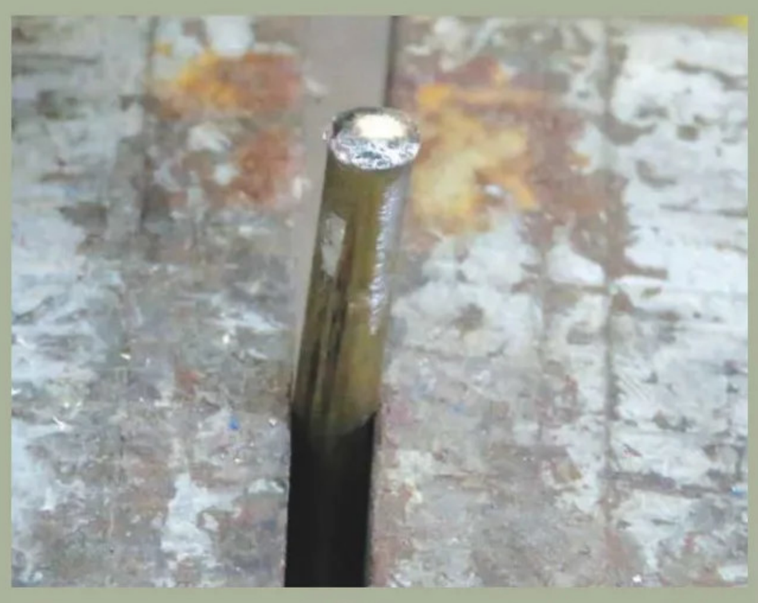
Finally, leave the glue to cure, then sit back and admire your work (**photo 25**).

18 ... then use the pump to blow on the fibres

19 Reverse chuck the base onto a dolly so you can remove the chucking spigot

20 Mark the rod's length

21 Drill an 8mm counterbore on the base's underside, which is about 6mm deep



22 Flare over one end of the rod so that it's not able to go through the 6mm hole

25 The completed three-tiered trinket box in ash

23 Reassemble your box and epoxy the metal rod into the hole previously drilled in the lid

24 To ensure that each of the tiers opens freely, check that the rod moves in the stepped hole

18+

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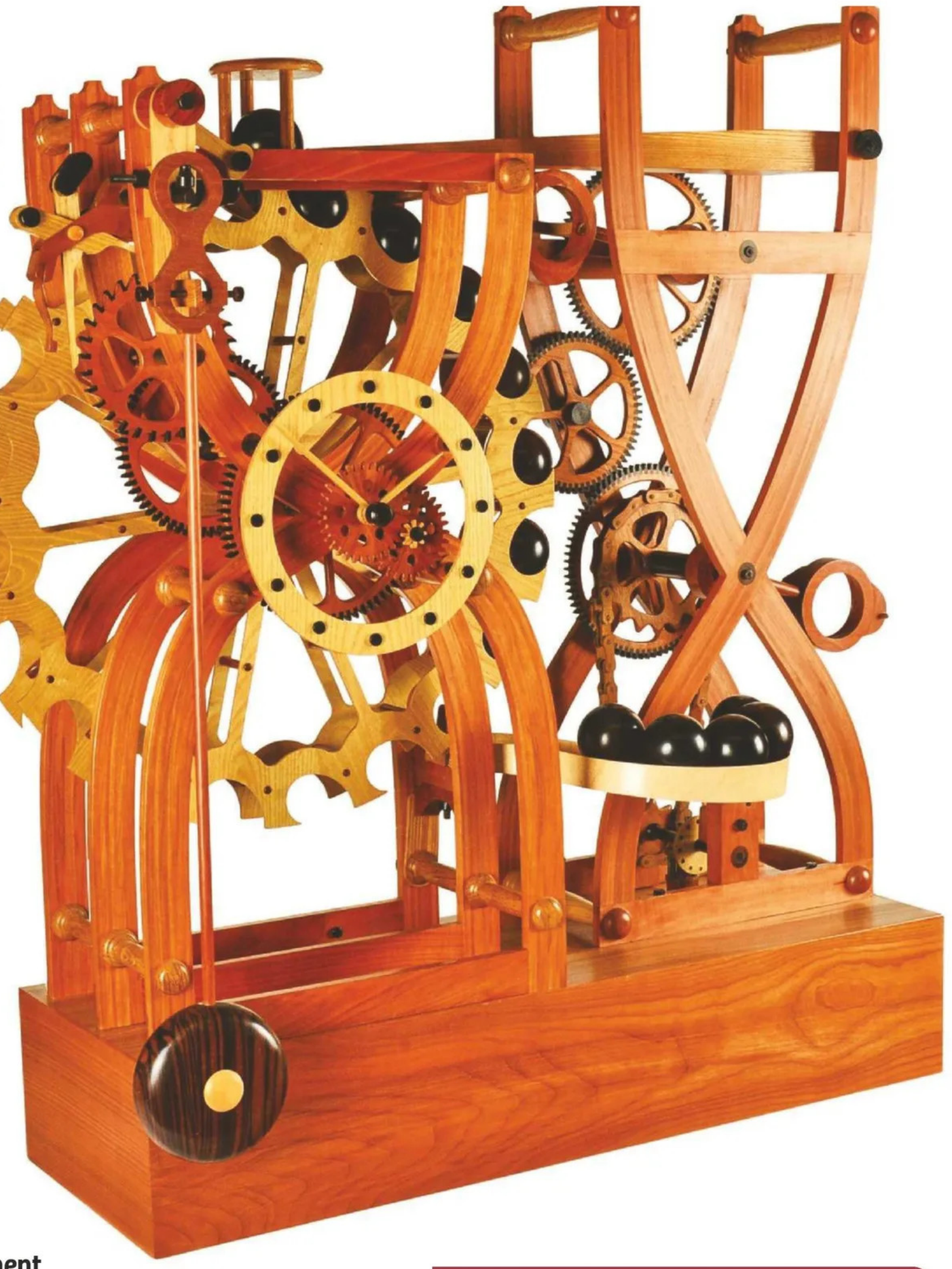
PART 1



In part 1 of this two-part article, which was adapted from an original PowerPoint presentation given to Kent Woodworkers Group, we take a closer look at the infamous all-wood clock made and designed by **Jim Stickings FIOC**

CHISEL RATING

Looking back at the June 2023 issue, we featured a profile on the wonderful work of Jim Stickings FIOC, who sadly passed away earlier this year. Jim was renowned for creating incredibly detailed time pieces and once retired, clockmaking became his main passion. Jim made several iterations of all-wood clocks before eventually perfecting the process and finally being able to achieve the truly all-wooden construction he was aiming for. The piece shown here was auctioned off to raise money for charity – as per Jim's wishes – and more information on this can be found in the previous edition.

While we learned a great deal about Jim in the last issue, it would be remiss of us not to share details of the steps he took in creating the final version of his all-wood clock. Undoubtedly a project for the advanced woodworker, Jim deconstructs the processes required, which will hopefully go some way towards demonstrating the build's sheer complexity and technical wizardry he possessed. Rather than a project for you to make, this article serves more as an inspirational insight; an appreciation of how much work must have gone into making this great piece.

HOW CLOCKS MEASURE THE PASSAGE OF TIME

Divide clock into five parts:

1. Escapement
2. Means of keeping a constant rate of the passage of time
3. Means of telling the time
4. Force to drive the clock
5. Frame to hold parts together

Escapement

The escapement ekes out portions of time by locking and releasing teeth on the escape wheel; this allows the wheel to rotate at a controlled rate. The speed of rotation is governed by pendulum length – the longer the pendulum, the slower the rotation; the shorter the pendulum, the quicker the rotation. A small amount of effort must be given to the pendulum in order for it to keep isolating.

Means of telling the time

A set of wheels and pinions – called the 'going train' – run from the escape wheel to the minute arbor; this rotates once per hour where the minute hand is fixed. From the minute wheel arbor, a set of wheels and pinions – with a ratio of 1:12 – are arranged to turn the hour hand two rotations in a 24-hour period.

PENDULUM LENGTHS

- **¾ second pendulum** = 562mm
- **1 second pendulum** = 1,000mm
- **2 second pendulum** = 4,000mm

A FORCE TO DRIVE THE CLOCK

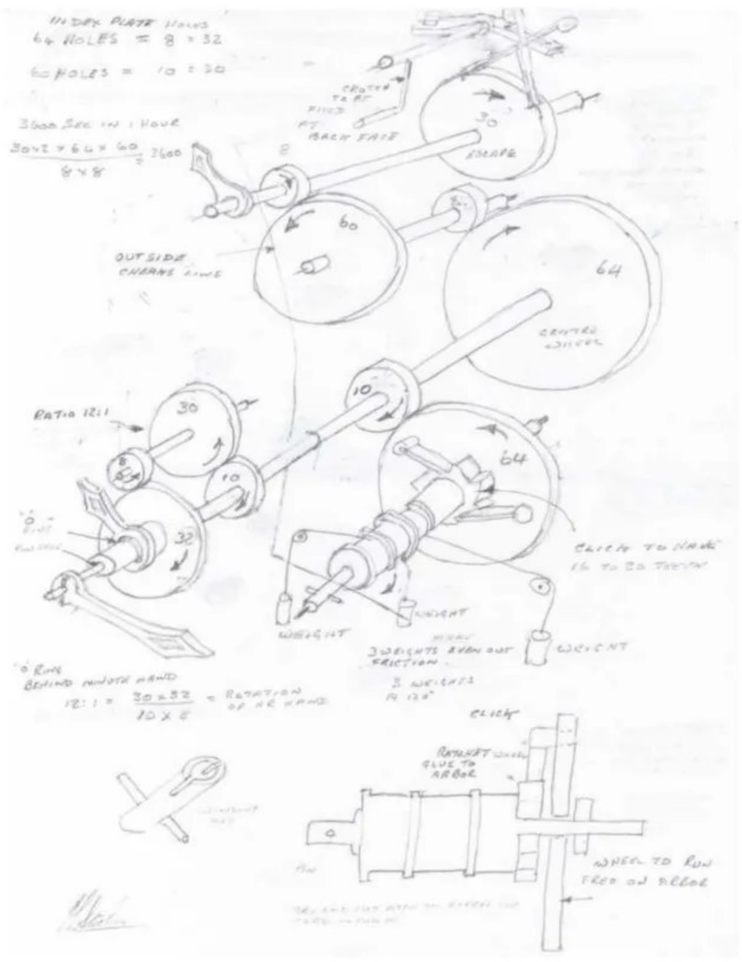
- In my case, African blackwood balls arranged around a paddle wheel
- Springs
- Weights

GEAR TRAIN – NOW FOR SOME MATHS

- 3,600 seconds = 1 hour
- As there's 3,600 seconds ticking away in one hour, the gear train therefore requires a ratio of 1:3,600 – this means that the minute hand will rotate once per hour using a 1,000mm long pendulum
- By using the formula 'drivers over driven' and choosing the number of teeth on the wheels and pinions, we consequently arrive at a ratio of 1:3,600

FRAME

- The frame supports all moving parts and can be of any design; however, it must allow free movement of working parts and also be stable in use



Sketch showing clock workings

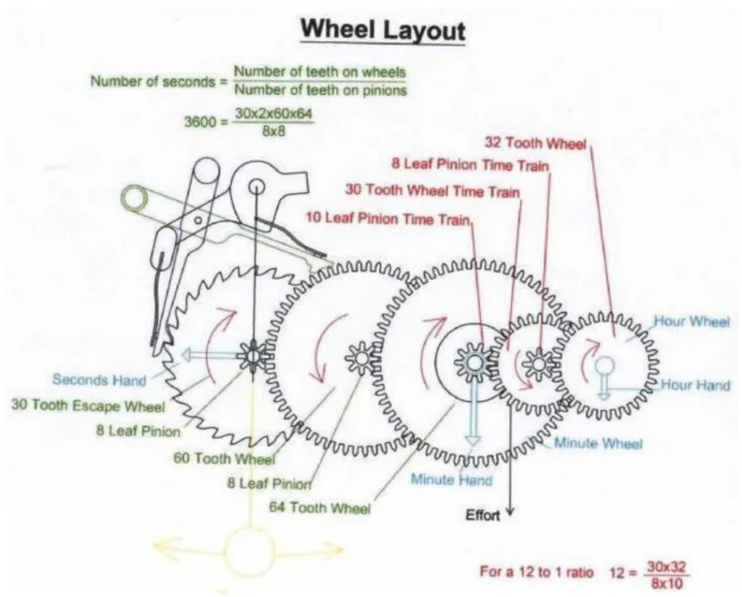
Clock workings

- Escapement
- Pendulum
- Wheel train
- Crutch
- Time train
- Some motive power
- Arbor
- Pinion
- Click wheel.

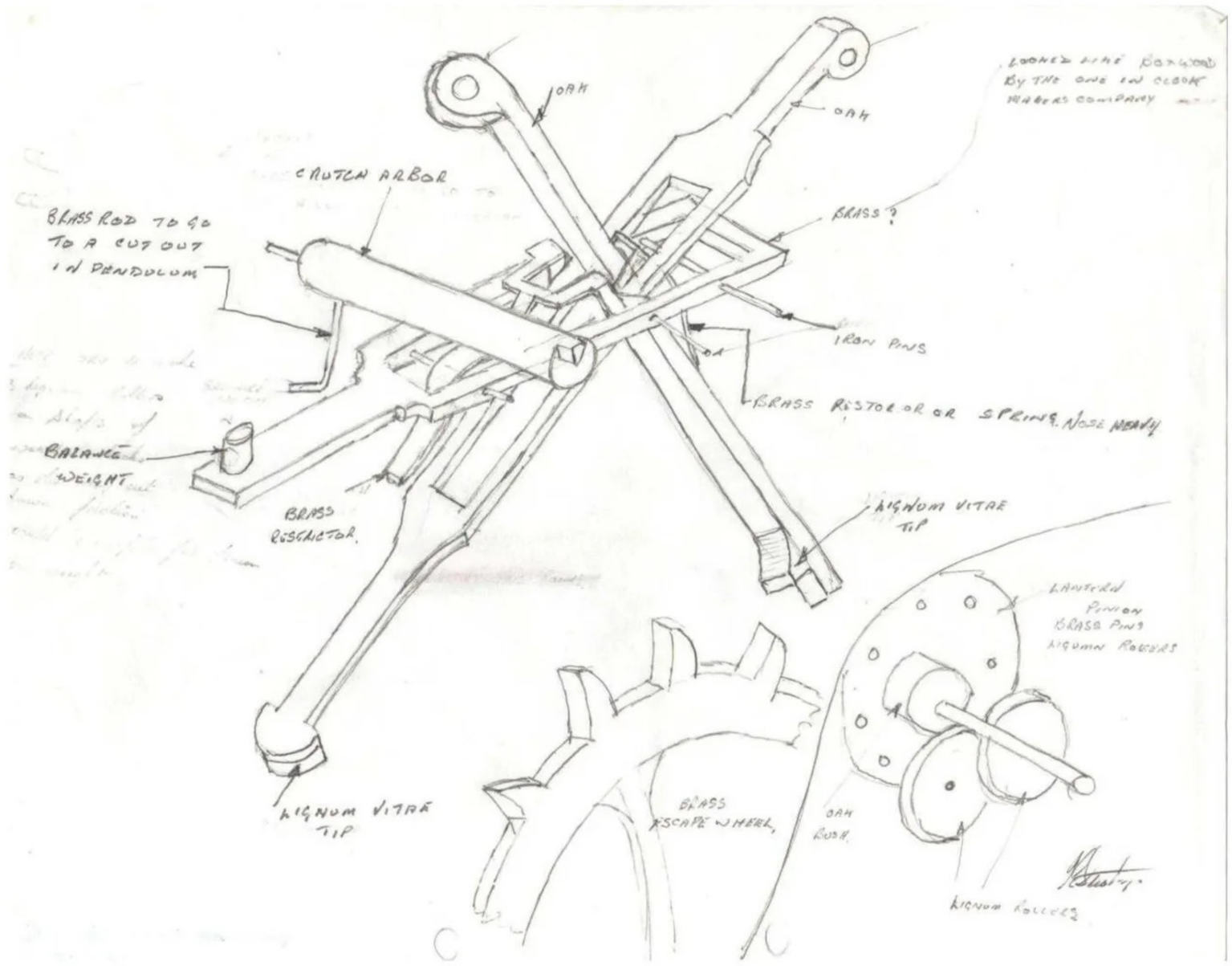
I sketched out the clock's general layout in order to understand how the parts interacted with one another. Some form of energy is required to drive the clock, and this force is then transmitted through the gear train to the escapement. The escapement is said to be the clock's beating heart as it beats with a regular 'tick tock', which we often hear. This uses a lock and release mechanism, which ekes out a portion of time.

The amount of time at which the escapement beats is governed by the pendulum's length: the longer the pendulum, the slower the rotation; the shorter the pendulum, the faster the rotation. The escapement also has to impart some energy to the pendulum in order to keep it swinging.

Working our way back to the minute hand arbor, and as this must rotate once every hour, this gives a ratio of 3,600:1, as there are 3,600 seconds in one hour. From here, we can use a formula to work out the number of teeth on the wheels and pinions.

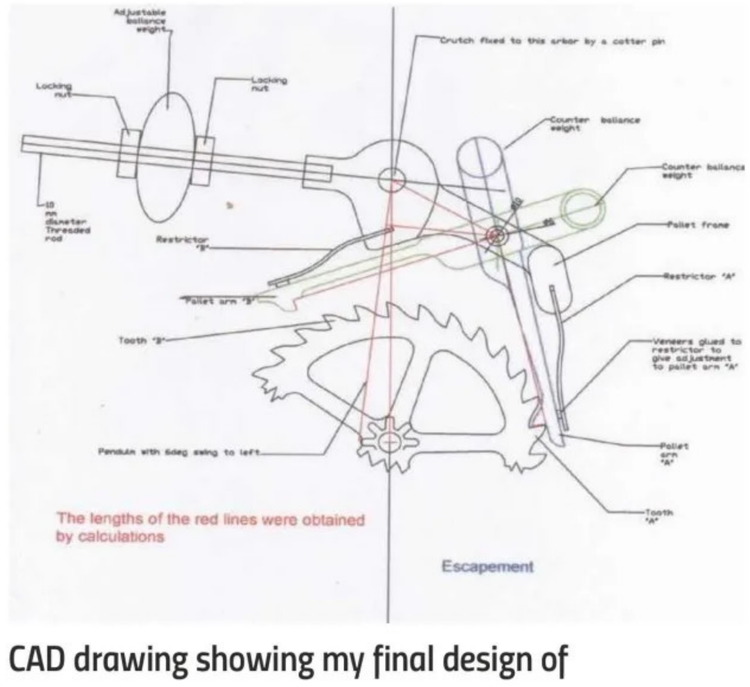


Wheel layout



The sketch above shows Harrison's Grasshopper escapement – the design has little wear due to the pallet arms' locking action. Although the framework is made of brass, the pallet arms are oak with lignum vitae tips. I thought I could make one from timber, but the challenge was to work out its dimensions. Fortunately, I found an article in the *Antiquarian Horology* book of September 1971

- Wheel train transmits energy to drive the clock and computes the passage of time to the minute hand;
- Crutch – a connection between the rocking escapement and pendulum;
- Time train computes 12 rotations of the minute hand to one rotation of the hour hand;
- Some motive power is required to drive the clock in the form of a spring, weight, or motor.



CAD drawing showing my final design of Grasshopper escapement, using only timber

I found an article by Kenneth James in the 1985 *Horological Journal*, showing how to calculate the lengths of parts required to make the escapement. However, time doesn't permit me to explain this today...

Walnut veneers glued up to form plywood lignum vitae bushes, inserted at pivot points, along with a boxwood pin

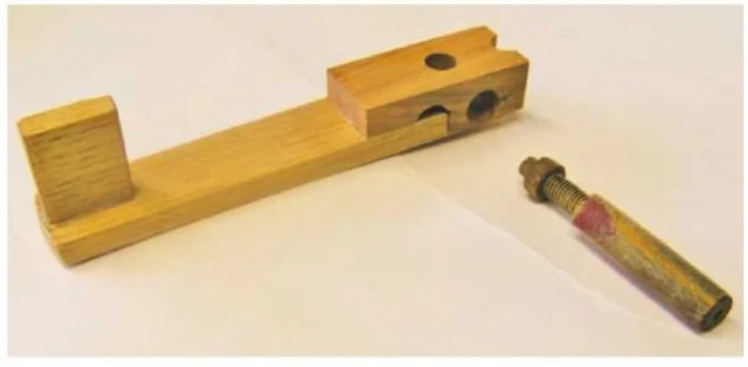
Layout of escapement parts

- Walnut veneer plywood
- Lignum vitae bushes
- English boxwood pin

Completed escapement – notice a flat on the arbor, which the cotter pin in the crutch fits onto

CLOCK CRUTCH

- 12mm diameter lignum vitae pin with offset 8mm diameter thread
- 0-4mm wedge



Clock crutch and 12mm diameter lignum vitae cotter pin with offset 8mm diameter thread on the end

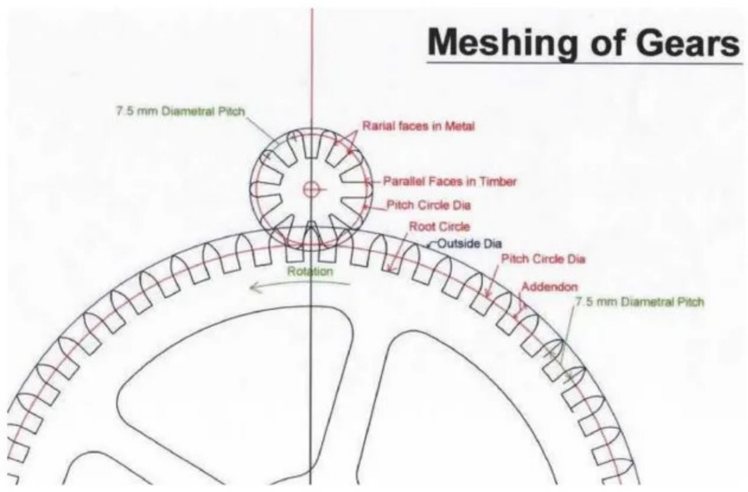
JIG TO TURN OFFSET ON COTTER PIN

Homemade jig made to turn offset on the cotter pin

TOP OF PENDULUM

- Suspended on a lignum vitae knife edge
- Bolts allow it to fit to crutch
- Converted chop mortise rating nut at bottom of pendulum

The pendulum length governs the rate of its swing: the longer the pendulum, the greater the length of swing – a rating nut fine-tunes the time. The pendulum is suspended on a knife edge of lignum vitae, bolts for fitting to the crutch, and rating nut at the bottom for adjusting length.



FLY CUTTERS

To form the teeth, a series of fly cutters were made from 10mm diameter silver steel and Whitehill steel. The specific shape of these cutters – which cut the space between the teeth – was determined by consulting a number of engineering books on the subject of gears

BLANK WHEEL & PINION

- **Pinion:** five boxwood veneers – 2.5mm thick × 30mm diameter
- **Wheel:** 12 segments of Rio rosewood – 160mm diameter

Shown above, the wheel and pinion are ready to be centre drilled and reamed, then turned to diameter. The pinion is made up of five 2.5mm thick boxwood veneers to form a ply for the wheel; this uses 12 segments of Rio rosewood.

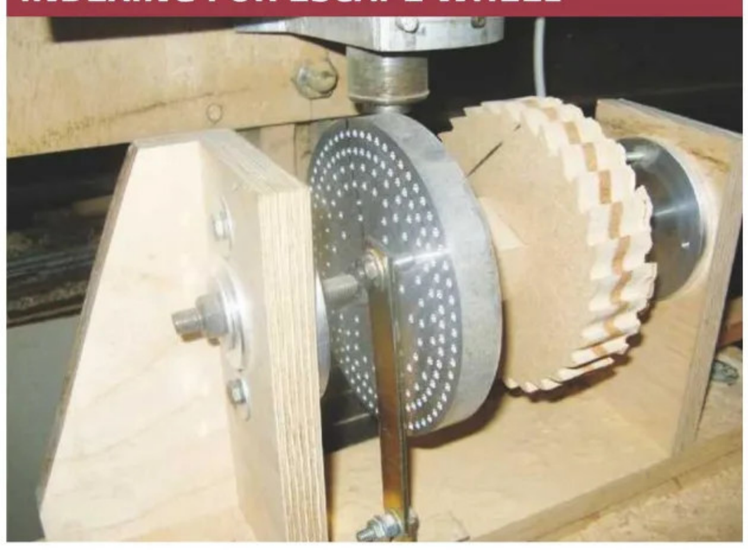
CONVERTED CHOP MORTISER

An old chop mortiser was converted to cut the wheels and pinions – here you can see an index plate on the wheel cutting assembly. The cutter is held in an inverted French head. Adjustments are provided at each end in order to get the mandrel parallel to the cutter

HEIGHT ADJUSTMENT

Adjusting the cutter's centre height to match that of the wheel cutting assembly

INDEXING FOR ESCAPE WHEEL



Escape wheel being cut – notice the index wheel

ESCAPE WHEEL CUTTING

Escape wheel cutting using the homemade inverted French head

8, 10 & 16 TOOTH PINIONS

8, 10 and 16 tooth pinions made from 2.5mm thick English boxwood; this is glued to form 5mm thick plywood

ESCAPE WHEEL & PINION

The arbor was centre turned, as shown by the centre that's drilled in the end. The end was then turned down to 9.8mm; this would ensure smooth running in the 10mm reamed bush

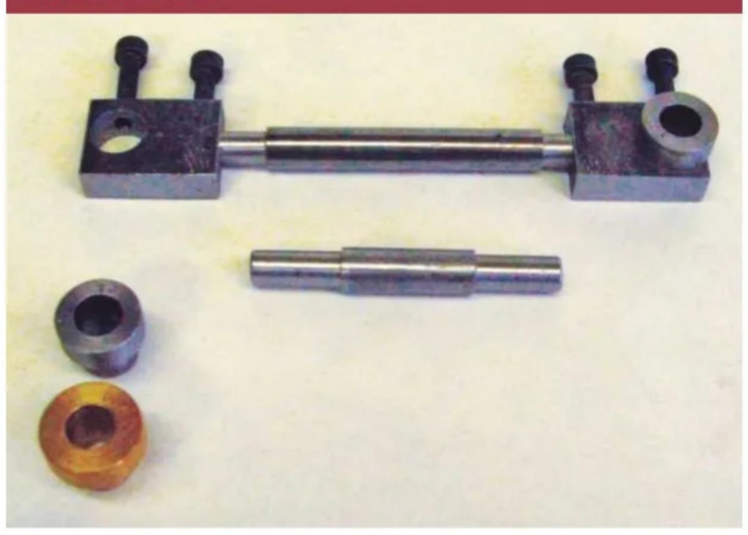
MINUTE SHAFT & WHEEL PINION

Minute shaft arbor shown with wheel pinion

CENTRE ADJUSTED TO ACHIEVE A GOOD MESH

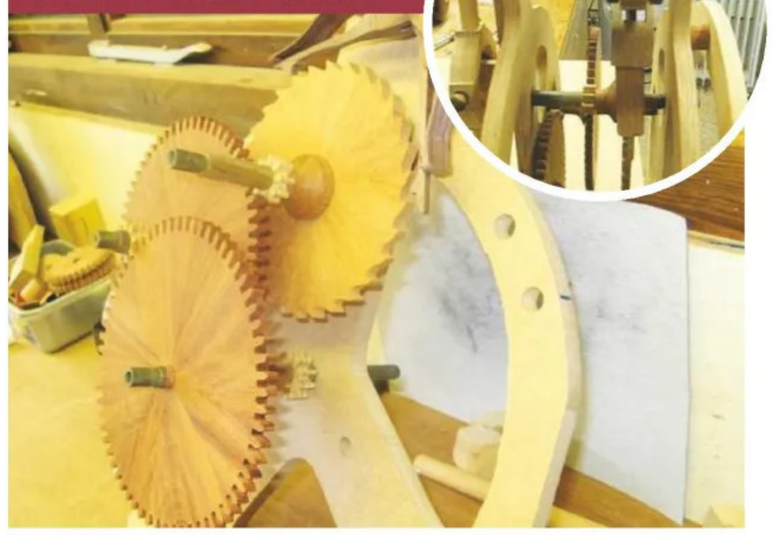
Distance between the arbors is adjusted in order to achieve a good mesh. The pinch rod is positioned on the projecting arbors

PINCH ROD



Pinch rod used to transfer the dimension

BUILDING UP PARTS



Assembling the clock components

Even though a redesign was needed, at least I now had all the tools and equipment. By this point, I'd found the source of motive power by adapting Nicholas Radeloff's idea of a rolling stone running down a spiral ramp. In my case, this pushes a radius rod to a paddle wheel with wooden balls used as the motive power.

DESIGNING VERSION 2

Version 2 being modified with a paddle wheel and ramp. I wondered if I could use a ball with two projecting cylinders as weights, but I soon realised that a spherical ball would be better

JIG PICKING UP CORRECT CENTRE DISTANCE

Wheels having been adjusted to achieve a good mesh. The pinch rod can now be used to transfer this precise distance to the frames

TIME TRAIN

Notice the seconds hand, located on the end of the escape wheel arbor. A leaf pinion is fixed to the minute arbor by means of a 3mm diameter wooden pin; this goes through the minute arbor's centre, projects 3mm on each side of it, fits into a slot located in the pinion, driving a 30 leaf wheel and fixed to it. On the same arbor is a 8 leaf pinion

- Seconds hand on end of escape arbor
- 10 leaf pinion fixed to minute arbor
- Drives 30 tooth wheel, which in turn drives 8 leaf pinion

MAKING THE BALLS

- These needed to all be of the same size;
- Perfectly spherical;
- Made from a very dense timber;
- About 12 of them in total.

A woodturner would use two cup chucks and keep positioning the ball through different axes when producing a sphere. I found this method time-consuming and struggled to get the 12 balls all the same size. The next step shows how this was achieved.

BUSH TO FIT JIG

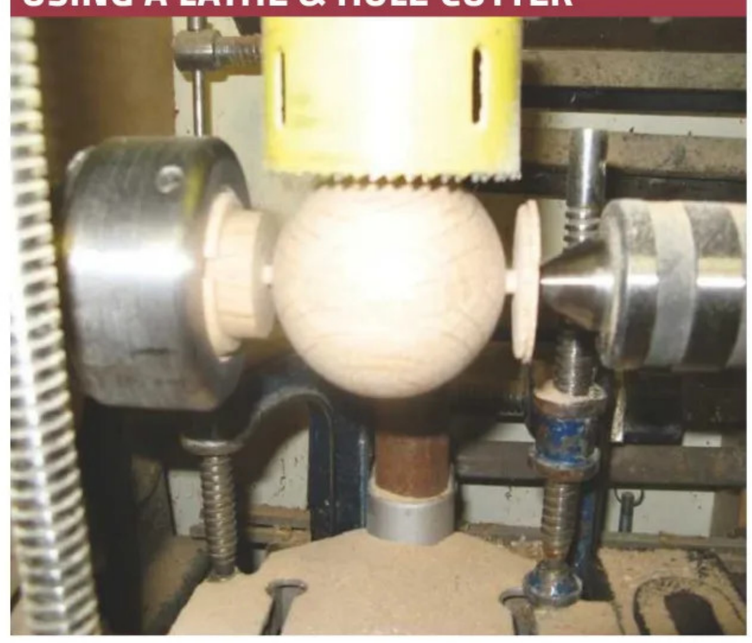
A mild steel pin is inserted into the centre bush; the jig is then located over the next hole to be drilled

TIME TRAIN WITH MINUTE HAND

The final 32 leaf wheel with hour hand attached, free running on minute arbor

The final 32 leaf wheel with hour hand fixed to it, which is free to rotate on the minute arbor. The minute hand is a friction fit onto the minute arbor. The hand has been left off for clarity.

USING A LATHE & HOLE CUTTER



The drill centre is directly above the lathe's centreline. A small drill press is set up so that its centre is directly above that of the lathe. When the rotating hole cutter is bought down onto the rotating wood, a sphere is generated

10MM REAMER

Hole finished off with a 10mm reamer

PROGRESS UPDATE

At this stage, the clock was finished and working but not of an all-timber construction as I'd set out to do. As such, it needed to be redesigned by adapting Nicholas Radeloff's motive power.

I used a drum with a cord wound around it and a weight attached to the cord's end as well as a metal pendulum bob, so not all timber.

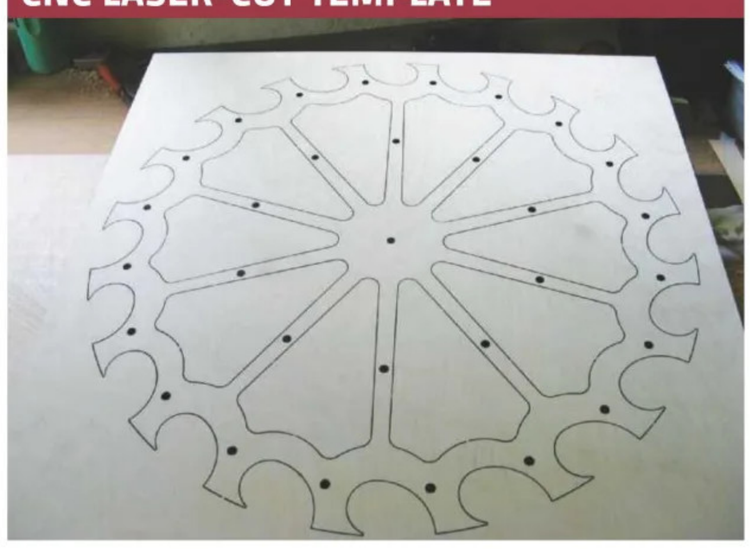
BALL AT THE FINAL STAGE

All that's required is to trim the ends

OAK BALL

The oak ball was OK – the idea was sound but I decided to adapt this further. Instead, as the timber is heaver, I used African blackwood to make the balls

CNC LASER-CUT TEMPLATE



The templates were also used as a gluing-up jig for the paddle wheel

OUTER VENEER

Outer faces of the ash plywood bonded with radial cut veneers, made in a vacuum bag. These were then trimmed to shape using the template

SPACERS

Spacers were made up to separate the paddle wheels' two ash plywood outer frames. The one with the radius cut out was used in the outer ring

CLOCK PADDLE WHEEL GLUED UP

The templates were also used as a gluing-up jig for the paddle wheel

INSET TEETH FLUSH WITH SURFACE

This time I used a 3 ply construction of 3.5mm thick English cherry for the wheels with inset African blackwood for the teeth. The holes were used to secure the wheels to the index plate. As I noticed some movement in previous attempts, these holes will be cut away at the same time as the five spokes

CLOCK WHEEL BLANKS BEING TURNED TO OUTSIDE DIAMETER

For this step, I used a Boxford metal lathe. You'll notice how this has been adapted and a turning tool placed in the toolpost

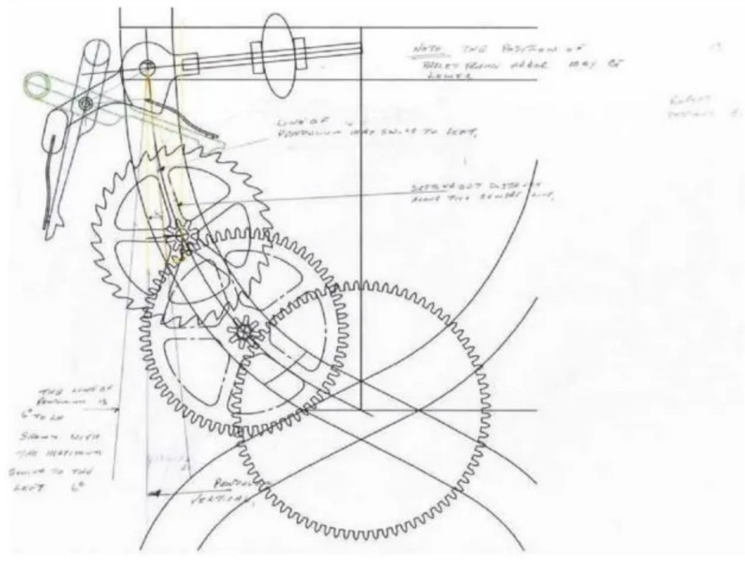
CLOCK TEETH BEING CUT

The difficulty here was lining up the cutter between the teeth. Here you can see the fly cutter held in the French head and also a better index plate

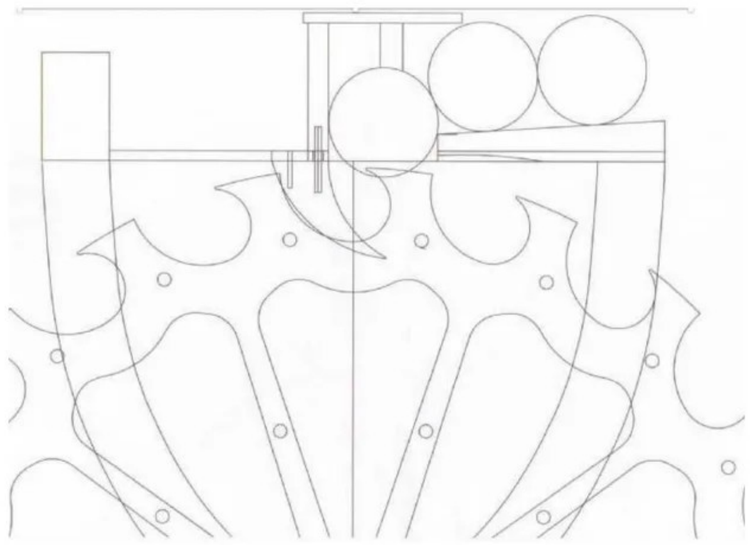
ROUTER JIG

Jig for trimming the wheel with centre bolt left out. I used an overhead router and guide bushes for trimming to shape and rounding over

LAYOUT OF WHEEL TRAIN

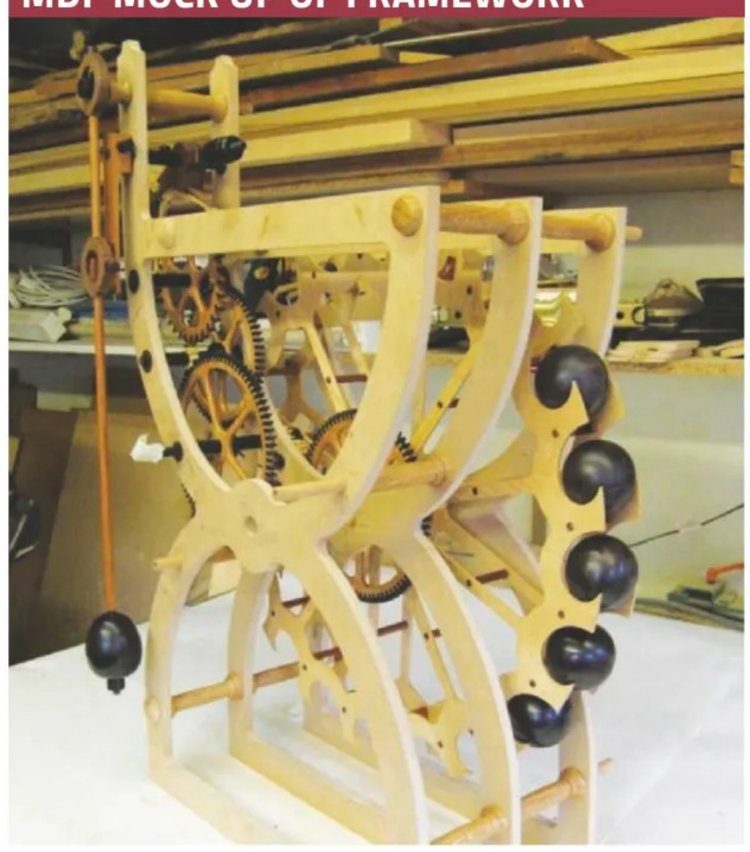


BALLS DROPPING ONTO PADDLE WHEEL



I made a CAD drawing of the paddle wheel, which was given to a local company with a CNC laser cutter. This was used to produce the template shown and from this, my two ash plywood paddle wheels could then be created

MDF MOCK UP OF FRAMEWORK



Unfortunately the gear ratio was too high and the pendulum bob too light

BALL DROP POSITIONING

Positioning the ball ramp over the paddle wheel, which proved to be a trial and error job...

NEXT MONTH

In part 2, Jim carries out a dummy run, adds further components, then makes the ball lift, which proves to be incredibly complex!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THE INHERITED TOOLBOX

Shown opposite are two of my favourite tools when working on period buildings: the brace offers a level of control that's difficult to achieve with a power drill

Ashley Iles drawknife – this tool's old quality steel holds a keen edge long after honing

Assorted carving chisels in canvas roll – inherited from one of the most gifted woodcarvers I've known. When using these, I feel challenged to work to his standards

Box of small carving chisels, the wooden handles of which carry the patina of years of skilled use

Record bull-nose and No.10 plane, both of which have been so well cared for; I only needed to hone the blades to my own preferences

Here, **Mark Griffiths** contemplates his tool collection, which is divided into three categories: new tools invested in; those gifted by family and friends; and those inherited from other makers. In this article, we learn about particular tools that fall into the latter camp, which hold a special significance for him

Looking around the workshop, I can see that my tool collection falls into three categories: firstly, new tools I've invested in; secondly, those gifted to me as presents from family and friends; and thirdly, tools that I've inherited from other woodworkers. For me, inherited tools hold a special significance, coming as they do from another craftsperson who's appreciated and cared for them throughout a working lifetime.

A trace of character

Over time, tools reflect a maker's nature and personality. The certain way they were held in the hand; how they've been honed or stored will inevitably leave a trace, or unique character that can be read by a fellow woodworker. These old tools remind us that they were just a chapter in the story of a beloved hand plane, saw or chisel. With any luck when we've locked the workshop door for the last time, our cherished tool collection will be handed on to another maker and continue to be used in the wonderful age-old art of crafting in wood.

A chest of memories

Many, many years ago, when I was just 15 and living at home, a new family moved into the house across the street. Along with the usual white goods and furniture being delivered, I was fascinated to see the plum red hull of a half-built wooden sail boat. I soon learned that this was our new neighbour, John, and his son's build project. I spent my summer first helping them with it, then sailing in the beautiful teak wood boat. John was an incredibly skilled woodworker and a generous teacher, who started me on the path to eventually becoming a professional cabinetmaker.

Some time ago, I received the sad news that John had passed away. His widow asked me to drop by to collect a few items that he'd left for me. There in the corner of a now empty workshop was a wooden chest, which contained the collection of familiar hand tools we'd used to build the boat all those years past. Each time I reach for one of John's chisels, or his No.7 Bailey plane, I'm reminded of his friendship, and how, in time, another woodworker will hopefully be honing a keen edge on the blade of this very same tool, ready to start a new project.

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WW TECHNIQUE

LET'S TALK TABLE SAWS

As **John Bullar** shows, a good table saw is a great help to the busy furniture maker and safe when used correctly. Here he looks at the types available and basic layouts

2 Seen from overhead, here I'm cross-cutting a board on the sliding carriage, using a push-stick in my right hand

The biggest machine in many furniture making workshops is a table saw or saw-bench comprising a flat, sturdy horizontal surface with a circular saw blade protruding vertically up through a slot. Wood is slid across the surface aided by various attachments to offer support and guide its movement in a straight line.

There are many different types of table saw – some for specialist purposes, others for general use – as I'll show here. First, however, we'll look at the basic layout, followed by the operations of cross-cutting and ripping on a table saw.

Table saw layout

Looking at a medium-sized general-purpose machine (**photo 1**), we have a smooth, heavy cast table mounted on a steel box, which also functions as a dust collector connected to an extractor. The motor assembly, including a belt drive to the saw, height and angle adjustor, is hung from the table's underside.

A sliding table to the left of the blade supports moderate-sized timber for cross-cutting while an adjustable fence on the right allows boards to be ripped along their length to a defined width. The motor starter and switchgear, including emergency stops, are mounted on the base.

Riving knife & guard

Immediately behind the saw blade is the riving knife, or splitter. The main purpose of this steel fin, which rises and falls as

1 A medium-sized table saw with sliding cross-cut carriage on the left and ripping fence on the right. The yellow crown guard on top is fixed onto the riving knife, situated behind the blade

you adjust the blade height, is to prevent kickbacks caused by tension trapped in the wood closing up on the blade's back edge. The riving knife is designed to support the crown guard, which also acts as an upper dust collector, although some machines have a separate mounting for this.

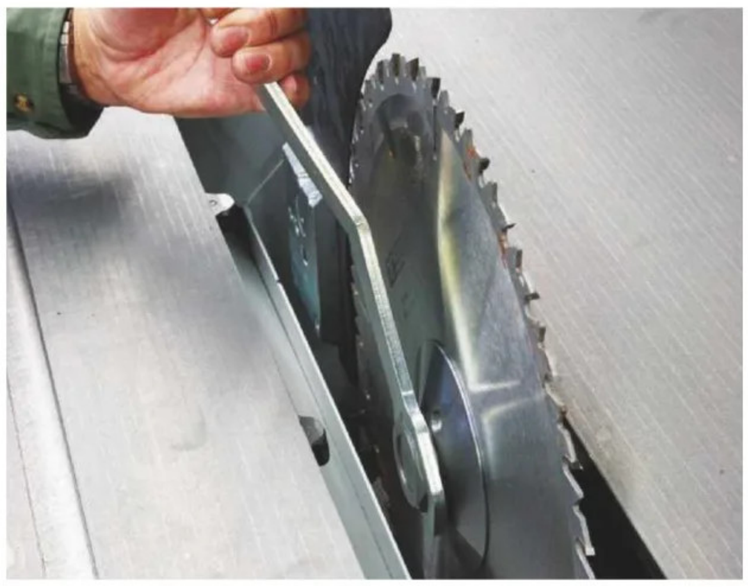
Cross-cutting

When cross-cutting wood, the teeth on the blade's edge sever through the timber fibres for the purpose of squaring up the ends of a board or cutting it to length (**photo 2**). If machining a long piece of wood, it'll need rigid support beyond the table alongside the blade.

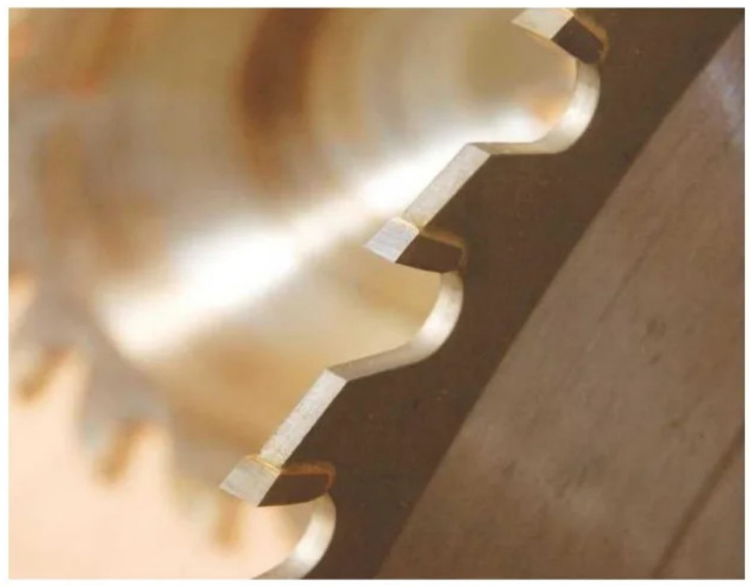
To make the cut as clean as possible, the blade height is adjusted so that it just clears the top of the wood, which will also reduce the amount of breakout or 'spelching' on the board's underside (**photo 3**). To get a really clean underside to the cut, you need to place a thin sacrificial board underneath.

3 Blade height is adjusted slightly higher than the wood's thickness; this ensures the maximum number of teeth are in contact

4 Rip-sawing down the board's centreline



5 When changing a blade, the rotating arbor is locked in place and the securing nut removed



6 Nowadays, most blades are tungsten carbide tipped and have expansion gaps, which are curiously shaped to reduce noise

Rip sawing

Rip sawing, or ripping, is when the blade follows the wood's grain because we want to create a straight edge or reduce a board's width (**photo 4**). Sometimes there's no straight edge to guide the saw – such as when ripping along a waney-edged board – so we need to draw a straight line and manually guide this through the saw.

When the board has a single straight edge, a fence can be set parallel to the blade, on the right-hand side of it, to guide further rip cuts. It's important that the fence is kept short so it only reaches the blade's centreline; this ensures that wood can't be trapped between the fence and the circular saw blade's rising back edge.

While the saw blade's leading edge presses wood down against the table, the teeth at the back edge try to lift and push it towards the front of the table. The blade's teeth travel at around 50m/s – 100mph – and they can launch jammed timber at the same speed! With kickbacks in mind, experienced users stand to one side of the blade, out of the path of potential missiles!

Circular blades

The blade is quite easily removed by lifting the throat plate around it, locking the spindle, then undoing the nut that secures it (**photo 5**). Check the manual to find out whether this is left- or right-handed. Good blades are pricey but if well looked after, they're worth the high outlay and will reward you with a long life of clean, straight, un-scorched cuts.

Ideally, we'd use blades with different shaped and angled teeth for ripping and cross-cutting timber and different ones again in the case of manufactured boards (**photo 6**). However, most furniture makers use general-purpose blades unless a very long run of one type of cut is planned.

7 The whole rotating mechanism is mounted on a swivel bracket, allowing it to be tilted up to 45° for mitred cuts

8 Small saws may come with table extensions either fitted or as optional extras; these allow larger boards to be handled

9 A folding stand allows this small cabinet saw to be carried in pieces by one person and taken in the boot of a car

Angled cuts

The short spindle or arbor on which the blade is mounted can usually be tilted by up to 45° for making bevelled ends and edges (**photo 7**). When combined with an angled cross-cut fence, the machine can also effectively function as a compound mitre saw.

10 Once assembled, the folding saw is – to all intents and purposes – the same as a rigid machine for light duty work

Table saw types & alternative machines

Small table saws are designed to be stood on a bench or sometimes, with legs fitted, they're sold as contractor or site saws (**photo 8**). While handy for construction work these generally don't have enough weight and rigidity for furniture making. Fortunately, in between there's a whole range of sturdy floor-standing machines – often called cabinet saws – including some extendable and folding models (**photos 9** & **10**). These may be fixed in a small workshop or moved around for site work.

Large panel or dimension saws have a sliding table or carriage, positioned to the side of the blade, and cross-cut into accurate lengths ready for planing, shaping and jointing (**photo 11**).

As well as the cost, table saws occupy a fair bit of space so not all furniture makers use or even want one. For example, the bandsaw we looked at previously is so versatile and can do many of the jobs a small table saw is capable of. However, on the downside, it's slower, cross-cutting length is limited, and the blades need to be changed more frequently.

The sliding mitre saw is excellent for cross-cutting smaller lengths of wood and, although arguably less precise than a good table saw, some versatile, high performance models are available (**photo 12**).

Conclusions

A good table saw is a great help to the busy furniture maker, and safe when used correctly. The hands-on aspects of safe machine work are best learned at a college while the specific safety requirements should be stated in the machine's user manual. Most importantly, ensure guards are fitted correctly; use push-sticks within 300mm of the blade; keep your head out of line with the blade, and prevent situations where the wood is likely to jam. Also watch out for trailing clothes or hair and isolate the electrical supply before making any adjustments.

NEXT MONTH

John looks at what's involved when it comes to making tables in various different styles

11 This seriously heavy-duty dimension saw is the size and weight of a small car, while its swinging arm offers support when cross-cutting large pieces of timber

12 An alternative to a saw bench is a high performance cross-cut sliding arm cross-cut saw

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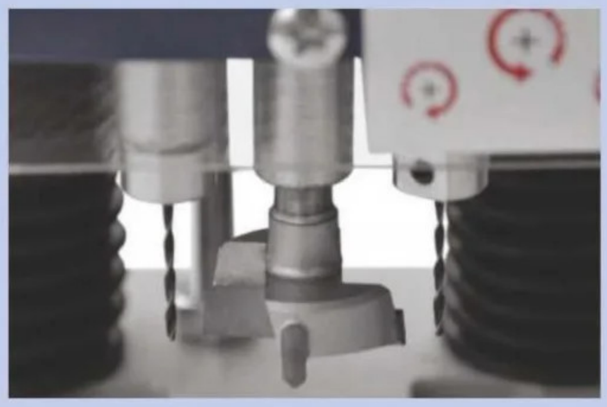
Technical Details	
Drilling diameter	**35 mm**
Spindle number	**3 pcs.**
Control	**manual**
Workpiece mounting	**manual**
Maximum distance from spindle to table	**85 mm**
Maximum distance from drill to table	**50 mm**
Table dimensions	**500 x 350 mm**
Rotational speed	**3000 rpm**
Motor power	**0.75 kW**
Voltage	**230V**
Machine dimensions	**500 x 500 x 520 mm**
Weight	**22 kg**



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Specifications	
Manufacturer	Cormak
Model	BH35P
Condition	New
Drilling Diameter	35mm
Spindle Number	3 set
Control	Pneumatic
Workpiece Mounting	Pneumatic
Table Dimensions	500 x 350mm
Required Compressed Air:	6 – 8 bar
Rotational Speed	3000 rpm/min.
Motor Power	0.75 kW
Voltage	230V
Weight	28kg

PRICE £995.00 INC VAT

The lightweight compact design of the device allows you to take the drill to work with you. The drilling machine is characterized with speed and work precision. The pneumatic drilling feed ensures convenient work and the possibility of operating the workpiece with two hands. The compact design is also suitable for mobile applications. This model is additionally equipped with a pneumatic drilling feed and pressure system.

Standard equipped with a head for BLUM holes.

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AROUND THE HOUSE WITH PHIL DAVY

Regular listeners to Radio 4's Today programme may have heard a recent feature over several weeks when people were invited to talk about their favourite trees. A plethora of fascinating arboreal anecdotes, from mature garden trees once planted by kids to those providing special memories of deceased family members and other significant events. Thankfully, the UK generally seems to be a nation of tree lovers, though residents of Sheffield may disagree. Over several years, the City Council have cut down thousands of apparently healthy street trees because of so-called safety concerns. I remember planting acorns collected in Sevenoaks after the Great Storm of 1987 – one oak grew to almost 30ft before I had to sadly cut it down due to its proximity to the house.

Hopefully I've helped the environment a tad by planting several ornamental trees in our new garden: rowan, Himalayan birch, corkscrew willow and flowering apricot, not to mention a run of native hedging. Saplings at this stage – which need loads of water – but one day maybe they'll tell their own stories…

USEFUL KIT/PRODUCT
AXMINSTER RIDER DUSTING BRUSH

A small dusting brush for the workshop may seem like a rather insignificant tool, but I reckon I'd be lost without mine. Whether it's clearing the bench before placing down those freshly planed boards, dusting down a project after sanding, or removing dust and shavings from planes and other tools, the dusting brush is such an essential, albeit basic, piece of kit.

This traditional style design – available as part of Axminster's Rider range – has a beechwood stock, turned beechwood handle, and a resin bound grey synthetic filament with pure white China bristles. Body width is 100mm, while bristle length is 70mm. You could easily drill a hole in the end of the handle, which would allow it to be hung on the wall or end of a bench. Simply put, this is a delightful, traditional tool that should last for decades.

SPECIFICATION

Typical price: £13.98
Web: www.axminstertools.com
RATING – *PERFORMANCE:* 4.5 OUT OF 5
RATING – *VALUE:* 4.5 OUT OF 5

The Axminster Rider dusting brush is ideal for removing dust and shavings from planes and other workshop tools

This traditional style dusting brush is 100mm wide with 70mm bristles

NATURAL RESOURCES
ACOUSTIC ANXIETIES

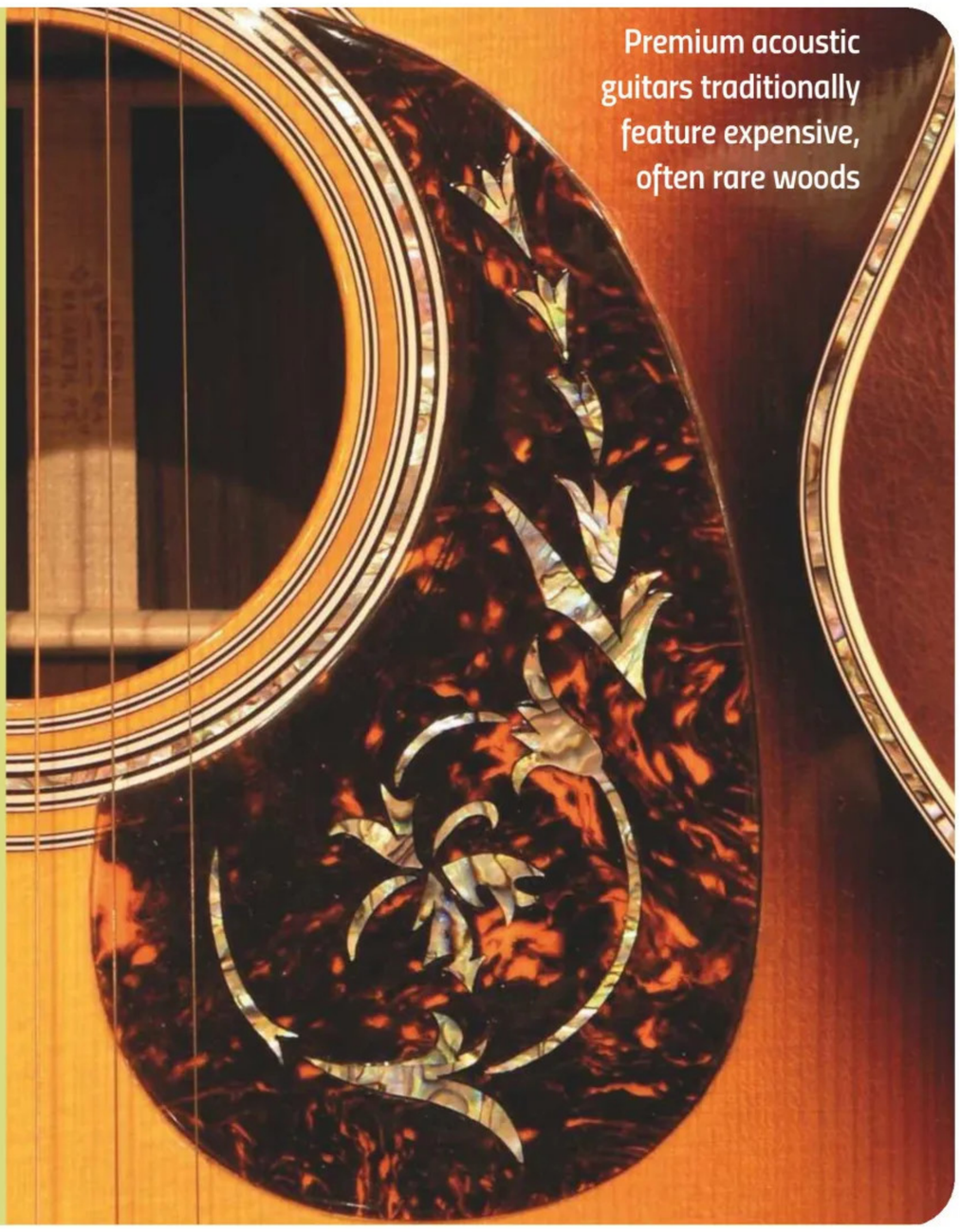
We're all aware of the problems associated with using tropical timbers – woodworkers have avoided them for decades. Now musical instrument makers are also struggling to source exotic timbers. Guitar makers in particular tend to use highly prized tonewoods, selected not only for their visual appeal, but also acoustic properties.

Premium acoustic guitars traditionally feature these expensive, often rare woods, which are commonly used for their backs and ribs. Soundboard timbers are chosen for their tight, uniform grain pattern and are regarded as critical to an instrument's sound.

American manufacturer Gibson claims that within 10 years, supplies will have been exhausted. Building around 2,500 guitars every day, understandably they're worried. So what's the alternative? Many guitars use laminated veneers for guitar backs and ribs. Others such as Ovation have been using synthetic bowl backs on their guitars for more than 40 years, while graphite and other hi-tech materials are common in electric guitar construction.

Interestingly, Gibson is working together with Greenpeace to source sustainable alternatives. Taylor Guitars has been offering less familiar, sustainable hardwoods on their instruments for some time, while Martin, on some of its models, uses spruce from logs destined for paper pulp.

So could the guitar become an endangered species? I doubt it. Most luthiers will have been stashing away fine tonewoods for decades – after all, this is their livelihood. Maybe we'll just have to get used to lower grade materials? Somehow, I reckon that guitar companies and independent luthiers will always find ways to build beautiful, impressive-sounding instruments, regardless of the material they're made of.



Premium acoustic guitars traditionally feature expensive, often rare woods

The finished cook box. Whether or not you choose to fit handles is a matter of personal preference, but polypropylene rope is ideal

CHISEL RATING

SUMMER PROJECT: COOK BOX

FIRESIDE COMPANION

Phil Davy's clever storage device for camping cooking essentials is built with simple lap joints. It's easy to make with a router or sliding mitre saw, then pinned and glued together

Takes:
One weekend

Tools you'll need:
Marking gauge; saw straightedge; chisels; hammer; drill and bits; router and bits; shoulder or rebate plane; bench plane; sander

Have any readers ever been on a camping trip and wondered how you could improve on the basic kit? During our fine summer, I decided that storage for those cooking essentials when not in use was a priority. A favourable weather forecast meant that 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.

Portability is key

But what's wrong with a good old plastic crate? Nothing particularly, except that they tend to shatter if dropped and aren't really rigid enough to provide a sturdy seat or table. Of course, you can simply replace a crate if this does occur, but where's the fun in that?

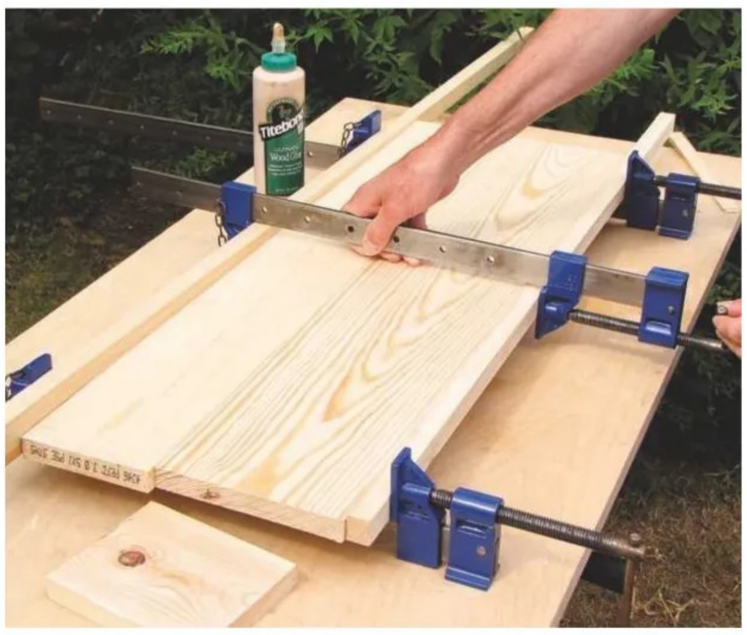
There's a danger of building too big a box, which is therefore far too heavy. It should be portable and could also double up as a table for food preparation as well as dining. This box is definitely for car campers, and the size and bulk is just too great for it to be lugged any distance. Adding castors helps, though small wheels in long, wet grass aren't ideal. I toyed with the idea of adding 200mm pneumatic wheels, but these would take up too much space in the car. I already had some 50mm castors, so fitted these temporarily before replacing 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.

Straightforward construction

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, however, you could use dovetails or finger joints. Gluing plastic laminate on the top will provide a tough, wipe-clean surface, though you'd need to balance this with laminate on the underside in order 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. I found some 7mm laminated MDF in my local B&Q store offcuts bin. Dense and hard-wearing, a couple of large sheets cost a little over £2.

In hindsight, I'd reduce the carcass timber's thickness. Although 20mm PAR pine is pretty solid, bringing this down to around 16mm would save weight while still retaining rigidity. I'd prefer to have used birch ply for the divider panels, but this is expensive and not readily available. MDF isn't ideally suited to external use but as long as it's sealed before being exposed to the elements, you shouldn't have to worry.

1 To work out the overall size, start by assembling all the cooking equipment you'll need to fit into the box



2 If using softwood, you'll probably need to glue boards edge to edge; this will ensure that sufficient width is achieved

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

4 Saw the two end sections exactly to length. If using a powered saw, add a guide rail or batten

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

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

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

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

9 Place utensils where you want them and mark out positions for divider panels, using 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 top and bottom pieces

12 For the front panel, housings are stopped 7mm before the groove. Square up ends with a chisel

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

14 Carry out a dry run with sash clamps before gluing the carcass together. If possible, use an exterior glue

15 Check that everything's square before nailing the joints, adjusting clamps if required

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

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

18 For the rear panel, rout a rebate around the inner edges, squaring rounded ends with a chisel

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

20 Using a round-over bit, rout all outer edges in order to soften the cabinet

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

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

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

24 Check to ensure the front panel slides properly, then drill a 22mm diameter finger hole

WW TECHNIQUE

HOW TO SHARPEN YOUR TOOLS ON A TORMEK PART 2

For those woodturners and woodcarvers who've not yet discovered **Tormek**, there's a high probability you'll be surprised how big a difference a really well sharpened edge can make to the final result

FURTHER INFORMATION

For more information on Tormek, see **www.tormek.com**
To find your nearest reseller, see **www.tormek.com/uk/en/resellers**

In part 1 of this two-part article on sharpening tools with a Tormek – which appeared in the July 2023 issue – we looked at the techniques and jigs designed for sharpening various knives and drill bits, aimed at the professional and hobbyist. Over the following pages, we'll move on to exploring the popular topics of sharpening both woodturning and woodcarving tools, which is undoubtedly where this method excels.

SHARPENING WOODTURNING TOOLS
Start with sharp tools

For those woodturners who've not yet discovered Tormek, there's a high probability you'll be surprised how big a difference a really well sharpened edge can make to the final result. As you may already know, the sense of control and flow experienced during turning begins with sharp tools.

- Sharper woodturning tools yield better results, faster.
- Smart jigs and accessories makes sharpening incredibly fast and easy, even for tools with a complex geometry and unusual profiles.
- Water-cooled sharpening at a low speed never damages an edge.
- Shaping and sharpening on a bench grinder is possible with the extensive Tormek jig system, but heat development risks damage to tools if care isn't taken.
- **Sharpening vs shaping:** when sharpening a tool, just touch up the edge of an existing shape to renew its sharpness.
- **Shaping vs sharpening:** when shaping a tool, remove steel to achieve a desired shape and edge angle – both shaping and sharpening can be carried out on a Tormek.
- Simple honing on the inside of arched edges – i.e. the edge of a bowl gouge.

The T-8 Black is stocked with premium features

TORMEK LIVE SHARPENING CLASSES FOR WOODTURNING TOOLS

Sharpening Woodturning Tools on a Tormek – Instructional Video with Glenn Lucas

Glenn Lucas is one of the world's greatest woodturners and has been using the Tormek water-cooled sharpening system for many years. From his study centre in Ireland, he even teaches sharpening as part of the courses given. In this instructional video, he demonstrates how to sharpen woodturning tools in this way

Gouge sharpening – from factory grind to superior sharpness

Nick Agar is also one of the greatest in the game and a long time Tormek user. In this video, he shows how to quickly reshape a factory-grind gouge on a bench grinder using the BGM-100 Bench Grinder Mounting Set. After reshaping, Nick gives the tool its final sharpness on a Tormek

Woodturning Tools | Part 5 | Tormek Live Sharpening Class

Tormek's Wolfgang and Sébastien demonstrate how to sharpen various woodturning tools: gouges, skews, parting tools, scrapers, cutters and more. They demonstrate the methods for sharpening all these turning tools and how to achieve repeatable edges every time. This class is based on the jigs and accessories included in the TNT-808 Woodturner's Kit, which includes everything needed to sharpen and shape woodturning tools

SHARPEN LESS; TURN MORE

The Tormek way of sharpening differs from other grinding methods such as high-speed bench grinders and belt sanders. Tormek makes a clear distinction between shaping and sharpening. Once the tool is correctly shaped, only a minimal amount of steel is removed during sharpening – rather, it's a case of just touching up the edge. An important benefit of this minimal steel removal is that the sharpening is fast, and precious tools last much longer.

With the patented TTS-100 Turning Tool Setter, every aspect of the set-up is made simple and exact repeatability is guaranteed with each sharpening, regardless or whether or not you have a grindstone that'll lessen in diameter over time.

Due to the sharpening process' high level of control combined with a superior sharp result, many new users report an improvement in their turning technique after switching to the Tormek system. Newly sharpened turning gouges and skews can create the most delicate details and leave the cleanest cuts possible with little or no need for sanding.

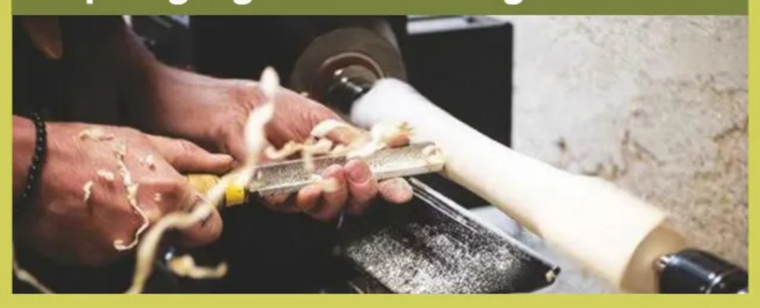
Another important point is that users can be sure that a tool will behave in exactly the same, predictable way, whenever used on the lathe. The fine sharpening surface obtained with the Tormek water-cooled grindstone, combined with leather honing wheel, ensures the edge stays sharp, for longer. This ultimately results in less time spent sharpening and more time spent at the lathe.

The difference between shaping & sharpening

When shaping a tool, steel is removed in order to achieve a desired shape and edge angle. When sharpening, the edge of an existing shape is just touched up in order to renew the sharpness. The Tormek method's strength lies in the sharpening, which is carried out with an exact replication of both the shape and edge angle. Since so little steel is removed – only the edge is touched up – the Tormek method is therefore very fast.

With new tools, the shape must initially be changed quite considerably, but time can be saved by using a high-speed bench grinder together with the BGM-100 Bench Grinder Mounting Set. This method makes it possible to use the same Tormek woodturning jigs and settings throughout the whole sharpening process. Once the desired shape has been achieved on a bench grinder, keep the tool in the jig and simply shift to the Tormek sharpening machine for final sharpening and honing. After that, future sharpenings will be an easy job, where only the edge needs to be touched up on a Tormek water-cooled sharpener.

Shape a gouge or skew using a Tormek



Shaping a tool with the Tormek machine takes between 10 and 20 minutes depending on the tool's original shape and how much steel needs to be removed. Extra minutes spent on the Tormek are an investment in terms of ensuring best performance of expensive tools. This way, a user can rest assured that the edge won't have been softened or cracked due to overheating and that durability won't be affected. Bear in mind that a tool is normally only shaped once.

WHY TORMEK JIGS ON A BENCH GRINDER?

The water-cooled Tormek machine is superior in sharpening virtually every edge tool found in the workshop. However, it's no secret that when it comes to turning tools, the initial shaping can be achieved more quickly using a bench grinder.

Some woodturners dedicated to Tormek also have access to a bench grinder and use it for the first rough shaping. It's difficult to control by hand and easy to remove more steel than necessary; that's why Tormek offer the same precise jigs throughout the whole sharpening process.

For shaping tools on a bench grinder, the BGM-100 Bench Grinder Mounting Set can be used with the SVD-186 R Gouge Jig, SVS-50 Multi Jig, and SVD-110 Tool Rest. Since the patented TTS-100 Turning Tool Setter works on all grinding wheel diameters, the shape and edge angle can be exactly replicated even when going from a smaller bench grinder wheel to the large Tormek grinding wheels.

There's no longer any trial and error when trying to achieve the correct shape using a bench grinder. Users can benefit from the bench grinder's fast steel removal and also achieve the finest surface using the Tormek water-cooled grindstone plus leather honing wheel, all in one jig system.

Those users who don't yet have a Tormek machine can still benefit from the precise Tormek jig system on a bench grinder, and easily achieve the desired shape and edge angle. Since the Tormek system controls these factors, the tools will behave in exactly the same predictable way during any time spent at the lathe. The principle for setting the shape and edge angle is the same regardless of which machine is used. For those who later decide to add a Tormek to their workshop, the jigs required for turning tools will already be in your arsenal.

However, Tormek recommends exercising caution when it comes to grinding tools on a bench grinder. It's well known that carbon steel is easily affected when overheated, and this is also the case with HSS steel, but the critical temperature is much higher. The very end of the tool tip, which is very thin, can easily reach a temperature that'll affect the tempering.

Heating up can be limited by cooling the tool in water, but there's a risk of micro cracks, which are invisible to the eye. Even low speed four-pole bench grinders can damage the steel, due to there being no water-cooling and rotating too quickly to eliminate overheating, in spite of being half the speed of a conventional two-pole grinder.

TIPS FOR SHARPENING USING A TORMEK EQUIPPED WITH GRINDSTONE

For those used to sharpening on a high-speed dry grinding wheel, there's a few things that differ when using a water-cooled grindstone, and below you'll find some simple but useful tips:

1. **Apply pressure to the stone** – this will speed up the sharpening process and there's no risk of damaging the tool. The same high grinding pressure on a high-speed grinder will cause overheating. For best control, press with fingers close to the edge, so you can feel where the sharpening will take place. There's no risk to fingers since the stone only runs at 90rpm.
2. **Move the tool** – aim to use the whole width of the stone by moving the tool sideways; this way, the stone will wear evenly and won't develop any grooves. When moving to a new spot on the stone, lighten the pressure or lift the tool to ensure a smooth transition.
3. **Grade the stone surface** – when shaping a tool with a large bevel surface, the low grinding pressure slows down the grinding. Speed up the work by re-activating the stone a few times during the sharpening process using the SP-650 Stone Grader.

WOODCARVING TOOLS – SHARP TOOLS CUTS CLEANER

Sharpen delicate tools with the highest precision

Woodcarving tools are often particularly delicate and require very precise sharpening in order to resist damaging. The Tormek water-cooled sharpening system with exact jig settings gives the best results. In most cases, just honing a tool is sufficient for regaining razor sharpness.

- Carving tools are often quite delicate, and therefore only require honing. Never use a dry grinding bench grinder or belt grinder!
- Generally use less sharpening pressure on tools with arched edges since they have a smaller contact area with the grinding wheel.

- Ensure to have good lighting, so that the 'line of light' is clearly visible.
- Honing is extremely important in order to achieve nice, clean cuts.

TORMEK LIVE SHARPENING CLASSES FOR WOODCARVING TOOLS

Woodcarving Tools | Part 4 | Tormek Live Sharpening Class

Learn how to sharpen woodcarving knives and various carving tools in this sharpening class with Tormek's Wolfgang and Sébastien. They look at sharpening carving gouges, V-tools and swan-neck gouges, among others. During the class, viewers' questions are answered along with providing the best tips and tricks for achieving razor sharpness with your woodcarving tools

Sharpening technique for carving gouges & V-tools

The technique for sharpening carving gouges and V-tools differs from tools such as plane irons and wood chisels with a straight edge – the steel is thinner and the edge angle smaller, which makes them more delicate to sharpen. Honing is often sufficient in order to touch up the edge.

Since a carving tool often has an arched edge, the sharpening takes place on a narrow and convex spot and the surface in contact with the grindstone is very small. This means that the grinding pressure can become very high, even if only a small amount of pressure is applied with the hands onto a tool.

If sharpening more than necessary on a flat bevel – e.g. a plane iron – this doesn't matter. However, if over-sharpening a spot on a curved edge, this changes the edge's shape and re-grinding is called for. This is also the case for V-tools – over-grinding on one wing means that the entire edge must therefore be re-ground.

Users should first ask whether they need to sharpen the tool or if honing will suffice. This is especially applicable when working with small and delicate tools with a small edge angle. Slightly over-grinding a spot on these tools creates a pronounced pit or hollow on the edge's contour.

As such, the basic recommendation is to not sharpen small and delicate tools, but to hone them on a leather honing wheel with PA-70 Honing Compound.

However, in the following cases, sharpening on a grinding wheel is required:

- The edge has become too dull to be honed.
- If wishing to change the shape of an edge – e.g. the edge plane angle.
- If wishing to change the edge angle.
- If the edge has become damaged.

THE SHARPENING PROCESS

Sharpening can be carried out either freehand or with jigs on a grindstone. Using jigs is easier and affords a better result as you can concentrate on the point at which the edge touches the grinding wheel without needing to pay attention to the edge angle and tool position, which is controlled by the jig. Before sharpening, grind the edge to its correct shape. Viewed from the side, the edge should look like a straight line – this is called the edge plane angle.

Good lighting is important for all sharpening and honing work, but it's an absolute necessity when sharpening carving gouges and V-tools, since the line of light must be clearly visible. Use a flexible lamp and ensure to position it close to the machine.

Carving gouges and V-tools have wings; these lean more or less forward when the bevel lies flat on the wood. The inclination can be described as the edge plane angle. This angle controls how the tool cuts into the wood. It should be around 20° in order for the wings and edge's centre part to work in the best way possible and also leave a clean cut. This recommendation is independent of the edge angle.

NOTE: Grinding carving tools on high speed grinders and belt grinders is absolutely not recommended! They grind too aggressively, which makes it impossible to control the grinding and heat development draws the hardening of the thin steel.

Honing woodcarving tools

After sharpening, the bevel is honed to give it as fine a surface as possible. The remaining burr on the flute – inside – must also be honed away. Exterior honing can be carried out freehand with a fine grit bench stone or with jigs on a honing wheel. The interior can be honed freehand with slipstones or on the LA-120 Profiled Leather Honing Wheel.

Honing is very important, as a finer surface on the bevel and flute allows the tool to cut more easily and also creates longer lasting sharpness. The surface remaining on the wood will also be smoother in the case of a perfectly honed tool. It's advantageous to also use the jigs when

honing. Doing so allows you to work at exactly the same angle as for sharpening and the edge receives exactly the same movement pattern towards the honing wheel as for the grinding wheel. Furthermore, test cuts can be made in the wood and then – if necessary – return to honing, with the tool positioned exactly the same towards the honing wheel.

Rounding the tip

The Tormek leather honing wheels work in the same way as a strop made of leather glued onto a piece of wood. Under a microscope, the edge's very outer tip is slightly rounded off as the leather honing wheel isn't as firm as a grindstone. However, when using a jig, this rounding off is negligible and has no negative influence on the tool's cutting ability. In fact, it's likely that the microscopic rounding off actually reinforces the edge's very outer sensitive tip.

Theoretically, an edge tip honed on a flat, hard bench stone could be considered sharper. However, this is only the case before the tool is used. As soon as the edge penetrates into the wood, it'll be affected by the fibres and become microscopically rounded off, even bent. This is because the outer tip is extremely sensitive on these tools, which have small edge angles – sometimes as little as just 20°.

What determines the edge sharpness' practical quality and durability is how the tool performs after a few cuts into the wood.

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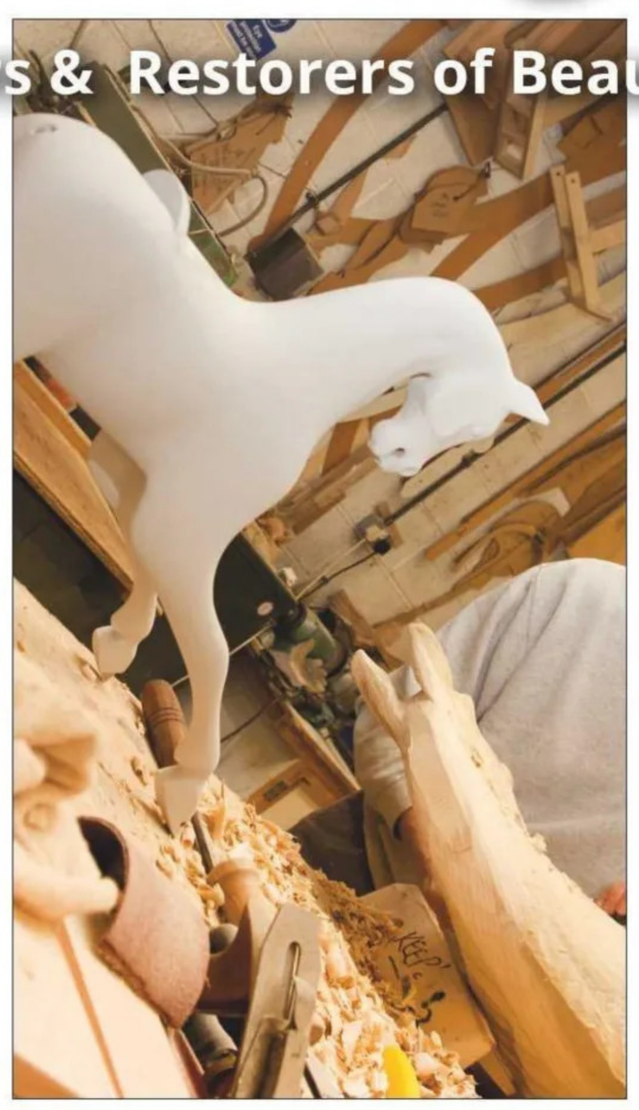

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CHISEL RATING

CHILD'S PLAY

Based on a classic Victorian design, **Les Thorne** turns this traditional children's toy from a piece of oak

I'm always on the lookout for article ideas, so during a recent visit to Beamish Open Air Museum, I was pleased to come across wooden cup and ball toys for sale in their shop. I carried out some online research into this simple game and discovered some interesting facts in the process. For example, did you know that the cup and ball originated in France – where it's called 'bilbocquet' – and the earliest commercial versions were advertised in a 1767 New York Journal? More elaborate Victorian variants exist, which are double-ended, with a cup on one end and a spike on the other. The idea is to get a ball – with hole drilled into its bottom – to sit on the spike.

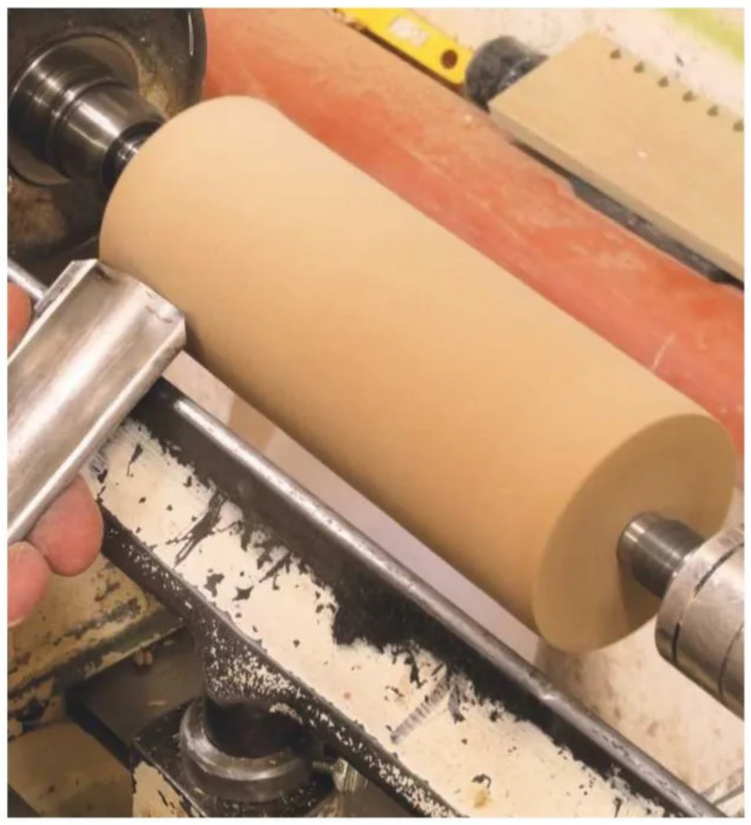
Making toys is always great fun and often don't require you to have advanced turning techniques, possibly due to the fact that a lot of them would've originally been made on pole and treadle lathes – so no need for any specialist tools. On some toys, especially ones for young children, the choice of a non-toxic timber is important as is the use of a finish that's marked safe for toys. This project would also lend itself well to being painted with some bright colours; if you're planning on doing so, I'd advise picking a nice pale timber, such as beech or maple.

TURNING THE CUP

1 As usual, I've drawn a rough sketch of what I want to achieve. I found the design shown here online: it's a Victorian toy that can be found in the National Museum Wales

2 I chose oak for this project as I like the grain effect you can achieve when turning a ball from it. This piece was left over from a production job and really dark in colour. Start by removing the corners on a bandsaw, which will make roughing out easier

3 There are many ways to mark the centres, but these plastic gauges are among the easiest to use. Go all the way around in case the timber isn't square, then mark the centre with a bradawl



4 I've seen people rough down timber with a skew chisel or bowl gouge, but by far the best tool for the job is the spindle roughing gouge. Keep the handle down so that the tool cuts rather than scrapes

5 To hollow the end for making the cup, you need to hold one end in the chuck. Make a spigot to suit your chuck jaws and ensure this is accurate, as you'll be hollowing a long way from the headstock

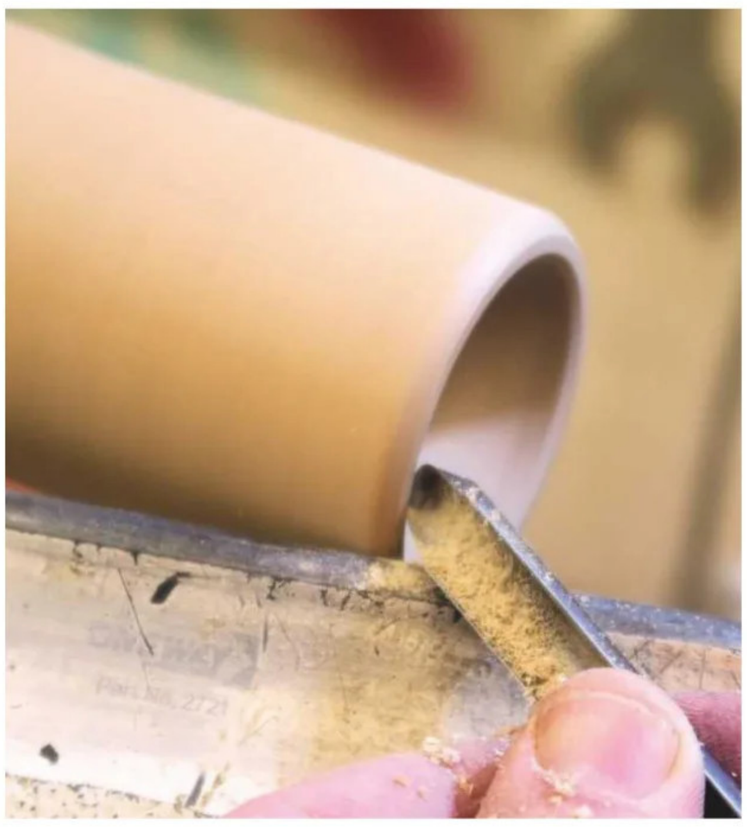
6 When mounting the cup part back on the lathe, use the tailstock to line it up. The shoulder that locates on top of the jaws is very important for accuracy and strength while you're hollowing out the bowl

7 Use a spindle gouge to true up the top surface. It's important to line up the tool's bevel with the direction of cut; this will also avoid the tool's point skating across the surface and potentially ruining the timber

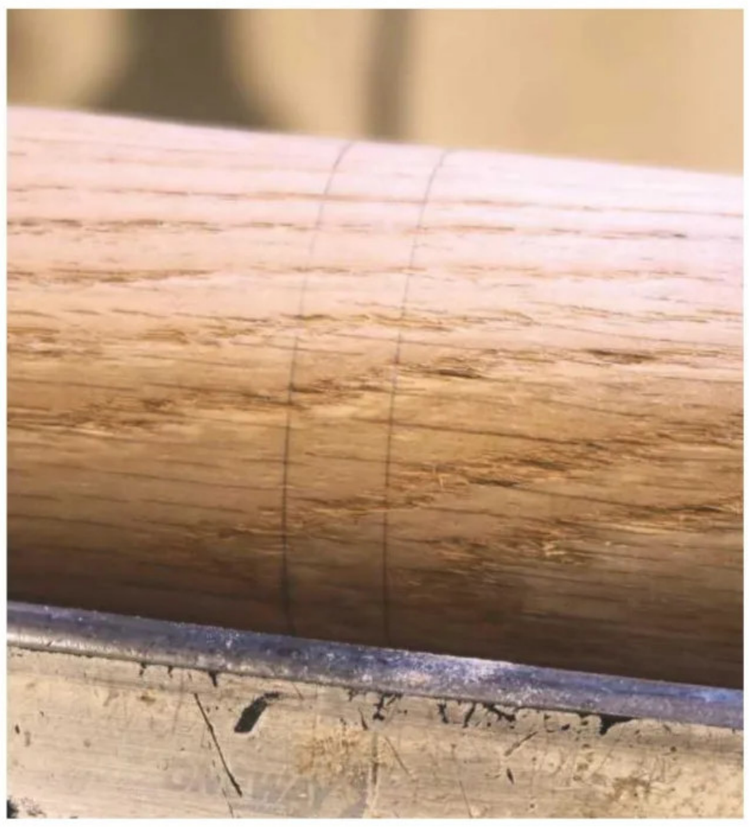
8 Hollowing is completed using the 13mm signature spindle gouge. To cut with the grain, work from the centre outwards using a pull-cutting technique with the flute pointing towards 10 o'clock

9 The tool I use for final finishing cuts inside the bowl part is a French curve negative-rake scraper. There's an angle ground down on top of the tool, which makes the cutting safer and the tool less aggressive as a result

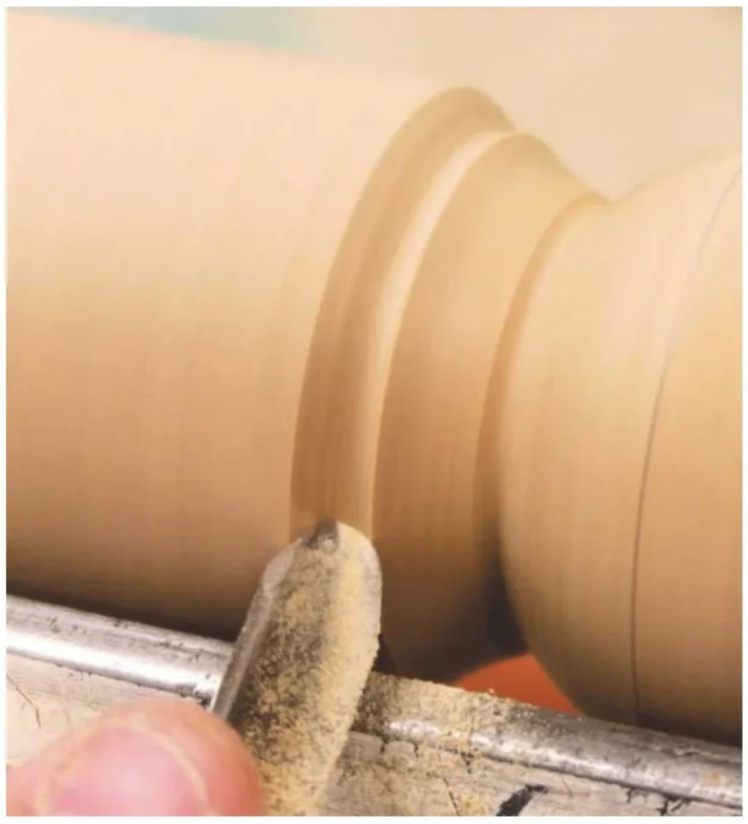
10 Unlike normal scrapers, the tool doesn't have to be used with the handle slightly above the blade; with a small shape like this it's much easier to control, but ensure to only take very light cuts



11 I wasn't going to texture this piece, but needed to hide the unsightly split. I used an Arbortech fitted with a mini industrial cutter to create random grooves, in the direction of grain



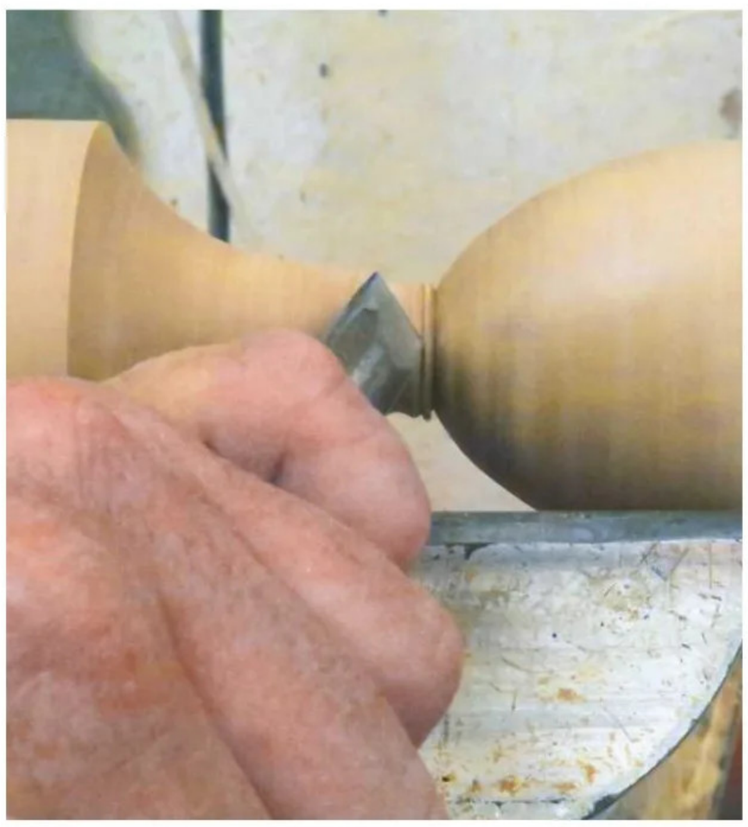
12 Transfer the internal depth to the outside; this will hopefully avoid the possibility of parting off the top part prematurely. The bottom half of the bowl is left thicker than it would be in a more decorative goblet or egg cup, for example



13 This is really good basic tooling practice with the left side being a concave shape. Start with the tool held on its side, then open the flute and swing the handle to the left

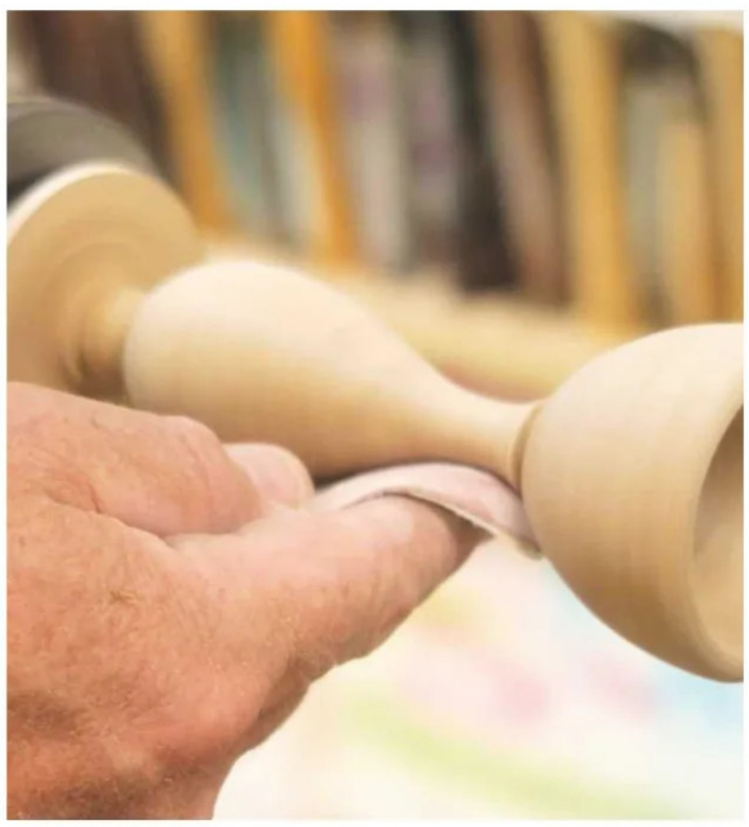
14 The right-hand side is a convex half a bead shape, which is made in the opposite way to the previous cove. It's important to keep the bevel in contact with the timber; this will allow greater control and a better quality of finish off the tool

15 The good old-fashioned finger gauge. Figure-of-eight callipers could also be used for measuring wall thickness, but your fingers are as good as anything on a piece of this size



16 There's no better tool for cutting in fine detail than a skew chisel. The small punctuation points between changes in direction of shape are what really set the piece off

17 I almost ran out of timber as I neared the chuck, but was still able to turn my desired shape, but only just! I could've used tailstock support, but decided it'd be quicker not to



18 Sanding is a technique that's often done ineffectively and dangerously. The safest place to sand is here, with the toolrest removed. If you do leave the toolrest in place, to ensure you don't trap any fingers, present the abrasive over the back

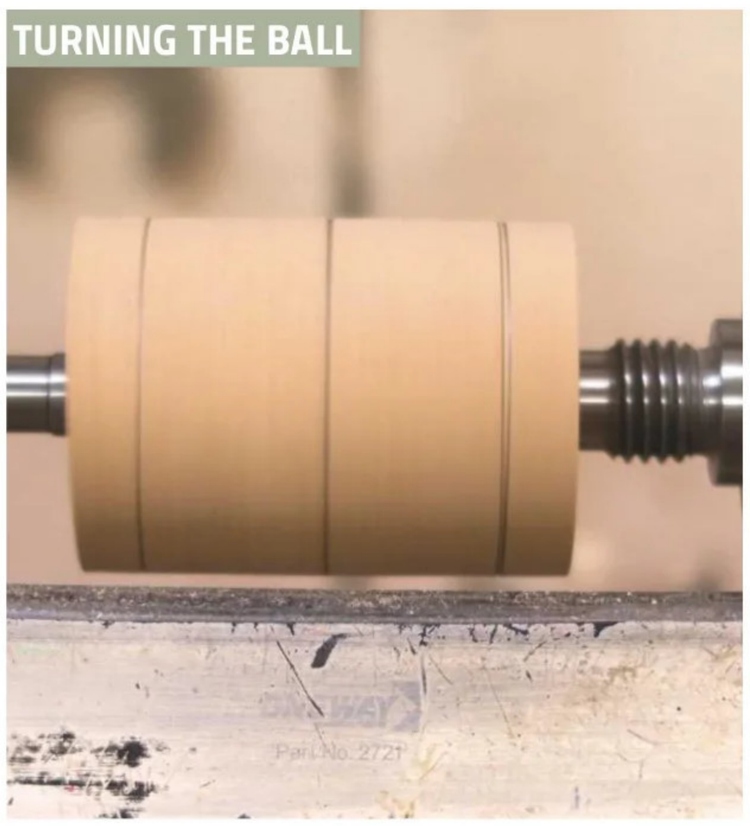
19 I'd normally part this off with a skew, which would leave the top pretty much finished, but I hadn't left myself enough room near the chuck, so cut it off with a thin parting tool instead

20 The top bead needs some extra finishing, so I made a jam chuck that'd allow me to grip onto the top bowl section and lightly re-cut the handle

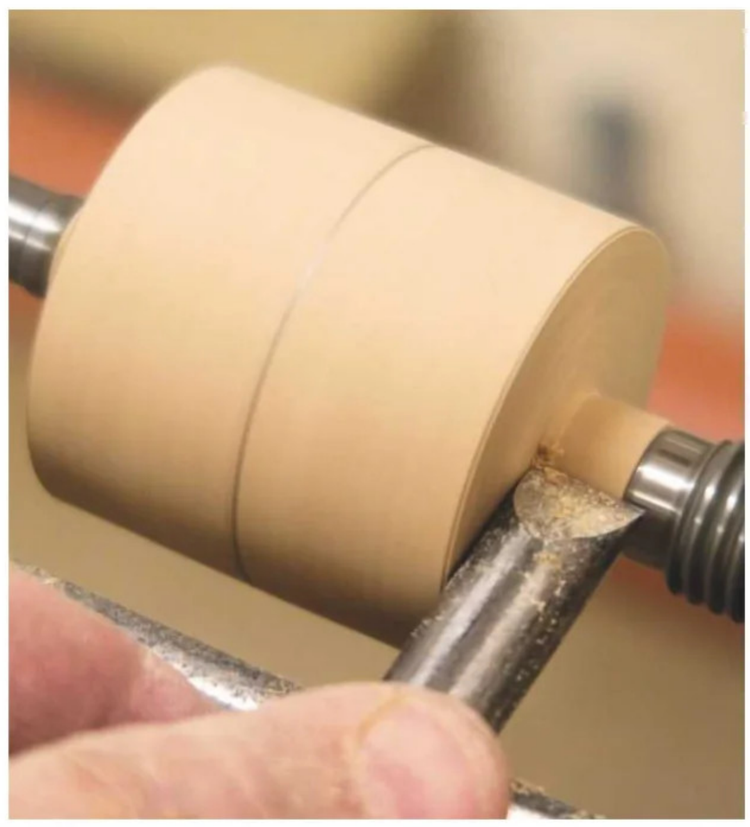
21 When a piece is mounted like this, you obviously won't be able to make large cuts. You will, however, be able to make light alterations to the work and also sand the top

22 The top bead is turned and finished perfectly. When working an open-grained timber like oak, you need to be careful not to pull a small plug of timber out of the top

TURNING THE BALL



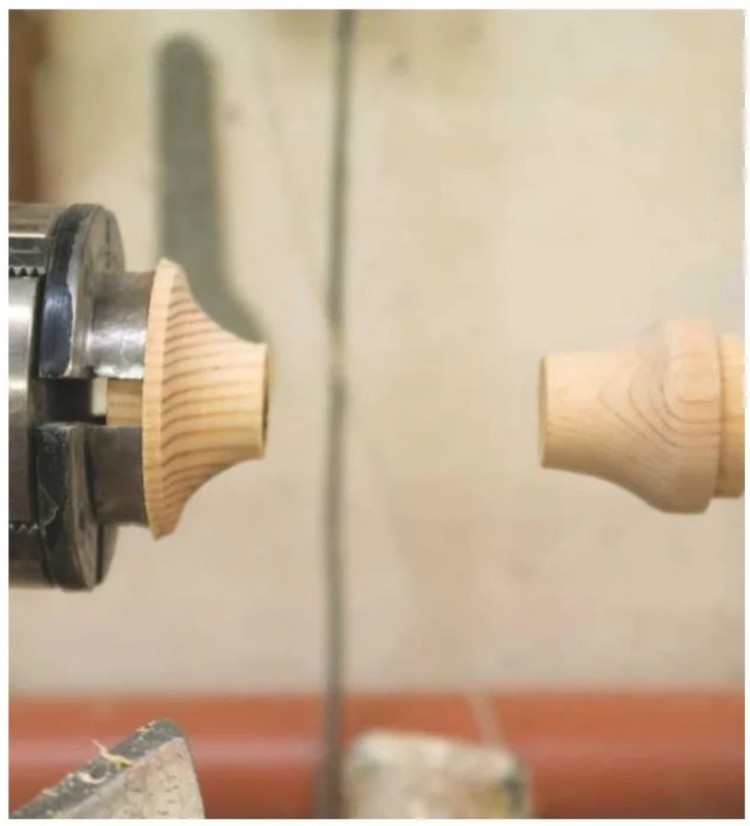
23 It's ball time. Mount the small block between centres and make it round. Mark out the wood's diameter onto its length, allowing around 10mm waste on either end



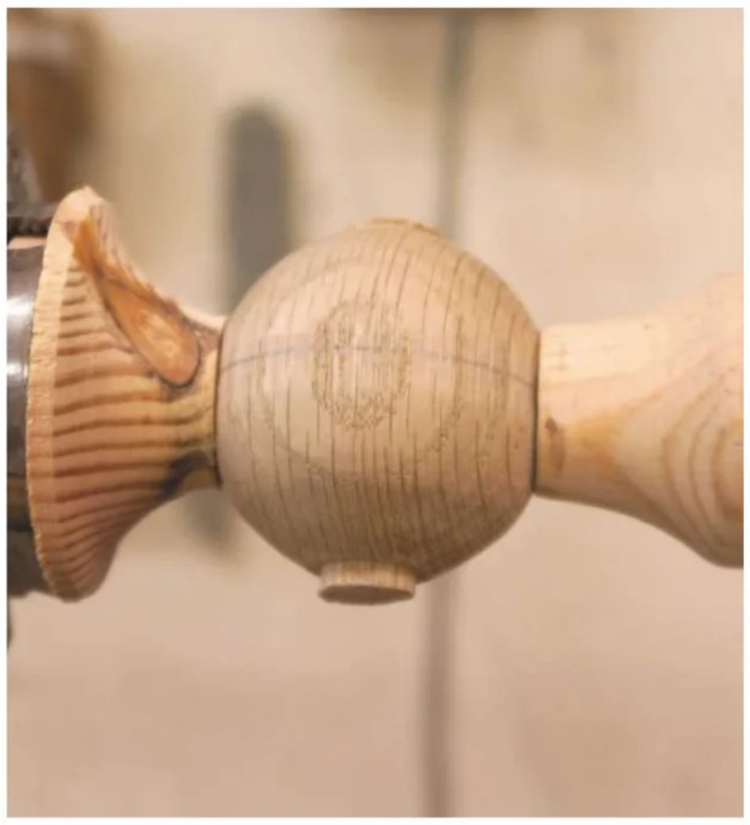
24 Cut as much of the waste away as you can without weakening the mounting. The pencil mark in the centre will ensure you don't change the diameter at this stage

25 Rough turn the ball to shape. At this stage, it's important not to remove too much timber, so trying to get the piece perfect here can cause more trouble than leaving it a bit oval-shaped

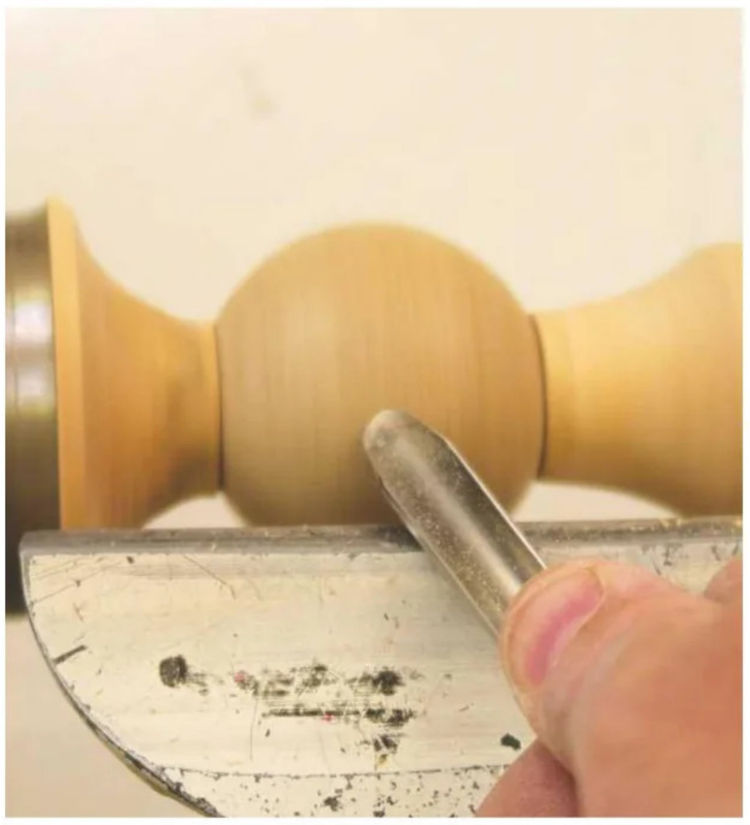
26 You'll need to make a jig for remounting the balls. My Oneway live centre allows accessories to be threaded onto it, but you can make an attachment that'll fit over any other live centre



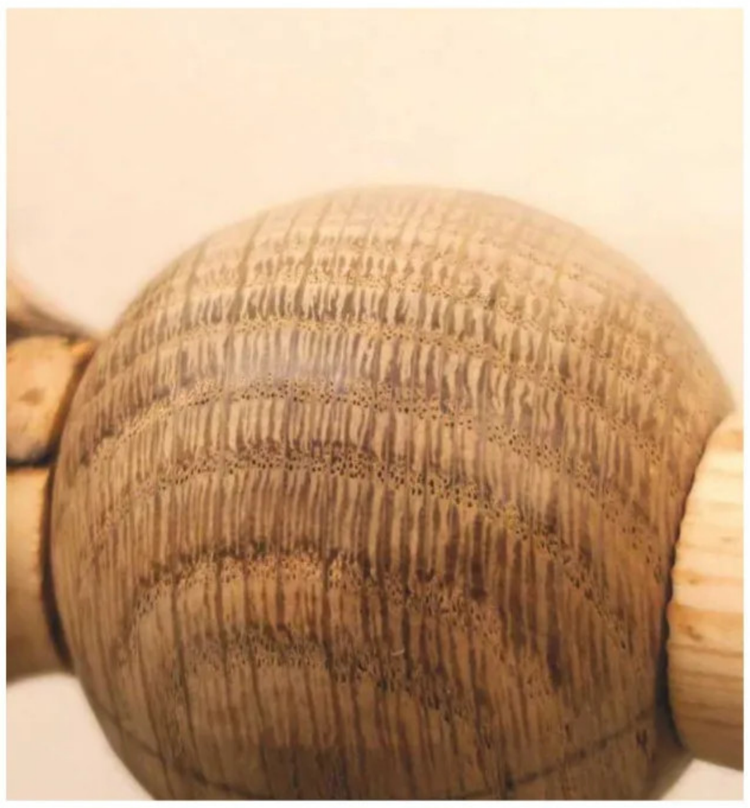
27 Here's my setup for turning the balls round. I made two small cup chucks, which were hollowed to fit the ball's curve. Using pine means that it shouldn't mark the oak



28 Mount the ball with the centreline running parallel to the lathe bed. Ensure this is done as accurately as possible at this stage. To make the turning easier, I sawed off most of the waste



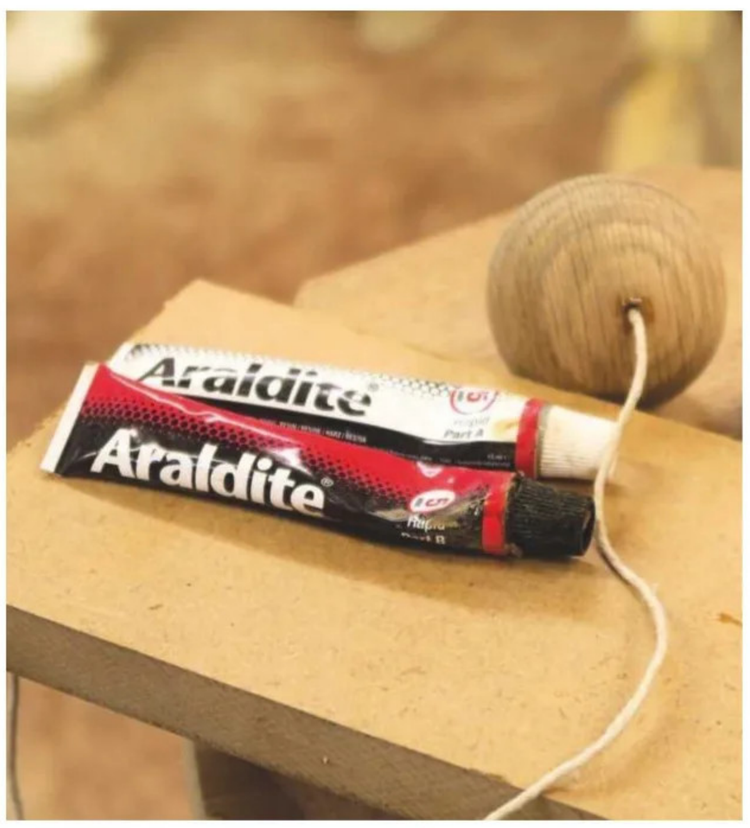
29 When you switch the lathe on you'll see a ghost of a perfect ball, and it's a matter of turning this away until the ball's round. Light cuts are the order of the day here



30 As you can see, I've cut away the waste from the end, leaving the shape pretty close to being round. If you go too far, you may need to remount on another axis and make some further cuts, but the ball will keep getting smaller

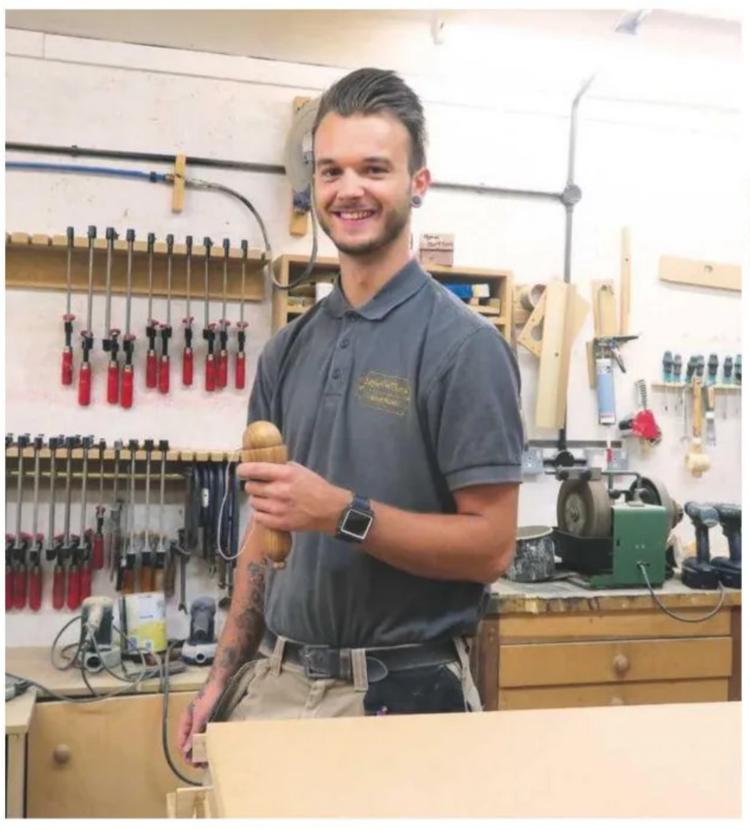
31 A bit of aggressive sanding with some coarse abrasive will help you tweak the shape. Putting a pencil line around the centre before remounting allows you to keep track of where you've been

32 Drill a 3mm hole in the handle, which the string will be threaded through; a 'V' block will allow you to do this accurately. I had to carry out some research to discover which part of the handle is best for attaching the string, and I arrived at the position shown



33 I decided to glue the string into the ball and it seemed to be fine. If making these commercially, I'd need to find a fixing that's capable of standing up to a bit more abuse

34 Oil and oak go really well together, so finish the piece with a couple of coats of finishing oil that's marked as safe for toys. Give the piece a light sanding between each coat



35 I needed to try it out, and Liam – who works for my brother in the workshop next door – was quite adept at it. I did find that the longer the string, the more difficult it seemed to be, so I'll make it more challenging for him next time!

36 The completed cup and ball should look something like this

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After attending a demonstration by Colin Watson – the self-confessed 'Crazy Woodman' – Bob Chapman was inspired to have a go at producing his own 'basket illusion' turnings. As well as being undeniably eye-catching, these also offer a good way of expressing one's creativity

Coming up in the next issue...

The Woodworker & Good Woodworking
September 2023 edition
– on sale 18 August

BUILDING TABLES

John Bullar looks at the topic of building tables and considers both the top itself and supporting legs, as well as how these are joined together

CUTLERY CABINET REPURPOSE

Having bought an old walnut veneered cutlery cabinet at a local auction, Peter Bishop sets about restoring and repurposing the piece, as well as adding a secret compartment...

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Smoking paraphernalia & its use of wood ▪ Makita DLX2460TJ drill driver combo on test

OFFERED

Stanley combination plane, plus 18 cutters; £55 plus postage
07927 187 398 (Cornwall)

Saw blades: No.16 – various diameters and arbors – some unused; £50 for the lot
01832 281 237 (Cambs)

Record lathe DML320 – as new with chucks, chisels and DX1000 filter extractor; £500
01902 630 726 (West Midlands)

Record Power PT260 planer/thicknesser plus 2 new pairs of knives – buyer collects; £200 ONO
01302 785 410 (Doncaster)

Bosch GCM 105 model professional mitre saw with spare TCT blade;100 × 300mm cut capacity; £225
01604 644 197 (Northants)

Jet JWL-1442 lathe – light use, good condition, checked by saw company; £300 – buyer collects
07583 962 323 (Warwickshire)

Turnstyler lathe with chuck and running centre – 16in swing × 24in – floor-standing, 2HP, variable speed. Also, Viceroy bowl lathe; £150 each
0114 233 4758 (Sheffield)

DeWalt 625EK ½in variable speed router – 240V – used twice, in excellent condition. As new; £180 – buyer collects
07737 724 399 (Newbury)

Chop saw –10in blade – in very good condition; £80 ONO; also, 7in angle grinder; £40
01780 740 642 (Stamford)

Small bench grinder – in very good condition; £15; also, drill with ½in chuck, on stand; £30
01780 740 642 (Stamford)

Kity 613 bandsaw – table 305 × 200mm deep – complete with floor stand; in very good condition, never heavily used; just one owner; £150 – buyer collects
01792 280 606 (Swansea)

Electra Beckum HC 260 planer – very little use over its lifetime; comes complete with wheels and spare blades; £320 ONO
07833 988 071 (West Yorkshire)

Rexon 5in thicknesser – in good condition; £50. Also, Wolf drill stand – unused; £30 – buyer collects
07794 288 250 (Leeds)

Scheppach TS2000 table saw – suitable for spares; rear and side extensions, sliding table mobile base; £25 – buyer collects
07791 720 255 (Cheshire)

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darcyturner180@hotmail.com (East London)

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01322 664 388 (Kent)

SCM S45 IPH bandsaw – in excellent condition; one owner; little use – selling for around half the price paid; £1,500 – buyer collects
01278 457 619 (Somerset)

Scheppach 2010 table saw with sliding table and side extension; £275
07940 704 570 (Lincoln)

Elektra Beckum KGS 300 sliding compound mitre saw – 1,600W 'silent' direct drive induction motor; no noisy gears; 250mm 24-tooth TCT blade; 300 × 53mm cut at 90°. Sliding mechanism runs on linear ball bearings; German made, very high quality construction; used only once for a small job; in 'like new' condition; includes optional extraction adaptor; selling for £199 (half price paid) – collection only
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01793 771 898 (Wiltshire)

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+087 2275266 (Ireland)

Australian-made Symtec woodturning lathe; in sound condition; must be complete with toolrest – excellent price paid
01454 260 395 (Berkeley)

Three-jaw chuck for mortiser attachment Kit K5. Attaches to planer cutterblock with left-hand thread – both 12mm
01302 817 889 (Doncaster)

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

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

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01780 751 768 (Lincs)

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TAKE 5

Showcasing fantastic pieces from both woodworking students and internationally recognised makers, this month's selection serves as a source of inspiration and wonder

1 Elegant hall table in cherry and oak, by Waters & Acland Furniture School – **@watersandacland** – student, Fabian Spörl – **@fs.woodcraft** – featuring handmade veneered drawer fronts that create a stunning three-dimensional visual effect, each framed in polished brass

2 Wood spirit pendants hand carved in maple wood, by Croatian artist **@_hrsart**

3 Drinks cabinet designed and made at Robinson House Studio Furniture School – **@robinsonhousestudio** – by 50-week student, Richie Hobby – **@richiehobby.design** – with fumed eucalyptus veneer for the main carcass; rippled sycamore veneer for the doors; and laminated sycamore for the legs

4 Internationally renowned furniture maker from Nelson, New Zealand, David Haig – **@davidhaigfurniture** – was recently awarded a New Zealand Order of Merit in recognition of his services to woodworking – shown here is his stunning 'Monogram Rocker' – *photograph courtesy of* ***Daniel Allen***

5 'Diopside', 2023 – turned and carved box in cherry and olive wood, by Francesco La Tegola – **@f.l.t.torniture**

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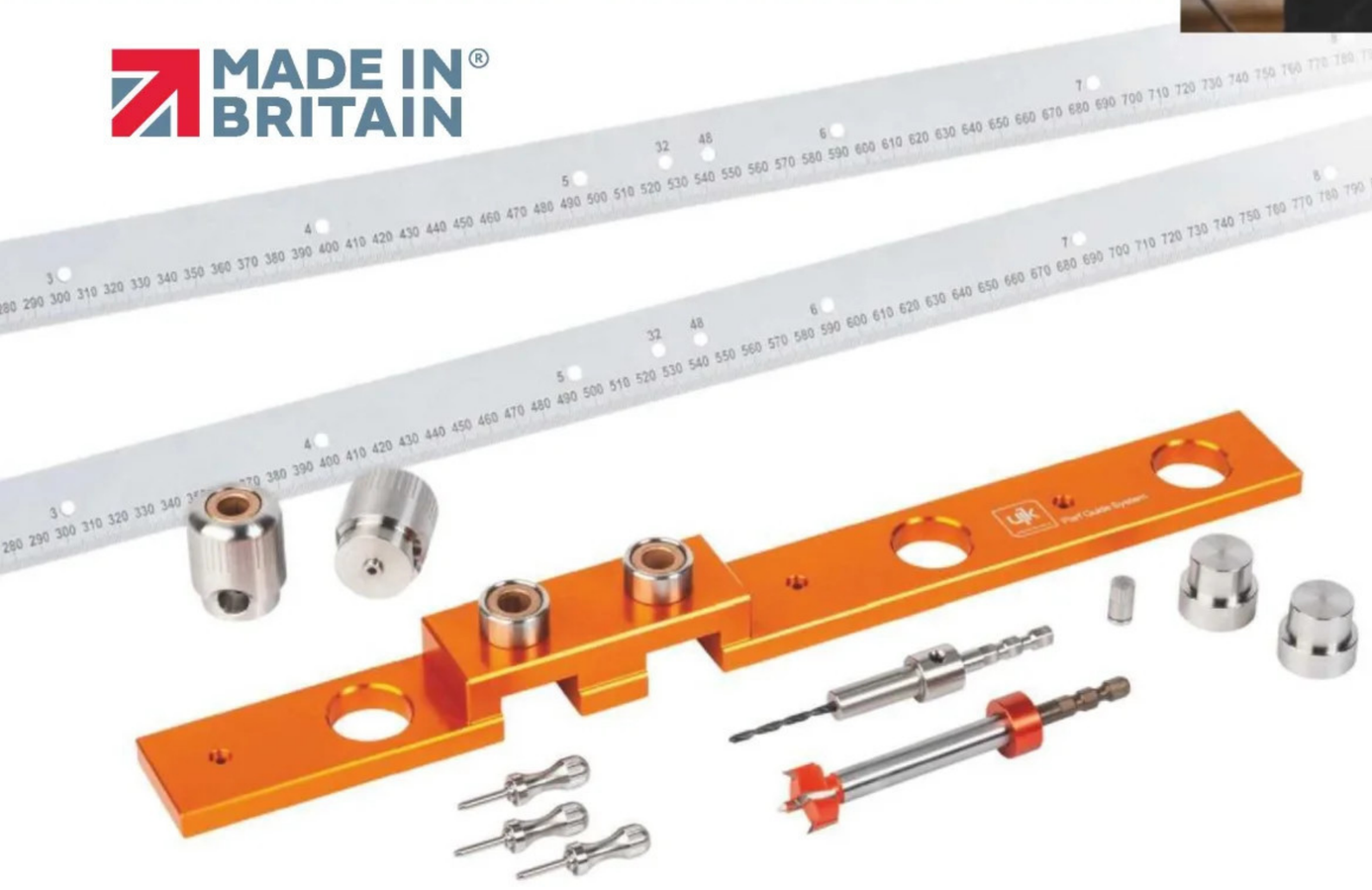

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