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February 2020

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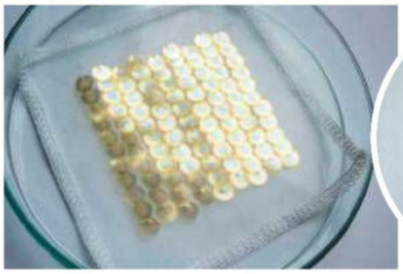
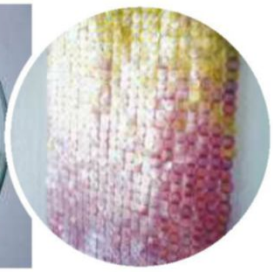
WOOD AWARDS 2019 WINNERS



Welcome

It's hard to believe that another year has rolled around where, here at the magazine, we are putting together another feature on the Wood Awards winners (2019). As with other years, the array of work did not disappoint, especially the Furniture & Production competition and Student Designer People's Choice winners, whose pieces we are thrilled to showcase and champion here. While it cannot be denied that Cork House, the 2019 Gold Award and Private category winner, is a stunning feat of craftsmanship and design, we were equally impressed to see young up and coming furniture makers and woodworkers also being recognised and acknowledged. And here at *The Woodworker*, encouraging and spearheading young talent in the woodworking industry is something we take very seriously and are incredibly passionate about.




Furniture & Product competition – 'Bespoke' winner

The piece(s) that really stood out for me were David Gates' 'Littoral Chances 1&2', winner of the Furniture & Production competition's 'Bespoke' category. I think this is because, in my opinion, they look completely unique and I am intrigued as to their function and design from the outset. What are they? What is their purpose? What materials were used in their construction? To answer some of those questions it's necessary to consult the maker's sources of inspiration, which include, among others, jetties and pylons, containers and crates. The treatment of the timber reflects how stacked and piled objects present themselves sculpturally, and the chaotic appearance of the cabinets are "carefully made using adaptations of traditional construction techniques." I'm sure we'll see a lot more from David this year and congratulations again to this talented maker for his beautiful use of materials, including European oak, bog oak, ripple sycamore, Cedar of Lebanon, Douglas fir and American bird's eye maple.

Student Designer People's Choice Award winner

Despite facing tough competition in this class, Anton Mikkonen scooped the award for Student Designer People's Choice and as echoed by the judges, we absolutely love his playful and brilliantly executed 'Udon' stool. A fascination with wood grain and knots influenced the furniture maker's design and the piece, consisting of five individual parts, was all routed with a 2D CNC machine. Studying at The Sir John Cass School of Art, we're sure the future will be incredibly bright for Anton and we hope he enjoys the £500 cash prize he received in recognition of his talent.

The Alan Peters Furniture Award 2020

Admiring the winning pieces will hopefully remind you, or perhaps inspire you, to enter the upcoming Alan Peters Furniture Award 2020, the deadline of which is looming. Entry deadline is only a few months off now (end of May), so if you do wish to submit your work, please ensure all the required information is sent in before this date. Further details regarding the award can be found on pages 26-27, but if you're a furniture maker looking for recognition and to have your piece(s) judged by an expert panel, all in the name of one of the country's finest furniture makers, then do not delay. We're confident in unearthing a variety of new and existing talent, but we can't do that unless you come forward and present yourself. If you have any questions whatsoever, just email myself or organiser Jeremy Broun and we'll be able to assist.

Lastly, thank you again for all your support and don't forget to keep sending in your top workshop hints/tips/pointers as we have a brand-new Veritas apron plane up for grabs each month. We hope you enjoy this issue and look forward to hearing from you soon!

Email tegan.foley@mytimemedia.com

Tegan Foley
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Phil Davy
Technical & Consultant Editor

60 FURNITURE WITH THOUGHT

Martin Pim-Keirle discovers more about furniture maker Aidan Donovan whose subtle and sensitive approach to the craft has helped him to carve out his own unique niche: a strange yet fascinating alchemy that fuses geometry and scripture

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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 FITTED WITH PM-V11 BLADE** – see page 59 for details

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FEBRUARY 2020

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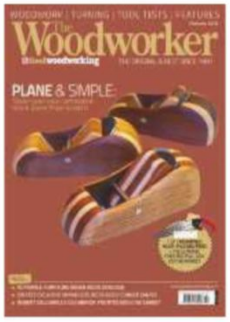

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TRITON TOOLS REVEALS INNOVATIVE NEW CLAMPS

Triton Tools, leading brand of woodworking tools, has developed the AutoJaws™, a new range of face and bench/drill press clamps that automatically adjust to clamp different workpiece thicknesses. The new AutoJaws™ range features cam-lock technology, which eliminates fiddly and time-consuming set-up when compared to using traditional wedge-lock clamps: simply set your desired clamping pressure and go.

AutoJaws™ complement Triton's pocket-hole joinery products but are also ideal for fastening, glue-ups, and general work support on a wide variety of projects. The new range includes face clamps for general woodworking, as well as bench/drill press clamps that can be mounted using either of the included T-bolt or D-ring options. The clamps are available in 75mm (3in) or 150mm (6in) clamping capacities with adjustable clamping forces of either 10-180kg (75mm option) or 10-110kg (150mm option).

All AutoJaws™ clamps feature ergonomic soft-grip handles for clamping comfort, and circular face pads to spread force evenly, which prevents marring of the workpiece.

These durable, all-steel clamps provide a new, innovative way of securing work that will make any woodworker's life easier. Visit **www.tritontools.com** to find your nearest stockist.

DALMANN LIMITED EXPANSION

Dalmann Limited, known for its high quality Mozambique hardwood woodturning timbers, has moved premises and expanded its operation to include rustic natural-edged slabs and lumber sourced from Mozambique and Zambia. Operating from its new showroom in West Berkshire, all timbers are sustainable and sourced from sawmills which responsibly manage their forest resources and have comprehensive reforestation programmes and socio upliftment projects in place.

The range of timbers are diverse in colour, grain, texture and density ranging from dark panga panga to lighter wild mango and include stunning African rosewood, meeting the needs of all discerning craftspeople.

Trade enquiries are most welcome; see **www.dalmannuk.com** for more information.

DIARY – FEBRUARY

3–4 Routing
4 Turned box intro
5–6 & **26–27** Small engineering lathe intro
6 Mastering the skew chisel
6–7* Routing
10–14 Windsor chair
12* Leigh jigs
18–20 Adirondack chair
18–19* & **19–20** Woodturning
21* Sharpening turning tools with Tormek
25* Tool sharpening
28* Wood machining
* Course held in Sittingbourne, Kent
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8–9 Dovetailing weekend
21–24 Beginners' four-day course
Chris Tribe
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Web: www.christribefurniturecourses.com

6–9 Woodturning – bowls, spindles & boxes
9–14 Make a Windsor chair
21–23 Steam-bent & inlaid tray
27 Woodturning – bowls & closed forms
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7–9 Traditional English longbow
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15 & **22** French polishing & refinishing
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HELP FOR HEROES VETERANS GET CRAFTY AT COLCHESTER RECOVERY CENTRE

Veterans and their families recently enjoyed a craft day at the Help for Heroes Recovery Centre in Colchester, with the Colchester Woodturners Group kindly facilitating groups of beginners and seasoned woodturners.

Sandra Gosney, Activities Coordinator at the Recovery Centre, said: "Our volunteers are a tremendous asset to us at Help for Heroes. Without the time, resources and patience they offer we simply wouldn't be able to roll out these opportunities to our veterans and their families."

The craft day was arranged with the hope that new activities could be tried, which would give veterans a taster of what to experience during the Recovery Centre's Activity Tuesdays. All of the volunteers are members of clubs in the community and many veterans have become so enthused with what they've been taught that they've joined those clubs themselves. Some are even considering making it a business. There were plenty of different activities on offer, including plant pot/pebble painting, scale modelling, turned pens and wood crafting with maple leaves.

Sandra was really pleased with how the day turned out: "We had around 60 adults and children here today, all engaged and enjoying themselves. Our veterans found the craft day really good fun; spending the day with their children, teaching them new skills and learning a few themselves. They all went away with smiles on their faces, and the children with paint on theirs!"

John Hughes, Bob Ward and Melvin White with the beautiful chess set they made during Activity Tuesday sessions over the course of a year

New skills & increased well-being

John Hughes, Bob Ward and Melvin White had crafted a beautiful chess set during Activity Tuesday sessions over the course of a year, which can be seen above.

Volunteers from Colchester Woodturners Club give up their time for free in order to teach interested veterans how to turn wood effectively. They even bring along their own lathes and other equipment to ensure the best experience possible. The group have been running since 1996 and meet once a month at St Johns Church in Colchester where they often have demonstrations from well-known woodturners. It was a natural step for the group to work with Help for Heroes as they all have family connections to the military. For the past year they have been running weekly woodturning sessions at Colchester Recovery Centre.

Help for Heroes would like to thank the Association of Woodturners of Great Britain for their grant towards the wood for the chess set and to Chestnut Products for their donation of finishing products. For more information on Help for Heroes, visit **www.helpforheroes.org.uk**.

BOSCH PROFESSIONAL 18V SYSTEM – EXPANDED RANGE OF COMPATIBLE TOOLS AIDS EFFICIENCY

Having added substantially to its already extensive Bosch Professional 18V System in recent months, Bosch has an important reminder for trade professionals. Its message is that tool compatibility and flexible choices – as well as high performance – are the keys to working more efficiently and saving money.

Savings & efficiencies

As all Bosch Professional 18V cordless power tools from 2008 onward are fully compatible, there's no need to buy and carry different batteries and chargers. This saves on time, complication and investment. The system's wide range gives buyers flexibility to choose tools and accessories with the perfect balance of features, capabilities and price for their needs. It caters for everyone from apprentices buying their first tool kit to experienced professionals upgrading their equipment. There is also freedom to select tools, batteries and chargers individually or, if preferred, as complete kits.

The benefits of cordless freedom are maximised by compact, lightweight and ergonomic design. As their name suggests, Bosch Professional 18V tools are specified and built to professional standards for the ultimate in performance. They not only boost work efficiency, day after day, but save in the longer term through their high durability. They can be combined with the latest ProCORE18V batteries – at 4, 8 and 12Ah capacities – for greater power, runtime and lifetime, or with any other Bosch Li-ion 18V battery. Similarly, Bosch charger options range from relatively basic models to the world's fastest charging units.

Latest high-performing models

Among the newest additions to the Bosch Professional 18V System is the Bosch GBH 18V-26D Professional rotary hammer with SDS Plus. This universal D handle model, for vertical drilling and chiselling applications, has a high specification including a brushless motor that delivers 25J of impact energy. Another newcomer drawing much attention is the powerful Bosch GSB 18V-55 Professional combi drill. Despite its entry-level price, it offers a metal chuck and a brushless motor with speeds up to 1,800rpm and torque up to 55Nm. There has also been great interest in the five 18V Bosch Professional angle grinders featuring X-LOCK – the fastest, simplest, most trouble-free grinder accessory-change system ever.

Looking ahead, 2020 will see Bosch introducing 18V 'BITURBO' tools designed to bring cordless freedom to power-intensive applications once thought beyond the reach of battery-powered equipment. The performance of its circular, mitre and plunge saws, SDS-max rotary hammers and large grinders, will match that of corded tools rated between 1,000 and 1,800W.

Compatible tools for every workplace need

As well as those already mentioned, product categories covered by the Bosch Professional 18V System include a wide choice of other combis, drill drivers, impact drivers, small saws and multi-cutters as well as dust extractors, worklights, measuring devices and more. All of them benefit from Bosch quality and continuing compatibility, so with each addition to the professional's tool collection, the advantages of choosing and relying upon Bosch will grow.

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MAKITA OFFERS VISION OF CORDLESS FUTURE WITH EXPANDED LXT & NEW XGT

Makita's new 40V Max system will stand side-by-side with the industry-leading LXT System. Since the launch of 18V 'LXT' in October 2005, Makita has led the way in cordless tool innovation and technology. The company's objectives for constant improvement in designing innovative products for the construction and garden machinery sectors will soon see the launch of a new generation of high power 40V Max 'XGT' cordless products.

To meet market demands for greater cordless power and to recognise the needs of professional contractors, Makita is expanding the cordless portfolio with the announcement of 40V Max 'XGT'. This new cordless tool and battery platform produces greater power for high demand applications, increased durability, and a wider range of products to offer the performance that is comparable to petrol engine or mains-powered machines.

XGT will stand side-by-side with Makita's industry-leading 18V LXT System, giving industrial users a wider choice of battery-powered tools and equipment to achieve a truly cordless job site.

Makita's 18V 'LXT' range currently has over 200 products that meet demands across a wide range of applications. The company will continue to invest heavily in the 18V LXT system, with more new products planned to ensure continued support for customers who have already bought into the 18V 'LXT' platform.

18V LXT utilises a single battery across hundreds of products, with the ability of added power by using two 18V batteries in series on the current range of Twin 18V (36V) LXT products. This simple concept has revolutionised how work is undertaken by contractors; however, the introduction of the Makita 40V Max 'XGT' range in Spring 2020 will offer a new and improved solution to benefit many applications where heavy-duty performance is required.

Why has 'XGT' been developed?

When visiting countries around the world, Makita R&D engineers have been challenged to design better cordless tools that can deliver more power, improved run-time, as well as being compact in size with an optimum weight for contractors to use throughout the working day.

XGT batteries look similar in size to existing 18V LXT batteries; however, 40V Max 'XGT' is a new stand-alone system with its own range of tools, batteries and chargers. Offering 40V Max power, the XGT range has been engineered to meet these industry demands as the market pushes for the transition to battery power.

A range of 40V Max 'XGT' products has recently been launched in Japan with a plan to introduce the new product range in Europe for Spring 2020. More information will follow in the early part of 2020.

Makita's global focus is innovation; new technology and products that satisfy the needs of customers across many industries. Supported by heavy investments for today, tomorrow and the future, the market is, and will be, changing and Makita is positioned to lead this advance. To find out more, see **www.makitauk.com**.

TORMEK SCHOLARSHIP AWARD 2019

The 2019 Tormek Scholarship Award has been presented to Rachel Elston. Rachel's winning piece is a stylish entryway table, which she has named 'JOVE'. The piece provides both functionality and elegance, and has won Rachel a complete Tormek sharpening station, which will no doubt prove most useful as she pursues her career. Rachel was originally working in the communications sector, and her only woodworking experience was gained from making pieces for her flat. However, it was this that encouraged Rachel to take a leap of faith to follow her passion and re-train as a fine woodworker.

It was during her study time in East London that this young furniture maker first came across Tormek. She explains: "We spent the first term of the two-year course learning how to use and maintain our hand tools to a high standard. This, of course, required good sharpening skills. To achieve this, the college provided Tormek kits for the students to learn and practice on. "Rachel firmly believes that sharp tools are essential for the creation of beautifully cut joinery, producing crisp and accurate cuts, saving time and improving the quality of a maker's work.

'JOVE' is inspired by Scandinavian design and a small living space. "The simplicity and functionality of Scandinavian designs always catch my eye. I particularly like the warm natural tones that come with the designs from that area," says Rachel.

Material is also an important factor for Rachel. She used American red oak and American maple to create 'JOVE', both of which were provided by the American Hardwood Export Council (AHEC) with whom she collaborated on this project. Never having worked with red oak before, Rachel was pleasantly surprised by how similar it was to European oak, but with added tones of red and orange running through it, making it the perfect fit for a Scandinavian inspired piece. The lower shelf of 'JOVE' provides storage for shoes and has been delicately encased in woven strips of American maple.

For the immediate future, Rachel will continue her furniture making journey in North Wales as a cabinetmaker for Silverlining Furniture, under the expert guidance of the furniture makers there, although, in the long term, she hopes to design and make her own pieces.

For more information on Tormek, see **www.tormek.com** or **www.brimarc.com/tormek**.

DICKIES GETS FLEXIBLE WITH LATEST INNOVATION

Global workwear brand Dickies is introducing the FLEX Workwear collection, which incorporates new fabric technology designed to enhance flexibility and comfort.

The range is launching with two new trouser styles: Universal Flex Trouser and the Lead In Flex Trouser, both of which feature Dickies' FLEX Fabric, its latest innovation, created to provide optimum mobility and all-day comfort.

Available with or without holster pockets, the Universal Flex Trouser features FLEX fabric panels in key places, such as the back of the calves and the waistband. Designed in a smart, slim fit, the trouser also features Cordura reinforcements for added durability.

Easy to move and stretch in, the Lead In Flex Trouser is designed with a tapered leg, creating a more simple, minimal look.

Also benefitting from the new FLEX fabric is the GDT Premium Trouser, a cotton-rich option in a regular fit, which is now available in a new camouflage colour variation.

"The latest in performance workwear, our FLEX Workwear range allows the wearer to comfortably move and bend as their job demands," said James Whitaker, Marketing Director.

"The new trouser styles include both smart and casual options, giving trades and craftspeople the practical support they need to do their job well, while fitting the image they like to cultivate at work."

For details on availability, including stockists, visit **www.dickiesworkwear.com/uk/trousers/flex**.

METALCRAFT TOOLS

Metalcraft tools bend, shape, cut and join steel strip and bars; they can also work with tube, all with just the pull of a lever and without the need for heat or electrical power. You can form metal into shapes, components or finished projects with impressive and consistent results every time.

These British tools are manufactured at the company's factory in Hull, and they have supplied to hundreds of thousands of customers in over 60 countries worldwide. With 70 years' experience you know you are getting great quality workmanship that is built to last as well as the assistance of friendly, knowledgeable staff who are always happy to help.

Metalcraft supply individual tools or complete workshop packages to kit out your garage, shed or workshop; they also have a wide variety of other products from steel and associated materials to fixings, plus a large range of other decorative accessories. A great workshop tool, the products appeal to a large and diverse range of customers, from anyone wanting workshop tools to businesses and crafters – in fact anyone involved in fabrication, motor repairs, engineering, maintenance work, gardening, industrial construction, agricultural applications or just someone who enjoys being 'hands-on'.

Metalcraft tools are an ideal complement to wood, whether it be larger furniture, such as garden benches or a coffee table, to small items, such as coat hooks and shelving. Using wrought iron in your designs can really add a rustic, old world charm to your projects and with the ability to scroll and punch in seconds, it can save time too. These tools are also ideal for those tricky repairs around the house or garage, for making your home and garden more secure with window/door grilles, and also offer the unique opportunity to diversify and turn a skill into an additional money-making venture.

For more information, see **www.metal-craft.co.uk** and check out what they have to offer.

PANTOROUTER PRO

Capable of cutting endless custom joints and templates, the PantoRouter is a really clever concept, says **John Lloyd**, but would perhaps be better suited to the machine-based woodworking enthusiast with an engineering brain

As you might have already guessed, a 'PantoRouter' is a cross between a pantograph and a router, and just in case you're not sure what a pantograph is, it's a mechanical linkage made up of parallelograms, which is used either to collect power for a train or tram from overhead cables – possibly not much call for that sort of device in woodwork; or to copy or scale drawings – again, not something you'd immediately think would be of very much benefit to a woodworker. Unless, of course, you link this mechanical linkage up to a router. If there's a router involved, then maybe this could be interesting.

Let's go back to the chap who invented the PantoRouter, Matthias Wandel, whose stated aim was that he 'wanted to build a machine to make tenons with rounded ends so they would fit nicely in the elongated holes from a slot mortiser.' And that's just what a PantoRouter can do, along with other things such as cutting finger joints and dovetails. In fact, according to the makers of this machine, 'the uses are limited only by your imagination.'

The PantoRouter Pro, once assembled

I should perhaps confess at this point that I'm not naturally drawn to machines that do things like cutting dovetails; I still get a certain satisfaction from cutting joints by hand, but I do use a biscuit jointer, a mortiser, a Domino, a router table, and a whole host of other woodworking machinery, so this blend of router and multiple mechanical linkages that's going to effortlessly cut, among other things, accurate mortise & tenon joints – one of the trickier joints to cut with precision – has certainly got my attention.

Assembly

If you were to buy one of these machines, it would arrive part-assembled. My test machine arrived complete so I didn't get involved with assembly, but there are good step-by-step instructions, with photos, and it all looks pretty straightforward.

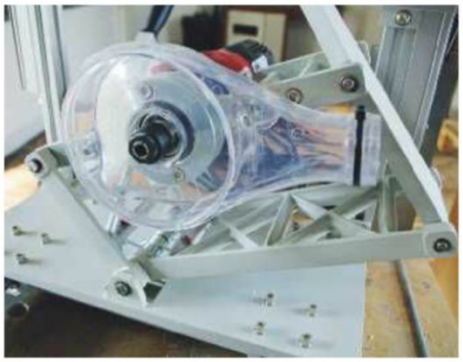
Mafell router nestling in the middle of the pantograph linkages

My first impression of the PantoRouter was that it looked like it might have been a Heath Robinson creation – there's a sea of extruded aluminium, Bristol levers, handles and linkages, some bits are hinged, some bits slide, lots of things move in different directions, and nestling in the middle of it all is a small Mafell router.

Having assembled the PantoRouter, there are some easy to follow instructions on how to set the machine up using a centre point fitted in the router collet, and some centrelines to draw on the table, so the cutter knows where it is.

Cutting a mortise & tenon joint

The basic idea of this machine is that, being a pantograph, it is able to copy things – in this case it copies the shape of templates that are mounted on the vertical 'template bar', and it replicates



The router's plastic hood provides efficient dust extraction

Annoyingly, some of the Bristol lever adjusters clash with other components

Templates and cutters for mortise & tenon and dovetail joints

The Bessey clamps slot into the table grooves and are really secure and easy to use

them at a scale of 2:1 – i.e. the thing it produces is half the size of the template. There are plastic templates and cutters supplied with the machine for making various different joints and, if you're feeling adventurous, you can, of course, make your own templates. Having mounted your chosen template on the template bar, and your workpiece on the horizontal table, the depth of cut and centreline of the joint can be set and the joint cut, which all seems very uncomplicated.

The stated aim of the inventor of this machine is that it should cut accurate mortise & tenon joints. It should be good at these, then, so that's the joint I went for. Suitable template installed, workpiece clamped onto the table, the instructions informed me to install a 10mm cutter and a 10mm bearing guide for a 10mm mortise & tenon, which all seems very simple and intuitive. The 10mm joint was a bit big for my 18mm workpiece, the mortise a little wide really, so a 6mm joint with 6mm either side might be better, but I decided to stick with the instructions – after all, this was my first attempt at a joint using this machine. With everything set up, I went for my first cut. The bearing follower is located in a slot in the centre of the template. With dust extraction and router switched on, there are two handles that control the router cut: one uses the pantograph linkage to follow the shape of the template and the other plunges the router cutter into the workpiece to the set depth of cut. This all makes complete sense, but now for the clever bit: with the mortise complete, it's time to cut the other half of the joint, so with the rail clamped to the table, against the simple squaring fence, the bearing follower is moved from the slot in the centre of the template to run around the outside, thus giving a matching tenon. The outside of the template is tapered – a really clever way of fine-tuning the size of the tenon – and to do this, just re-position the bearing follower on the wider or narrower part of the template for a slightly bigger or smaller tenon.

Cutting other joints

The process for a 10mm mortise & tenon is really quite easy, so how good is the joint? Not bad at all. Everything is nice and crisp, but it had been cut at a very slight angle, which meant that the shoulder of the tenon was very slightly gappy on one side and the rail headed off at a slight angle to the stile – not really what I would have expected and I'm sure this is something that could be sorted, perhaps with a bit of shimming to the main table.

So what happens when you want to cut a joint other than a 10mm mortise & tenon? As mentioned earlier, for an 18mm thick component, a 6mm mortise & tenon seems more appropriate, but at this point the elegant simplicity of the PantoRouter seems to evaporate: a 6mm cutter will work for the mortise but it won't work for the tenon. Tables must be consulted to choose the correct combination of guide bearing, template and cutter, and if you want a specific size that isn't in the table, you need to use an equation and perhaps buy a specific cutter size. Things would probably become a little simpler if you just used the machine to cut elongated mortises and used Dominos instead of cutting tenons, but this is not quite the aim of the inventor and, of course, a Domino machine cuts mortises for Dominos with an understandable self-assurance.

Conclusion

The PantoRouter is a really clever concept, but I'm left a little confused as to what it wants to be. If I wanted a machine to quickly, simply and accurately cut mortise & tenon joints with

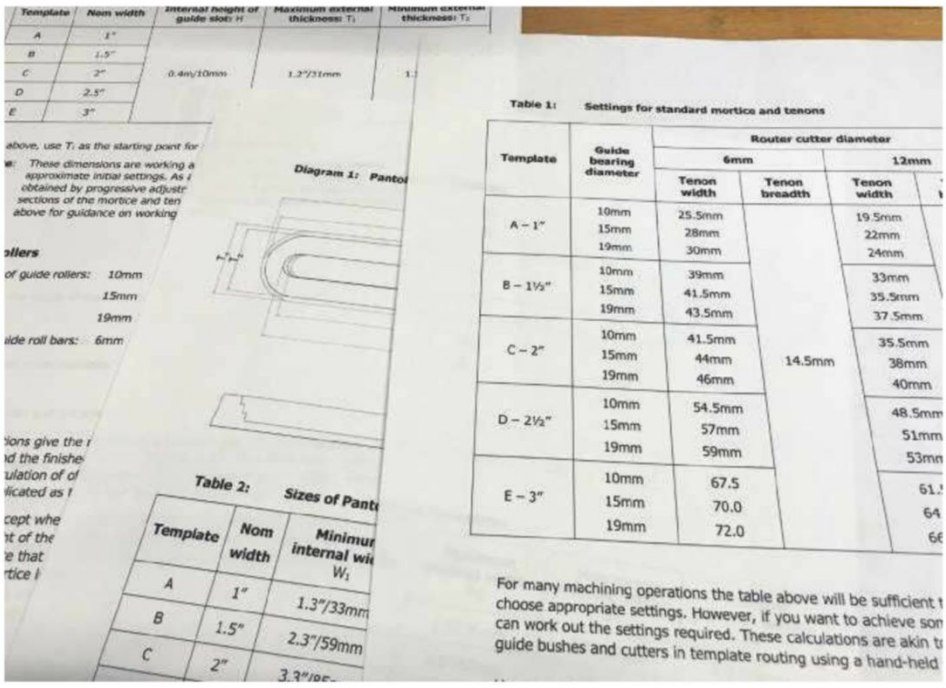


Table 1: Settings for standard mortice and tenons

Template	Guide bearing diameter	Router cutter diameter: 6mm Tenon width	6mm Tenon breadth	12mm Tenon width
A – 1"	10mm	25.5mm	14.5mm	19.5mm
	15mm	28mm		22mm
	19mm	30mm		24mm
B – 1½"	10mm	39mm		33mm
	15mm	41.5mm		35.5mm
	19mm	43.5mm		37.5mm
C – 2"	10mm	41.5mm		35.5mm
	15mm	44mm		38mm
	19mm	46mm		40mm
D – 2½"	10mm	54.5mm		48.5mm
	15mm	57mm		51mm
	19mm	59mm		53mm
E – 3"	10mm	67.5		61.5
	15mm	70.0		64
	19mm	72.0		66

Table 2: Sizes of Panto templates

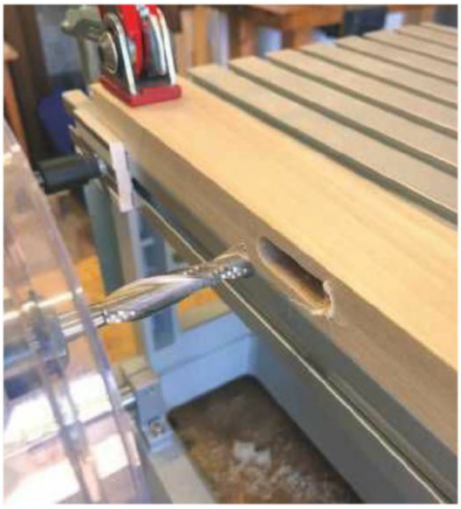
Template	Nom width	Minimum internal width W_1
A	1"	1.3"/33mm
B	1.5"	2.3"/59mm
C	2"	3.3"/85

There are many tables and drawings to consult to help with choice of template and cutter combinations

The depth stop is very simple to adjust and lock

To cut a mortise, the bearing-guided follower is positioned in the centre of the template

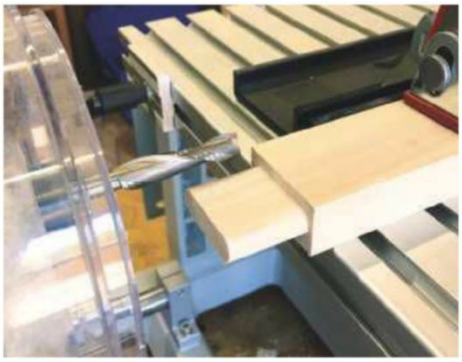
Cutting the mortise – the shape of the template is transferred to the workpiece with the help of the pantograph



The completed mortise

To cut the tenon the bearing follower is repositioned on the outside face of the template – note the clever tapered edge for fine adjustment

elongated ends, the obvious choice would be a Domino machine. Of course, the PantoRouter is able to do many other things like dovetails and finger joints, but there are already many router-based dovetail jigs on the market, and a router table is pretty efficient at cutting finger joints, which leaves all those other projects that are only limited by your imagination. My conclusion is that if you have an engineering brain, you love maths and an equation like 'WT = (W3+R)/2-D' is something that fills you with joy, and if you really want to get involved with predominantly machine-based woodworking, the PantoRouter would be absolutely perfect for you. There is an excellent book of instructions and it would give you endless hours of enjoyment. And, obviously, regular use would allow you to really get to grips with what it's truly capable of, but the 'Pro package' is heading for £2,000, and this is a serious investment that could, for example, buy you a decent bandsaw or planer/thicknesser, which leads me to think that it might not be the best choice for a woodworker who likes to make things using hand skills, with the help of a few power tools, which are cheaper and perhaps rather more straightforward to use.



The completed tenon

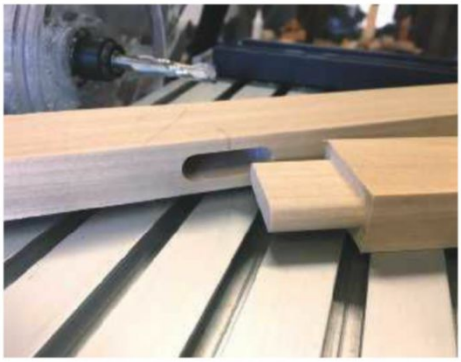
SPECIFICATION

What's in the box?

- Mafell FM 1000 spindle motor with 8 & 6mm collets
- V3 template holder with setting gauge for material thickness
- Fence stop pair
- Seven-piece mortise & tenon template pack
- Variable spaced dovetail template
- Box joint template
- 10, 15 & 19mm Ø copying pins
- Centring jig
- Centre scale fence
- Dust collection hood
- Solid tungsten carbide spiral cutters: 6, 8, 10 & 12mm
- 8° dovetail cutter
- 2 × Bessey Hold Down Clamps

Features

- Height-adjustable template mount
- Fine-tuning of templates tightens the accuracy of mortise & tenon joints
- Precisely aligned milling motor
- Warp-resistant aluminium tilting machine table
- Depth stop with scale
- Light-weight construction
- Horizontal workpiece attachment to accommodate longer lengths of timber
- Construct your own templates to make almost endless custom joints



The result is a nice crisp mortise & tenon joint

A little fine-tuning of the table would be required to cure the slight misalignment of the joint

Mafell FM 1000 Spindle Milling Motor

Wattage: 1,000W
Torque: 0.30Nm
Voltage: 230V
Speed: 4,000-25,000rpm
Dimensions: 250 × 75 × 72mm

Typical prices: Pro Package – £1,795.95; Starter Package –£1,388.95
Web: www.woodworkersworkshop.co.uk

THE VERDICT

PROS

- Good solidly built table, router mount and linkage; easy to change cutters; clever system for centring the cutter and easily adjusted depth stop; quick, effective clamping with Bessey clamps; could be very versatile and an exciting new, machine-based, way of woodworking for someone who likes a bit of maths with their joints

CONS

- Some Bristol levers are a bit cramped and close to other components; rather complex setup involving equations and tables; represents a significant financial investment

RATING: 4 out of **5**

Illustration by Omi

THINGS THAT GO BUMP

Robin Gates reports from the shop floor with a crash course in furniture

One of those signs along the lines of 'The proprietors accept no responsibility for injury or death of customers while on these premises' always strikes me as a gauntlet thrown down. You wouldn't think our local antique furniture markets were death traps. They're quiet as country churches, and smell very similar. Through the fog of furniture polish I detect notes of rising damp, decaying timber, and the composting of old leather. Which comes from the artefacts for sale, and which from the tottering buildings around them, who can say, but the possibility of the whole lot coming down on my head does add a frisson of excitement to looking.

Dangers to life and limb aside, in these retail surroundings a woodworker can study furniture in ways denied by museums. As a potential customer, the rule of caveat emptor dictates cupboards be opened, leaves lifted, and drawers jolted open. Of course that's when the handles come off, loose panels fall out, and the proprietor magically appears. 'Are you all right?' they'll ask, meaning 'Are you mad?'.

If the gods are smiling, and gravity is asleep, an old piece can be very illuminating in its details. Looking into the furniture, which has served generations, often reveals differences between how it was built and how it might be built today. In the dovetail joints, for example, I find all manner of gradients and spacing, even the odd nail holding things together. To my mind there's no right or wrong in this, it's simply how it is, but perhaps that's a reflection on the furniture I'm drawn to, speaking more of the worker's cottage than the manor house.

Old furniture that's lived usefully grows old gracefully. Little heaps of wood dust behind the runners tell of drawers opened daily over decades; a door sagging on its hinges suggests the favoured cupboard. Split boards are the work of dry summers, long gone. I love all that.

Unplanned purchases

But all this casual looking inevitably results in some unplanned purchases. Charmed by what's in front of me I'll overlook that we don't need it or simply don't have the space, and consequently furniture flows through the house, up and down stairs, in and out of the shed, and onwards to the charity shops in a steady tide of wood.

It's in shifting furniture from A to B at home I often get to know it better, wedged in a corner of the stairs with a table, for example, unable to move up or down. Other times a piece shows what it's made of in public, such as happened with the Air Ministry Desk.

We'd found it in a quaint old building on the square, where the antiques are displayed above a genteel tea shop offering a jam scone and cup of Earl Grey to frazzled shoppers. Of World War II vintage, with detachable legs stowed in a rack behind the apron, it'd be just right for our son Tom piloting his computer. Having paid up front, we returned home for the car and an adjustable spanner.

'We'll manage,' we assured the dealer, and had it dismantled in a jiffy, just needing to turn the thing over and stow the legs. But once airborne the desk proved heavier than expected, and in adjusting our grip we somehow got it into a spin. Propelled by centrifugal force, the desk's easy-running drawer launched like a missile and hammered against the floorboards, sending shock waves through the tea cups poised mid-air, no doubt, at tables below.

Ladies in pinnies came rushing up the stairs and gents in gold-rimmed bifocals closed in, like nurses and doctors rushing to intensive care. 'Are you all right?' they asked, by which we knew exactly what was meant.

Cowboy town

But even the experts get it wrong sometimes, or are found chancing their arm. The instance comes to mind of a 'Solid oak corner display cabinet. Jacobean.' On close inspection, round the back, the revealing edges of plywood and chipboard were plainly visible, lipped and veneered to convey solidity at the front but built like the set of a Hollywood cowboy town.

Giving credit where its due, the doors were indeed solid oak, so I gave the piece a second look with a view to recycling the glazed door as a shed window, while Omi delved inside the lower cupboard. Under the weight of both doors hanging open, the front-heavy cabinet tipped up and trapped us like two mice underneath a flowerpot. Quietly, we manoeuvred that cabinet onto its feet and crept away.

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

MIRKA DEOS DELTA 663CV CORNER SANDER

Perfect for sanding awkward and hard-to-reach corners, this new compact offering from Mirka is undoubtedly a top performer in its class, says **Jamie Smith** of **Atelier Cabinet Makers**

The Mirka DEOS Delta 663CV is a compact and very lightweight iron-shaped orbital palm sander, weighing only 0.97kg. The latest addition to the Mirka DEOS (Direct Electrical Orbital Sander) family, it is ergonomically designed and features a compact shape, which you can feel comfortably sits under the palm of your hand. The switches and controls are all easy to use and enable quick changing of speed during sanding operations.
If you've not used one of Mirka's sanders before, the first thing you notice is the unusual paddle switch located on the top, which allows you to easily switch the sander on or off, as well as enabling fast and efficient speed control.

The DEOS has a weight of less than 1kg, making this sander comfortable for prolonged use

The plus and minus buttons allow you to set a maximum power level

This allows the user a hassle free 'pick up and go' ability when working in the workshop or out on site. While sanding you can simply ease off or increase the pressure on the paddle switch, which is located under the palm of your hand; this in turn increases or slows the speed. This is completely different to other sanders on the market, which all require a second hand in order to turn a speed adjustment wheel. Releasing the paddle switch entirely stops the sander but leaves it ready to pick up and carry on a task. When you're finished, a power off switch is handily situated just behind the paddle switch.

MyMirka smartphone app

The DEOS Delta not only has the unique-to-Mirka paddle switch, which allows for fast speed control, it also features a positive and negative switch that enables the user to set a top speed limit. This means you could set a 50% speed level and when you fully press the paddle switch it will not go any further than the predetermined limit. Changing the power limit is indicated by the consistent green power indicator light, which gives a red flash each time the increase or decrease switch is deployed. Unless you download the MyMirka smartphone app, which allows you to connect to the Delta via Bluetooth, there is no way of manually being able to tell which speed setting the sander is operating on, but this is a very handy device to have. The app shows the user real time running speed and vibration level, as well as notifying you as to whether the vibration level gets too excessive. While I have been using the sander, however, I'm pleased to report that it hasn't reached anywhere near the excessive vibration limits stated.

Abrasive sheets

The Mirka DEOS Delta has a 100 × 152 × 152mm triangular base with 3mm orbit. The base pad is full of extraction holes, which ensures dust-free sanding when paired with the Mirka Abranet abrasive sheets. These allow dust particles

A green light indicates the changing of power level

Changing of sanding sheets while using a base saver pad with plenty of extraction holes

A height of 10cm makes the DEOS Delta a very versatile sander in the workshop

to pass straight through the abrasive sheets and to not clog up like regular abrasive can do. For this particular model, I'd recommend buying the Abranet sanding sheets and fitting the sander with a secondary hook-and-loop pad, called a base saver. You keep this fitted to the main base pad and it prevents the original hook-and-loop from wearing out. When the secondary pad expires, you can simply then replace it, which is much more cost effective than having to purchase a new main base.

In use

While working in my cabinetmaking workshop, I've really enjoyed being able to put the DEOS Delta to work on tasks which otherwise would have only been done by hand, thus creating lots of dust and taking more time. I used the orbital sander for tasks such as final sanding of pieces of furniture, while making our bespoke kitchens, before applying a finish. The Delta is exceptional for sanding in awkward areas due to its low profile of just 10cm high. The triangular base can reach right into small, tight corners where other sanders would be useless. I found the triangular base perfect for the sanding of oak kitchen spice racks I was working on and also used it for sanding between coats of finish, where I found it to deliver an exceptional level of dust extraction, thus giving virtually dust-free sanding. I paired the Mirka with my Festool CTL extractor and was pleased to discover that the Festool hose adaptor fitted over the Mirka dust port and held itself

Efficient dust extraction makes for a clean working environment

incredibly well. I plugged it into the dust extractor power outlet, which gave instant auto extraction when I turned the sander on. I have used many grades of Abranet sanding sheets with the DEOS Delta, from 80 to 320 grit, on a variety of different materials and can report that the sanding finish quality is very high. The DEOS' 3mm orbit gives a fast and effective stock removal even in those tight corners.

Conclusion

Something I really like on any power tool is a detachable power cord, which also happens to be a feature on the Mirka DEOS. This enables easy replacement if the power cord gets damaged and just makes things a lot easier, especially when packing the sander away and transporting it to the jobsite.

I wouldn't recommend the DEOS for working on large surfaces as it is purely a specialist task model, specifically designed for the awkward areas that other regular sanders can't reach.

The Delta's triangular shaped base pad with 3mm orbit pattern

I would recommend it for lightweight and finishing work, however, especially for cabinetry, and being able to delicately reach into corners of panels and doors, etc. is an added bonus. I can definitely see this sander having a permanent place in our workshop and with it being on the bench for the last few weeks, I'll certainly miss putting it to use when I am hand sanding those awkward areas. The DEOS Delta is one of the most expensive sanders in its class, but if you're considering purchasing one, it's worth thinking about the unique features of this tool, which, in my opinion, makes it one of the top perfumers in its class.

SPECIFICATION

Power input: 250W
Voltage main supply: 230V
Speed: 5,000-10,000rpm
Orbit: 3mm
Size of pad: 100 × 152 × 152mm
Weight: 0.97kg
Noise Level – LpA: 68(dB)
Vibration level: 2.6(m/s²)
Connectivity: Bluetooth
Dust system: Central vacuum ready

Typical price: £502.72
Web: www.mirka.com/uk/uk/

THE VERDICT

PROS

- Very lightweight; low vibration; virtually dust-free sanding; ergonomic and comfortable for prolonged use; replaceable secondary hook-and-loop pad; reaches most awkward areas

CONS

- High price tag; paddle switch could be vulnerable to breaking if dropped

RATING: 4.5 out of **5**

Sanding solid oak kitchen spice racks before applying a finish

The triangular base pad allows the DEOS to reach into awkward corners

Machine Mart

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

£129.98 EXC.VAT £155.98 INC.VAT

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

Clarke TABLE SAW WITH STAND

CTS16

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

INCLUDES LEFT & RIGHT TABLE EXTENSION

£99.98 EXC.VAT £119.98 INC.VAT

Clarke WOODWORKING VICES

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

WV7

MODEL	MOUNTING	JAW (WIDTH/OPENING /DEPTH)mm	EXC.VAT	INC.VAT
Clarke CHT152	Bolted	150/152/61	£14.99	£17.99
Record TV75B	Clamped	75/50/32	£22.99	£27.59
Clarke WV7	Bolted	180/205/78	£29.98	£35.98

Clarke GARAGES/WORKSHOPS

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

IDEAL ALL-WEATHER PROTECTION

BRIGHT WHITE INTERIOR

LENGTH UP TO 24'

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

ZIP CLOSE DOOR

*was £346.80 inc. VAT

MODEL	SIZE (LxWxH)	EXC.VAT	INC.VAT
CIG81015	4.5 x 3 x 2.4M	£229.00	£274.80
CIG81020*	6.1 x 3 x 2.4M	£279.00	£334.80
CIG81216	4.8 x 3.7 x 2.5M	£279.00	£334.80
CIG81220	6.1 x 3.7 x 2.5M	£349.00	£418.80
CIG81224	7.3 x 3.7 x 2.5M	£419.00	£502.80

Clarke 4" BELT/ 6" DISC SANDER

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

CS4-6E

£96.99 EXC.VAT £116.39 INC.VAT

Clarke 6" BELT/ 9" DISC SANDER

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

CS6-9C

£259.00 EXC.VAT £310.80 INC.VAT

Clarke 1" BELT/ 5" DISC SANDER

- Includes 2 tables that tilt & lock

£74.99 EXC.VAT £89.99 INC.VAT

CBS1-5B

- Quality Induction 250W motor

Clarke 40" WOODTURNING LATHE

Ideal for woodturning in the workshop

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

CWL1000B

ONLY £136.99 EXC.VAT £164.39 INC.VAT

LOCKABLE TAILSTOCK

BENCH MOUNTED

Clarke 13" MINI WOOD LATHE

£159.98 EXC.VAT £191.98 INC.VAT

CWL325V

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

Clarke DUST EXTRACTOR/ CHIP COLLECTORS

CDE7B

CWVE1

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

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

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

Clarke POWER PLANERS

NEW RANGE

CEP450

FROM ONLY £34.99 EXC.VAT £41.99 INC.VAT

MODEL	WIDTH OF CUT	EXC.VAT	INC.VAT
CEP450	60mm	£34.99	£41.99
CEP720	82mm	£44.99	£53.59
CON950	110mm	£67.99	£81.59

Clarke DETAIL SANDERS

- Perfect for smooth and fine finishing along with hard to reach areas or curved surfaces *was £35.98 inc. VAT

CDS-1V

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

MODEL	WATTS	EXC.VAT	INC.VAT
PS105	105W	£19.98	£23.98
CDS-1V*	280W	£26.99	£32.39

ALL MODELS INC. SANDING SHEETS

Clarke DRILL PRESSES

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

FROM ONLY £69.98 EXC.VAT £83.98 INC.VAT

B = Bench mounted F = Floor standing

CDP152B

MODEL	MOTOR (W) SPEEDS	EXC. VAT	INC. VAT
CDP5EB	350 / 5	£69.98	£83.98
CDP102B	350 / 5	£79.98	£95.98
CDP152B	450 / 12	£149.98	£179.98
CDP202B	450 / 16	£189.00	£226.80
CDP10B	370 / 12	£199.98	£239.98
CDP452B	550 / 16	£239.00	£286.80
CDP352F	550 / 16	£229.00	£274.80
CDP502F	1100 / 12	£549.00	£658.80

Clarke 4" BELT/ 8" DISC SANDER

- Includes two tables • 550W 230V motor

£159.98 EXC.VAT £191.98 INC.VAT

CS4-8

Clarke DISC SANDER (305MM)

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

£129.98 EXC.VAT £155.98 INC.VAT

CDS300B

Clarke BELT SANDERS

- Ideal for surface removal, sanding and finishing

makita

ABRASIVE SANDING BELTS IN STOCK

BS1

FROM ONLY £37.99 EXC.VAT £45.59 INC.VAT

MODEL	MOTOR	M/MIN	EXC.VAT	INC.VAT
Clarke BS1	900W	380	£37.99	£45.59
Clarke CBS2	1200W	480	£79.98	£95.98
Makita 9911	650W	75-270	£99.98	£119.98

Clarke HARDWOOD WORKBENCH

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

CHB1500

£149.98 EXC.VAT £179.98 INC.VAT

Clarke RANDOM ORBITAL SANDER

- Adjustable front handle improves control • 7000-14000rpm

£32.99 EXC.VAT £39.59 INC.VAT

CROS3

INC DUST BAG AND SELECTION OF 125MM DIAMETER SANDING DISCS

Clarke ELECTRIC POWER FILE

CPF13

- Variable belt speed • Tilting head

*Black & Decker

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

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

Clarke SHEET SANDERS

CON320

- Ergonomic design for optimum comfort

NEW

VARIABLE SPEED

FROM ONLY £23.99 EXC.VAT £28.79 INC.VAT

MODEL		SHEET SIZE	MOTOR	EXC.VAT	INC.VAT
COS210	NEW	190X90mm	200W	£23.99	£28.79
CON320	NEW	230X115mm	320W	£34.99	£41.99

Clarke CIRCULAR SAWS

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

CON185

*Includes laser guide

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

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

VAC KING WET & DRY VACUUM CLEANERS

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

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

* SS = Stainless Steel

MODEL	MOTOR	CAPACITY DRY/WET	EXC. VAT	INC. VAT
CVAC20P	1250W	16/12ltr	£49.98	£59.98
CVAC20SS*	1400W	16/12ltr	£59.98	£71.98
CVAC20PR2	1400W	16/12ltr	£64.99	£77.99
CVAC25SS*	1400W	19/17ltr	£69.98	£83.98
CVAC30SSR*	1400W	24/21ltr	£89.98	£107.98

Clarke CORDLESS STAPLE/ NAIL GUN

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

ONLY £109.98 EXC.VAT £131.98 INC.VAT

CONSN18LIC

SPARE NAILS / STAPLES IN STOCK

ELECTRIC AND CORDLESS MODELS IN STOCK

Clarke CONTRACTOR 18V BRUSHLESS COMBI DRILLS

- 2 forward and reverse gears

powered by Li-ion

CON180LI

4Ah Li-ion

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

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

Clarke OSCILLATING BOBBIN SANDER

COBS1

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

£129.98 EXC.VAT £155.98 INC.VAT

NEW RANGE

Clarke BOLTLESS SHELVING/BENCHES

- Simple fast assembly in minutes using only a hammer

FROM ONLY £29.98 EXC.VAT £35.98 INC.VAT

SAVE 10% WHEN YOU BUY ANY MIX OF 4 FROM THIS RANGE SAVE UP TO £23.99 INC. VAT

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

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

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

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

Clarke WHETSTONE SHARPENER (200MM)

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

CWS200B

ONLY £119.98 EXC.VAT £143.98 INC.VAT

Clarke PLANERS & THICKNESSERS

CPT800

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

FROM ONLY £179.98 EXC.VAT £215.98 INC.VAT

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

Clarke OSCILLATING BELT & BOBBIN SANDER

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

£179.98 EXC.VAT £215.98 INC.VAT

COEBS1

29585LH

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Offering low cost, efficient heating

DUAL VOLTAGE 230v 110 VOLT IN STOCK FROM £226.80

FROM ONLY £79.98 EXC.VAT £95.99 INC.VAT

PROPANE GAS FIRED

MODEL	MAX OUTPUT KW	EXC. VAT	INC. VAT
Little Devil II	10.3	£79.98	£95.98
Devil 700	15	£99.98	£119.98
Devil 900	24.9	£139.98	£167.98
Devil 1600	36.6	£169.98	£203.98
Devil 2100	49.8	£259.00	£310.80
Devil 4000	131	£429.00	£514.80

Clarke ELECTRIC HEATERS

BEST SELLER

DEVIL 7003

DEVIL 6003 FROM ONLY £49.98 EXC.VAT £59.98 INC.VAT

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

Clarke BENCH BANDSAWS

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

£129.98 EXC.VAT £155.98 INC.VAT

CBS190B

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

£189.98 EXC.VAT £227.98 INC.VAT

REMOVABLE DUST TRAY

CBS225

Clarke PROFESSIONAL BANDSAWS

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

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

MAGNIFIED MITRE GUIDE

QUICK RELEASE FENCE

DRIVE-BELT TENSIONING

SOLID GROUND CAST IRON TABLE

CBS300

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

MODELS ALSO FEATURE:

MULTI-STEP DUST EXTRACTION OUTLET

FLEXIBLE LED WORKLIGHT

REMOVABLE DUST TRAY

BLADE TENSIONING CONTROL

MODEL	THROAT DEPTH	MAX CUT 90°	MAX CUT 45°	EXC. VAT	INC. VAT
CBS250	250mm/10"	100mm	75mm	£219.98	£263.98
CBS300	305mm/12"	165mm	115mm	£398.00	£477.60
CBS350	340mm/14"	225mm	160mm	£498.00	£597.60

Clarke SLIDING COMPOUND MITRE SAWS

BEST SELLER

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

MASSIVE PRICE CUT NOW FROM £74.99 EXC.VAT £89.99 INC.VAT *WAS £95.98 INC.VAT

CMS10S2

MODEL	BLADE DIA/BORE (mm)	MAX CUT DEPTH/ CROSS	EXC.VAT	INC.VAT
CMS210S*	210/30	60/120	£74.99	£89.99
C2MS210MP	216/30	65/305	£139.98	£167.98
CMS10S2	254/30	78/340	£139.98	£167.98
CSM250S	250/30	85/250	£109.98	£131.98
C2M250MP	255/30	90/305	£189.00	£226.80

Clarke SCROLL SAWS

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

CSS400C

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

BEST SELLER

MODEL	MOTOR	SPEED RPM	EXC. VAT	INC. VAT
CSS400D	120W	400-1600	£79.98	£95.98
CSS16VB	90W	550-1600	£94.99	£113.99
CSS400C	90W	550-1600	£119.98	£143.98

Clarke STATIC PHASE CONVERTERS

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

ROTARY PHASE CONVERTERS ALSO IN STOCK

PC60

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

CONVERT 230V 1PH TO 400V 3PH

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

Clarke ROUTERS

CONTRACTOR BOSCH

NEW

- Powerful heavy duty machines ideal for trade and DIY use

CR4

FROM ONLY £44.99 EXC.VAT £53.99 INC.VAT

*was £131.98 inc. VAT CR1200

MODEL	MOTOR (W)	PLUNGE (mm)	EXC.VAT	INC.VAT
CR1200	1200	0-55	£44.99	£53.99
Bosch POF1400ACE	1400	0-55	£89.98	£107.98
CR4* NEW	2000	0-66	£99.98	£119.98

Clarke GRINDERS & STANDS

- Stands come complete with bolt mountings and feet anchor holes

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

6" & 8" AVAILABLE WITH LIGHT

STANDS FROM ONLY £47.98 INC.VAT

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

With sanding belt *8" whetstone & 6" drystone

MODEL	DUTY	WHEEL DIA.	EXC.VAT	INC.VAT
CBG6RP	DIY	150mm	£32.99	£39.59
CBG6RZ	PRO	150mm	£42.99	£51.59
CBG6RSC	HD	150mm	£54.99	£65.99
CBG6SB#	PRO	150mm	£56.99	£68.39
CBG6RWC	HD	150mm	£59.98	£71.98
CBG8W* (wet)	HD	150/200mm	£58.98	£70.79

TURBO AIR COMPRESSORS

airmaster NEW

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

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* 'V' Twin Pump

8/260

MODEL	MOTOR	CFM	TANK	EXC.VAT	INC.VAT
8/260 NEW	2HP	7.5	24ltr	£89.98	£107.98
7/250	2 HP	7	24ltr	£94.99	£113.99
11/260 NEW	2.5HP	9.5	24ltr	£109.98	£131.98
8/550 NEW	2HP	7.5	50ltr	£119.98	£143.98
11/550 NEW	2.5HP	9.5	50ltr	£139.98	£167.98
16/1010*	3 HP	14.5	100ltr	£259.98	£311.98

Clarke PLUNGE SAWS

NEW RANGE

CPS160

FROM ONLY £69.98 EXC.VAT £83.98 INC.VAT

MODEL	MOTOR	EXC.VAT	INC.VAT
CPS85	550W	£69.98	£83.98
CPS160	1200W	£139.00	£166.80

Clarke CONTRACTOR Clarke JIGSAWS

FROM ONLY £15.99 EXC.VAT £19.19 INC.VAT

CON750

*DIY #Professional

MODEL	POWER (W)	DEPTH OF CUT (WOOD/STEEL)	EXC. VAT	INC VAT
CJS380*	420W	55/6mm	£15.99	£19.19
CON750#	750W	80/10mm	£27.99	£33.59
Bosch PST700E*	500W	70/4mm	£44.99	£53.99

Clarke 12" DOVETAIL JIG

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

PRICE CUT £54.99 EXC.VAT £65.99 INC.VAT WAS £69.59 INC.VAT

CDTJ12

Clarke MULTI FUNCTION TOOL WITH ACCESSORY KIT

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

£37.99 EXC.VAT £45.59 INC.VAT

CMFT250

Clarke ROUTER TABLE

CRT-1

Router not included

BEST SELLER

- Converts your router into a stationary router table • Suitable for most routers (up to 155mm dia. Base plate)

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We've teamed up with **Roamwild** to bring you an amazing new design, developed and designed by an ex-Dyson engineer, which aims to revolutionise the way you use hand saws

The incredible new Roamwild Multi-PullSaw Pro is a completely new and unique design of pull saw, which is taking the saw market by storm.

Its design consists of a double-edged single high quality Japanese steel thin blade: one is a general carpentry cutting edge, and the other a unique fine cutting edge. This gives the saw immense versatility and can be used for almost any cutting job or precision work. Unlike traditional Japanese pull saws, the Roamwild is far more durable and user friendly, due to its highly innovative Western design.

It gives incredibly clean cuts on almost all types of wood and even plastics, with no chipping, splintering, tearing or burrs. It can cut to an amazing 0.6mm accuracy and the cut line is so straight and smooth that it looks as if it has been sanded. This is all thanks to the pull saw design, which gives so much more ease and precision than the traditional push saw. It makes it far more useable by everyone, even those with dexterity issues. Spare blades are easy to swap over, using the saw's quick-release button on the side of the handle.

The saw has been designed with a soft touch ergonomic handle, including a unique thumb groove on the top for maximum control for all cuts, cross-cutting and flush cutting. The handle has a built-in unique nail puller and tack hammer.

Product features

- **2 saws in 1:** unique design: 12in/30cm 14tpi general carpentry cutting edge and unique angled 6.5in /17cm 22tpi fine cut edge. Quick-release button replaces the blade quickly, meaning less environmental waste.
- **Japanese high quality blade:** the cleanest cut using far less effort. A high quality Japanese pull saw steel with narrow kerf that cuts on the pull stroke, rather than the push stroke. Cuts to 0.6mm accuracy.
- **Great for cutting most materials:** laminate, melamine, contiboard, Plywood, PVC pipe, pine, oak and other hardwoods. Unique handle and blade design allows for easy reverse cutting and effortless flush cutting in awkward spaces. No burrs or finishing required.
- **Ergonomic new handle design:** super comfortable soft touch grip handle with thumb groove on the top allows for maximum control and accuracy while cutting.
- **Nail puller & hammer:** these features are designed directly into the base of the handle.
- **Extra information printed directly on saw:** useful 90° and 45° angle guide designed into the pull saw handle along with a ruler marked on the blade to help mark materials accurately and quickly.

Who are Roamwild?

The team behind Roamwild signify a free-thinking group of people, who innovate and develop amazing consumer products, which the discerning customer will really appreciate and enjoy. They think of ideas, make them a reality, and ensure that their products are simply better than anything else on the market. When you see a product which is branded by Roamwild, you will soon realise that there is something very unique and different about it.

Roamwild – a name to remember. Find out more by visiting the website: **www.roam-wild.com**.

HOW TO ENTER

To be in with a chance of winning 1 of 5 Roamwild Multi-PullSaw Pros, just visit **www.getwoodworking.com/competitions** and answer this simple question:

QUESTION: Name one of the materials the pullsaw is able to cut

The winners will be randomly drawn from all correct entries. The closing date for the competition is **21 February 2020**

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

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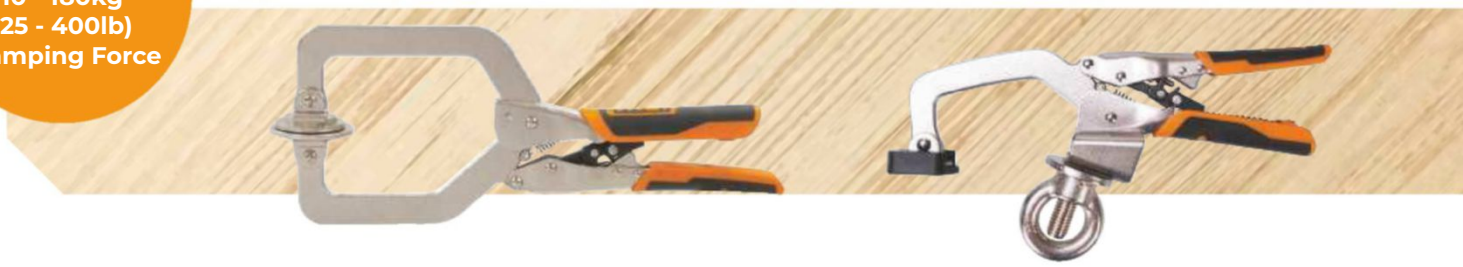

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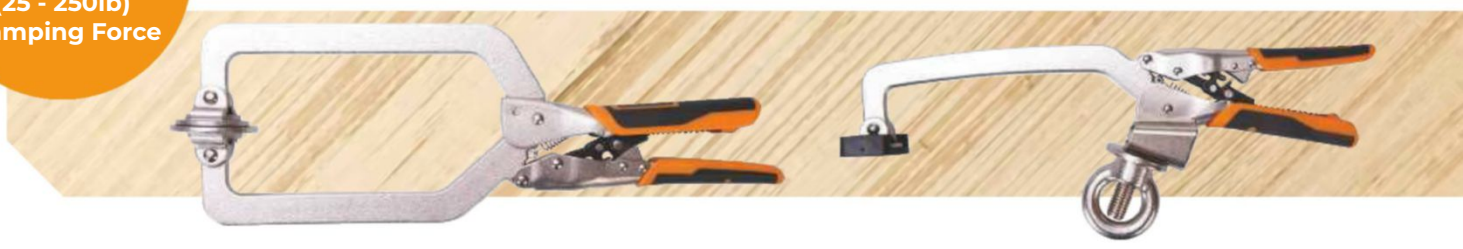
TRAA DPBC6

AUTOJAWS™ DRILL PRESS / BENCH CLAMP



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3YR GUARANTEE

What's new from D&M TOOLS

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

NEW & IMPROVED TREND FTS/KIT/MK2 FAST TRACK SHARPENING SYSTEM

MANUFACTURER: Trend
D&M GUIDE PRICE: See our website for current offers

Expanding on the highly successful original Fast Track model, the new MK2 version from Trend uses the same rotating dovetailed sliding carriage design to swap between angles. It also offers consistent square edge honing and reshaping of plane irons and chisels from 3-63mm wide.

Highly durable Mono Crystalline Diamond tapered sharpening stones are held securely in place with magnets for easy swapping and repositioning. Rotating the stones and carriage gives you four different angles of 25°, 27.5°, 30° and 32.5° for honing and preparation work.

In addition to this, the Fast Track MK2 comes supplied with 220 and 450 grit stones, both with a unique diamond cross relief pattern for faster cutting and removal of swarf. The bundle version, illustrated, comes with additional stones, leather strop, de-burr plate and canvas bag.

For easier honing of chisels and narrow blades, the new centring clip positions narrower blades and chisels in the optimum central location on the base for maximum stone contact and easier control. Honing options can also be maximised by working through the four taper angles in sequence, allowing an edge to be honed multiple times. This is done firstly at the 25° setting before moving to each subsequent setting as required to increase the honing angle and keep chisels and plane irons sharp and ready over a longer period of time before the need to regrind.

The Fast Track MK2 is ideal for novices and seasoned professionals alike. It is quick and easy to use. With plastic end caps on the sliding carriage, it increases comfort when used for extended periods.

It comes supplied with a non-slip mat to keep the Fast Track from slipping on any surface for safe and secure operation, making the new Fast Track MK2 the speedy and simple solution.

METABO POWERMAXX SSE 12 BL CORDLESS SABRE SAW

MANUFACTURER: Metabo
D&M GUIDE PRICE: £199.95 (inc VAT)

The latest addition to the new 12V range from Metabo is this light and extremely handy saw for one- or two-handed operation. It is especially suitable for working in difficult to reach places.

It features a unique Metabo brushless motor for quick work progress and highest efficiency for any application, as well as variospeed (V) electronics for working with customised stroke rates for the materials used. The saw blade is rotatable by 180° for working comfortably overhead.

The depth guide can be adjusted without tools for ideal utilisation of the saw blade and diverse applications, such as plunge cuts, plus an integrated LED worklight for optimum illumination of the cutting line. It is suitable for a wide range of uses thanks to the adapted Metabo saw blade range. The kit comes complete with two 12V/2.0Ah batteries, SC30 charger and carry case.

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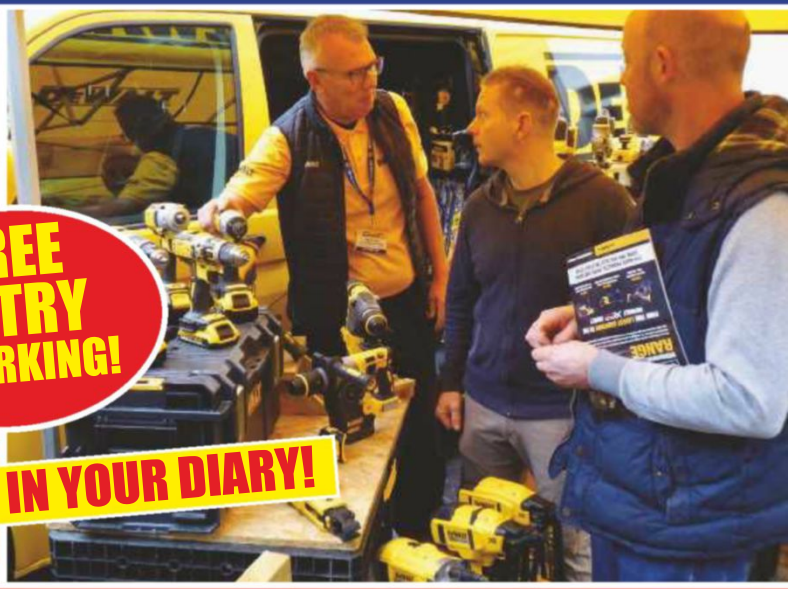

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THE ALAN PETERS FURNITURE AWARD 2020

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

Alan Peters' 'Fan table'

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

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

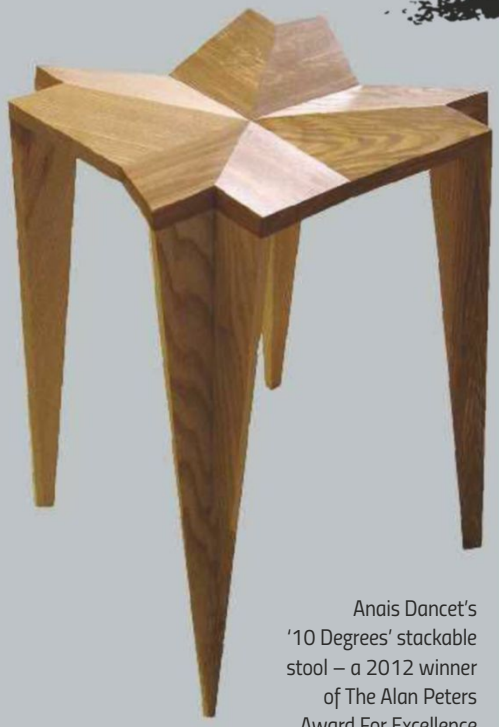
Applicants should be familiar with the work of Alan Peters prior to applying and are encouraged to read Jeremy Broun's 64-page video-integrated online e-book, which is offered free-of-charge (via the website link opposite).

The man behind the award

Alan Peters OBE (1933–2009) was one of Britain's most prominent furniture designer-makers of the latter part of the 20th century. He was apprenticed to Edward Barnsley and had a direct link to the English Arts and Crafts Movement. He was hugely influential internationally in his practice, teaching and publications. Above all, his respect and understanding of how wood behaves and the value of hand skill, yet moving tradition forward, resulted in the creation of many timeless pieces. He created affordable functional furniture, which was made to last, making an art of his craft in some of his subtle innovations.

History of the award

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



Anais Dancet's '10 Degrees' stackable stool – a 2012 winner of The Alan Peters Award For Excellence

Award judges

Jeremy Broun (organiser) – designer-maker and co-exhibitor with Alan Peters 1978–2002; **Andrew Lawton** – designer-maker who worked with Alan Peters and on his last commission; **Keith Newton** – early apprentice and employee of Alan Peters for 21 years.

Chris Wiseman's 'Oak Within' sideboard' – 2016 winner of The Alan Peters Award For Excellence

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1st prize
£1,000 Axminster Tools & Machinery voucher

2nd prize
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3rd prize
£300 Judges' prize

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

Award deadline is **30 May 2020**. Entries can be submitted any time up to this date. A £20 entry fee applies and a maximum of two entries can be made (£20 per entry).

The judging ceremony will be held at Axminster's Nuneaton store on 29 June 2020, and an exhibition at the store will run from 1–13 July 2020.

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

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

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

Alan Peters chest with silver inlay

Alan Peters and Jeremy Broun in 2005

Alan Peters chest

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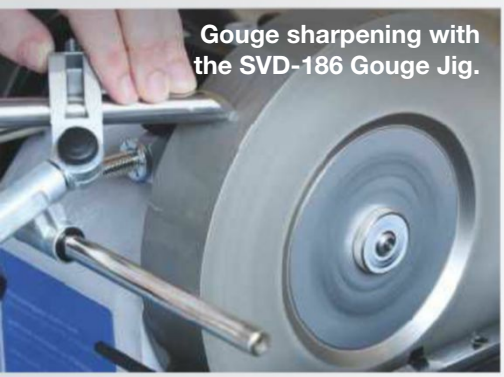
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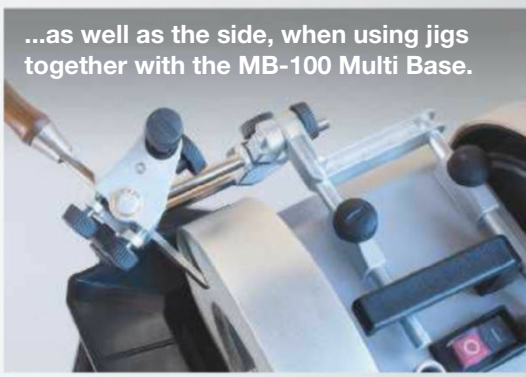

...as well as the side, when using jigs together with the MB-100 Multi Base.

For more information on the Tormek Diamond Wheels, visit **www.tormek.com** or UK Importer BriMarc **www.brimarc.com/tormek**

WHY **SCOTLAND** IS THE PLACE FOR **WOODWORKING**

Principal of **The Chippendale International School of Furniture**, **Tom Fraser**, shares his views on why Scotland is the best place for anyone wishing to pursue a journey into woodworking

Escaping to Scotland to fulfil a creative passion might sound idealistic, but it's a step that many woodworkers take when starting out on their woodworking career. Scotland is uniquely placed to welcome woodworkers – from its materials, to its setting, and its supportive community of craftspeople.

As a school, we welcome students from around the world to learn professional-grade skills in woodworking and furniture design – and there's a reason they choose Scotland as the place to learn their craft above any other destination.

Quality wood

Scotland is known for its premium timber, which is regarded as among the best in the world. Native species like Scottish oak, elm, beech, ash, sycamore, yew and larch are much sought-after for their durability and variety. Scotland's climate allows felled wood to dry outside in perfect conditions, which are crucial for creating superior, robust furniture. This is why would-be woodworkers are drawn to Scotland from all over the world – it's an ideal place to gain direct access to these materials while learning how to use them.

FURTHER INFORMATION

Scotland's only woodworking and furniture school, the Chippendale International School of Furniture, offers a range of courses, including the nine-month Professional course – to find out more, see **www.chippendaleschool.com**

New students at Chippendale School join Ralph Curry, our timber supplier of over 30 years, on his tree identification walk, where they are exposed to a wide variety of different species, many of which will be used in the workshop. Starting a meaningful journey into woodworking naturally begins in the forest and new woodworkers relish the opportunity to engage with Scottish wood in this way.

Those embarking on woodworking careers will already be aware of the consumer appetite for sustainable and responsibly sourced products. For this reason, many woodworkers and furniture designers are setting up shop in Scotland, where they can source their materials locally and build direct relationships with knowledgeable timber suppliers.

Natural setting

With stress a growing problem in the modern workforce, more people are turning away from high-pressure jobs in the city in favour of physical work in a natural setting. Many students arrive here in Scotland having worked most of their lives in challenging roles and workplaces, wishing to fulfil a long-held desire to create something 'tangible'. We have welcomed numerous bankers, brokers, GPs, and engineers – many in mid-life, seeking an antidote to decades of desk work within the fast-paced corporate world.

With its glens, Munros, lochs, beaches and forests, as well as its thriving cities, Scotland is uniquely placed to sustain woodworking businesses while fulfilling that yearning to live and work in a peaceful, natural environment.

With such a beautiful backdrop and rich resources on our doorstep, it's the perfect destination for anyone seeking to be inspired by their first foray into professional woodworking.

Our school community is immersed in the Scottish countryside, where a break for fresh air away from the workshop can entail a restorative walk in the seemingly endless surrounding fields. Individuals are drawn to the school from an array of backgrounds and walks of life, but the great majority come to us seeking a genuine escape from urbanised environments and corporate careers; a place where they can connect with nature and tap into their inner creativity.

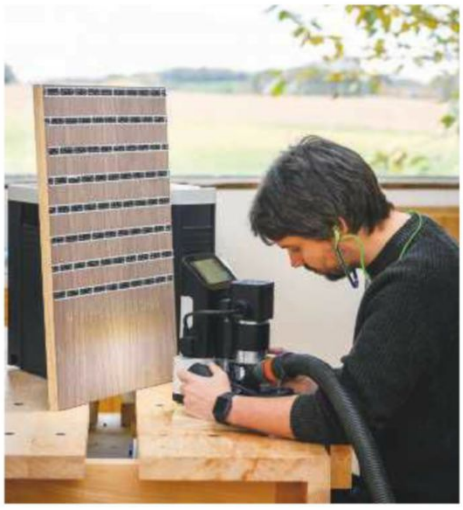
Strong community

The passion for crafts is palpable in Scotland – reflected in the strong community of craftspeople and woodworkers across the country. We find that many of our graduates choose to stay in Scotland to set up their furniture making businesses for this reason – there is always someone willing to lend a hand or offer advice.

This Scottish welcome is certainly something we try to foster in the Chippendale School's culture, where we encourage a supportive and collaborative environment designed to strengthen everyone's skills, from the total novice to the master craftsperson.

Woodworkers will also find abundant enthusiasm for quality crafts within Scotland itself – from bespoke furniture to cabinets. There is already an understanding of quality, skills and durability that exists in Scotland, which makes it an ideal place to set up a woodworking business.

There are limitless possibilities for learning and creating furniture pieces at Chippendale School. We welcome students of all ages from around the world to learn with us and there is no requirement for prior knowledge or experience. Our professional course is designed for anyone with an enthusiasm and respect for wood. Our unique rural location provides a truly inspiring escape from the stresses of modern city life, and is the perfect place for anyone wishing to take their first bold steps into a rewarding and creative career in woodworking – will 2020 be the year you take the leap?



Using top quality tools, students work against a backdrop of stunning Scottish countryside

EDGE TOOLS LOST & FOUND

Robin Gates resurrects a pioneering rabbet plane, extreme chisels and a pad handle with umpteen interchangeable blades

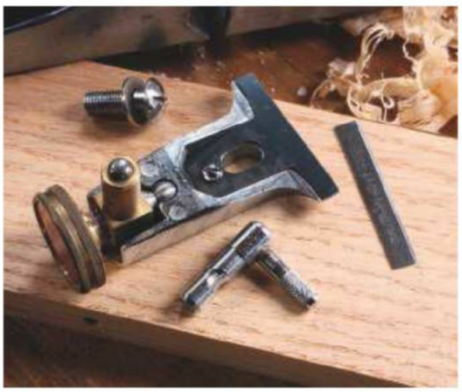
2 Advertisement from *The Woodworker* of May 1966

1 Planing a 30mm rabbet in mahogany

My attempt at reorganising the shed last autumn ended with everything standing more or less where it had been before I started, but in the process of moving things from A to B and back again I found some old edge tools I'd forgotten.

There was a stubby chisel I remembered buying only because it hefted well, its edge thick and rounded as a cobbler's glazing iron. And from the opposite extreme of the chisel spectrum, a massive shipwright's slice turned up, similarly blunt as an oar. Then, tucked behind a stack of 'useful offcuts', some real shiny stuff, a veritable hoard of exquisitely plated tool handles and their peculiar blades.

But first, a time capsule from the 1960s, having survived half a century safe inside the oiled paper of its original box, a pioneering rabbet plane absolutely ready to make shavings (**photo 1**).



3 Blade clamp with thrust block and spindle-cam exposed

Planemaster No.10

F. Parramore & Sons of Chapeltown, Sheffield emerged as a surprising rival to the likes of Stanley and Record in the business of making planes. Until World War II, the company had made iron guttering and grates. But when C & J Hampton's factory making Record vices suffered bomb damage, Parramore stepped into the breach with its casting facilities, and gained a foothold in tool making. After 1945 the company made vices and clamps under its own Paramo brand before launching the ingeniously engineered Paramo Planemaster No.10 into the mid-1960s world of woodwork (**photo 2**). Since Nos.1-9 never existed, I suspect the '10' referred to the 10in (250mm) sole.

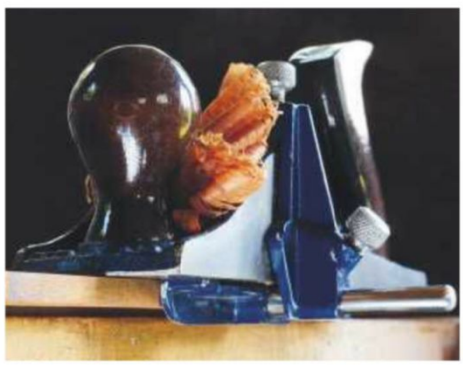
A strong sales point was that the plane's scalpel-like blades were cheap enough to throw away. 'What a waste of time to grind and hone your plane irons' ran one advertisement, when you could fit a new one in 'three seconds'. And therein lies the novelty, in the way this 2in (50mm) sliver of steel was clamped and adjusted.

Inventor Marcus R. Dakin's idea was to combine the blade clamp with lateral and depth adjustments in a compact pivoting assembly (**photo 3**). Turning the knurled red knob in its threaded thrust block sets the blade's projection, while shifting the blade clamp to right or left brings the edge parallel to the sole. The arrangement is locked solid by a spindle-cam (the chromed lever), preventing the blade from chattering or creeping back.

Parramore boldly declared its Planemaster

'the most outstanding development in plane design since metal planes were introduced nearly a century ago', surely inviting comparison with Leonard Bailey's cast-iron plane and its slimmed-down blade, screw and lever adjustments, which sounded the death knell for wooden planes and their massive irons adjusted by hammer. Comparing the Planemaster with a contemporary Bailey-pattern No.4 smoother, the Planemaster is lighter but of at least equal build quality and, of course, it came with the very useful rabbeting gauge (**photo 4**).

Planing with the grain the No.10 easily cut a clean and square-shouldered rabbet



4 The rabbeting gauge clamps to the side of the plane

5 Cutting a shoulder line before rabbeting across the grain

6 Typically fragmented shavings from the cross-grain rabbet

7 Rounding the corners of a blade for smoothing

8 Planing the edge of 20mm oak

9 Smoothing a face of English oak

10 Grinding a perpendicular edge

11 Vertical honing on the oilstone

in reclaimed mahogany, although rabbeting across the grain required the extra step of cutting a shoulder line (**photo 5**) because this plane lacks a nicker to sever surface fibres in advance of the blade. Planing across the grain of the local DIY store's very ordinary flat sawn 'whitewood spruce' isn't going to show any plane in its best light, but the Planemaster (also handicapped by its learner driver) cut a reasonable 25mm rabbet (**photo 6**), churning out shavings like a pencil sharpener.

Parramore claimed the No.10 as an all-rounder 'capable of rapid stock removal as well as smoothing down to the finest shaving'. Although it lacks the authority I'm accustomed to in a bulkier jack plane, as a smoother its precision adjustment and surgically-sharp blade, suitably rounded at the corners (**photo 7**), make a winning combination, leaving edges (**photo 8**) and faces (**photo 9**) of recycled oak with a silky finish.

As often befalls the pioneer, the Planemaster seems to have fallen into obscurity, only to see itself reborn – albeit watered down with plastic where there had been wood and well machined components – in Stanley's RB10 (the RB signifying 'replaceable blade').

Bluffy the grain slayer

I'd found this truncated chisel among the kitchen utensils of an antiques store, somewhat mysteriously labelled as a 'masher'. I couldn't argue with that, the thing being so blunt it wouldn't have cut wood in a month of Sundays, but it would certainly have shown cooked root vegetables who's boss. Finding the tool again last year I still wasn't sure what to do with it, seeing that the sharp end (if it ever had been that) more closely resembled a cross pein hammer than any edge tool I'd encountered.

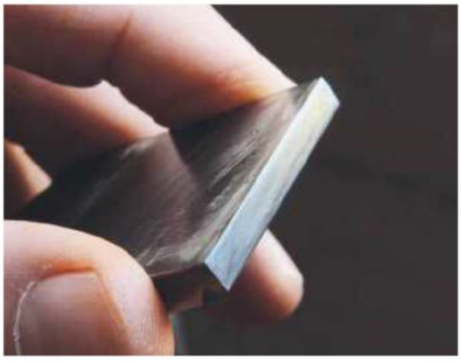
Then, while experimenting with engineers' scrapers (see my last item) and seeing how a steeply inclined sharp edge can cut, I looked at the 'masher' and wondered, Could this be a scraping tool? In this roundabout way I stumbled upon the secrets of the scraping chisel and its cutting edge as bluff as Beachy Head.

Opinion on the ideal angle for the edge varies, so I opted for the extreme and set about grinding a plain perpendicular where more conventional chisels conform to 25° and a meticulously measured micro-bevel.

It went against instinct to plunge an edge tool into a coarse carborundum wheel (**photo 10**) but then I felt a devilish pleasure in it, relishing the seemingly reckless disregard for the normal rules of sharpening. In the half light of evening, when normally I would have wrapped things up at least an hour earlier, the sparks flew like shooting stars and a grey blanket of swarf built beneath the wheel.

The next day I progressed to the oilstones, wearing down the scratches of the wheel to a satin sheen, and here was something else that was new, working an edge back and forth with the tool standing vertical (**photo 11**). So far, so much fun, but how would this very altered – possibly ruined – tool perform?

It turns out that a sharply right-angled edge (**photo 12**) is perfect for scraping old glue and varnish without damaging the wood underneath, because the tool rests flat on the surface and is worked with a sliding action, like a paring chisel, with all possibility of digging in avoided. Even more surprising was how well it trims end-grain, yielding shavings as fine as gold leaf from the hard end-grain of a damaged boxwood handle (**photo 13**), for example.



12 A sharp right angle defines the cutting edge

13 Paring wispy shavings from hard boxwood

14 Cutting a short chamfer in ash

15 The shipwright's slice dwarfs a 35mm butt chisel

16 One big blade for a small hand-cranked grinding wheel

17 Filing the corroded back of the slice

18 Honing the edge with a natural mudstone

19 Rough waste removal with the butt chisel

20 The slice works down to a flat surface

When chamfering over a short length (**photo 14**) it may be even better than a block plane because the tool doesn't obstruct the view of what it's doing. Being thick and heavy relative to its length, it also seems to move with a little momentum of its own, steering well but not easily diverted by contrary grain. This bluff old 'masher' seems to have found its vocation at last, and I've renamed it 'Bluffy the grain slayer'.

One slice will suffice

I'll confess to an embarrassment of riches as far as planes, saws and chisels are concerned: roughing, jack, try, smoothing and block planes; rip, cross-cut, tenon, dovetail and coping saws; mortise, firmer, bevel-edged, butt and carving chisels. Yet still I find myself weighing up the pros and cons of adding to their numbers, with the 'ayes' almost certain to win the day. With regard to the shipwright's slice (**photo 15**), however, I'm sure the one I have will be sufficient.

Essentially a slice is a whopping great chisel, used by the old-time shipwright for shaping the mating surfaces of scarf joints in big timbers. Usually it has an upward turn in the socket so that your hands driving it forward clear the work. Perversely, this slice has a slight downward turn because at some point in its long life (it bears a VR stamp of Queen Victoria's reign) the blade has suffered a kink. How that could have happened, I can't imagine. Perhaps it was a duff forging which the blacksmith decided he'd give a handle, regardless. Whatever the cause of that contrary kink, from the condition of its edge I'd say this slice had been used for breaking concrete.

Having served its time in an obscure corner of the shed, the extra-large tool's rehabilitation seemed to present a stiff challenge to my small hand-powered grinding wheel, yet turned out to be less unwieldy than I'd imagined. The old Black Knight grinder made by The Carborundum Co. has a very sturdy toolrest, and the slice balanced comfortably upon it, stabilised by its own weight (**photo 16**). Even so, grinding down the years of neglect was a long job. The back of the blade I flattened as best I could with a hand bastard (that's a Nicholson file, I'm not being coarse) (**photo 17**), then I worked on the two faces which meet to make the cutting edge with silicon carbide paper wrapped around a block.

For the final honing I used a piece of mudstone, picked up on a walk along the Welsh border (**photo 18**).

The edge resembles a side axe, bevelled on one side and flat on the other, and is well suited to flattening a broad surface, but instead of striking with this tool you thrust it with a similar action to weeding the garden with a Dutch hoe. Results seem better if the thrust is diagonal, lowering the effective cutting angle.

Having practised making square timber round and vice versa, I turned to joinery and the task of cutting a step in a 90 × 45mm beam. Following my usual procedure I scribed the lines, then cross-cut and knocked out the bulk of the waste with a butt chisel (**photo 19**). Where the slice came into its own was paring down the rough surface to a flat (**photo 20**), even bisecting the cut left by the marking gauge (**photo 21**), which I found impressive for a tool of such agricultural proportions – not to mention handled by a complete novice. Now I envisage this tool finding a role wherever a hybrid of the side axe and the paring chisel might work. Still, I'm sure one slice will suffice.

21 A fair result on the restored tool's first outing

22 The Eclipse 4S's gleaming pad handles and blades

23 Advertisement from *The Woodworker* of July 1937

24 Marking with the slitting blade mounted at 30°

25 Sawing small stuff with a blade mounted in-line

26 Renovating screws with a chisel-toothed slotting blade

27 The curved two-edged scraper removing rust

28 A flat scraper was ground to make a 19mm chisel

29 Slicing across the grain with the new chisel

Shining example

I don't find modern multi-tools particularly user-friendly. In cramming the maximum of functions into the minimum of space their folding blades are reduced to pale imitations of stand-alone tools, while a typical handle grates in the hand like the business end of a potato peeler. Simply unfolding a blade is enough to rip a fingernail. For a shining example of what a multi-functon hand tool could be, I'd point to the Eclipse 4S developed around 90 years ago by James Neill & Co of Sheffield (**photo 22**).

Initially I acquired a tin of rusty blades without their pad handle, intending to use them as blanks for shaping cutters to fit a scratch stock. Fortunately I never squandered the blades on this task, for which any scrap saw plate would do, but gradually acquired more blades, and handles, squirelling the lot away until I found time to tackle the rust.

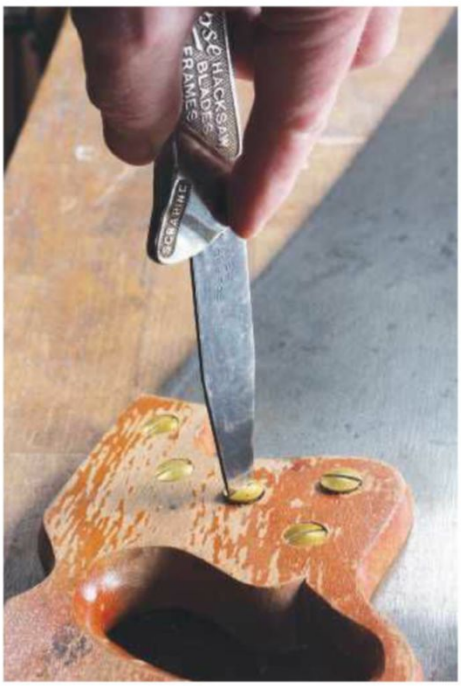
That said, the sweetly sigmoidal pad handles are immune to rust, being nickel plated. I suspect the S-shaped profile explains the 'S' in '4S', while the '4' may refer to four blade positions. A slot at each end of the handle provides two seating angles, so the blade can be locked in line with the handle, or at 15, 30 or 45° to the long axis. The upsweep at the working end of the handle provides a comfortable landing for the forefinger directing the blade, while the downturn at the opposite end fits snugly in the palm. It really is the most perfectly designed tool. If there's an Achilles heel it's only that the non-captive set screw for the blade is easily lost.

The tool's slotting, sawing, scraping and slitting functions were indicated on the handle, while the instructions detailed uses for 'a hundred and one jobs in engineering, electrical, plumbing, garage and general maintenance work' but despite a minuscule advertisement in *The Woodworker* in 1937 (**photo 23**), its potential for working wood seems to have been completely overlooked. Lets put that right, starting with the slitting knife, which not only trims precisely but is a nicely weighted tool for scribing (**photo 24**). The 22 and 32tpi hacksaw blades are great for cutting small stuff (**photo 25**).

Slotting blades were new to me but now I'm hooked on their fine chisel-like teeth (without set), which make a tidy job of recutting the mangled slots of old woodscrews (**photo 26**). There were six slotting blades in a complete set, in three gauges, toothed on both edges so you can cut on the push or draw stroke as befits the situation.

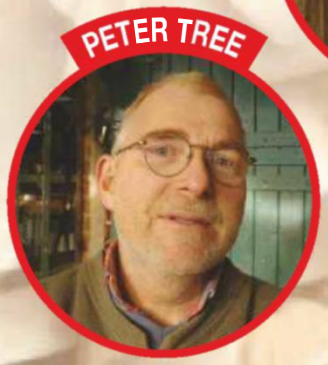
Two of the 16 blades supplied were engineers' scrapers. The one curved lengthwise, tapering to a point and sharp on both edges, is a bearing scraper, good for removing rust (**photo 27**) without damaging the surface. The other scraper is flat with a convex tip and since I had spares I ground one of these to make a 19mm chisel (**photo 28**), seen here slicing mahogany as easily as Red Leicester cheese (**photo 29**). Other blades included a 'second cut' (fairly smooth) file with a safe (untoothed) edge, and a broad-tipped screwdriver (**photo 30**). The range of blades included did vary down the years, but I suspect that a blade shaped something like a brad point drill bit (**photo 31**) was filed down from a narrow screwdriver blade by a previous owner. It's very handy for boring a rough-and-ready pilot hole.

The very ergonomic handle of the Eclipse 4S and its unusual blades provide a rare set of woodworking capabilities – and in a tin the size of a bicycle puncture repair kit.



30 The broad-tipped screwdriver blade fits saw nuts

31 Centre-point bradawl shaped from a screwdriver blade



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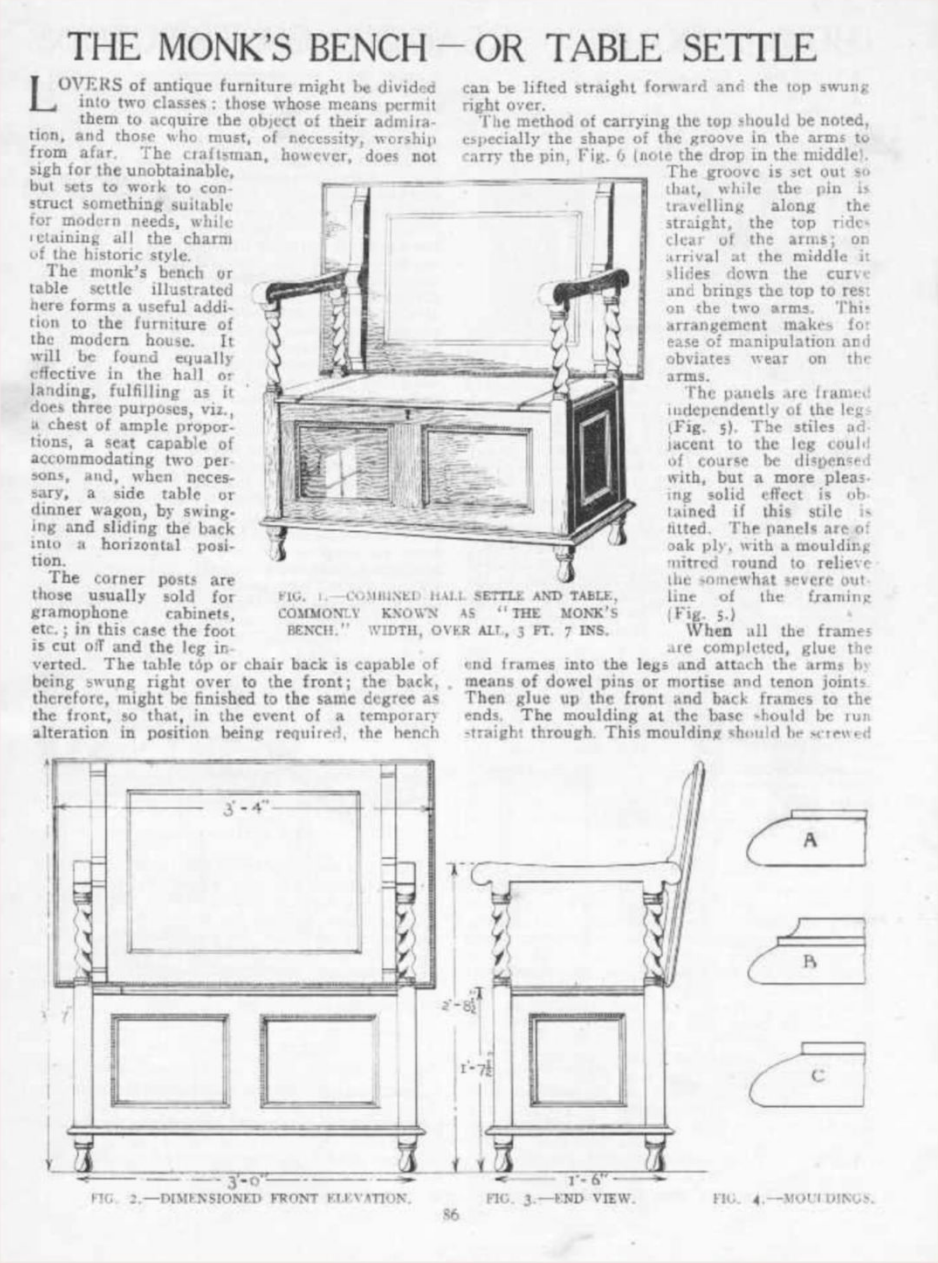
Metamorphosis

A monk's bench in the March 1929 issue of *The Woodworker* prompts **Robin Gates** to consider a combined tool chest, workbench and seat

During a week of freezing daytime temperatures, I retreated from the draughty shed and considered setting up a workbench indoors. For a hand tool woodworker this ought not to raise objections from family and neighbours since saws, planes and chisels make little dust and less noise than most domestic appliances. The problem in our bijou abode is simply one of space.

As I sank into the sofa with some old copies of *The Woodworker*, the idea of doing anything at all disappeared with winter's rapidly draining daylight, only to reappear as I turned to an article explaining how to build a metamorphic 'monk's bench' or 'table-settle', as described in the issue from March 1929.



THE MONK'S BENCH — OR TABLE SETTLE

LOVERS of antique furniture might be divided into two classes: those whose means permit them to acquire the object of their admiration, and those who must, of necessity, worship from afar. The craftsman, however, does not sigh for the unobtainable, but sets to work to construct something suitable for modern needs, while retaining all the charm of the historic style.

The monk's bench or table settle illustrated here forms a useful addition to the furniture of the modern house. It will be found equally effective in the hall or landing, fulfilling as it does three purposes, viz., a chest of ample proportions, a seat capable of accommodating two persons, and, when necessary, a side table or dinner wagon, by swinging and sliding the back into a horizontal position.

The corner posts are those usually sold for gramophone cabinets, etc.; in this case the foot is cut off and the leg inverted. The table top or chair back is capable of being swung right over to the front; the back, therefore, might be finished to the same degree as the front, so that, in the event of a temporary alteration in position being required, the bench can be lifted straight forward and the top swung right over.

The method of carrying the top should be noted, especially the shape of the groove in the arms to carry the pin, Fig. 6 (note the drop in the middle). The groove is set out so that, while the pin is travelling along the straight, the top rides clear of the arms; on arrival at the middle it slides down the curve and brings the top to rest on the two arms. This arrangement makes for ease of manipulation and obviates wear on the arms.

The panels are framed independently of the legs (Fig. 5). The stiles adjacent to the leg could of course be dispensed with, but a more pleasing solid effect is obtained if this stile is fitted. The panels are of oak ply, with a moulding mitred round to relieve the somewhat severe outline of the framing (Fig. 5.)

When all the frames are completed, glue the end frames into the legs and attach the arms by means of dowel pins or mortise and tenon joints. Then glue up the front and back frames to the ends. The moulding at the base should be run straight through. This moulding should be screwed

FIG. 1.—COMBINED HALL SETTLE AND TABLE, COMMONLY KNOWN AS "THE MONK'S BENCH." WIDTH, OVER ALL, 3 FT. 7 INS.

3'-4"

2'-8½"

1'-7½"

3'-0"

1'-6"

A

B

C

FIG. 2.—DIMENSIONED FRONT ELEVATION.

FIG. 3.—END VIEW.

FIG. 4.—MOULDINGS.

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Dual-function furniture

The 'monk's bench' is a relatively recent name for an item of dual-function furniture that's been around since at least the 15th century, perhaps coined to make a virtue of the austere seat with its hinged back lowering like a drawbridge to lie horizontal on the arms and make a table of somewhat limited use. This is a two-seater design with a rectangular back, while some of the oldest surviving in churches and museums are single-seaters, occasionally with a round back. Being part-seat and part-table, some antiques may well represent marriages between pieces, which began life as singles.

With regard to making this one, the author suggests its barley twist corner posts be made from the legs 'usually sold for gramophone cabinets', but finding those in 2020 isn't going to be easy. Never mind, we'll use some common-or-garden 'whitewood spruce' from the DIY store, and dolly it up with a bit of wagon-bevelling from the drawknife. Opting for this storage-chest type of seat, rather than sturdy legs with stretchers, or sleigh feet, the panels are of 5mm oak-faced plywood, while rails and stiles are of solid wood assembled with mortise & tenon joints. The lid gains extra support through being rebated into the pieces on either side of it.

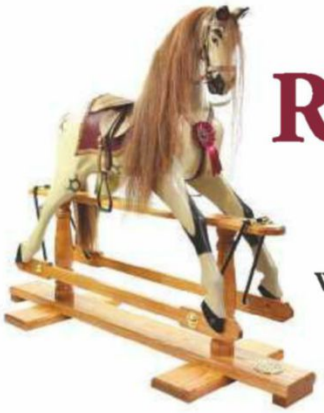
That said, I see in this table settle the basis of a combined tool chest and workbench, which might easily be shuffled indoors for the duration of the winter, excused on the basis that, when required, it may be reconfigured as a seat. In fulfilling its role in woodworking, the access to storage through a hinged lid would be replaced by an up-and-over front door to an interior having shelves for tools.

The seat back/table top itself is suggested to be 19mm thick, but we might double that for the greater punishment it'll receive as a workbench, meanwhile keeping a table vice among the tools stored below, ready to clamp to the edge at a moment's notice. For the extra thickness required to grip the shank of a holdfast, holes might be bored through the combined thickness of the top and the battens below it – totalling around 75mm.

A thought in progress

The hinge mechanism uses fixed pins at the mid-point of the battens, travelling along grooves on the insides of the arms as the back assumes its table-top position. At a point where the grooves curve downwards, the top sinks a fraction to rest solidly upon the arms. The arrangement might be made more secure with the addition of a couple of sash window fasteners. Some antique table chairs have the battens positioned outside the arms, which are grooved for the pins on the outside, while others have the pins fixed to the arms and ride in slots cut in the battens.

For the time being, and with longer spring days beckoning, this is less a work in progress than a thought in progress, but over the coming months I'll be putting wood aside for just such a metamorphic tool chest, workbench and seat standing closer to the winter hearth.



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CABINET of CURIOSITIES

Robert Couldwell makes an amateur medicine cabinet in oak to provide storage in a new en-suite shower room

Having commissioned cheval and dressing table mirrors, my wife was on a roll and remarked on the lack of a mirror and any storage in our new en-suite shower room. It so happened that I had enough lengths of American oak left over from other projects and while I have since discovered that in damp conditions I should have used teak or an oilier wood, I was committed. Fortunately the little room is well ventilated with both fan and opening window so I just made sure there were plenty of coats of oil.

I decided the cupboard should be the same width as the towel rail, above which it would be fitted, but I had to limit its depth due to the restricted width of the shower room.

In view of my limited experience, I decided that the door would close in front of the carcass, not within it, and this also has the advantage that stored items don't get in the way of the doors closing.

Making the carcass

The first step was to make the carcass using the 88 × 19mm wide American oak boards (**photo 1**). Rebates were routed on the router table to accept the plywood back and the top, bottom and sides were connected with biscuits (**photo 2**). PVA glue was sparingly applied with a brush ensuring good covering of the biscuit slots.

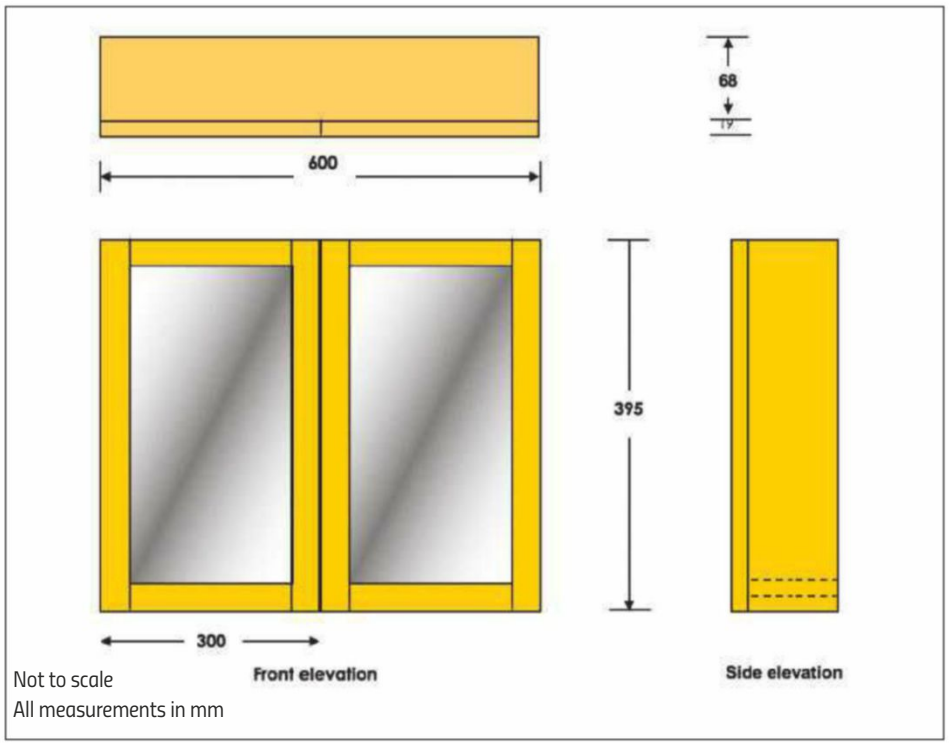
Having ensured the carcass was square, it was all clamped together and left overnight (**photo 3**).

CUTTING LIST

Note all dimensions are in millimetres

Materials

Part	Quantity	Length	Width	Thickness
Door – vertical rails	4	395	44	19
Door – horizontal rails	2	212	44	19
Carcass – top & bottom rails	2	357	88	19
Carcass – side rails	1	630	88	19
Plywood back	1	572	367	6
Brass hinges	4 pairs	50	38	2
Bookcase shelf support strips	2	270	16	3
Rare-earth magnets	2 pairs	10	10	4
Plywood liners for doors	1	327	232	6
Flat mirror glass	2	317	222	2



Not to scale
All measurements in mm

Fig.1 Medicine cabinet dimensions

1 Top, bottom and sides routed for plywood back

2 Making biscuit slots

A lesson learned

My inexperience came to the fore when I realised, after the glue had dried, that I'd forgotten to rout slots in the sides to accept the shelf support strips, which would have been so easy on the router table. So, it was either start again or rout the slots freehand, which was the route taken and not without tears (**photo 4**) . The router veered off at one stage creating an unwanted channel, but I did gain experience of making invisible mends cutting a sliver of oak to fit and sanding flush – nobody has noticed so far and there have been many family inspections! The next step was to cut the plywood back and fit it into the rebates in the carcass (**photo 5**). I happened to have some triangular mounting brackets, which were screwed into the top corners (**photo 6**).

On reflection, I could have made these virtually invisible by routing triangles in the back of the plywood to accept the brackets and letting the returns into the stiles and rails – I'll do that next time.

The mirrored doors

The most critical part of this project would be the mirrored doors and I was greatly assisted in this endeavour by a most generous Christmas/birthday present from my dear wife – a Festool Domino jointer. Having cut the stiles and rails of the doors and routed stepped rebates to accept the glass and plywood liners, I made many practice joints with the new toy (**photo 7**).

Once satisfied, I checked that the surface on which I was working was flat and, needless to say, I carried out the jointing with the doors face down to make sure that any thickness inconsistencies in the oak would not show. The frames were then carefully PVA glued, squared, clamped and left overnight (**photo 8**).

Mounting the brass hinges & mirror installation

The next hurdle for an amateur was mounting the 50mm brass hinges. In an attempt to make this operation Robert-proof, I'd purchased a router jig from Axminster Tools & Machinery only to discover that it could not be used in this situation. Having followed many articles in past issues of the magazine on homemade router jigs, I decided I would do the same and very carefully made a jig, which didn't really work either, so I was left with

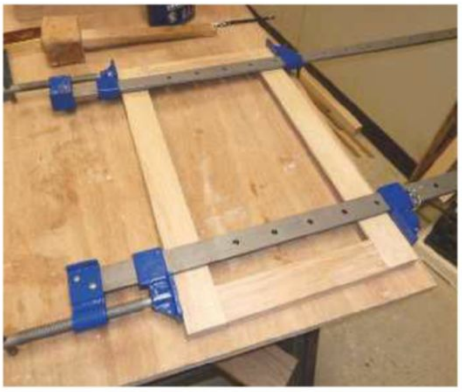
3 The carcass clamped together

4 Shelf support strips in routed slots

5 Plywood back fitted into the carcass

6 Triangular support brackets screwed into carcass

7 Domino joints



8 The door clamped

9 50mm brass hinges let in by hand

10 Push points and silicone to hold glass in place

11 Rare-earth magnets

the only option of cutting the hinges in by hand (**photo 9**). While I made a reasonable job of this, I'm sure the professionals in the magazine would be horrified at my attempt and my woodwork teacher, Mr Swindlehurst, would be turning in his grave. Fortunately, the hinges themselves covered most of my incompetence. At least I managed to get the hinges in line meaning that the doors would also line up neatly.

Having used 6mm bevelled glass for my previous mirror projects, I decided that the mirrored doors were too small for the bevels to look right, so I bought some 4mm mirror locally for £7.

Before installing the mirrors, I applied several coats of exterior quality oil to save the pain of cleaning oil from the mirror afterwards. A local builder I have often used has proved to me over some years the efficacy of silicone sealant and has surprised me with the things he's managed to stick with it. As there was no room within the slim frames to fix blocks, I decided to use one push point on each side of the mirrors with the addition of a carefully yet forcefully applied bead of high quality silicone sealant (**photo 10**). There was extra security as the plywood liners would be screwed into position, which also allowed easy replacement of the glass in the unfortunate event of breakage.

I recently discovered the rare-earth magnet and realised that the cupboard was an ideal project for this novelty. I bought several sizes online and used the 10mm ones set into doors and carcass to keep the doors nicely shut. It is a perfect solution and really quite satisfying (**photo 11**).

The bottom rail of the carcass is raised between the side rails to allow space for fingers to pull the doors open. I happened to have some oak floorboards left over from a recent installation and not wanting to waste anything, I cut one down to make two shelves for the cupboard (**photo 12**). At 19mm these are a little thick, so I enquired about glass locally and was told that they would have to be of the toughened variety, costing £40 for the pair – more than the rest of the materials put together. The oak shelves will have to do.

Several coats of oil were applied to the carcass both inside and out and the cupboard mounted. Unfortunately the wall concerned is a stud partition and, not being a lover of cavity fixings, I made an extra fixing bracket to coincide with a stud, thus giving two fixings into stud and one cavity fixing. I'm sure it won't come down!

12 Shelves from old floor boards

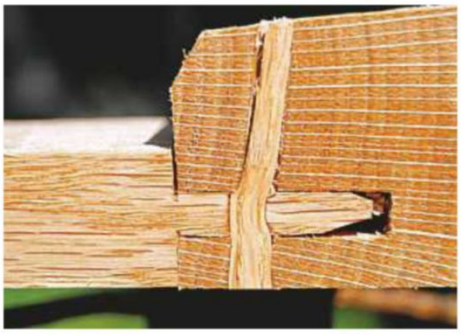
13 The completed cabinet

WOODWORKER'S ENCYCLOPAEDIA A-Z PART 13

In part 13 of this series, **Peter Bishop** continues on through the Ds with dressing, dripping and dropping, through to the Es with a load of eaves, edging and bendy stuff

Drawboring joints

To make a really tight mortise & tenon joint, you can use round dowels and offset the holes to pull in the rail. With normal dowelled mortise & tenon joints you'd make them, apply adhesive, clamp them up, drill the matching holes for the dowels and then drive these in. To drawbore the joint you put it together, dry with no adhesive, bore through the outer face of the mortise and just into the tenon to mark the centre and take the joint apart.



Drawboring demystified: this ancient mortise & tenon joinery technique requires no glue or clamps
Photograph courtesy of **Popular Woodworking**

You then continue to drill through the mortise into the other side and beyond. Where the centre of the bore hole has been marked on the tenon, you mark a new centre point slightly back towards the shoulder and bore the hole. The hole in the tenon should now be slightly offset and when you make the joint, the dowel, when driven in, will pull the shoulders really tight against the face of the mortise. Mock one up and try it before using on a project. Make sure that the dowel material is strong enough not to break while it's being driven in. It's a great joint and one that hardly ever comes loose.

Drawknives

These bad boys are double-handled knives of large proportions! Their primary use is for working green wood and you draw the blade towards you, shaping as you go. Mainly a forest worker's tool for making hurdles, baskets and similar items, it's OK for the workshop if, say, you want to chamfer the edges of some big stuff. Usually anything from 300-450mm wide, there are also smaller versions available, as can be seen in the Marco Terenzi example overleaf.

Veritas carver's drawknife from Axminster Tools & Machinery

Small drawknife by Marco Terenzi

Dressed wood

The word dressed refers to planks that have usually been planed all round, but not always. So you could dress some rough-sawn planks by simply planing one face but making them all the same thickness. When you dress stuff, you're aiming to regularise the size of the planks.

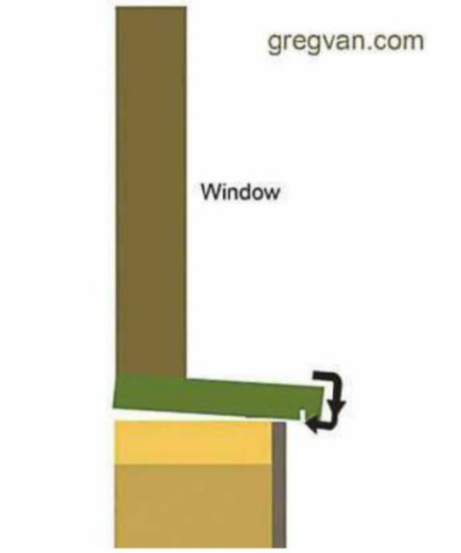


Diagram showing the importance of installing drip grooves (cuts) under window cills
Photograph courtesy of **www.gregvan.com**

Drip groove

We apply drip grooves to the underside of components, such as window cills. The objective is to stop the capillary action of water, its ability to run uphill, by putting a barrier in its way. If the groove is designed and positioned correctly, no water will run along the lower surfaces, thus seeping into the adjacent structures. Make them bigger rather than smaller, just to be safe.

Drop moulding

This refers to any type of moulding that is orientated downwards. For example, you might see it on fancy staircases at the lower end of a newel post as a turned drop moulding. You'll see more at the apex of roofs, where the barge boards meet and so on. We don't seem to embellish our work quite as much as the Victorians did, which is when they got a bit carried away.

Drop sidings

This relates to exterior, wood wall covering on buildings, such as weather boarding, sidings and shiplap, etc.

Wooden beam with significant fungal growth

Wood decay caused by the brown rot fungus *Serpula lacrymans* (true dry rot)

Dry rot

The name 'dry rot' is misleading because, like all fungi, it needs moisture to thrive. In fact if the affected wood can be dried below 20% moisture content, and kept that way, it's unlikely it will survive. This fungi derives its name from the way in which affected timber feels when you crumble it between your fingers. The wood is dry and friable and crumbles easily. The ideal environment in which dry rot will thrive is one where there is a continuous moisture presence of around 35-50% in the wood. You'll find it where there's a leaky roof, poorly ventilated floors and similar locations where water can get in. You might not know it's there until you put your foot through a floor board or something drops on your head! It's identified by smell, the feel of the damaged wood, as above, and the way in which it looks. Badly affected timber will show cube-like fissures and cracks along with soft patches, a mouldy smell and fine white strands of hyphae. To eradicate the rot, firstly find the leak and deal with that. If the damage is too great then there's only one solution: cut out the affected material partly, or completely, and burn it! If not too bad, partial removal of affected stuff might suffice, with strengthening where appropriate. One thing you will need to do is make sure everything is dry and treat with a propriety fungicide wood preservative. If you catch it soon enough, the job should be done but keep an eye on it to make sure it doesn't return.

Durability

The factors that impact on different timber's durability are density, hardness, oil or mineral content and so on. Wood that is dry tends to be more durable providing it stays that way. Some timbers surprise us. Chestnut, for example, a fairly light, not too dense hardwood, makes excellent fencing when it has been cleft rather than sawn. When considering what to use for a project, do your homework or seek advice on the suitability of specific timbers.

Branch death, or flagging, at multiple locations in the crown of a diseased elm

Dutch elm disease

This is the disease that specifically attacked our UK common elm trees back in the middle/third quarter of the last century, just about destroying all our indigenous stock. Cooler climates might have helped in Scotland where the infestation was not so bad. Although a beetle attack was part of the problem, the main assassin was a fungi call *Ophiostoma novo-ulmi*. This was introduced into the trees via the beetles that carried the fungi spores. Once established, the fungus proceeded to block the vascular system – the water transporting cells – thus causing the branches to wilt and die. There are very few elms still standing, dead or alive. A shame because it was a super wood with lovely grain patterns. Scottish elm is still available and also a range of different types from North America.

Earlywood

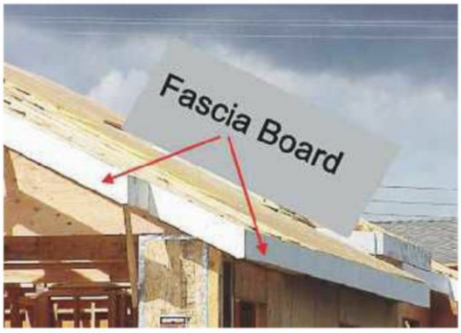
Earlywood, as opposed to latewood. Early wood is another name for sapwood, which is the first flush of vigorous growth in the spring, hence earlywood. Late wood follows on with less vigorous growth.

Fragment of just-installed wooden roof eaves with ventilation grille

Eaves

On a roof structure this is the area underneath the sloping rafters where it overhangs or meets the exterior wall.

A roll-formed metal fascia



Fascia board explained

Eaves fascia or fascia boards

Commonly known as fascia boards, or simply fascia, these are the finishing boards that run along the lower end of the rafters. They tidy up and finish off the rafters and provide a flat surface onto which guttering can be fixed. Combined with the soffit board (see below) they seal off the roof space keeping out small, furry creatures, etc!

Soffit boards are located on the lower, outer end face

Eaves soffit or soffit boards

Also attached to the rafters, on the lower, outer end face, the commonly called soffit board finishes off with the fascia. Local building regulations will probably demand some sort of air vent in the soffits to ensure that there is air circulation in the roof space. Setting these into the soffits is ideal; they are underneath and out of the weather.

Edger saw

These are production machines that have specific uses. As the name implies these circular saws are designed to cut edges and, specifically, cut those edges straight and true. The usual configuration is an overhead shaft, onto which can be loaded one or more saws, with a driven feed bed below. The overhead saw assembly can be raised and lowered to accommodate different thicknesses of wood. The feed bed grips the piece being cut and, without deviation, pulls it through the machine while the blade makes a cut. Their primary use would be to cut off the waney edge of through and through cut planks. In line with the saw blade a light line, similar to a laser line, will shine up the board as it is positioned ready to go into the machine. The operator will sight down this line to make sure the edge is cut as wide and true as possible and then feed it in. Variations on the theme will enable these machines to have a whole stack of saws on the overhead driveshaft. In pairs or more they can then rip boards to identical widths ready for moulding, etc. A great bit of kit but not for our small workshops!

Holytech straight liner edger saw

Elasticity

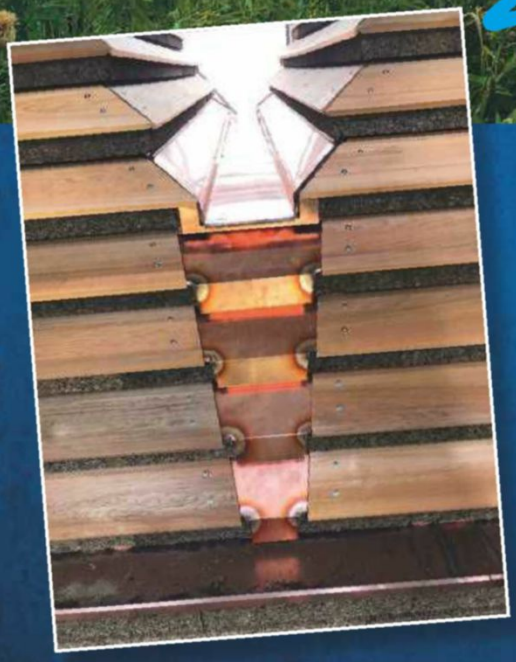
Most woods will have some degree of elasticity: the ability to return to its previous shape after being bent. We do make use of this feature. For example, the long pole used as a return spring on a pole-lathe takes advantage of this. Having being bent to tension, the turning cord – the pole's elasticity – will naturally try and return to its original shape. To a lesser degree the holding vice, often seen in the same arena as a pole-lathe, will take advantage of the combined leverage and elasticity properties of wood. I'll sometimes use a strip, bent under the pressure of a cramp, to hold a wide workpiece in place on my bench. Watch out for those cross shakes mentioned earlier: if you bend with some of these in the piece, it'll simply snap off.

Bodger John using a pole-lathe

Pole-lathe demonstration at an English fair
Photograph courtesy of **Mendocino Woodturners' Guild**

NEXT MONTH
In part 14 of this series, Peter looks at a range of defects, moisture-related content, as well as various tools and measurements

WOOD AWARDS WINNERS 2019



In this dedicated article, we take a closer look at the winning portfolio of entries from the recently held and judged **Wood Awards 2019**

The winners of the annual Wood Awards were announced at a ceremony held on 19 November 2019 at Carpenters' Hall in London, hosted by Priya Khanchandani, Editor of *Icon* magazine. Established in 1971, the Wood Awards is free to enter and aims to recognise and encourage outstanding design, craftsmanship and installation using wood.

GOLD AWARD WINNER
Cork House

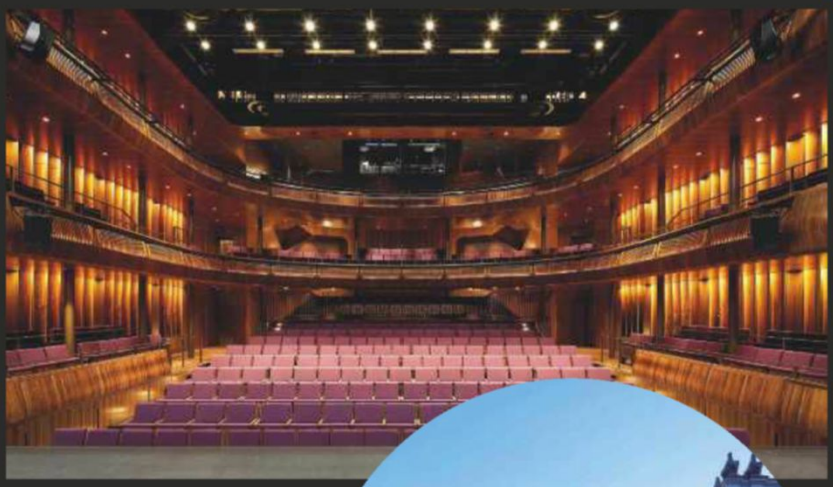
The judges selected Cork House as this year's Gold Award and Private category winner. The Gold Award is given to the winner of winners. Judge, Ruth Slavid, commented: "This is a really exciting project; not just a house, it is also a piece of research."

Cork House is built almost entirely from cork and timber. Monolithic walls and corbelled roof pyramids are built with load-bearing expanded cork made from the bark of the cork oak tree, a by-product of wine stoppers. The house, which is adorned with five skylight-topped ziggurats, is a prefabricated kit of parts. Blocks of expanded cork were CNC-machined off-site and then assembled on-site by hand without mortar or glue. All 1,268 pure cork blocks will be available at end-of-building-life as either biological or technical nutrients. A CLT floor platform, finished with oak floorboards, rests on Accoya beams supported on steel screw piles. Accoya is also used for the bespoke doors, windows and external steps. Western red cedar weatherboarding is used on the roof and rear façade. All internal built-in joinery and loose furniture is made from spruce. Internally, the exposed cork and timber create a rich, evocative, sensory environment.

FACT FILE:

Location: Eton
Architect: Matthew Barnett Howland with Dido Milne and Oliver Wilton
Client: Matthew Barnett Howland and Dido Milne
Structural engineer: Arup
Wood species: Portuguese cork oak; New Zealand pine; Estonian spruce; American/Canadian western red cedar; Austrian spruce; American white oak

COMMERCIAL & LEISURE
Royal Opera House 'Open Up'



The Commercial & Leisure winner is Royal Opera House 'Open Up'. The judges admired how the new design reads as a complete building, yet seamlessly connects with the main spaces of the existing space.

Striking the right balance between heritage and 21st century life, the transformation of the Royal Opera House reimagines the world-renowned home of ballet and opera. Improved access and transparency, a completely new Linbury Theatre and new foyers, terraces, cafes, bars, restaurant and retail facilities extend the building's life outside of performance hours. At entrance level, subtle timber elements inlaid in the stone floor offer a warm welcome.

Descending into the double-height Linbury Theatre foyer, the atmosphere becomes more intimate and theatrical as exquisitely bookmatched veneer surfaces are complemented by elegant linear grids of timber batons and solid wood parquet. The Linbury Theatre is entirely clad in black walnut, inspired by the rich cherry cladding in the main 1858 Opera House auditorium. Lights, acoustic insulation and sound equipment are integrated within the timber.

FACT FILE:

Location: London
Architect: Stanton Williams
Client: Royal Opera House
Structural engineer: Arup; Robert Bird Group
Wood species: American black walnut

EDUCATION & PUBLIC SECTOR
Cambridge Central Mosque

Cambridge Central Mosque was selected as the Education & Public Sector winner. Judge, David Morley, commented: "This building is exemplary of how wood can enable a structure to become the primary representational element of a building. This is a hard project to beat."

The first purpose-built mosque in Cambridge is a calm oasis of contemplation within a grove of trees, inspired by an image of the garden of paradise – with its water fountain symbolising the source of all life. Timber was chosen for its natural, warm and calming qualities. The expressed vaulted structure is glulam, while the surrounding wall and roof structure is CLT. The guiding geometry of the building is 'The Breath of the Compassionate', a historic Islamic pattern, which evokes breathing in and out. Repeating star octagons are converted into a continuous structural pattern and projected onto the three-dimensional fan vaulting form. Alternate octagons are converted to the structural columns or 'trunks'. The 30 trees create an overall impression of stillness, quiet and focus. 2,746 pieces form the vaulted structure. Wherever possible, metal connectors have been replaced with half-lap joints for continuity of timber grain.

FACT FILE:

Location: Cambridge
Architect: Marks Barfield Architects
Client: Cambridge Mosque Trust
Structural engineer: Price & Myers
Wood species: European spruce; oak; mahogany

INTERIORS
Battersea Arts Centre

The Interiors winner is Battersea Arts Centre. Head buildings judge, Stephen Corbett, commented: "The design philosophy, imagination, originality, and the meticulous modelling, prototyping and execution made this stand out as a project of high quality."

In March 2015, a fire broke out in the northern half of the 1890s grade II* listed building, destroying the roof to the largest performance space. The original decorative plaster barrel vaulted ceiling was completely lost. Rather than replicating the lost ceiling, a contemporary plywood lattice ceiling was conceived. The new ceiling follows the curvature of the original and echoes the motifs in the plasterwork. It is much more porous and suitable for a modern theatre's requirements. The new ceiling is constructed of three layers of 18mm thick birch-faced plywood. Many apertures provide multiple rigging and lighting positions from the technical walkway built into the roof space above. Hidden banners within the roof space provide a variety of acoustic options.

FACT FILE:

Location: London
Architect: Haworth Tompkins
Structural engineer: Heyne Tillett Steel
Wood species: European poplar plywood with birch faces

SMALL PROJECT
MultiPly

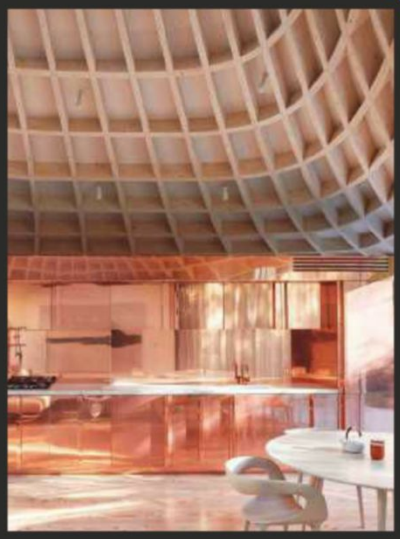
MultiPly, this year's Small Project winner, is the first structure made from UK manufactured CLT. The judges praised its simple design that communicates modularity and repetition.

MultiPly is a carbon neutral engineered timber pavilion, made from hardwood CLT. The vertical maze of stacked modules and staircases creates labyrinthine spaces, which intertwine, thus inviting people to explore the use of wood in architecture and reflect on how we build our homes and cities. MultiPly demonstrates how engineered timber structures can be reconfigured, reused, repurposed and ultimately recycled. The pavilion has been shown in three locations, each iteration taking a different form. The unassuming assembly of modules belies the engineering challenges created by the thinness of panels, significant cantilevers, and the complexity of designing a structure that can be reduced to a set of parts. MultiPly provided an opportunity to push the boundaries of CLT construction. Like a piece of flat-packed furniture, it arrives as a kit of parts and can be quietly assembled in under a week.

FACT FILE:

Architect: Waugh Thistleton Architects
Client: American Hardwood Export Council
Structural engineer: Arup
Wood species: American tulipwood

STRUCTURAL AWARD
House in a Garden



The 2019 Structural Award winner was House in a Garden, chosen from all the shortlisted buildings. Judge, Nathan Wheatley, said the following: "House in a Garden is an exceptional structural form of elegant and slender timber ribs, a structural arrangement which is exciting, efficient, and responds perfectly to the study of natural light.

Replacing a dilapidated bungalow built in the 1960s in the garden of an 1840s villa, the house is on ground and two basement floors surrounded by gardens, light wells and skylights. The ground floor, pavilion-like structure floats, creating distant views through gaps in the city skyline. Wood is used throughout the project: structurally for the roof; as wall, floor and ceiling linings; and for the floating staircase.

The glulam structure is unique in terms of the double curvature and the slender section sizes. The roof curves into an oculus. Shaped and informed by light and shadow, the roof's tent-like form creates a new place for life to occur. Wood-lined 'internal' spaces are juxtaposed with marble-lined 'external' spaces.

FACT FILE:

Location: London
Architect: Gianni Botsford Architects
Structural engineer: Built Engineers
Wood species: European spruce; birch; Douglas fir

FURNITURE & PRODUCT COMPETITION
Bespoke

The Furniture & Product judges selected two winners within the Bespoke category

Alison Crowther's 'The Kissing Benches'

Alison Crowther's 'The Kissing Benches' were awarded for their simplicity and how honest they are to the material.

'The Kissing Benches' were made for the newly reinvented Figaro Garden at Glyndebourne. The garden required something that would complement and not draw attention away from the Henry Moore sculpture. These benches are a contemporary take on an old style of outdoor seating, designed to enable people to engage in conversation, embrace or kiss. Gigantic beam sections of green English oak have been hand-carved to create an ergonomic and attractive seat surface. The benches were hand-carved using traditional gouges and mallets.

FACT FILE:

Designer/maker: Alison Crowther
Client/owner: Glyndebourne
Wood species: English oak

STUDENT DESIGNER
'Bio Iridescent Sequin'

The winner of the Student Designer category is 'Bio Iridescent Sequin', which the judges praised as a refreshing alternative to finishes and colour within the fashion industry. Head judge, Corinne Julius, said: "Wood encompasses all kinds of experimentation. Students can help us appreciate new developments and manners of wood's qualities." Brunato has been awarded a £1,000 cash prize as winner of this category.

'Bio Iridescent Sequin' is a response to the unsustainable shimmering beads and sequins currently used in fashion and textiles. Brunato's sequin uses bio-technologies to create colourful shimmering sequins from naturally abundant wood. Through extracting the crystalline form of cellulose, the wood imitates the alluring visual aesthetics of shiny plastic while remaining lightweight, strong and compostable. Brunato is working alongside material scientists from RISE Research Institutes in Sweden.

FACT FILE:

Designer/maker: Elissa Brunato
University/college: Central Saint Martins, Material Futures
Wood species: Canadian softwood Kraft pulp

FURNITURE & PRODUCT COMPETITION
Production

'Ian McChesney Bench'

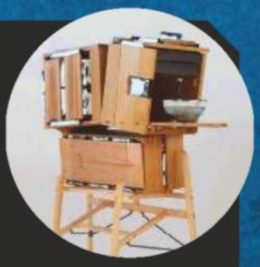
'Ian McChesney Bench' is the Production winner. Judge, Sebastian Cox, commented: "Seeing something in the production category that is so sculptural is lovely."

These highly crafted benches are made in two sizes. The gallery bench is designed to sit in the middle of a room and is 900mm deep to allow for sitting on both sides. The foyer bench is designed to sit at the edge of the room and is 600mm deep to allow for sitting on one side only. The gently pillowed top and bottom give the benches a very natural feel. They are carved initially on a five-axis CNC machine and then assembled and finished by hand to create the elegant edge profile. They are finished with hand-applied natural hard wax oils to keep the timber looking and feeling as natural as possible.

FACT FILE:

Designer: Ian McChesney
Manufacturer: Benchmark
Wood species: European oak; American black walnut

David Gates' 'Littoral Chances 1&2'



David Gates' 'Littoral Chances 1&2' received an award for its singular vision and how it highlights just how much a material can be adapted to an individual's style.

This unmatched pair of collecting cabinets is based on the beauty of chance composition. Gates is drawn to industrial and agricultural architecture, including jetties and pylons, and the paraphernalia that populates these sites, such as containers and crates. Gates is often struck by the balance and beauty of chance compositions; how stacked and piled objects present themselves sculpturally. The timber has been sawn, scraped, planed, and cleft to emphasise the woods' varying surfaces. The cabinets appear chaotic and improvised but are carefully made using adaptations of traditional construction techniques. The hand-shaped elliptical section of the legs echoes that of yacht masts, further extending the link to the estuary landscape.

FACT FILE:

Designer/maker: David Gates
Vitreous enamel on steel panels: Helen Carnac
Wood species: European oak; bog oak; ripple sycamore; Cedar of Lebanon; Douglas fir; American birds eye maple

STUDENT DESIGNER PEOPLE'S CHOICE AWARD
Anton Mikkonen's 'Udon Stool'

Anton Mikkonen has received £500 for winning the Student Designer People's Choice Award with 'Udon Stool'. Voting took place at 100% Design in September 2019.

As a young boy, Mikkonen was fascinated by wood grain and knots. He would look for knots near each other and create faces and other shapes. With the 'Udon Stool', Mikkonen has matched the uniqueness of wood grain with a very unique aesthetic.

The stool consists of five parts, all CNC-routed with a 2D CNC machine. The holes for the legs were also cut out with the CNC router and the legs were then added by hand.

FACT FILE:

Designer: Anton Mikkonen
University/college: The Sir John Cass School of Art
Wood species: ash

FURTHER INFORMATION
To find out more about the Wood Awards, see **www.woodawards.com**

HANDMADE, PLANE & SIMPLE

What could be more satisfying than making your own wooden block plane from scratch? **Martin Pim-Keirle** shares the whole process with us here, from start to joyous finish

Reduced to its purest form – a sharp blade held firm in a wooden block – the hand plane is a thing of simple beauty and a design that dates back thousands of years. This absolutely crucial woodworking tool is one I don't imagine many of us would want to be without. So what could be more satisfying than making your own, from scratch, in its entirety? Until my first attempt about six months ago, I had no idea just how simple it is to make a plane iron. If you can be trusted to operate a barbecue without setting fire to yourself, then you can almost certainly harden and temper your own blade. Go on – give it a go!

You'll see in the accompanying photos that I made two of these little planes together, both destined to be Christmas gifts for fellow woodworkers in my life. The nice thing about this design is that the laminated body not only looks good, it also makes construction of the plane very straightforward. Whereas a normal wooden-bodied plane would have the bed and mouth carved out of a single block of wood, here we can cut the unwanted material from the core before gluing on the sides. And the small size of the planes means that this can be a great little project for using up scraps and offcuts that might otherwise struggle to find a purpose (**photo 1**).

Making blades

Most woodworking projects begin with selection of appropriate timber, but this one is different, because first we must make our plane iron. It is around this that the plane will be dimensioned

1 Smaller scraps and offcuts are ideal for this project

2 Tool steel marked for cutting

3 Filing the profile of the blade blanks down to the line

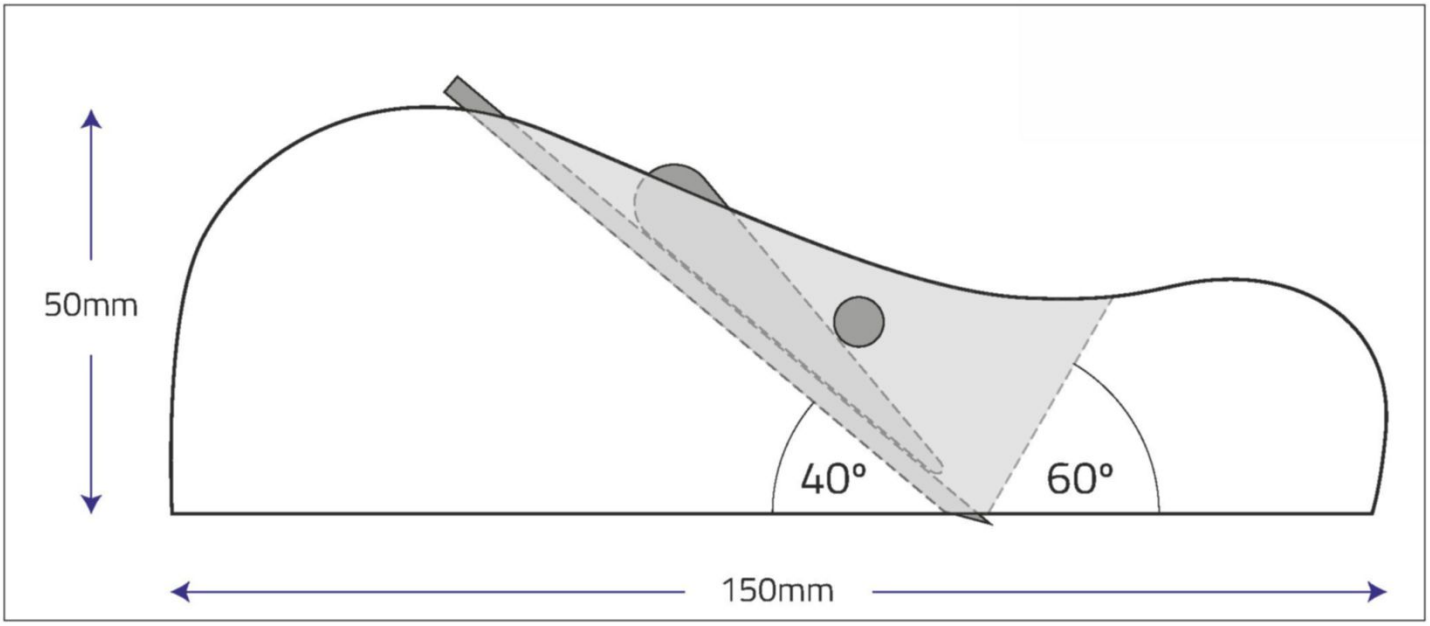
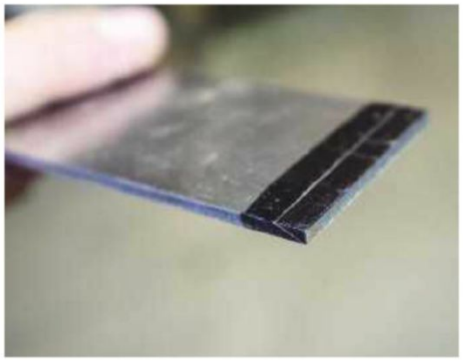


Fig.1 Dimensions for block plane

and constructed. '01' tool steel can be purchased quite cheaply and easily online. Width and thickness are up to you, but you'll probably want at least 100mm length to play with, and for a little block plane something around 35-40mm width is probably about right. I happened to have a strip of imperial dimensioned stuff at 1½in wide. I know from my plan that I needed my blade to be around 90mm long, so the first step was to cut a piece to size.

Black marker pen makes a handy substitute for engineer's blue when marking out, so plenty was painted onto the metal before scribing the cut lines (**photo 2**). I wanted a rounded upper end to the blade so it would sit comfortably in the hand. Once cut, the edges were cleaned up with a file (**photo 3**) and the blade-end checked for square. Next, an adjustable bevel set to 25° was used to mark the blade grinding angle on the sides, and a line scribed across the back (**photo 4**) as guidance for grinding: shaping as much of the bevel as possible at this point using files or a bench grinder saves time and effort (**photo 5**). The bevel was taken close to the line and then trued up and finished using a coarse sharpening stone and a blade guide. It is important not to grind this primary bevel all the way to the end



4 The bevel angle is marked on the blade blank...

5 ... and the waste filed away

6 The finished blade blanks ready for hardening

7 A homebrew charcoal-fired forge is enough to get steel red hot

8 Hardened plane irons after cleaning

9 Tempering changes the colour of the metal

of the blade. If it is made too sharp, the thin metal at the extremity of the edge may warp or chip during the hardening process. I left an edge around 0.5mm wide, and by now had something that looked pretty convincingly like a plane iron (**photo 6**).

Hardening & tempering

Next, the blade was hardened and tempered. The process is quite simple: the blade is heated until red hot before quenching (cooling very quickly) in oil or water. That makes the metal as hard as it can be, much like in a file. However, in this state the metal is very brittle, and probably also too hard to easily sharpen. To remedy this the blade must be tempered – heated more gently and for a longer period – resulting in steel that is still hardened, but also tough and no longer brittle.

The initial heating can be done in many ways, including using blow torches or a propane forge. However, it is not necessary to own any specialist equipment – hot charcoal will do the job. My 'forge' was a temporary stack of bricks built like a chimney, with a grate from a barbeque placed one layer of bricks up from the bottom. The aim was to make a simple, fire-proof enclosure that would trap the heat while allowing air to flow through. One side of the bottom was left open, and an old metal vacuum cleaner pipe used to direct air from a hair dryer into the forge (**photo 7**).

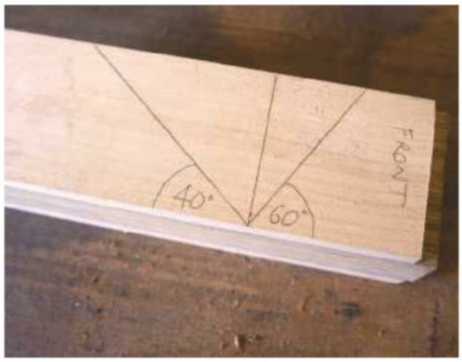
As always, safety is paramount. I would only ever do this outdoors, wearing eye protection, welding gloves (long leather gauntlets – £4 from

10 Prepared strips of wood, ready to be laminated

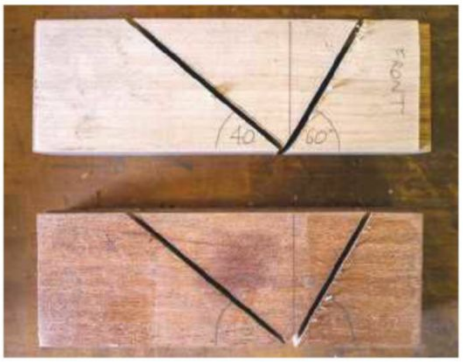
11 The core needs to be slightly wider than the blade

12 The core layers were glued together...

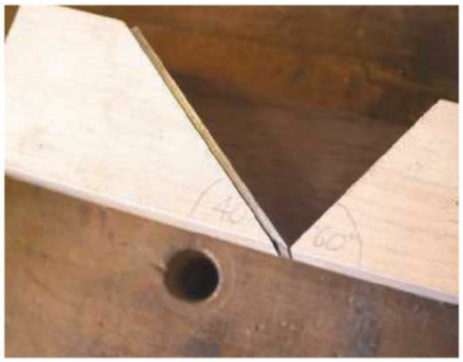
13 ... and then cleaned up and checked for square



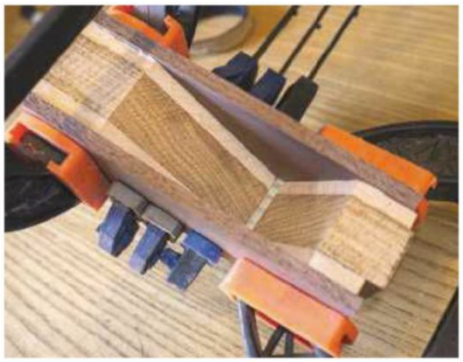
14 The plane opening was marked out...



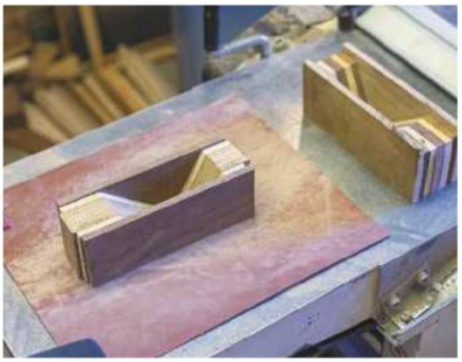
15 ... and then carefully cut, preserving the waste block for later



16 When in position, the mouth should only just let the blade through



17 Accuracy is crucial when gluing on the sides



18 Abrasive on a machine table helps flatten the sole precisely

Screwfix), and trousers and long-sleeved shirt free of man-made fibres. It is also a good idea to have a fire extinguisher and a wet towel handy, though as I said earlier, the whole process should really be no more dangerous than a bit of al-fresco cooking. Just bear in mind that you're going to be handling red-hot metal, and act accordingly.

I started by burning a little wood in the enclosure, and then added charcoal on top, breaking up any large lumps beforehand. It usually seems best to let the charcoal catch alight fully before switching on the hair dryer, at which point the increased airflow causes the charcoal to burn much hotter. The trick is to get enough air through to achieve this without pushing so much through that it ends up cooling the fire: early experiments using a compressor did not work as well. At this point I popped a couple of bricks across the top of the enclosure to better keep the heat in and further raise the temperature.

Once the fire was red hot, I briefly switched off the air flow, carefully moved the covering bricks to one side, and gently nestled my new blades in among the hot coals using an old pair of pliers with the handles extended to give enough reach to comfortably do this. Just a few minutes in the heat was enough to get the metal glowing cherry red. The blades could now be removed (one at a time), and smoothly plunged, sharp-end first, into a bath of used engine oil – I used a very large glass jar – rapidly cooling the metal. I let them rest

19 A rough profile is sketched out....

20 ... and the waste trimmed away and smoothed

in the oil until everything had cooled down enough to handle. If you try this yourself, note that when you plunge red hot metal into oil it may cause a few licks of flame across the surface of the oil. Generally these self-extinguish in a second or two, or will disappear if you blow them out, but do keep a wet cloth (an old towel is ideal) handy to drape over the oil container just in case. Never try to put out oil flames using water!

With the blades cool enough to handle, they were cleaned thoroughly with cloths, white spirit (to remove the oil), wire brushing and wire wool (**photo 8**). The object is to get enough clean metal to be able to see the colour change when the blade is tempered. This is also a good time to check the blade for hardness: a file run over the surface should skip and slide as if you were attempting to file ceramic, and do nothing more than brighten the surface of the metal.

The final step is to temper the blade. This, perhaps surprisingly, can be done in a household oven. That's right: first you barbecue your blade, then you roast it! An oven set to 200°c or just over will do the job. My cleaned blades were placed in a pre-heated oven for about an hour and a half, and when removed had taken on distinctive yellow and blue colouring, showing how the metal had been heated (**photo 9**). At the end of this process I now had two plane irons hard enough to hold a razor-sharp edge, but tough enough not to chip and crack during sharpening.

With the blades ready to be cleaned up, ground and sharpened, this was actually a good time to move onto making the plane bodies. While making these plane bodies it is necessary to occasionally reference the plane iron, and this is obviously easier and safer before it has been sharpened.

The plane body

The first step in building the body of one of these planes is to choose suitable strips of wood (**photo 10**). The body is built in two steps: first, a central core is created that should be a few millimetres wider than the plane iron (**photo 11**) (to allow the blade to sit at a slight angle if necessary); next, two further strips of

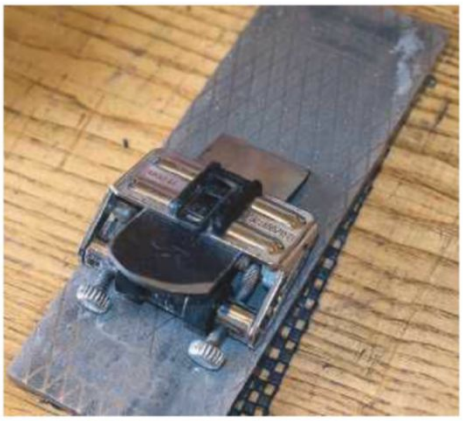
21 Wedges were cut from the waste material

22 Mild steel bars polish up very well

23 Laying the blade and wedge out allows accurate positioning of the bar

24 The body must be square to the drill for accuracy through both sides

25 The back of the blade is flattened…



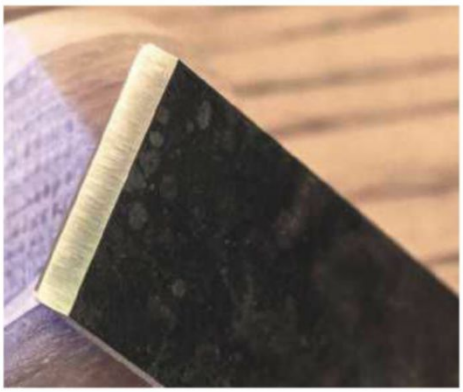
26 … before final sharpening…

wood are added to create the sides of the plane. This means that the simplest possible build would be a single central block plus two sides. However, one of the reasons for taking this approach is to create a unique-looking tool, so for that reason both of my core sections were laminated: one with three layers and one with five layers.

Based on my original plans, the blanks for my planes needed to be a little over 150mm long × 50mm high to allow for errors and shaping. Wood was prepared for both the central blocks and the sides of the plane body, choosing hardwoods that felt similarly resilient. Each layer was planed perfectly flat on the faces and square along the intended bottom edge, and the layers for the central blocks were glued up and left to set, using plenty of clamps to ensure a perfect join (**photo 12**).

With these blocks prepared, they could now be trimmed flat and square all round (**photo 13**), and marked for the cuts that would form the mouth and bed of the plane (**photo 14**). Essentially this means just two cuts: one at an angle of 40° to the sole (this is the surface on which the plane iron will sit) and another at an angle of 60° in the other direction. I positioned the point at which these two cuts meet (the mouth) at around 50mm from the nose of the plane. These cuts must be precise and dead square to the sides of the block (**photo 15**). Once cut, I retained the waste triangle of laminated wood for later use. The cut surfaces were then carefully flattened using a sheet of abrasive on top of a dead-flat surface. I could now unite the central block pieces with the sides, and glue everything together. This is perhaps the most challenging part of the process, as the parts have a tendency to move about when clamped. The pieces were carefully laid out with the blade in situ in order to judge the correct size for the mouth of the plane (essentially the space between the two halves of the central block). The mouth was made just large enough for the plane iron to pass through (**photo 16**), as widening it later is simple, whereas making it narrower is not! With glue and clamps applied, care was taken to make sure that the intended sole of each plane was as flat as possible, and that no glue was left in the mouth area. The assembled plane bodies were left to dry overnight (**photo 17**).

Before moving on to the final elements and shaping, the sole of each plane needed to be flattened (**photo 18**) to give a consistent reference point. Using abrasive fixed to the table of my



27 … and stropping to a razor-sharp edge

28 ¼in steel bar is a nice tight fit in a 6mm hole

31 Care is taken to produce a symmetrical result

29 A quick test shows this is more than just a posh paperweight!

30 Final shaping is carried out using a saw rasp

planer, I worked through three grits – 120, 240 and 400 – moving with the grain until the whole surface was flat and smooth. Before moving to the finer grits, I checked that each sole was still square to the sides.

Next, the outline shape of the plane was sketched (**photo 19**) onto the side of each rough body before cutting away the waste using my bandsaw. The cut surface was smoothed using 80 grit abrasive, giving a usable but rough block plane shape (**photo 20**). It was important to get the outline of each body close to its finished shape at this stage, in order to make it easier to judge the correct location for the cross bar.

Other components

The final components to create were the wedges and bars that hold the blades in place. The wedges were cut from the waste material leftover from the central cores. I initially cut them to the full length of the material available – running from around 10-12mm at the thickest end to just a couple of millimetres at the other – and planned to adjust the size later on. After cutting my wedges I sanded them in the same way as the sole, also rubbing down the sides a little to make sure the wedges would be a loose fit widthways in the bodies (**photo 21**).

The bars for the wedges to push against were cut from ¼in steel bar. That's 6.35mm, meaning a 6mm hole in the wood (plus a little light sanding) would be a tight enough fit to not require glue. I cut each bar just a fraction of a millimetre longer than the width of the respective plane body, and spent a little time sanding and polishing them in my pillar drill, first using fine wet and dry and then a cloth and some green polishing compound. This slightly reduces the thickness of the bars and gives a highly polished finish (**photo 22**).

Positioning the hole for the bar required a little thought and care. The location of the top and bottom of the bed were marked on the sides of the body, and joined with a light pencil line to show where the back of the blade would sit. I was then able to carefully lay the blade and wedge together along this and mark another line along the upper side of the wedge (**photo 23**). This done it was now possible to judge a suitable position for the bar in relation to that new line: not too near the top of the plane body as it could split under tension, and closer to the wedge surface than needed for it to just touch, ensuring a tight fit and allowing for adjustment at the end.

I checked my pillar drill was square to the table, and that the drill bit was parallel to the sole, and then ran a 6mm drill bit through the body (**photo 24**). A small block of softwood jammed between the sides helped prevent breakout.

Sharpening & testing

At this point I stopped to sharpen the blades, as it made good sense to assemble and test the planes before doing any more shaping: if any further fettling was needed it would be easier while the sides were still flat. I first used a coarse diamond stone and a blade guide to take the 25° bevel to the edge. Next, I flattened and polished the last couple of centimetres of the back of the blade, before honing a 30° cutting edge and finishing off on a strop (**photos 25, 26** & **27**).

32 A sharp knife sculpts the sides

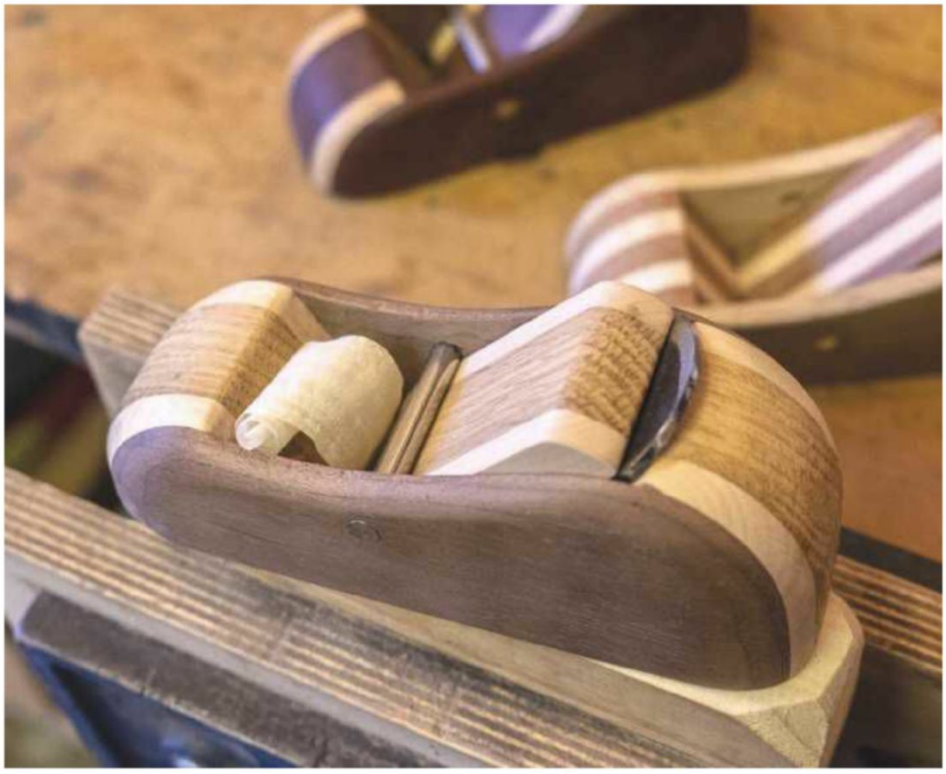
33 The finished plane should have an even opening in front of the blade…

To assemble the rough plane, the bar was tapped into place (**photo 28**), and the blade and wedge inserted into the body. With a few light taps to set the blade it was possible to get both planes taking good shavings from a block of softwood (**photo 29**). Adjustment to both the shape of the wedge and the size of the mouth is often needed at this stage. The wedge will likely be too long or too fat to be effective. Gradual adjustment is the key here: spoiling the wedge would mean replacing it with a none-matched component. Similarly the mouth may be too narrow, in which case careful filing to open up the front of the mouth slightly is the answer.

Final shaping

With the planes tested I could now be confident that I wasn't just making complex novelty paperweights, and final shaping could begin. The plan profile was marked out on the base of each body, and shaping was done using a Japanese saw rasp (**photo 30**) – an amazing tool for removing material quickly and accurately – followed by sanding from 80 grit upwards, finishing with a 320 grit sanding pad. It took a little while to get the bodies symmetrical (**photos 31** & **32**) and perfectly smooth, but worth the effort, particularly for tools that would be given as gifts. After sanding I applied a simple finish of linseed oil (left to soak in and then buffed off), followed by Renaissance Wax. Only the bed was left unfinished, for fear that the lubricating effect of the wax might prevent the blades from being held fast.

The finished planes are a joy to use – comfortable, easy to control and very sharp (**photos 33** & **34**). If there's one woodworking project I wish I'd tried a lot sooner, it's this one: there is a great deal of pleasure to be found in creating this fundamental woodworking tool, blade and all, from scratch. I hope my fellow readers will give this simple project a go, and in the process create a tool that feels just a little more special than the others.



34 … and take beautiful shavings!

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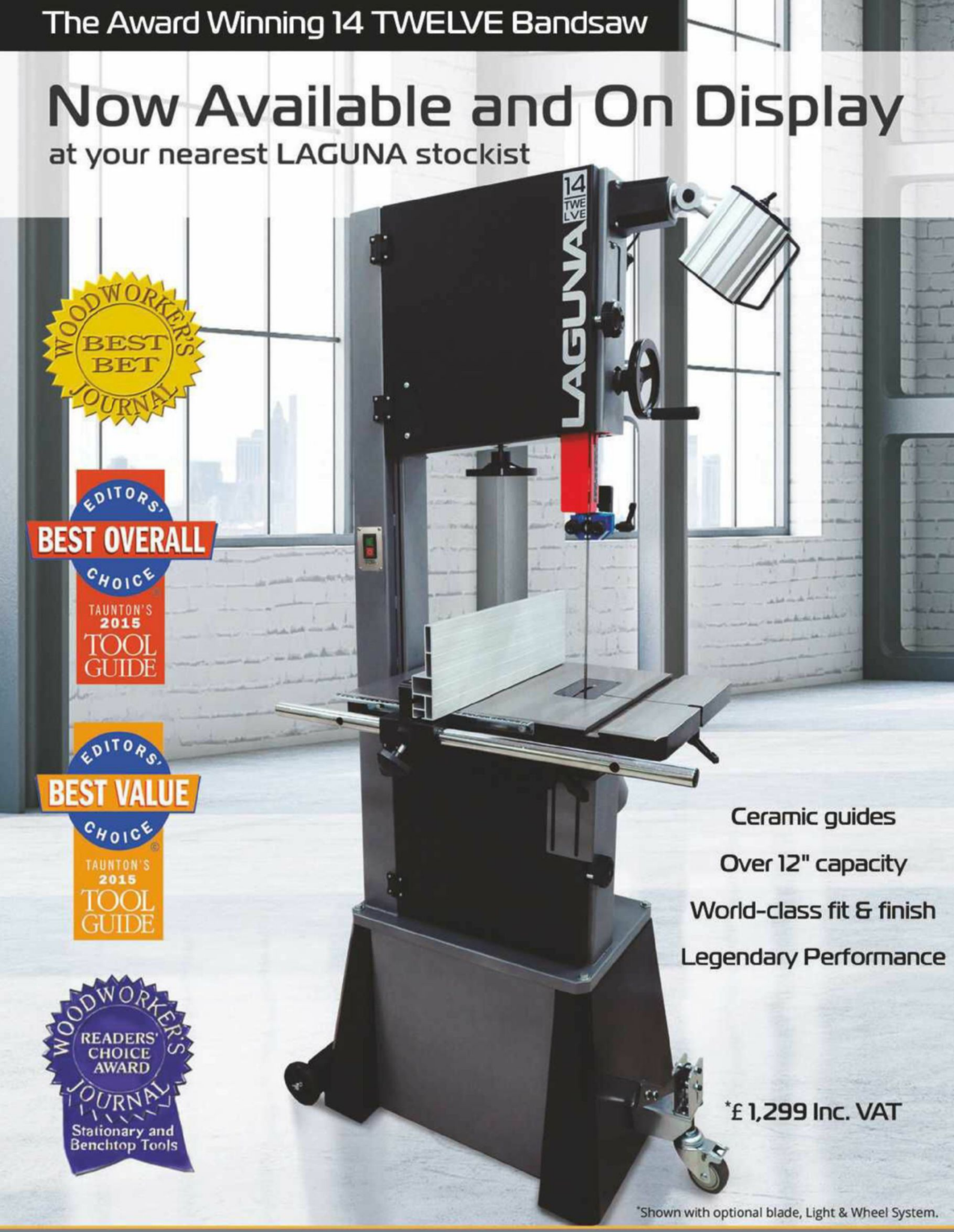

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LETTERS

★LETTER OF THE MONTH

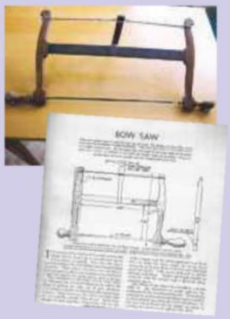
One of Arn's homemade block planes

CHARLES H. HAYWARD TALK

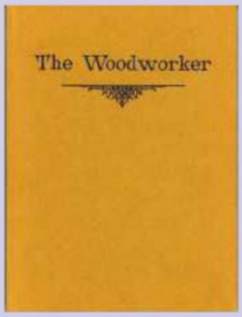
Hi Tegan,

I thought I might share some information with you as a subscriber and long time *WW* reader. I originally started reading the publication when I was a teenager; my father was a time served cabinetmaker in South Africa and during the late 1940s/early 1950s, he used to get the magazine regularly and at the end of each year, book-bind them into annuals with gilt lettering. We had a number of them in our bookcase and when I developed an interest in woodwork, used to read them avidly.

In the late 1960s and 1970s, I discovered these volumes and my family's Christmas present to me each year was *The Woodworker Annual*. I had between 16-18 editions but eventually, due to downsizing, had to sadly part with them and chose to donate the copies to a woodworking museum. Obviously Charles H. Hayward (Editor) played a large role in my knowledge of working with wood and provided invaluable information in his various books, particularly the *Woodworker's Pocket Book*, which I still use on occasion.



Boxwood bow saw made by Arn's father from an article in *The Woodworker*



One of the book-bound *Woodworker* annuals with gilt lettering...

... and this particular 75th Anniversary Commemorative Copy was signed by Editors Charles H. Hayward and Antony Talbot

Earlier this year, I was very kindly given the opportunity to talk to members of the Southern Fellowship of Woodworkers (SFWW) at one of their meetings held in the Cross Barn, Odiham, Hampshire, about Charles H. Hayward.

I have attached a Word document covering the talk and if there are any questions to be asked, please don't hesitate to pose them.

Regards, **Arn Huddy**

TALK GIVEN TO THE SOUTHERN FELLOWSHIP OF WOODWORKERS

Thank you for providing an audience for my talk on Charles H. Hayward – the man, his legacy and my interaction.

The beginning

Charles' legacy is in his Editorship of *The Woodworker* magazine from 1939 through 1966, and also the many books which he wrote on working with wood and woodworking tools. He encouraged young people to become involved in projects. During his period at the helm of the magazine, he saw the transition from artisans making most furniture, to the general public getting involved – i.e. Do It Yourself.

During the previous decade or more, although electric tools were being developed by Black & Decker, Porter Cable and Miller's Falls, it wasn't until the 1960s that they became more affordable to the general public.

Charles Hayward, in both his books and the magazine, was able to provide guidance on the use and safety of both manual and electric tools. His *The Complete Book of Woodwork* covers some of these.

In the 1970s, I bought his book *How to Make Woodworking Tools* and the block and chamfer planes I have with me tonight were made from the book circa 41 years ago. Together with these planes is a bow saw, made by my father from boxwood, possibly also from the book! The new centre bar (stretcher) and windlass bar were made by me from imbuia. My father used this timber in a number of his projects and I felt the bow saw became our combined effort. In 1976, the Guild of Woodworkers brought out a facsimile of the first *Woodworker* Annual covering October 1901 to December 1902; this was signed by both Charles H. Hayward and Anthony Talbot. I am lucky enough to have copy No.248.

The legacy

Charles H. Hayward died in 1998, but he lives on in word, and is being commemorated in America through a publication titled *The Woodworker: The Charles H. Hayward Years*, by Lost Art Press LLC.

Arn Huddy

Hi Arn, wow, what a fantastic glimpse into the past of the magazine that we all know and love, and how wonderful to commemorate a man who so many woodworkers, as well as readers old and new, still admire to this day. Thank you also for sharing the fantastic photos, especially the cover of one of these amazing annuals, which is even more remarkably signed! As you say, Lost Art Press have produced these wonderful books detailing the making of a large project over four volumes, and volume II covers a variety of hand tool techniques. The books can be purchased in the UK via Classic Hand Tools – **www.classichandtools.com** – *or for those readers in the USA, see the Lost Art Press website* – **www.lostartpress.com.** *Thank you again for sharing your amazing story with us all.*

Best wishes, **Tegan**

WRITE & WIN!

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

HOW LONG IS A PIECE OF STRING?

A selection of string boxes turned by John, based on Dave Roberts' article in the November 2019 issue

Hi Tegan,

Many thanks for the recent *Woodworker* magazine – there were some great projects featured. I got a bit carried away with the string barrels (*WW* November) and ended up making four of them: one is in ash from a friend's tree; two from an old piece of oak complete with a few cracks; and one from a bit of tree of uncertain origin! I'm looking forward to 2020 and more great issues.

Regards, **John Ingrey**

READERS' HINTS & TIPS

For the next 11 issues, in conjunction with Veritas and BriMarc Tools & Machinery, we're giving one lucky reader per month the chance to get their hands on a fantastic **Veritas apron plane with PM-V11 blade**. Ideal for trim carpentry and featuring a ductile cast-iron body, its unique side wings allow for a comfortable, firm grip. To be in with a chance of winning this great piece of kit, just send your top workshop hints, tips or pointers – indeed anything that other readers may find useful in their woodworking journeys – to **tegan.foley@mytimemedia.com**, along with a photo(s) illustrating your tip in action. To find out more about Veritas tools, see **www.brimarc.com**

GRAPHIC ACCURACY

The problem

I've just retired and have been steadily building up the tools to embark on a woodworking journey. I never studied woodwork at school and, up to now, only had the time to do necessary jobs around the house and garden. Buying the right tools and accessories has been straightforward, having access to a vast array of online resources, but, more importantly, having an extremely talented friend who can make wood sing. He recommended starting joints using a pocket-hole jig and this is probably the most used tool in my workshop.

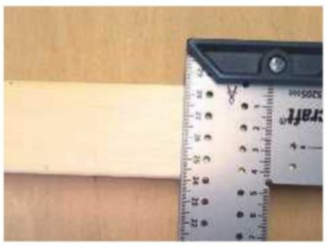
The problem is getting a perfect cut on the wood I want to join. I have an illness which affects my dexterity and this results in some minor inaccuracies in the pieces I create. I realised that no matter how close I get to the magic right angle, when I dry assemble the frame or whatever I'm building, there is often a slant or twist. I have made some amazing parallelograms so far!

Solution

My solution to this problem is to use simple graph paper to draw and adapt plans. While gently venting my frustration at yet another slightly off joint, I had a eureka moment: why not build the frame joints over the graph paper to keep everything square?

Stopgap method

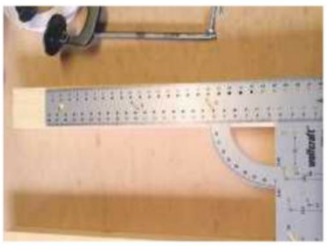
I accept that the seasoned woodworkers and those with great machines, tools and abilities, will probably say there is no substitute for initial accuracy, but I'm sure this will come with practice and experience. This is just my stopgap method, which is infinitely better than my previous hammer solution! **Nick Guymer**



1 Marking the cut

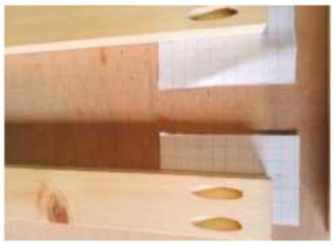
2 Making the cut (if there are any obvious technique errors, please advise)

3 Pocket-holing, a new word – not to be confused with potholing!



4 Argh × 2!

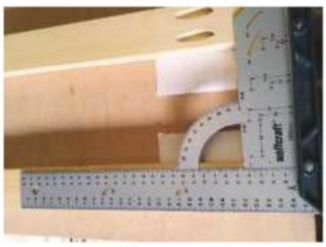
5 The graph paper and double-sided tape



6 Clearly t'ain't right!

7 Glue it, clamp it in line with the lines and make sure it lines up...

8 ... then screw it with a low torque setting so you don't force the joint



9 Bingo!

10 If you place the graph paper carefully, it will stop the glue oozing onto your bench

Hi John, what wonderful boxes; thanks so much for sending in the photo! I love the fact you've used a variety of timbers here, and especially making use of found wood as well as bits that may be considered less desirable due to defects (see Les Thorne's article on page 80). If anyone can take a guess as to what the unknown timber may be, please get in touch! We're excited about 2020 too and have lots of fantastic content in store as well as a variety of new authors coming on board. Thanks again and keep up the good work!
Best wishes, **Tegan**

FURNITURE WITH THOUGHT

Martin Pim-Keirle discovers more about furniture maker **Aidan Donovan** whose subtle and sensitive approach to the craft has helped him to carve out his own unique niche: a strange yet fascinating alchemy that fuses geometry and scripture

There's a sensitivity to Aidan Donovan's work that you might take a moment to appreciate. His 'Gibran Seat' was highly commended as part of the 2019 Celebration of Craftsmanship & Design's 'New Talent Award', and deservedly so. A symphony of geometric lines, it sits low, spare and elegant; even the ornamental script on the cabinet door is as subtle as a butler's cough. But there is more to this reimagining of a mid-century telephone table than first meets the eye. The door is carved in stylised Arabic with a quotation taken from one of Aidan's favourite literary works: *The Prophet*, by Khalil Gibran. The mix of oak, elm and willow used in the piece's construction are doubtless beautiful, but also part of a commitment to use only locally-sourced, native timbers in his work. Clearly, then, this is a designer and maker who thinks deeply about his craft, and strives to imbue his furniture with a level of meaning befitting the time and effort each piece takes to create.

Aidan's highly commended 'Gibran Seat', in oak, burr elm and willow

Talking about his creative process, Aidan admits that: "I draw influence from a wide range of sources without necessarily considering how they might relate to a piece of furniture at first. There is some strange alchemy that happens between those initial influences and the end result."

Despite this, the roots of his designs are often surprisingly simple: "I like to base my designs on a single geometric shape to begin with. You can see that in my portfolio: 'Hex' is hexagons, 'Jupi' is based on circles, and the 'Gibran Seat' is all about squares. It's a ridiculously simple way to think about design, but there is still so much to consider in how those shapes will influence a piece."

Perhaps this desire for simplicity (Aidan also professes a love for classic Scandi design), subtlety and sensitivity are on some level a response to his former life in social work. Having seen some of the chaos of everyday life for vulnerable children in Manchester, a creative style that expresses itself with a whisper rather than a shout is perhaps not so surprising. Nor the desire to create pieces that place ergonomics and utility above ornamentation. "I like the philosophy of the designers from the mid-century," says Aidan, "furniture should be designed around the way people live, and not the other way round."

The stylised script on the cabinet door reads: "Have you beauty, that leads the heart from things fashioned of wood and stone to the holy mountain?"

And what of his ethical decision to use only British timber, and as locally sourced as possible? "It's obviously a significant limitation when it comes to material choices, but I think that limitations can be one of the best ways to encourage creativity. Timber is the most renewable building material we have, but that doesn't mean we can be complacent when it comes to how we source it or consider its impact on our planet."

The long way round

As Aidan himself says, he certainly reached furniture making through quite a circuitous route. After an early experience with his father, making

Aidan is now Artist in Residence at the On The Brink Studio in Stockport
Photograph courtesy of **Elle Brotherhood**

Behind the ornate door lie beautiful burr elm drawer fronts

a pine coffee table for his brother – "it was a fairly rough build but he still has the table and I enjoy seeing it when I'm at his house" – Aidan and woodwork were strangers for several years. A university course focussing on engineering for developing countries turned into four years studying Arabic, both in Manchester and Jordan. It was a summer spent with a friend turning scavenged pallet-wood into rough garden furniture that ignited a passion for transforming raw materials into useful, usable objects.

When he and his wife bought their first house, this itch could be scratched by various home renovation tasks – shelving units, door-fitting and so on – but the desire to learn and progress never left him. The years passed with various different jobs, and eventually a Masters in Social Work and a new career working for Children's Services. Although the work could be fulfilling, Aidan ultimately came to the conclusion that is was not what he wanted to do with the rest of his life: "I eventually began to feel pretty strung-out with the work I was doing.... I felt a lack of connection to my body and the physical world. I would fantasise a lot about just getting out of there, being in charge of my own time and working with wood in a more meaningful way.

"I longed for something more creative, practical, playful and physical. I think deep down I knew that I could find those things in woodwork and it was really a matter of taking a step away from what I had known to see if I could actually make it happen. It felt like a big risk, but it felt like a bigger risk to carry on doing something which I knew, in the long run, was not going to make me feel happy."

Waters & Acland

It was a chance encounter at the Real Wood Studios sawmill in the Scottish Borders that led to a recommendation for the Waters & Acland Furniture School: "I poked my head into the workshop, just being nosey really, and I was met by a guy called Alasdair Wallace. He was really personable and friendly and downed tools for about half an hour to answer my barrage of questions about furniture making, and options for training."

That conversation led to an application for a term at the School, which was swiftly extended to two terms once Aidan realised how quickly he was progressing in the hands of course tutors Tim Smith and Graham Loveridge.

"You really couldn't hope for more skilled, patient and personable teachers; they were a joy to learn under, and an absolute credit to W&A. Their ability to adapt to the different learning styles and skill level of the students and to hold in mind the various stages and projects everyone is working on is remarkable."

When you realise that just seven months of tuition have been enough to progress Aidan from a keen home carpenter to a credible furniture maker, it's hard not to be impressed with the results.

Though Aidan concedes that attending the School was a huge investment, the benefits were not just about perfecting manual skills or developing an effective design process: "Studying furniture making has completely transformed my relationship to wood. I definitely had an aesthetic appreciation prior to my studies, but I was completely naive with regard to the behaviour of timber and the incredible variation across different species. I really was learning from the ground up at Waters & Acland when it came to wood movement, grain direction and ways of really working with wood rather than simply treating it as a building material."

Aidan recalls how a friend on the course spoke

Exquisite craftsmanship and attention to detail helped to win Aidan a commendation at The Celebration of Craftsmanship & Design's 'New Talent' Award

"I did a lot of modelling and testing these curves to ensure I got it right. The piece would have been completely pointless if it wasn't a comfortable chair to sit on"

of the need to 'listen' to the wood, and understand how it needed to be worked. Though this idea initially seemed rather nebulous, Aidan now finds that the more time he spends working with wood, the more this idea makes sense. And this growing apperception is not limited to the stuff that's been felled, boarded and seasoned: "Another really wonderful change for me has been how my relationship to the natural world has shifted. I had such a lack of understanding about the native tree species on our island. By learning more about timber, I've begun to learn more about the trees that surround us… It's like looking at the world around me with a new lens, and it's great!"

The 'Gibran Seat'

To fully appreciate how far Aidan has come since his DIY days, you need to take a closer look at his commended work. The 'Gibran Seat' – a low, comfortable chair with a small cabinet integrated into the left-hand side of the piece – is constructed of English oak, English burr elm and Somerset willow, with Herdwick wool for the cushion cover. Only the cabinet door is made of engineered wood, using 3mm veneers over an MDF core for stability, and to allow for the absolute precision required to CNC cut the geometric script into the surface of the veneer.

"I always feel like I need to justify the use of CNC, but the truth is that it's an incredible tool that can be utilised like any other to achieve the best results for certain components."

That script design took more than three days to get ready for machining, and is a tribute to both his artistic talents and his confidence with Arabic Kufic lettering. The cabinet on which the door sits is itself worthy of note, being a stressed component of the chair rather than resting in its own frame: "Working out how to suspend the cabinet in the frame was a bit of a challenge. I didn't want there to be any frame under the cabinet, in order to keep the lines as clean and minimal as possible. The cabinet actually takes a significant amount of weight when someone is sat in the chair."

All the dovetails in the piece (and there are many) were cut by hand, and this was Aidan's first experience of building piston-fit drawers: "I got a lot of practice at fitting components inside each other through this process, which was hugely beneficial".

One of the most challenging aspects of the build was that of getting the proportions right for the seat. Willow rattan is stretched over a curved lumbar support, and finding the perfect curve was a challenge: "I did a lot of modelling and testing these curves to ensure I got it right. The piece would have been completely pointless if it wasn't a comfortable chair to sit on."

The future

So what's next for this multi-talented designer and maker? Aidan is now Artist in Residence at the On The Brink Studio in Stockport, spending part of his week alongside fellow furniture maker Gareth Batowski and his partner Elle Brotherhood, a photographer: "I've admired Gareth's work for some time and I'm really grateful for the opportunity to work in his space and continue to be able to ask questions and have someone to bounce ideas off." And with the additional benefit of a small workshop set-up at home, Aidan is able to sate his hunger for that physical connection to the natural world more often than ever before.

Aidan is happy to have the luxury of a small home workshop

The need to make a living has, of course, not been forgotten. Aidan is taking on commissions as well as developing a few speculative pieces, riding the wave of exposure and encouragement that came from his experience at the Cheltenham exhibition where he received his award. The prize included a year's graduate membership with Design Nation UK, something Aidan hopes will lead to new opportunities, though at the moment it's fair to say the industry still feels rather opaque to him: "I'm very green and don't have any pre-existing connections to the industry. It does feel like an exciting time to be a maker; there is a public interest and a market for handmade furniture."

And what of the long term? Aidan's background in social work, plus a genuine desire to do something that will benefit others, is clearly at play when he says he dreams of finding a way to marry these things with his craft: "One day, I'd love to be able to share what I've had the privilege of learning on my own journey... and perhaps look at some sort of woodworking-related youth work and teaching."

Wherever he ends up, we're certain that, like much of Aidan's life, the journey will be at least as interesting as the destination.

And what is it to work with love? … It is to charge all things you fashion with a breath of your own spirit. – Khalil Gibran

FURTHER INFORMATION

To find out more about Aidan and to see more examples of his work, take a look at his website: **www.aidandonovan.co.uk**

Just two terms at Waters & Acland transformed Aidan's woodworking abilities
Photograph courtesy of **Ben Butler**

ME AND MY WORKSHOP

Dave Bowden

Rick Wheaton meets retired woodworker and Chairman of the Mid Devon Crafts Guild, **Dave Bowden**

Dave with one of his handmade Noah's Ark animals

1. What is it – and where is it?
A small shed at the bottom of my garden in Exeter, Devon.

2. What's the best thing about it?
I can go to it any time I want, without travelling.

3. And what's the worst?
It's tiny. Space is always at a premium. I manage by moving things about!

4. How important is it to you?
It's very important to me. This is where I do what I love – to make things.

5. What do you make in it?
I make wooden toys, jigsaw puzzles, and I'm happy to make other projects to order.

6. What is your favourite workshop tip?
Try to keep everywhere tidy, and remember where you put things.

7. What's your best piece of kit?
My Record BS250 bandsaw.

8. If your workshop caught fire, what one thing would you rescue?
I'd probably rescue my small bandsaw (it's a BK3). I've had it for 20 years; it's light, portable and a great machine.

9. What's your biggest workshop mistake?
Not thinking about making it warmer in winter.

10. What's the nicest thing you've ever made?
I've recently made two rather large Noah's Arks for the childrens' corners of two local churches.

11. And what's the worst?
I don't recall making anything that I've regretted. If I mess a piece up, I bin it right away and just start again.

12. What's the best lesson you've learned?
Work safe! I always unplug a machine when changing blades and so on. Switching off is not enough.

13. If you won the lottery, what would you buy for your workshop?
I don't think there's any one thing I'd buy because I don't have any more room. I'd probably build a whole new workshop – and make it bigger and warmer!

FURTHER INFORMATION

If you'd like to see some of Dave's work, visit his website: **www.middevoncraftsguild.co.uk**

NEXT MONTH

In the next issue, we look around the workshop of another Devon-based furniture maker, Pete Sings. We'd love to hear about your workshops too, so do feel free to send in a photo of your beloved workspace, and please answer the same questions as shown here – just email **tegan.foley@mytimemedia.com**

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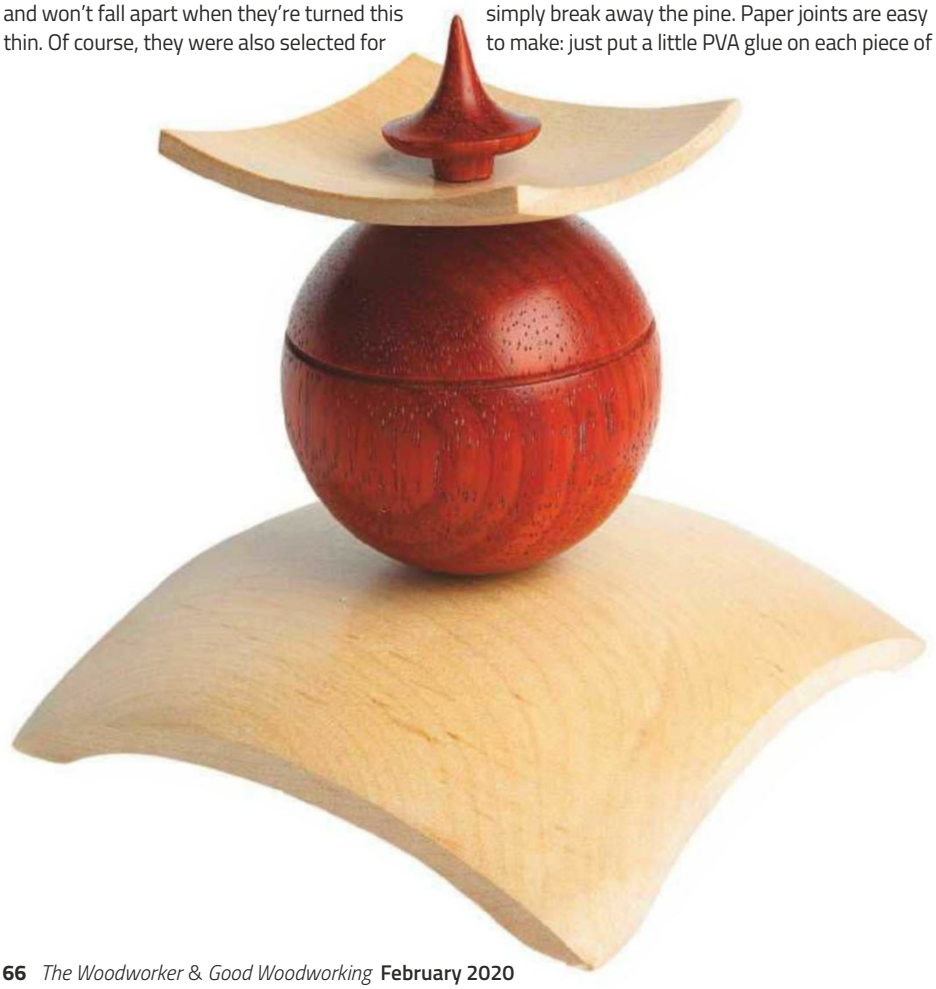
TURNING JAPANESE

What's all this Zen? It's a box – a round and rather unusual one – courtesy of **Dave Roberts**

This month, my turning project – a small box designed by one of my customers – is a homage to the design influences of the Orient, incorporating as it does the colours and rising sun of Japan's national flag. My first impression from his drawings was that it offered an interesting sort of challenge. But while the square top and bottom, not to mention the round ball at the centre, may look difficult, they can be realised quite easily, with some careful planning. Personally, I always enjoy turning little boxes, especially if, like this one, there is something unusual about them.

The two timbers I've used are padauk and sycamore, mainly because they are close-grained and won't fall apart when they're turned this thin. Of course, they were also selected for their colours: the piece of padauk is red and free from any blemishes, and the sycamore is, typically, creamy and fairly plain.



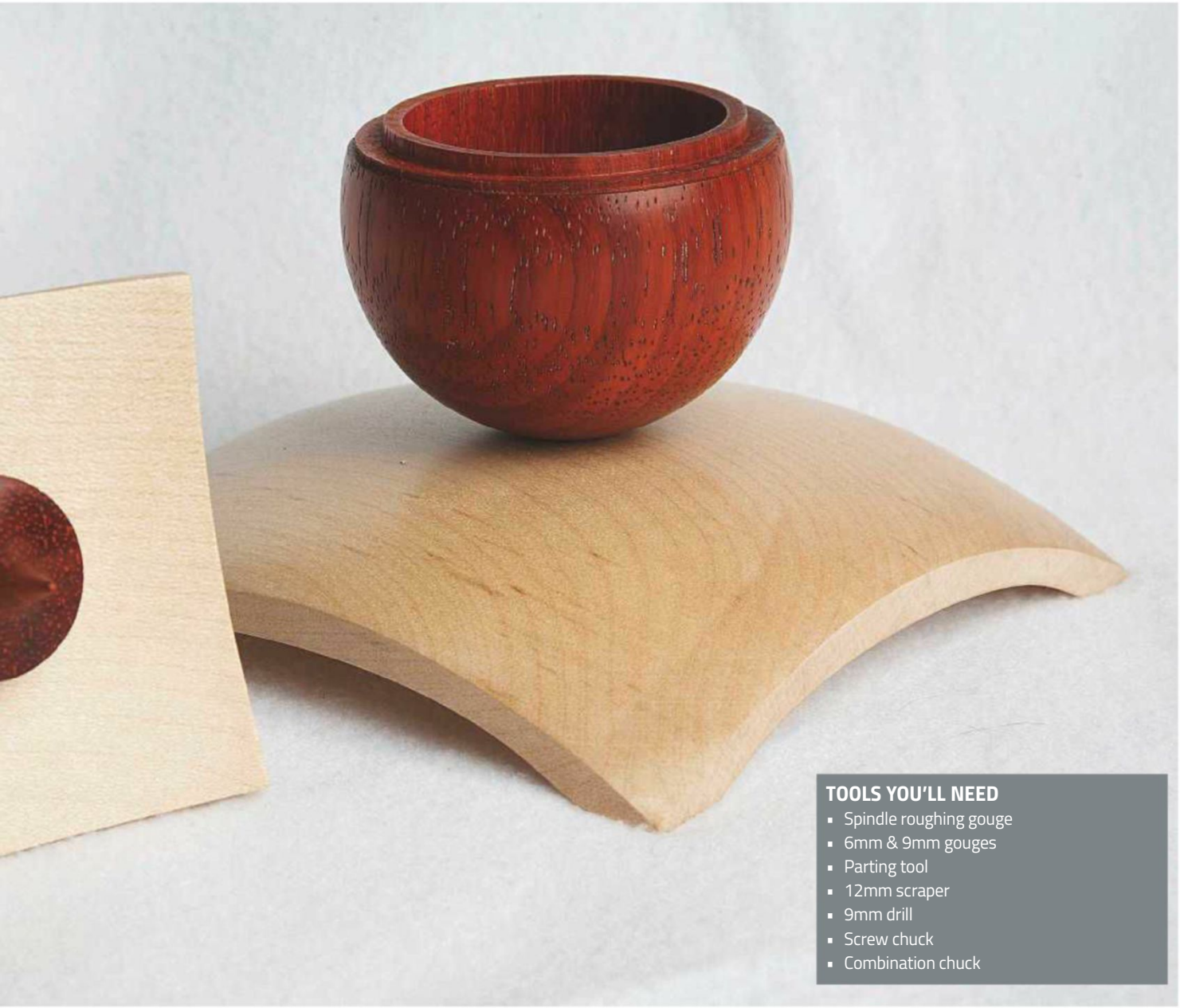
Turning the base square

The base is turned from a square blank so that it's dished in the middle, but with a small flat left at each corner to form the feet. It's important to get the blank square, so use a table saw, if you have one, to make the task easier.

I find that, when turning squares, I get the best results by paper-jointing scrap pine onto the outside. The support given by the scrap saves the grain from breaking out, and also guarantees flat edges. When you've finished turning, you can simply break away the pine. Paper joints are easy to make: just put a little PVA glue on each piece of timber, including the square, then put newspaper in between the pieces and clamp them together, and leave the assembly to set overnight. Once dry, find the centre and use a compass to draw a circle to guide you as you saw it into a round blank.

After drilling a pilot hole, mount the blank straight onto a screw chuck, and turn it to the finished diameter. Start by turning the

1 Use a push stick when cutting the square blanks, as it's much safer than using your fingers



TOOLS YOU'LL NEED

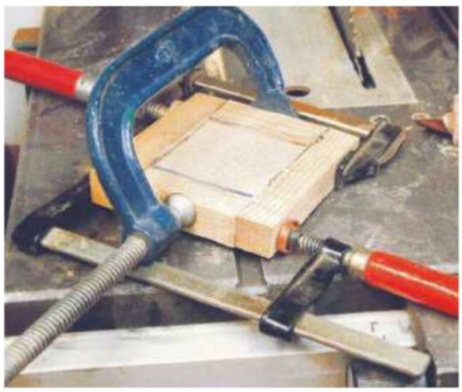
- Spindle roughing gouge
- 6mm & 9mm gouges
- Parting tool
- 12mm scraper
- 9mm drill
- Screw chuck
- Combination chuck

underneath, but don't carry the concave right out to the edge of the blank – if you do, you'll lose the four feet. Don't turn it too deep, either: you're trying to achieve a gentle curve, and you don't want to hit the screw on the screw chuck.

When it comes to sanding, my choice is the power sander, which is good for a large surface like this, as it will flatten it quickly. Start with 120 grit and work through the grades up to 400 grit. If you start with a lower grit than 120, it will leave deep sanding marks, which will take a lot of work to remove.

Once you're satisfied with the finish, apply a good coat of sanding sealer. This won't take too long to dry, after which you can rub it back with '0000' gauge wire wool. Next, apply a light coat of polish; if you put too much on it will look a mess, though you can always stop the lathe and gently rub it back with the wire wool and then buff it up again with a soft cloth or a paper towel.

To turn the other side of the base, you now need to reverse the workpiece and mount it in a jam chuck. As regular readers will know, I'm



2 I used a paper joint to attach scrap wood, and left it overnight to dry

3 Drill a pilot hole and mount the blank onto a screw chuck

4 Use a 9mm gouge to turn the underside of the base

5 I used a power sander to achieve a good finish on this fairly large, flat area

6 Reverse the base into a homemade jam chuck, making sure it's a tight fit

7 Finish off turning the top of the base with a 9mm gouge

a fan of the jam chuck: it's one of the cheapest ways of holding work on the lathe, and you can make one from any timber, as well as plywood or even MDF. Simply fix the timber to a screw chuck or a faceplate and turn a recess into it to accept the base. The most important thing is to make sure it's a tight fit, though you can always bring up the tailstock for extra support.

While you're turning, it's a good idea to remove the base from the jam chuck periodically to check the wall thickness. To do this, drill a hole in the jam chuck around 12mm in diameter so that you can use a piece of dowelling to push out the workpiece. Remember, though, to put a pencil mark on the base and the jam chuck before you separate them so that you can put them back together in the same spot.

When all the turning is completed, remove the tailstock and drill or turn a hole, which is for the spigot on the bottom of the box. Now you can sand and seal it before removing the base from the jam chuck, and breaking away the scrap timber along the paper joint. Sand away any remaining paper and glue, being careful not to sand away the crisp edges.

9 The scrap wood will break away easily; you can sand the edges by hand

The main body

The central part of the box – the red sun – is spherical. It looks hard to turn, but the secret is to make yourself a template of the box's finished diameter. You can make this out of thin plywood or plastic – I used plastic – but in either case, the best way to make it is to put a piece of scrap wood onto a small faceplate or a screw chuck and face it off dead flat. Then you can stick the wood or plastic to it using double-sided sticky tape, mark off the diameter you want, and use a small parting tool to turn it.

Start by mounting the blank for the body between centres and turning a dovetail on both ends to fit your combination chuck; a parting tool will do the job. To cut the lid off I used a fine parting tool as far as I could, and then finished off the job with a tenon saw.

The body of the box is then mounted in the combination chuck, and turned to the finished diameter. Shaping is done with a 9mm gouge (one of my favourite tools), after which a parting tool is used to turn the spigot. Eventually, this will sit neatly into the lid, but first you will have to hollow it out. When doing this, you'll find that you can only turn down so far with a gouge, after which you'll be forced to rely on a scraper. Scrapers aren't my tools of choice, but in some circumstances they'll work wonders providing you use them correctly. The secret is to use the scraper straight from the grinder, which will give the edge the slight burr that does all of the work. Raise the toolrest slightly so that the handle is held upwards and the timber falls onto the burr, which will leave the surface with a good finish. Check the wall thickness as you go – a pair of figure-of-eight callipers will do the job. Once the inside is turned you can sand, seal, polish, and finally part off the body.

8 You can use a small parting tool to turn the hole for the spigot

Put a lid on it

The lid – turned from the other part of the padauk blank – is now mounted in the combination chuck. The first job is to turn a rebate that is a push-fit on the spigot of the body, a job best done with a parting tool. When you've done this, hollow out the lid with a scraper, then sand and seal it.

With the lid still attached to the combination chuck, fit the body and bring up the tailstock for support while you turn the lid to match the body.

10 Before turning the body, make yourself a template from scrap plastic, then...

11 ... mount the padauk blank between centres and turn dovetails to fit a combination chuck

The Todaiji Temple in Nara

EASTERN INFLUENCES

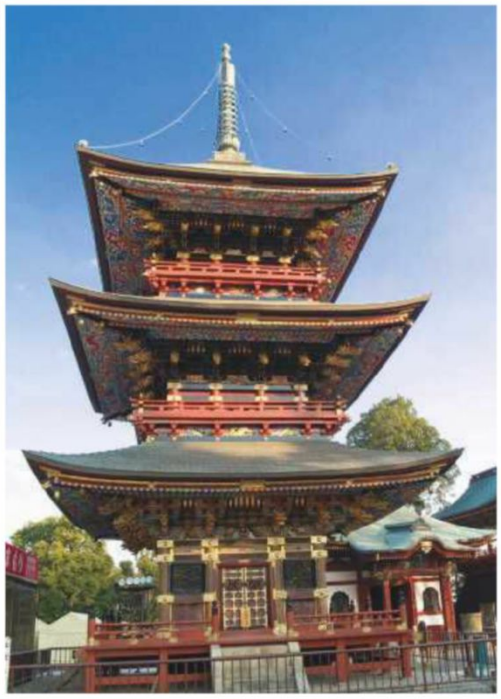
We think of Japan as the land of the geisha and the bonsai, as well as the mighty producer of cars and computers, but it's also home to some of the woodworking world's greatest wonders.

Japan's largest bronze Buddha sits in the world's largest wooden structure, the Todaiji Temple in Nara. Although destroyed several times through the centuries, the present structure dates from 1709 and is 161ft tall, 187ft long and 164ft wide, which is only two thirds of its original size! Meanwhile, the 400ft long Sanjusangendo Hall is Japan's longest building, and contains more than a thousand life-size carved statues, made from cypress wood; there is row upon row of these figures of the Kannon of Mercy.

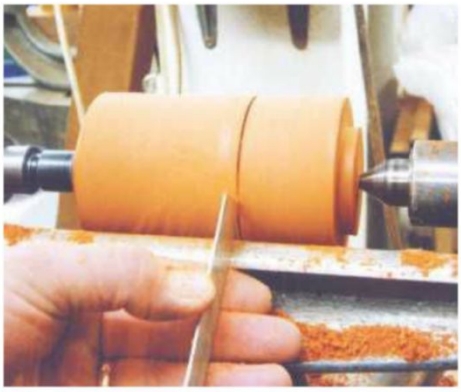
The shape of the roof and base of my box is an interpretation of a pagoda, which is an eastern temple with a projecting roof. But it's also a type of tree in Japan – *sophora japonica* – so named because of its resemblance to the temple. In fact, there are many trees named pagoda, usually if they have slightly ascending branches bearing curtains of hanging foliage.

My Japanese box's red sphere also has some obvious connotations. The red sun in Japan's national flag recalls the country's name, the letters of which mean something close to 'originating from the sun'. It's why Japan is often called the land of the rising sun, though it also relates to the ancient worship of Amaterasu, the sun goddess from whom the royal family of Japan is said to trace its ancestry. The colours of the flag also reflect the spirit of Shinto ethics, which is based on the fostering of a bright, pure, just and gentle heart. The white stands for purity and integrity, and the red for sincerity, brightness and warmth.

Although things appear to be different in the Orient, we share the same rising sun every day. The sun is humanity's oldest and most universal symbol of life, beauty and goodness, and in its own way, my project is intended to reflect that very premise



Pagoda: an eastern temple with a projecting roof



12 Use a fine parting tool and turn it part way through, and then cut with a dovetail saw

13 Fix the body part into the combination chuck, and turn it to the finished diameter

14 Use a 12mm scraper to turn the inside – the sharper the tool the better!

15 Next, mount the lid into the combination chuck. Again, use a scraper to turn the inside. This is where your template comes into its own...

Once again, having a template is a good idea so that you can use it to check the progress of the overall shape. Once you're satisfied, sand and seal the workpiece.

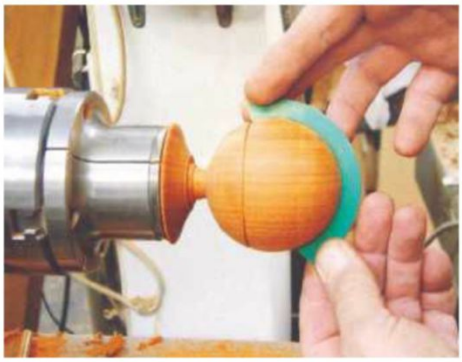
Creating the finial

Hold the finial in a combination chuck. Turning it isn't too difficult, but requires close attention to detail. Two tools are needed: a 6mm gouge and a parting tool. The parting tool will turn the spigot while the gouge will turn the rest. Don't turn the finial too big as it will look out of place; just take your time when turning it and keep the detail crisp. Also, when you're sanding, ensure to not sand away the fine detail. The spigot that holds the box to the base can be turned between centres. It's 9mm in diameter and you can best turn it with a parting tool.

Assembly

The hole in the bottom of the box and the top of the lid can be made on a pillar drill – just be careful, again, not to drill all the way through. Alternatively, you could drill or turn them while they are on the lathe.

Only put a little PVA glue on the spigots, as if you put too much on it will squeeze out and make a mess. Pay attention to lining up the grain, as it will look so much better when both squares are in line and all the face grains are lined up.



16 ... for checking that the lid and body are close to being as spherical as possible

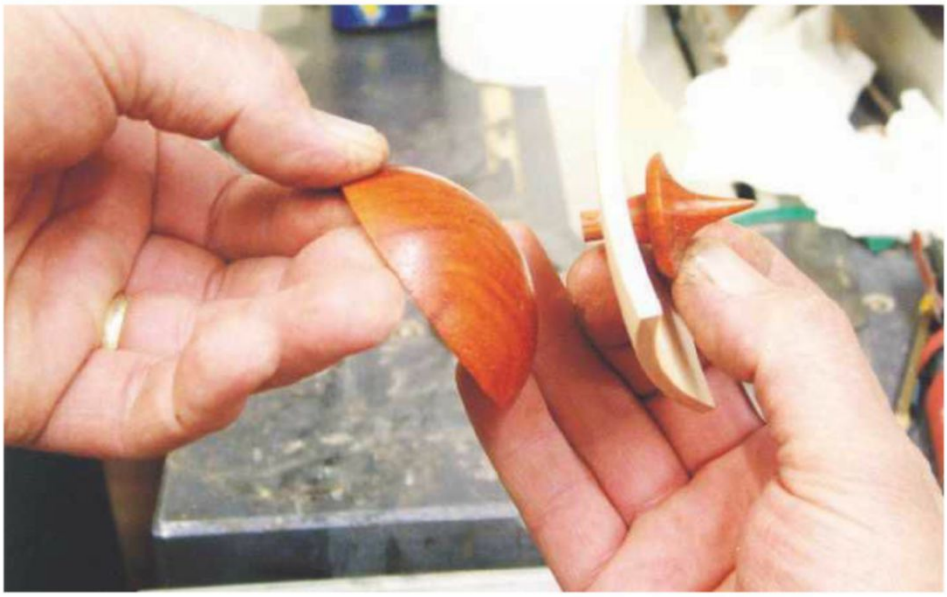
17 Reverse the lid and fix it into the combination chuck, or a jam chuck, to finish it

18 Take your time when turning the finial, so as to keep it crisp and sharp

19 Turn the spigot that connects the box to the base between centres with a parting tool

NEXT MONTH

Bloomin' marvellous: why not give Dave's tulip-themed candlesticks a try?



20 Use a little PVA, line up the grain, and push it into place

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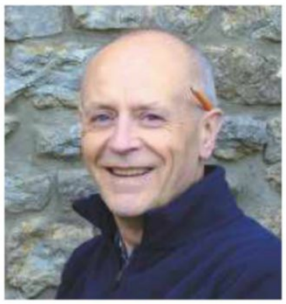
AROUND THE HOUSE WITH PHIL DAVY



I've talked about working with favourite timbers before, but I wonder if there are sheet materials we actually enjoy using? It may not be so easy to choose, with far fewer options than available wood species and sometimes avoided by many woodworkers altogether. Understandable, given the health risks associated with MDF and similar products, but you can't deny that manmade boards are incredibly useful, not to mention stable – from sturdy OSB flat roofing and sheathing, to fine furniture and cabinet work with plywood and veneered boards.

For me, it's hard to decide between veneered MDF (used in the following project) and birch ply. Although expensive, birch's clean, pale surface has a stark beauty, while the laminations can be used to great effect. One big advantage of veneered MDF is that material is a consistent thickness, without problems of movement, and surfaces can be stunning, while saving timber at the same time

USEFUL KIT/PRODUCT

ROAMWILD MULTI-PULLSAW PRO

If you've never used a Japanese saw before, the Multi-Pullsaw Pro is an interesting tool to check out. Unlike traditional oriental saws (most of which are almost impossible to sharpen), this one features a detachable blade. Not a new idea, but an advantage as it can be replaced once the hardened teeth become blunt. To release, you simply depress a button on the side of the handle and withdraw the pronged blade. When re-fitted it locks securely, with no play detected at all. I'd guess the inner handle is made from steel, while the outside is a combination of textured, soft-grip rubber and plastic. Although an unconventional design, it's comfortable to hold.

Unlike traditional oriental saws, this one features a detachable blade

To release, you simply depress a button on the side of the handle and withdraw the pronged blade

A depression on top of the handle acts as a thumb rest, though this seems slightly unnatural if you're used to a conventional western handsaw

A depression is provided on top of the handle, which acts as a thumb rest, though this seems slightly unnatural if you're used to a conventional western handsaw.

Dual teeth

As Japanese saws cut on the pull stroke it means blades can be thinner, with no flexing as you cut. The Pullsaw Pro creates a kerf about 0.6mm thick, which means it's still flexible enough to use as a flush cut saw. Blade length is 300mm, a hole at one end enabling the tool to be stored on a hook. The lower edge of the blade consists of a row of 14tpi teeth, fine enough for crosscutting and ripping thin material. Turn the saw upside down and you have an angled row of finer teeth (22tpi), 170mm long. Quite a clever idea, though gripping the handle this way up does feel strange. This combination of teeth means the saw is ideal for cutting plastics as well as wood. Along the top edge is a short metric/imperial rule, basic but handy. Two plastic guards are provided with each blade, which is just as well as the teeth are pretty sharp, like those on any fine hardpoint tool. As with most hardpoint handsaws, the handle can be used for marking timber at both 45 and 90°. This isn't terribly accurate, but good enough for rough carpentry work if you've forgotten a try square when out and about. Screwed to the base of the handle is a shaped steel block with a V cut-out. Rather oddly this is described as a 'tack puller and hammer.' A bit awkward to use, it's unlikely to get much use, but I could be wrong!

In use

Cutting on the pull stroke, you need to hold the saw at a very low angle, particularly when starting a cut. The coarser teeth are quite aggressive, though you can start crosscutting with the finer edge, swapping over once the cut is under way. The finished cut is pretty clean, with minimal whiskering on softwood. I used the tool to cut softwood skirting, oak and 15mm engineered hardwood flooring. It's certainly a decent enough all-rounder, though ripping anything thicker than about 20mm softwood was slow going.

Conclusion

A useful introduction to Japanese saws, this is a handy DIY version for the toolbox, rather than the workshop. Two rows of teeth mean you can crosscut as well as rip. If you're expecting to cut a range of materials including timber, plastic pipes or guttering, it's just the job. Replacement blades cost about £14.

Turn the saw upside down and you have an angled row of finer teeth. Quite a clever idea, though gripping the handle this way up does feel strange

This combination of teeth means the saw is ideal for cutting plastics as well as wood

SPECIFICATION

Typical price: £23.99
Web: www.roam-wild.com; www.homgar.com

THE VERDICT

PROS

- Replaceable blade; two rows of teeth

CONS

- Hammer and tack puller...

RATING: 4 out of **5**

As with most hardpoint handsaws, the handle can be used for marking timber at both 45 and 90°

Screwed to the base of the handle is a shaped steel block with a V cut-out

Cutting on the pull stroke, you need to hold the saw at a very low angle, particularly when starting a cut

WINTER PROJECT: ALCOVE SHELVES

Takes: Four weekends
Tools you'll need: Circular saw, cordless drill, jigsaw, mitre saw, pocket hole jig

CUBBY SPACE TO SHELVING

Using 26mm thick oak-veneered MDF to complement existing oak flooring and worktops, **Phil Davy** transforms this handy cubby space into functional alcove shelving

An alcove is the obvious space for installing a few shelves, whether for extra storage or to display those favourite ornaments. In this case I had to alter the existing space first, though. What had been a rather odd kitchen-cupboard-cum-larder needed to be improved and reduced in size. Built from concrete blocks, the rear protruded into the hall under the stairs and was wasted space. Reducing cupboard depth and height would improve the aesthetics, while creating new storage. To do this meant first building studwork from 63 × 38mm CLS timber, forming a support framework for 12mm thick plasterboard. Once this drywall was installed, the alcove could be skimmed and painted before adding the shelving.

Veneered MDF

When making shelves for an alcove it's generally easier to make a cardboard template first, especially when shelf material is quite thick. A piece of thin MDF or hardboard would work just as well.

For these shelves I used 26mm thick oak-veneered MDF to complement the oak flooring and worktops. As skirting would run across the face of the alcove it was necessary to raise the bottom shelf so the surfaces were flush. A supporting framework was made from CLS timber and screwed to the floor, enabling the bottom shelf to sit on top. For jobs like this it's handy to have a few plastic shims to raise the timber where necessary, especially if an existing floor is uneven.

For a clean, square edge to each shelf front it's easiest to use real veneer lipping. This is pre-glued and simple enough to apply with a hot household iron. For radiused edges you'll need to glue on solid oak lipping to match the veneer. Once dry, this can be planed flush with the MDF, then routed to whatever profile you like.

Shelf brackets

For neatness the upper shelves needed to be floating, with no visible supports. There are several types of systems available, most of which utilise two or more steel rods inserted into the rear edge. Once the brackets are fitted to the wall, the shelf is simply pushed into place over the protruding rods.

Probably the most innovative floating shelf brackets are made by BespOak Interiors, who produce a couple of versions. These have a clever offset screw, enabling them to be installed securely in solid, plasterboard or dot and dab walls. Appropriate fixings are included to match the wall: screw thread, plug or plasterboard anchor. Once inserted, the threaded end is tightened with a 10mm spanner – flats are machined on the rod for this. The offset means you can tweak each rod for grip and get the shelf dead level if holes in the wall are slightly out of line.

I used BespOak's multi-wall brackets, designed for shelving up to about 250mm in depth. With any floating brackets, the deeper the shelf, the more it will flex along the front edge where it's unsupported.

Before drilling any shelves, practise on scrap material of the same thickness. If you're nervous about boring deep holes in expensive hardwood or veneered MDF, start them off on a pillar drill. Alternatively, you could make a jig for greater accuracy. The brackets I used have 120mm long rods, while heavy-duty versions are even longer.

Although involving more work, the sturdiest floating shelf for an alcove is to make them from scratch, using the torsion box technique. These slide over battens screwed to the side walls, though it means shelves are typically 40mm thick or more. These can be loaded with the heaviest books and should not flex at all if built correctly.

Look out for a feature on BespOak Interiors in a future issue (**www.bespoakinteriors.co.uk**).

1 The existing cupboard was fairly big and took up too much space in the hallway behind. Creating a smaller alcove therefore seemed a better option

2 You'll probably need a variety of tools to remove old door linings or framework. Make sure the flooring is protected before starting demolition

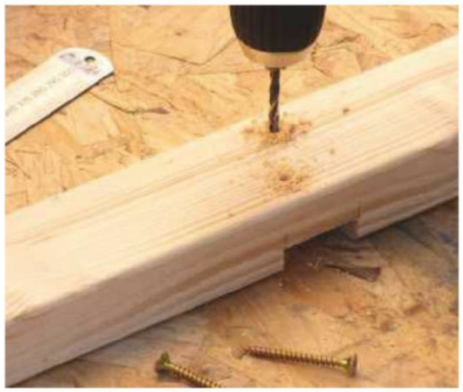
3 Linings are usually made with housing joints, so can be awkward to remove. Safety kit such as work gloves and eye protection is recommended

4 Mark framework members to length in pairs for accuracy. Using CLS timber is generally the cheapest option when building studwork

5 Cut vertical timbers to size with a mitre saw or handsaw. Check the blade is locked precisely at 90° before any cutting takes place

6 For strength, construct framework using housing joints. Set your gauge to one-third timber thickness and mark the material for depth

7 Saw the shoulders and remove the waste, cleaning up with a wide chisel and mallet. Work from each side to avoid the timber splitting



8 To avoid splitting the wood, drill pilot holes for screws. Countersinking is not usually necessary on studwork which is concealed

9 Cramp components together where possible and drive in screws. Using a square helps to ensure that the timbers remain accurate

10 Position studwork at the rear of the alcove and mark the floor. Screw down into floorboards, having first checked for hidden pipes or cables

11 Build a similar frame to fit the upper part of the alcove. This sits on top of the rear studwork, creating a solid structure for the plasterboard

12 Cramp the frame in place and check it's set back far enough for the vertical plasterboard and skim to finish flush with the surrounding wall

13 Wedge short pieces above the framework to give extra support for the plasterboard. Secure with L brackets if screws are tricky to drive in

14 It may seem over-engineered, but the framework needs to be substantial enough to support the weight of the loaded shelves in the alcove

15 Mark and cut the plasterboard to fit around the inside of the alcove. Use a sturdy straightedge when cutting with a craft knife

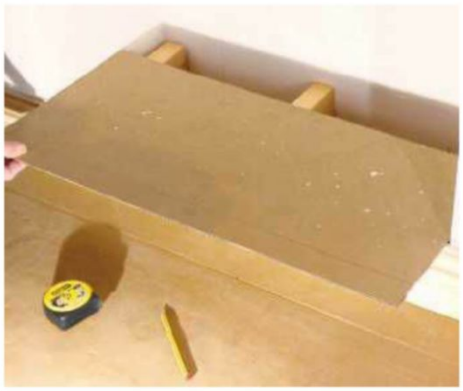
16 Fix the plasterboard to the framework with drywall screws. Screw heads should be just below the surface to avoid fouling the trowel

17 If necessary, it's easy enough to add extra studs by using pocket hole screws. These will give support for the floating shelf brackets

18 Continue cutting and fitting plasterboard around the inside of the alcove. Measure and mark positions of studwork to provide a solid fixing

19 Once the alcove is boarded out it can be skimmed with plaster. Leave to dry for a few days before sanding edges flush with the existing wall

20 Make a simple framework to support the bottom shelf at skirting level. To speed up construction use a pocket hole jig for making the joints



21 For accuracy it's best to make a template for each shelf before cutting any sheet material. This can be cardboard or a piece of hardboard

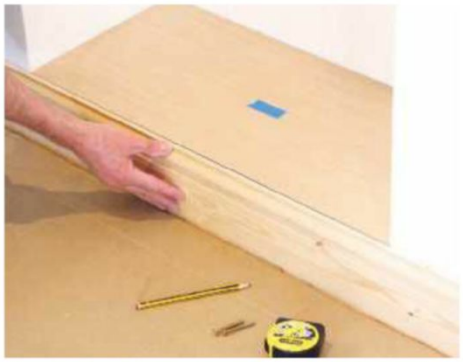
22 Trim the template for a snug fit, then position it on the MDF. Draw around the ends, keeping it away from the rear edge of the board

23 Cut the MDF with a jigsaw fitted with a suitable blade. If provided, fit a plastic shoe over the baseplate when sawing veneer

24 Slide the shelf into the opening, trimming the sides if too tight. Use a scribing tool to mark the rear edge of the board

25 Carefully cut the back edge of the board with a jigsaw. You'll probably need to trim this with a block or smoothing plane for a neat fit

26 Slide the lower shelf into the alcove. This can be fixed with brackets underneath the front edge and into the framework behind



27 Cut a piece of skirting to fit along the wall. It's best to plug and screw into any blockwork, rather than disturb the plasterwork using nails

28 Determine positions of the remaining shelves and cut to size. Mark for overall depth, then rip the front edges to size with a circular saw

29 To ensure a dead flat surface for the iron-on edging strip, plane the front edge of each shelf. Check with a square and straightedge

30 Draw centrelines of the two outer studs on the wall using a spirit level. Check each shelf fits snugly before drilling holes for the brackets

31 These floating shelf brackets consist of a 12mm steel rod with detachable offset screw. The threaded end fits into a solid wall via a plug

32 Mark the rear edge of each shelf for a pair of brackets. Space these equally to line up with centres of the appropriate timber studs

33 Bore holes with a 12mm auger bit, labelled for depth with tape. Accuracy is important, so a small square helps visual alignment when drilling

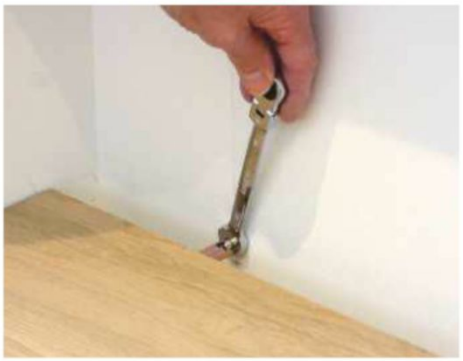
34 Remove the debris and check drilling depth by inserting a bracket. For strength you should drill for maximum rod length in the MDF

35 Insert the rods into the shelf and offer it into the alcove. Push it tight against the wall so that both screw tips mark the plasterboard

36 Using a 10mm auger or flat bit, drill holes for the wall plugs. Try to keep the tool completely level as this will affect the inclination of the shelf

37 Tap a plastic plug into each hole. When fixing into studwork you can rely on screwing directly into the timber, without using plugs

38 Insert a bracket into the hole, driving it home with a 10mm spanner until the end of the rod is tight against the plasterboard



39 Ensure that the offset on each bracket is placed towards the top, then slide the shelf over both rods. Tweak with the spanner if too loose

40 Check for accuracy with a spirit level. You can adjust inclination by removing the shelf and tapping the brackets upwards with a hammer

41 Using a craft knife, cut a piece of oak edging tape slightly over length. This can split easily, so ensure you cut it on a flat surface

42 Starting at one end, apply pressure to the tape with a hot iron. Work along the edge, using a cork block to maintain pressure as the glue sets

43 Trim the excess tape from both edges with a finely-set block plane. Do the same at each end, taking care not to split the veneer

44 Finish surfaces with 180 grit abrasive, removing arrises with the sanding block at an angle. Take care not to lift veneer with the paper's edge

45 Carefully push shelves into place over the brackets. Check each one for fit, remove from the alcove and trim edges with a plane if necessary

46 Sand the top and bottom surfaces of each shelf with 180 grit abrasive. Lightly dampen them before sanding to raise the grain

47 Vacuum to remove dust, then brush on either a satin polyurethane varnish or a hardwax oil. Denib between coats with fine abrasive

48 Heavy books are better placed on the lowest shelf, as there's likely to be slight flexing on any floating shelf more than about 250mm in depth

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SPLITTING THE DIFFERENCE

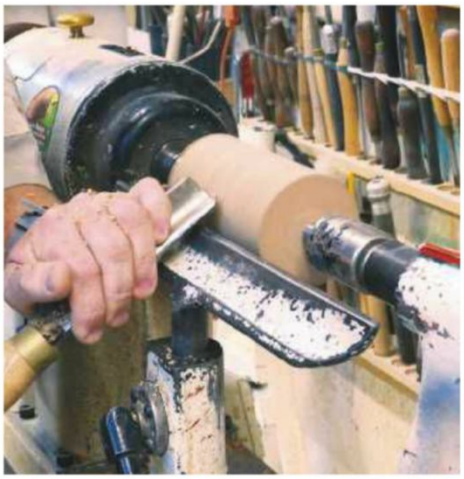
When it comes to woodturning, faults and splits can either be seen as nuisances or you can choose to make a feature of them. Here, **Les Thorne** settles for the latter and makes this lovely lidded box in ash

There are often faults in timber, and that seems to be the nature of the beast. These splits and shakes, often resulting from drying the timber too quickly or in a bad environment, can be very frustrating, especially if they are discovered partway through a project. If the timber has an unexciting grain or you're intending to colour the turned item, these pieces often end up in the firewood pile as it's not worth going to the trouble of filling or gluing the splits. I normally like to make a feature of a fault rather than trying to hide it, but sometimes you have no option but to disguise it.

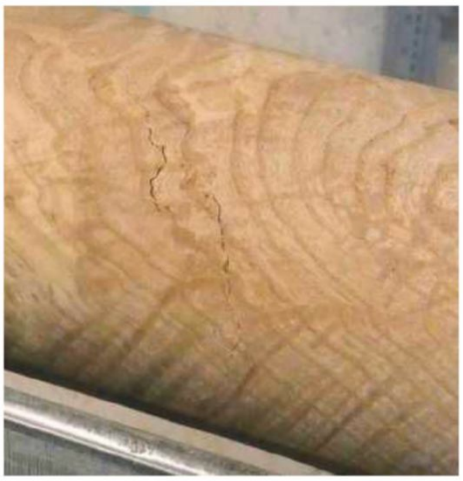
The piece of olive ash used in this project has the most fantastic grain I've probably ever seen in a native timber, and is the last of some trees that I had a number of years ago. The grain goes in pretty much every direction and I love the colour. The trouble with coming to the end of my stocks of this timber is that I have to use the blanks which have the odd knot or split in them. This particular piece, however, has been in the wood store for 15 years, so I doubt it will crack any further.

1 The first step is to prepare the 75 × 75mm blank by cutting it off to a length of around 180mm and removing the corners on the bandsaw. I find the centres using a mortise gauge and then mark them with a bradawl

2 I'm often asked as to the ideal height of a toolrest, but the truth is that it depends on the tool you're using. A general guide, however, would be to have it around 10mm below the centre height of the lathe, which will change with the diameter of the project



3 If you get the height of the rest correct, then the tool can be presented with its bevel at the same angle as the cut. Here, the tool handle is tucked into my body, which affords me optimum control

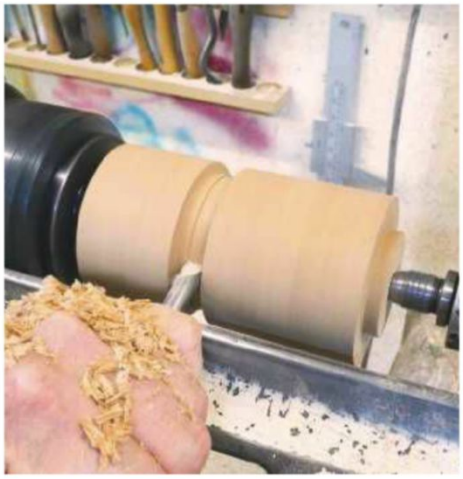


4 The last place you want a split when making a box is where the joint is going to be, so I was a little grumpy when this appeared exactly in the wrong place! Hopefully I can remove some of it during the shaping of the outside

5 I create the spigots for the chuck using the 10mm multi-purpose skew chisel. There needs to be one on each end as the lid and the base will be hollowed out

6 Quick tip: finding pencils in the workshop is always a problem, so attaching a rare-earth magnet to one with some tape means that it will always be located on the lathe where you can find it

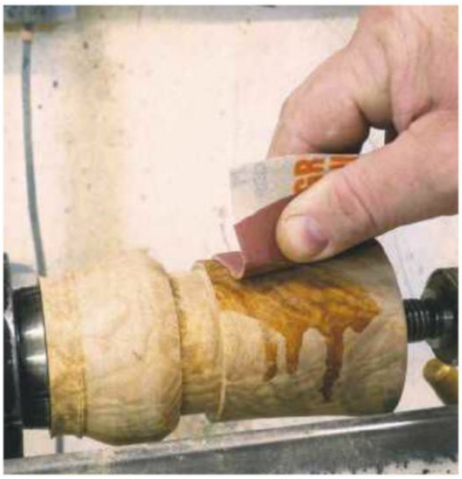
7 Next, mark up where you think the join should be. This particular shape seems to be in a two-fifths to three-fifths ratio rather than the more usual thirds rule. The length of spigot will create a nice piston-fit



8 You need to create the male spigot with the 10mm skew. The wild nature of the grain means that I will have to cut very carefully in order to prevent the tool from tearing out chunks of wood. The diameter of the spigot depends on the outside shape of the box

9 You can start shaping the outside at this stage, which gives you an idea as to how deep the cut for the spigot needs to be. Shape the base with a shallow cove and round the top over to the right before moving to the left

10 Unluckily, I didn't manage to turn away all of the split, so I'll have to get the magic glue out. Using CA adhesive on pale timbers is problematic as it can stain, making the finished work look awful



11 I start by putting thin CA adhesive into the crack – capillary action will pull the glue into the whole length of the split. Next, I add medium viscosity CA and while it's still wet, sand across the whole surface forcing dust to mix with the glue and thus filling any small voids

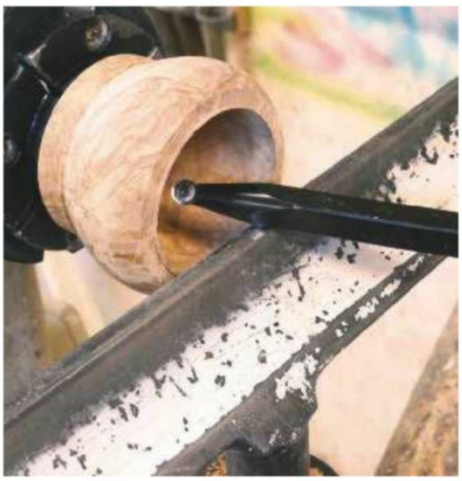
12 I am really happy with my fix and you can hardly see the split now. Make sure that the spigot you've created is perfectly parallel before parting off, leaving the spigot on the base

13 I now part the base off using a thin parting tool, which is sharpened on a grinder using a platform to set the angle. Sharpening like this creates an even burr either side giving a small amount of clearance behind the cutting edge

14 When I come to part the base off, I leave a tiny amount of the spigot on the lid; this will be my guide to hollowing out the top. If I've got the spigot parallel, then the base should fit when I remove the last trace of that line

15 The lid is initially hollowed out using the signature spindle gouge. Roll the tool towards you as it exits; this stops the left-hand wing catching. The majority of the shape can be achieved using this tool

16 Check the depth to make sure you aren't going too deep. The lid needs to be as light as possible in order to make the piece balanced. I think this lightness elevates it to a higher artistic level



17 The undercut is a little awkward to achieve using the gouge, so I switch to a Simon Hope carbide hollower. The preset angle of this tool makes it pretty much impossible for you to experience a dig in and it will leave an acceptable finish on this end-grain timber

18 It's time to fit the base to the lid. The 10mm skew acts as a scraper to remove tiny amounts of material, allowing you to achieve a tight fit between the two parts. Stop the lathe regularly and check the fit so as not to remove too much

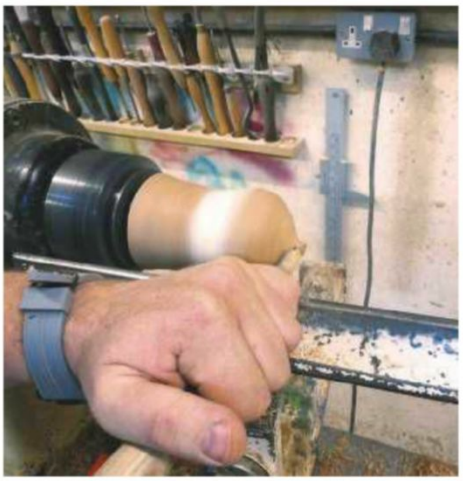
19 As you can see here, the 10mm skew chisel will cut on the side. This is of course an added bonus to the tool, which is perfect for removing the tiny amounts of timber away from the inside of the lid

20 Here you can see the 10mm skew chisel in its natural environment cutting the small bead, which will act as a punctuation point between lid and base. I try and make this as small as possible

21 As the box needs to be finished when it's jammed onto the base, it's a good idea to get as much of the shape completed at this stage as possible. Sand the inside of the box making sure you don't alter the fit of the lid

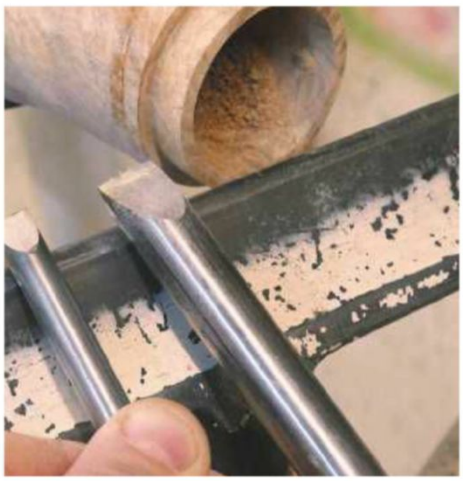
22 Cut 'n' polish from Chestnut Products affords a good finish on the end-grain of this box. I wouldn't usually use a product like this on ash as the grain can be too open, but this piece is really close-grained and dense

23 I've had to use a tissue paper gasket between the lid and base as the lid is a little too loose. The tailstock provides added security as I turn away the bulk of the material from the lid



24 I want to try and replicate the roof shape of the Royal Pavilion in Brighton, which means I have to remove the tailstock in order to get the shape to a point. I also recommend using some masking tape to hold the lid in place

25 When the lid is completed you can then hollow out the base. Due to the depth, I've now switched to the heavier carbide tool and the mark on the shaft gives me a guide as to the depth



26 The 10mm skew is a little too light a tool for this amount of overhang, so this is my 16mm version: a proper beast and if you can make it vibrate then you really are doing something seriously wrong!

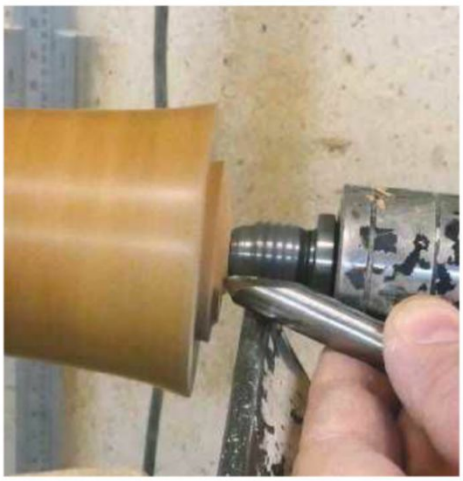
27 Present the tool horizontally with the cutting edge on the centreline. I tuck the long handle under my arm, which affords me complete control; this is important when the tool support is far away from the cutting edge

28 Even though power sanding is normally associated with bowl turning, it will still sand work like this effectively if the pad will fit in. A good tip here is to use a 30mm sanding pad with a 50mm sanding disc, which tends to get right into the corners

29 Sand the inside side walls with hand-held abrasive – a good tip is to only put one finger at a time inside the box, especially when you're working in such a narrow opening

30 I don't often coat my work with wax as I prefer the durability and hardness of a lacquered finish, but this piece of wood screamed out for the warmth of a gloss microcrystalline wax finish

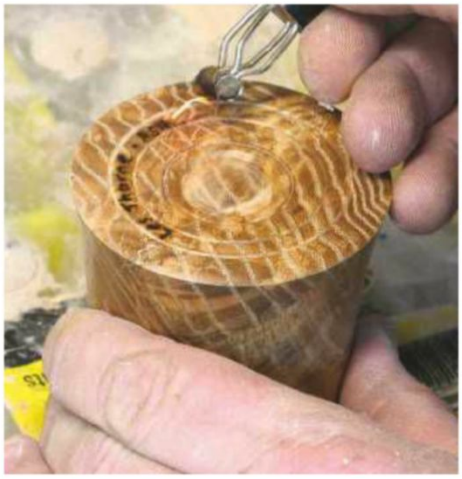
31 The base of the box requires finishing and the best way to do this is by remounting onto the lathe using a jam chuck. I like to use a piece of pine and decided to make a female jam chuck. You need to make sure it's a really tight fit



32 The bevel position is most important during this cut. It has to be the same angle as the direction of cut; if you present the tip of the tool like this then it will run back, causing a dig in

33 This is a much better angle of presentation: the position of the toolrest is a good guide as to the way in which you need to work. This cut will leave a good finish on the end-grain, which is much better than just parting it off

34 I've been known to overdecorate my bases and this button is something I tend to turn on the bases of all my boxes. You must keep the bevel of the tool in contact with the wood at all times during this cut



35 After sanding the base it's just a matter of burning my name into it using a pyrography machine. I write my name and the species of wood but not the date, just in case it takes a long time to sell!

36 The completed box in ash, with a split, should look something like this

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FOOT IN THE DOOR

If you have lots of offcuts lying around and a few other staple supplies, then have a go at **Rick Wheaton**'s easy-to-make door stop

2019 was one of those summers where doors were open most of the time. Coincidentally, a neighbour gave me a hoard of lovely old 150 × 45mm planks (thanks, Adrian!) and as he was also plagued with slamming doors, I made him a couple of these simple door stops as a thank you.

Because Adrian's planks were pretty thick, three of them are ideal, but other timbers – thinner planks or a chunky block – work just as well, and are much more interesting than a wedge!

1 This really is an 'easy piece' – this photo shows all you need: your chosen timber, some glue, a short length of rope and (if your finished door stop is a bit light) something weighty like a bit of old lead flashing

2 Here you can see the plank cut into three identical lengths. You can hide a fault (such as these two holes) by using it for the middle length. As shown (if you think you'll need the lead) cut a slot out of this middle piece, which can be done quite roughly

3 You can now clamp the three pieces. The more accurately you can clamp, the less sanding you'll have afterwards, and now is a good time to cut a few pieces of lead to fit the hole

4 2mm flashing can be cut with scissors: push the pieces into place and fix them with a punched in nail

5 The only slightly tricky bit is drilling the holes and gluing the rope. Drill a few test holes in a bit of scrap – the rope wants to be a slack fit, not too tight – and decide if you want a loop (two holes) or a knot (one hole). If a loop, drill two holes close together but not touching, then use a Forstner bit to form a shallow well. Mark the required depth of rope with a piece of tape to make sure it's pushed all the way in – I suggest the holes are at least 100mm deep

6 A 13mm hole is perfect for my rope, and smeared with PVA glue, it's a good fit. Glue will inevitably splurge (technical term) around the holes, as shown here, but the well stops this being an ugly mess – in fact, use lots of glue to fill the well halfway up; this makes the top look really neat and of course you want plenty of glue to run down around the rope. At this point you'll need to let the pool of glue dry, perhaps for 24-48 hours. The first time I tried this I was surprised how well it looked. Finally, some fine sanding and oil will bring out any grain, and your doorstop is good to go

TIPS

- Soft ropes, such as nylon or cotton, are a bit floppy for this job. Best is a stiffer rope, such as polypropylene, which is very common and available in many bright colours
- If your doorstop moves too easily on a carpeted floor, stop it sliding with coarse abrasive stuck underneath

MARKET TRADING PART 1

Gareth Jones recalls the time when work as a jobbing joiner dried up, but little did he know that his woodworking life was set to take an exciting new direction

My decision to leave well paid and secure employment as a newspaper editor and company executive to become a jobbing joiner enjoyed a honeymoon period as friends who admired my courage brought me commissions. Here I explain how, as this work dried up, I turned to another way of keeping the cash flowing.

Story

My love of timber, and of turning it into something useful as opposed to merely the most beautiful of God's creations as it grows, is inherited from my forbears. My great uncles were all senior joinery craftsmen in the local railway works where, somewhat under wraps, Pullman coaches were built for the leading rail companies. The secrecy, I believe, had something to do with a big disparity between the wages paid in our small market town, and what craftsmen in the old-established railway centres like Swindon were being paid for identical work. There was a fear of marches, protests, strikes, or worse, that my uncles might stick out for more money. The bosses had heard of Jarrow.

As so often happens in rural communities, my grandparents had higher aspirations for their offspring, and after graduating from Liverpool University, where he had been sent to become a doctor, but had settled for less demanding dentistry, my father returned from naval war service to become a successful and prosperous dentist in his home town.

My earliest memories are of being with my beloved dad in his workshop in an old coach house behind the family home, which also contained his dental surgery. He was pleased to recognise my early interest in carpentry, and by the age of 10 I had my own bench, complete with vice, where I tended to beaver away while my mates were out playing football.

Beautifully-engineered

By age 11 I was using dad's industrial level three wheel Startrite bandsaw with its 1hp motor, though still banned from using the much more dangerous table circular saw, which dad had built to his own design. There was a Desoutter drill mounted on a beautifully-engineered pillar, other power tools and a great selection of fine hand tools that dad had inherited from his uncles. They included, for instance, no fewer than 20 Marples chisels, all with polished boxwood handles and brass ferrules, ranging from small carving devices right up to one with a 2in wide blade, which I seldom use but which still hangs proudly in my workshop along with other anachronistic reminders of the days before powered woodwork.

The only power tool conspicuously missing from my father's amazing arsenal of fine machinery and hand implements was a lathe. Now dad's explanation for this was a rather curious one, and I am not sure, with hindsight, that I believe it.

He said he had seen other woodworkers acquire a lathe, readily available then from companies like Myford and Coronet, and become hooked on turning to the exclusion of all other woodwork. He would sweep an extended finger around the shop and say "Give up all this? Never!" I nurse a strong suspicion that dad had had a go at turning, and found it not to his liking as very often happens, but more of this in a future article.

A wooden train similar to the ones made by Gareth to sell on his market stall

A typical market scene from the 1970s

A nice chamfer

However, I would set out to make something, perhaps a pipe rack or some device or other, and dad would come over and have a look at it. He was never discouraging or uncomplimentary, but would instead gently take me through the various stages where I had fallen short of his standards: the importance of putting a nice chamfer on anything to be handled; the need to sand end-grain until it was as smooth as the other sides; the need to avoid breakout by using a backing piece on the pillar drill; the way glue would work when grain aligned, but failed when it didn't. And so on.

But I, too, had ambitious parents who soon packed me off to a minor public school where to have expressed an interest in joinery as a career would have been seen as sedition. The rules were clear: if you were bright, you became a doctor or lawyer; if you were normal, it was teaching. For the merely thick, the forces were the obvious choice, and for the mentally-challenged there was always, of course, the jolly old church.

I bucked the trend by going in for journalism, but as this is supposed to be an article about my woodworking experiences, I will skip the next bit and take you to the day, a year or two after leaving newspaper work to become a full-time joiner, that I found work was drying up.

On the breakfast table was a letter from the bank still sealed in its envelope. I knew exactly

NEXT MONTH
Continuing with his tale of selling items on local open markets, Gareth Jones describes what happened next

what the letter inside would say. I was starting to run out of work kindly sent my way by people who admired my decision to set up on my own. "Dad," said my young son Jonjo, "You remember those toys you used to make us when we were little?"

I gave him the day off school and together we went into the workshop and had a look through the timber racks. There was a lot a of nicely contrasting sapele and beech lying there. "These would make great toy trains," said Jonjo. Beech for undercarriages and roofs, and sapele for the carriage in between. We set to work.

A couple of days later I rang the markets superintendent of our local open and indoor borough markets, one of the most thriving in the north west. He doubled up as our Town Clerk, so I knew him well and we got on. I had already discussed my plan with a good friend who had a regular outdoor stall on this market, making a very good living selling shorts and sweaters. "You'll have to queue up as a casual trader to begin with, sign the book and earn points," he had explained to me. "Once you have accumulated enough points and worked your way up the casuals list, the Toby – universal term for markets superintendent – will start allocating you a vacant stall. But it will take a while, in mid-summer with the market really busy. It might be well into autumn before you actually get a stall."

"How long would I need to keep attending the market before I would be able to start trading there?" I asked my friend, the Toby, after he'd taken some ID for his files. "What are you going to be selling, Gareth?" I told him – toys made in my own workshop.

"Oh, in that case you go straight to the top of the casuals list," he said, to my astonishment. "There's a by-law which rules than any trader making his own products, a saddler or blacksmith for instance, will be given priority over all other traders when it comes to allocating stalls on a casual basis, and when a regular stall falls vacant and needs a new stallholder, the same priority.

A sound rule

Now naturally I considered this an excellent rule, of which few people, including market traders, are aware, but it is widely practised throughout the country. And taking a step back and looking at it objectively, I believe it is a very sound rule. Not only do stalls like this add interest to markets, which in those days were getting swamped by denim, but it's a valuable incentive for people setting up their own businesses. And I mention it here in some detail because it might just help a reader of *The Woodworker* to get started.

I began trading on my local market the following Wednesday, took the first real money I had seen for a week or two, and quickly discovered what an entertaining community a bunch of market traders can be. We found ourselves next to a lovely middle-aged couple selling haberdashery. They were busy more or less non-stop doling out stuff from their huge selection of cottons, ribbons and all the other bits and pieces you need to make a garment. As things quietened down towards teatime, Pat told me their busiest market was Wrexham, a few miles away, where at this time of year up to 200 casual traders turned up with often fewer than 20 vacant stalls available. Some of them were making a 250 mile round trip for that 1 in 10 chance of being allocated a stall.

It sounded like a mug's game to me, and then a thought struck me. What if Wrexham had a similar rule about people producing their own goods?

"It's yours!"

The chap who answered the phone in the Wrexham market office asked me what line of work I was in. "Everything on the stall is made in my workshop; mostly toys, and a lot of turned stuff," I told him. I heard his biro scratching on a pad. "Stall 118 is vacant from next Monday. It's yours as a regular trader. Turn up in time to have your van off by 8.30, pay the rent and we'll show you where it is." And he rang off.

Three days earlier, I had been a jobbing joiner running short of work, but now I was a jobbing joiner with an excuse to make toys and running a market trading business with a regular stall on two of the busiest markets in the country. Would this transform my fortunes? Watch this space!

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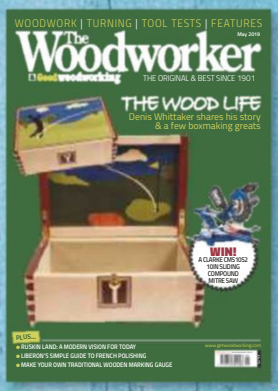

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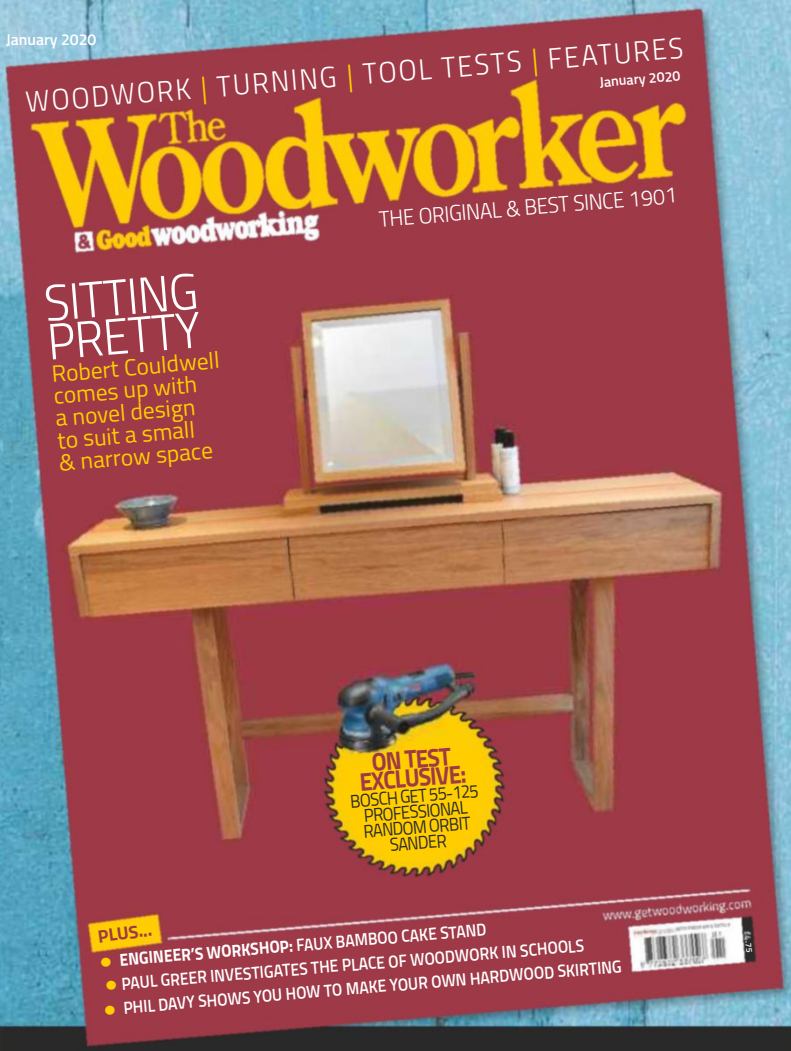

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STUFFED Too much of a good thing

Stuff! Stuff! I can hardly believe it. Moving house is bad enough; moving workshop is worse. Some of my machines weigh as much as a cow. Transporting them could be an entrance exam for the Royal Engineers with the penalty for failure broken bones and crippled backs, but machines are not what I'm thinking of. Boxes of odds and ends just keep coming. The dovetail jig that I haven't used in 30 years; the slightly wobbly little drill stand that I've almost never used; wooden planes that even woodworm aren't interested in. But neither are these my immediate problem.

My problem is wood. Piles of it. Stacks of it. All of it (well, most of it) good wood, and some of it very good. Clean building stock. Short lengths of 1in oak. Thin boards of jacaranda. A large slab of padauk. Batons of yew. Some of these I've had for decades. If there's a garment in your wardrobe that you haven't worn for two years, anti-cluttering experts tell you to get rid of it. Should I then saw these pieces up and burn them? Of course not. That would be like killing a hamster. Alright, not quite that bad, but still grief, regret and callous disrespect would be in play.

Offcuts expand to fill the space available to store them. My previous workshop had an upper story capacious enough for me to just keep going, and I did. Now, three and a half van loads later, I can barely walk through my new workshop. To begin with, I had it all planned. That would go there, and those would go here. When they all kept coming and the sun was long gone, the plan was abandoned. "Where do you want this, mate?" "I don't know. I don't care. Anywhere." Please let it stop! Stuff! Stuff! It rolled in like the tide.

Refusal

This morning I held a planning meeting with myself. I have enough land to accommodate a shed. I could build a shed for timber storage. The architect pricked up his ears, and the builder stopped playing with his phone, but before either could say anything, the treasurer chimed in. How much would I spend on this? Do I not have higher priorities? Yes I do, and permission was refused, but the somewhat desperate owner had to do something. Anything to ease this literal log-jam. Should he extend the garage, or perhaps buy a shipping container?

Liberation

Worse than moving house is not moving house. As the sale of my previous house progressed, I spent hour upon hour online finding only battery housing; clicking no; no; no; you have to be joking; no; oh No! Is there anywhere for me to belong? Talking to estate agents, I asked for a workshop (or space to build one) with a house attached ('It doesn't matter too much about the house'). The one that came up is small, but the steel-framed metal-clad garage is big and it said, "Yes!"

A large house (albeit one that I shared) into a small house doesn't go. Fortunately I acquired another steel-framed metal-clad garage as well. Yes, I know. But that one quickly filled up with domestic surplus, two or three cubic yards of useless wooden art (mine), scaffolding towers, lawn mowers and yet more boxes of invaluable (valueless) odds and ends.

Then the light came on. Building a shed for storage of wood was not an answer to the problem but a perpetuation of it. I'd end up with a shanty town of odds and ends. Instead, my eye settled on a sofa. A big Habitat sofa that never was comfortable for long. I think few sofas are. I'd slowly slide out of this one, becoming gradually horizontal. I blocked up the front feet to tip myself back in, but still it didn't work. A three-seater is only comfortable as a one-sprawler. This wasn't even that any longer as it was damp. I couldn't give it away. Neither, sizing it up, could I get it onto the roof rack by myself, but fired by this fresh vision of workshop order, I dragged it and swivelled it; propped it and heaved it; and I did get it up there! Hurrah! Off to the tip with that and a load of other redundant possessions.

"It's good exercise, isn't it?" said an older woman climbing the steps to the skips. "No need to go to the gym – not that I ever do." I concurred. I've spent the day shunting things from here to there, making space where none was before, and I feel good, not just physically but psychologically. Throwing stuff away is releasing, cleansing, liberating. There's another sofa buried under boxes in the surplus shed. Maybe that'll go tomorrow. Everything that can go will go, and I'll feel even better. Do I need all those boots? Those thick yellow waterproofs last worn in a January storm towards the end of the last century? I can see it now. The second shed is expanding. It will house all my timber store. I might even put in some racking. I'm not a hoarder. I will discard all the offcuts that are clearly worthless, of course I will, but I don't think there are any...

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