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June 2020

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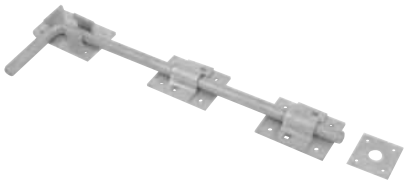

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# Welcome

As we enter another month of lockdown, I not only question how long this period of uncertainty will last, but also wonder how people are using this time to develop their skills. I'm sure I'm not alone in having struggled over the last month or so as I find myself oscillating between moments of hope and positivity, enjoying the peace and quiet I find myself in, only then to have them replaced with feelings of worry and isolation.

I must admit that the beautiful weather has certainly helped to raise the spirits and my partner and I have used this as an opportunity to explore the amazing South Downs Way, a long distance footpath in Southern England, which is also one of Britain's National Trails. Living in Brighton, one often forgets the fact that the sea is right on our doorstep, with views right across to the Isle of Wight when the conditions are just right, but drive six or seven miles outside of the city and stunning countryside is right there, just waiting to be walked, cycled or run (if you're mindful of the potholes!).

Before setting out to tackle the first part of the route (from Lewes to Ditchling), I decided to do some research and was amazed to learn that the South Downs Way actually runs for around 100 miles, from Winchester to Eastbourne, with a small loop around Eastbourne (next on the list). The start of the journey took us through a farm and camping field (thanks to my poor map reading skills), but we soon picked up the trail after negotiating a barbed wire fence and a steep, brambley slope. Well, that certainly got the adrenaline pumping and a good job too as there was a large hill to climb before we could enjoy the sweeping views of sea, field, sky and a beautiful blend of colours that just screamed "spring is here!". The newborn lambs certainly helped to remind us that life is a continuous circle and the fact there is so much beauty all around us.

## Willows & bluebells

Most of the South Downs Way is bridleway, and while we didn't encounter any horses during our jaunt, I was intrigued to find that most of the fields on either side of the track were flanked by man-made willow hedgerows. On closer inspection, I could see that the trees planted had been tamed and encouraged to grow sideways, to start the beginnings of a hedge, although smaller willows were also used to fill any gaps and encouraged to grow upwards. There were miles and miles of these hedgerows and they really did look incredibly effective. While some sections were in their infancy, others were more established and the effect was clearer to see.

Fast forward another week and we decided to visit Stanmer Woods, also just outside of Brighton, to see the stunning bluebells in all their glory. Along one of the many paths we walked, I saw the same willow hedgerow/fencing used again, but this time it was much lower and planted to separate woodland from path. I can only assume this technique must be one common to Sussex, and if anyone has any information regarding this, I'd be very interested to learn more.

While the bluebells were breathtaking, I was also surprised to see a collection of wooden structures (almost like shelters) scattered throughout the woods. One was particularly impressive and definitely looked like it'd keep out the elements if it ever did have to be used.

As soon as the weather improves, we'll be dusting off our walking boots once again and embarking on more countryside exploration, as being out in nature has really been a saving grace during these tough times.

## Lockdown projects

But what have you, the readers, been doing to while away the hours? Have you been busy in your workshops making lockdown projects, having a good old tidy up, or getting out and about in nature (while adhering to social distancing, obviously). Or perhaps all of the above? We'd love to hear your lockdown survival stories and to see what you've been making in your workshops, as well as photos of your walks and unusual findings. Remember: we're all in this together, so do keep in touch.

**Email** tegan.foley@mytimemedia.com

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## WIN! A TRITON TOOLS TJS001 750W PENDULUM ACTION JIGSAW

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## 52 THE BEST OF THE BEST

Rigorous selection and stringent moisture control are essential for top English willow cricket bats from J.S. Wright & Sons, says Ron Smith

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The Woodworker & Good Woodworking
JUNE 2020



## PROJECTS





## TECHNICAL





## ON TEST



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# **ARBORTECH** strengthen & expand their power carving range with release of the **Power Carving Unit**


Arbortech continues to revolutionise power carving with the new Power Carving Unit, the grinder specifically designed to enhance the performance of Arbortech power carving attachments. This new addition is a specialised power source for their power carving attachments, featuring variable speed and enhanced ergonomics. The Power Carving Unit is designed to transform the attachments into a complete power carving system.

"We spend a lot of time on R&D to create high quality, unique tools that people can attach to a range of grinders. Since there is such a wide disparity of quality grinders on the market, we can't guarantee our attachments will perform as they were intended with all the different models on the market. That's why we created our very own grinder, specifically designed as the recommended power unit to optimise all our attachments. This way, we're confident that the users will get the best experience from our tools," says General Manager, Sven Blicks.

Additionally, Arbortech plans to develop new accessories specifically designed for the Power Carving Unit, which will ultimately enhance the performance of their attachments. "We're very excited about the release of this new product as it gives us the opportunity to continue to create not only new power carving attachments, but really clever accessories for some of our existing favourites. There are already a few additional ones in the pipeline," Sven continues.

Although Arbortech has introduced a specialised grinder, the company intends to continue to design versatile attachments that suit a range of grinders currently available on the market. Yet, optimal performance of the Arbortech attachments can only be guaranteed when used with the Power Carving Unit.

Arbortech has been leading the power carving industry for the past 30 years by offering innovative carving attachments. This launch, however, starts a new chapter in the company's history with the release of a complete power carving system. The Power Carving Unit comes with a Sanding Pad, Chip Catcher, Levelling Guide, Fan, and Chip Tube.

## ACCESSORIES

### Sanding Pad

With an enhanced soft backing pad and edges specifically designed to mould to wood, this 100mm Sanding Pad is perfect for the start of the sanding process and works best on the lower speed settings of the Power Carving Unit. Compared to the standard orbital sanders, this spinning disc is more aggressive, which makes it the perfect tool for finishing the shaping process and removal of tool marks.

### Chip Catcher

The Chip Catcher is the perfect accessory for using with the Sanding Pad (included) and the TURBO Plane (not included). This accessory not only acts as a guard, but also guarantees that the TURBO Plane is perfectly set up. For an enhanced chip and dust collection, the user can connect a vacuum directly onto the Chip Catcher and get rid of almost all dust and wood chips.

### Levelling Guide

The Levelling Guide can be used with both the Sanding Pad and TURBO Plane. The Levelling Guide allows the user to have full control over the levelling process. This means the exposure of the Sanding Disc or the TURBO Plane blade to the surface of the workpiece can now be fully adjusted by securing the Levelling Guide accessory. This accessory is perfect for creating levelled surfaces on timber, refurbishing old timber, stripping thin layers of paint using the TURBO Plane, or sanding out the high spots of a workpiece.

### Fan & Chip Tube

When equipped with a TURBO Plane, the Fan creates an airflow, which enables the user to collect the majority of the wood chips using the supplied Chip Tube even when no vacuum is available, which ultimately makes for a cleaner and safer environment.

## POWER UNIT FEATURES

### Variable speed

The Power Carving Unit is a highly versatile carving tool, and the variable speed also allows it to be a highly versatile sanding tool. This feature will help woodcarvers, power carvers and wood artists to perform both carving and sanding functions with a single fully optimised tool. Six variable speed settings ranging from 2,000-11,000rpm means users can adjust the speed of their carving and sanding to suit their needs. Lower speed settings are recommended for the use of the 100mm sanding pads (included) and also when using sanders on the Arbortech Mini Turbo attachment. Depending on the timber, grit and required finish, the speed settings 1-6 may also be employed when using the Arbortech Contour Sander attachments.

### Enhanced ergonomics

The vibration reducing handle will further increase user comfort and ergonomics. To add to this, the Power Carving Unit is a compact, lightweight option for power carving and sculpting, yet it does not compromise on performance. With a soft start, it has a gradual increase from zero to full performance speed with no abrupt jolts. Additionally, the safety lock on switch prevents accidental restarts when plugging in with the switch in the 'ON' position, allowing the users to operate the Power Carving Tool with minimal safety hazards.

The Power Carving Unit is currently priced at £249.96 (inc VAT) – for more information, see **www.axminster.co.uk**.

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# DICKIES puts your hero tradesperson in the spotlight

Global workwear brand Dickies is putting the spotlight on tradespeople who are working hard to deliver essential projects during the Coronavirus outbreak. Dickies is encouraging anyone who knows a tradesperson carrying out such work to share their stories on social media – using the hashtag **#dickieshero** – where the company will highlight inspiring examples to its followers.

"During these testing times, many are realising how hard the construction industry works and how essential the trades are in keeping our nation going," says James Whitaker, Marketing Director for Dickies.

"Whether they're constructing new field hospitals, carrying out essential repairs for social housing providers, or continuing to make sure no one goes without hot water, there are thousands of tradespeople up and down the country who deserve recognition and thanks. We're keen to hear about anyone who is doing their best to carry out essential work at this time and encourage people to tell us of their hero tradespeople on social media."

Do you know a hero tradesperson who is working hard to help deliver essential services during the Coronavirus outbreak?


Share your nomination on social media, using the hashtag **#dickieshero**, tagging Dickies using the following details:

**Twitter:** @DickiesEurope
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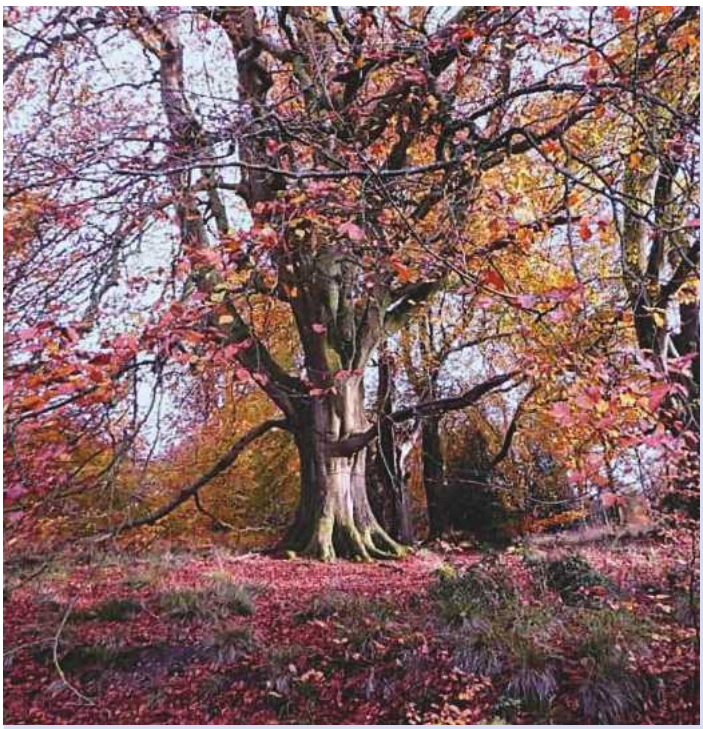
To find out more about Dickies Workwear, see **www.dickiesworkwear.com**.



# THE NATIONAL LOTTERY HERITAGE FUND announces new £50m emergency fund to support heritage in crisis

It was recently announced that the National Lottery Heritage Fund is making £50m available in response to the significant impact of the COVID-19 epidemic on the UK's heritage.

The new Heritage Emergency Fund will address immediate pressures over the next 3-6 months for those most in need alongside increased investment in essential digital skills across the sector, providing expertise in critical areas, such as digital fundraising, use of social media and communications, and running online events and activities.

In addition, the National Lottery Heritage Fund is continuing to support 2,500 projects already in delivery across the UK, an overall commitment of £1.1bn. This funding has been made possible thanks to money raised by National Lottery players.

Funding through the Emergency Fund for grants of between £3,000-50,000 will be available to organisations that have received funding in the past and are either a current guarantee, or still under contract following a previous grant. Applications will be open to the full breadth of heritage, from historic sites, industrial and maritime heritage, museums, libraries and archives to parks, gardens, landscapes and nature. Priority will be given where there is limited or no access to other sources of support, or where heritage is most at risk.

The National Lottery Heritage Fund has surveyed more than 1,250 heritage organisations on the effect of the COVID-19 crisis. The results show that 82% of respondents reported a high or moderate risk to their organisation's long-term viability. 35% stated their financial reserves will be depleted within four months, and 46% of organisations can survive for no more than six months.

The emergency funding will be diverted from planned new grants, with all new grant applications halted with immediate effect. Delivery awards for projects that have already received development funding will continue to be made throughout the crisis, on the existing competitive basis.

The Emergency Fund is part of a wider raft of support available from The National Lottery Heritage Fund, for heritage organisations affected by the crisis, which includes:

- Continuing to support those 2,500 organisations where funding of £1.1bn is already committed, by being as flexible as possible, allowing for delays or changes in the way projects are delivered, relaxing normal grant conditions and bringing forward payments if necessary.
- Additional £1.2m investment in the Digital Skills for Heritage initiative to help the sector through the crisis and beyond.
- A further £2m for ROSS consultants – the experts who support projects, help run delivery, mentor, monitor and help with business plans, etc. They will be directing that support to organisations in need as a result of the crisis and in doing so supporting several hundred freelancers and self-employed.
- Continuing to make round two delivery awards throughout the crisis on a competitive basis as usual.
- Working closely with the Government, other funders and heritage organisations to align help and support while ensuring the best possible outcome for heritage.

For more information, see **www.heritagefund.org.uk**.

We wish everyone the best during these challenging times.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# **TREES:** the very definition of a circular economy, says Södra's Jeremy English

Jeremy English, GB and Ireland Sales Director, Södra Wood Ltd

"Unfortunately, many people still think that cutting down trees can only be a bad thing. But when they're owned, grown and harvested by responsible forest-owners and forestry companies, they make for an invaluable circular economy," explains Jeremy English, GB and Ireland Sales Director, Södra Wood Ltd.

"From the perspective of sequestering harmful carbon emissions, the harvesting of fully matured trees is a good thing. Once spruce and pine reach full maturity their ability to soak up carbon depreciates, whereas younger, more vibrant, growing trees do it much better. This cycle of harvesting fully matured trees and clearing way for new saplings is central to maximising oxygen emission and CO2 absorption.

"It's also important to remember that left for too long, trees – like everything else in the world – will eventually rot, which means they can't be used for structural timber. This, for obvious reasons, is a bad thing. Less quality, sustainably grown structural timber makes for more construction using less environmentally-friendly materials. The manufacture of concrete and steel, for instance, each contribute around 5% of global emissions. Timber, on the other hand, inverts this CO2. Instead of adding to climate change, trees mitigate the impact of it. To use Södra as an example, our forests' positive impact on climate change equates to 20% of Sweden's combined carbon emissions.

"When we mention fully matured trees, it's easy to forget that reaching this point isn't as straightforward as it seems. It all starts with the seeds. At Södra we've been working on controlled pollination to breed trees for tomorrow's forests – a new innovation, where nearly two million seedlings are being propagated to produce trees that are healthier and more resilient. The programme does not, and has never, used genetic modification in any way, but rather helps ensure that all desirable traits of selected spruce are transferred to the seeds, and then to future trees.

"Trees are an incredible thing and have far-reaching benefits beyond construction that many people perhaps won't have even considered. Let me put it this way: take 2,000m$^3$ of sawn timber; it can be used to create an eight-story building with 64 apartments housing around 120 residents. But on top of that, it can also provide 2,300km miles of driving per household using biofuels, a total of 25 years of paper consumption, 30 years of textile consumption, nine years of district heating, and six years of household electricity consumption. Trees are the very definition of a circular economy." For more information, visit **www.sodra.uk**.


# Riveting made easy with **MAKITA**

Makita has added two new rivet guns to its power tool range. The DRV150Z and DRV250Z include their innovative LXT battery technology and brushless motor for maximum efficiency.

The DRV150Z and DRV250Z are both powered by Makita's 18V LXT batteries, which offer industry-leading run times and charge times, improving on-site efficiency. LXT means that the DRV150Z and DRV250Z benefit from anytime charge (without the need to drain down) and minimal self-discharge and the battery indicator lights make it simple for operators to monitor how much charge their tools have, improving operator productivity. The machines are compatible with Makita's 5Ah and 6Ah LXT batteries.

Both machines are designed for heavy-duty, industrial applications. The DRV150Z and DRV250Z can pull both steel and stainless-steel rivets – the DRV150Z can pull rivets up to 4.8mm in diameter and the DRV250Z can pull those with diameters up to 6.4mm. The DRV150Z and DRV250Z can be adjusted to install 2.4mm rivets up to their maximum capacity, simply by changing the nose cone and push rod assembly.

With a 5Ah battery, the DRV150Z can dispense 2,800 4.8mm mild steel rivets per charge – approximately 560 rivets per amp. Due to a shorter pulling length, the DRV150Z is also 1.8 times faster.

The DRV150Z and DRV250Z have a rivet holding mechanism in the nose cone. This ensures that once a rivet is inserted, it is held in place if the tool is being used in any position. This significantly improves efficiency and operator safety. Once the rivet has been installed, operators can tip the tool backwards to ensure that the spent mandrels are collected in the transparent container, instead of littering the worksite.

The inclusion of a brushless motor makes the DRV150Z and DRV250Z incredibly efficient machines. Due to their design, brushless motors do not create friction, which limits wear and tear and reduces wasted energy through heat production (which subsequently prevents the tool from overheating). This improves on-site efficiency, as operators can continue to use the DRV150Z and DRV250Z for extended periods of time.

Kevin Brannigan, Marketing Manager at Makita, said: "The combination of cordless and brushless technologies makes Makita's new models up to 50% more efficient than alternative machines. The DRV150Z and DRV250Z have been designed to ensure that operators can keep working for longer. There are no concerns about the tool overheating due to friction in the motor or the batteries losing charge too quickly or taking a long time to recharge" – see **www.makitauk.com**.

# NEVILLE JOINERY appoints new Director for planned expansion

Paul Radford, new Director at Neville Joinery

Paul Radford has taken up the new position of Director at Neville Joinery, the Luton-based specialist joinery design and manufacturing business, with a remit to push forward the firm's expansion plans.

Paul, with a background in the mechanical and electrical engineering sectors, has a 25-year plus track record in successful business restructuring, development and growth that brought him to the attention of the firm's owners.

Neville Joinery, established in 1875, has built a reputation for skilled craftsmanship and high-quality project delivery. Today it produces outstanding bespoke joinery for commercial offices, banking & commerce, hotels & leisure, retail, education, healthcare and high-end residential properties.

Paul commented: "The outbreak of COVID-19 has meant that the pace of our expansion plans has slowed but we are still open for business. The workshop production area is extensive and the team, all locally based, can comfortably operate while adhering to social distancing guidelines. And we are able to rotate staff on a shift pattern to ensure that we keep to our health and safety directives.

"We have contracts to fulfil and are still managing enquiries from a number of new contractors keen to be ready to progress quickly with projects when lockdown measures ease. All in all, the scope of our work is now greater than ever."

Paul was brought up just a 10-minute walk from the Neville Joinery premises so has known of the business all his life: "Anyone in the area is aware of Neville Joinery, it really is part of the Luton landscape and its history. The same is true of the wider industry, as the business is quite rightly proud of its heritage and longevity and is able to draw upon the years of skilled craftsmanship embedded in its ethos and culture. But no business can survive for that length of time without an eye on the future and keeping ahead of the curve by anticipating changing markets. It's now my job to take it into the next stage of its history and I am genuinely honoured to be able to do so."

Neville Joinery is planning for, post lockdown, a series of workshop tours and open events for new customers to be able to tour the facilities and view the skilled team in action. Those interested should contact Paul directly.

To find out more, see **www.nevillejoinery.co.uk**.

# 2020 TREND TOOL TECHNOLOGY catalogue


The new 2020 Trend catalogue is here, featuring even more new products than ever, plus a great new look to the latest edition. Order a copy, browse online, or download to see the latest and greatest in the Trend product range. Full of innovative new product lines and over 200 new items, including PPE, storage, cutters and routing, it's hard to know which ones to highlight! The catalogue spans 240 pages, all filled with time-saving products, as well as numerous product introductions and guides, plus router cutters shown in actual size with dimensions. To request your copy today, call **01923 249 911** or visit **www.trend-uk.com**.

# TRITON TJS001 JIGSAW

## The Triton TJS001 is a big, powerful jigsaw, though the body grip format can take some getting used to, as **Phil Davy** discovers here

Although Triton's TJS001 jigsaw has been around a few years it will be new to many people, myself included. Although arguably less popular than the familiar top or bow handle pattern, the body grip format is preferred by many woodworkers, particularly in continental Europe, where the tool is often held upside down when cutting. Not something I'm keen to try...

A powerful motor makes the body quite bulky, so you may struggle slightly if you have smaller hands. Although the saw can be grasped with one hand, you'll probably need to use both for most cutting tasks. Both front and rear grips are covered in rubber, the forward one offering several hand positions.

The plastic body is attached to a substantial cast alloy lower casing. Air vents are adequate, though the front ones could get concealed depending on how you grip the top handle. At 2.7kg the Triton feels heavy, although a typical weight for a pro jigsaw. Just in case you were wondering, this is a 230V tool, with cable length a respectable 3m.

Located at the rear of the body, the speed dial is easy to operate though not so visible while you're cutting

### Speed range

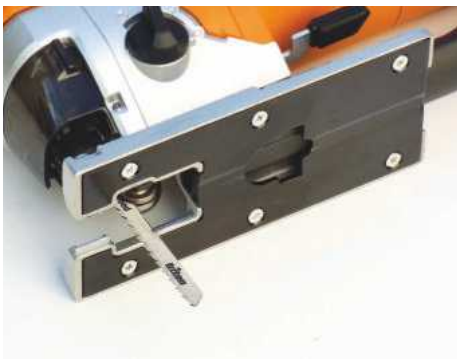
With a motor rated at 750W, there's certainly no shortage of power on offer. The body style dictates that the on/off slider switch is positioned on the side, rather than centrally. Quite stiff to operate, this locks on and is depressed again to release. Not so easy as a top-handle, variable-speed trigger, but you get accustomed to it.

Speed range varies from 800-2,900spm, with a stroke length of 26mm. Located at the rear of the body, the speed dial is easy to operate though not so visible while you're cutting. Compared with many (cordless) jigsaws, the motor reaches full speed relatively slowly, possibly advantageous on a mains-powered saw. It can be intimidating when a power saw leaps into life at full pelt as soon as it's switched on. Constant wave electronics maintain whatever speed is selected under load.

### Blades & bevels

The substantial cast alloy baseplate has a steel insert and was pretty flat on the tool tested. As you'd expect, it can be tilted up to 45° either side by releasing the rear lever. The trunnion is also notched at zero, 15 and 30°, with a clear protractor scale for guidance. When resetting to zero it's best to use a small engineer's square to check for accuracy, something that's recommended on any jigsaw.

To insert or release a blade you simply open out the spring-loaded plastic upper guard at the front. A decent-sized steel roller is fitted to support the back of the blade. A steel guard in front of the teeth means there's a clear view of the cutting line when sawing, whether making 90° or bevelled cuts.



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To insert or release a blade you simply open out the spring-loaded plastic upper guard at the front

Equipped with four-stage pendulum action (three plus off), this is adjusted via a plastic rotary knob on the casing

For connecting a dust extractor a plastic outlet (32mm diameter) is supplied, which clips into the rear of the baseplate

A rather nifty fabric holdall contains the saw

Although the saw can be grasped with one hand, you'll probably need to use both for most cutting tasks you're faced with

This contains a plastic clip-on shoe for use when cutting delicate surfaces

Also included is an adaptor to fit Triton's Track system, although I was unable to check this out

Equipped with four-stage pendulum action (three plus off), this is adjusted via a plastic rotary knob on the casing. It's more effective when cutting than some jigsaws I've tested.

Interestingly, although blade type is the standard bayonet shank I was unable to insert a long, coarse Festool blade. These tend to be a tad thicker than other brands, although it fitted other jigsaws with no problem. Three blades are provided with the jigsaw.

Although not adjustable, the built-in dust blower is pretty effective. For connecting a dust extractor a plastic outlet (32mm diameter) is supplied, which clips into the rear of the baseplate. Hooked up to my Trend extractor it worked a treat.

## Accessories

A rather nifty fabric holdall contains the saw, with plenty of space for a zipped wallet, too. This contains a plastic clip-on shoe for use when cutting delicate surfaces, dust outlet, spare motor brushes, plus blades. Also included is an adaptor to fit Triton's Track system, although I was unable to check this out.

Although most jigsaw baseplates will accept a side fence for ripping timber or sheet materials, the Triton is the first tool I've come across in years where this accessory is standard. With a width capacity of 165mm, the steel arm is locked tight with a thumbscrew. A couple of mounting holes enable you to fit a wooden facing to increase fence length. Without this the existing fence is rather short, with a tendency for it to wander if you're not careful when sawing. I found it easier to control on thinner material.

## In use

I cut a variety of materials, including 50mm rough-sawn softwood, 14mm engineered oak flooring, 18mm OSB and 40mm oak worktop. I struggled to get precise 90° edges cutting curves in the worktop, but that's a challenge for any jigsaw. You really do need to reduce the speed on denser, thick hardwoods, while adjusting pendulum action made a noticeable difference on all materials.

Bevel cuts were straightforward, with the baseplate quick to set to the required angle. There's no clear anti-splinter insert included, which is a pity. On veneered boards this small piece of plastic really can make a difference to the finished cut.

## Conclusion

This is a big, powerful jigsaw, though the body grip format can take some getting used to. It's perhaps not ideal if you envisage lots of intricate cutting work ahead, but for heavier sawing the Triton is well worth considering. You'll need a mains supply, but at least you won't run out of juice. Warranty is three years.

Although most jigsaw baseplates will accept a side fence for ripping timber or sheet materials, the Triton is the first tool I've come across in years where this accessory is standard

The plastic body is attached to a substantial cast alloy lower casing. Air vents are adequate, though the front ones could get concealed depending on how you grip the top handle

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Bevel cuts were straightforward, with the baseplate quick to set to the required angle

## SPECIFICATION

**Angle adjustment range:** 0°-45°, left and right
**Blade type:** T-shank
**Cut capacity – aluminium:** 25mm
**Cut capacity – steel:** 10mm
**Cut capacity – wood:** 110mm
**No load speed:** 800-2,900spm
**Power:** 750W
**H × W × L:** 215 × 85 × 340mm
**Weight:** 2.7kg
**Stroke length:** 26mm
**Supplied:** 1 × fast wood curve blade T244D; 1 × clean cut wood blade T101B; 1 × metal blade T118A; 1 × plastic base track adaptor; 1 × dust tube; 1 × metal edge guide – parallel fence; 1 × screw; 1 × soft bag; 1 × accessory organiser

**Typical price:** £120
**Web:** www.tritontools.com

## THE VERDICT

### PROS

- Powerful; side fence and track adaptor supplied as standard

### CONS

- Bulky for smaller hands

**RATING: 4** out of **5**

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BEST SELLER

INCLUDES LEFT & RIGHT TABLE EXTENSION

CTS10D

| MODEL | MOTOR | BLADE | EXC.VAT | INC.VAT |
|---|---|---|---|---|
| CTS800B | 600W | 200mm | £72.99 | £87.59 |
| CTS11 | 1500W | 254mm | £149.98 | £179.98 |
| CTS10D | 1500W | 254mm | £179.98 | £215.98 |

## Clarke 4" BELT/ 6" DISC SANDER

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

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CS4-6E

BEST SELLER

## Clarke 10" TABLE SAW WITH EXTENSION TABLES (250mm)

CTS14

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

£129.98 EXC.VAT £155.98 INC.VAT

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

## Clarke 10" 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

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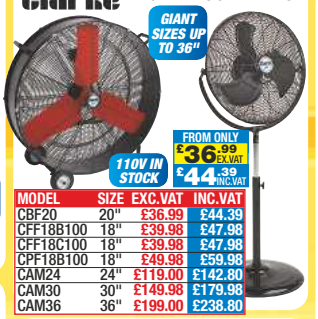
## Clarke HIGH VELOCITY FANS

GIANT SIZES UP TO 36"



110V IN STOCK

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

| MODEL | SIZE | EXC.VAT | INC.VAT |
|---|---|---|---|
| CBF20 | 20" | £36.99 | £44.39 |
| CFF18B100 | 18" | £39.98 | £47.98 |
| CFF18C100 | 18" | £39.98 | £47.98 |
| CPF18B100 | 18" | £49.98 | £59.98 |
| CAM24 | 24" | £119.00 | £142.80 |
| CAM30 | 30" | £149.98 | £179.98 |
| CAM36 | 36" | £199.00 | £238.80 |

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BRIGHT WHITE INTERIOR

LENGTH UP TO 24'

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- Extra tough triple layer weatherproof cover
- Heavy duty powder coated steel tubing
- Ratchet tight tensioning

ZIP CLOSE DOOR

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|---|---|---|---|
| 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 1" BELT/ 5" DISC SANDER

- Includes 2 tables that tilt & lock
- Quality Induction 250W motor

£74.99 EXC.VAT £89.99 INC.VAT

CBS1-5B

## Clarke CIRCULAR SAWS

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

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

CON185

*Includes laser guide

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

## Clarke PLUNGE SAWS

MASSIVE PRICE CUT NOW FROM £59.98 EXC.VAT £71.98 INC.VAT *WAS £83.98 inc.VAT

CPS160

| MODEL | MOTOR | EXC.VAT | WAS | INC VAT | INC.VAT |
|---|---|---|---|---|---|
| CPS85 | 550W | £59.98 | £83.98 | £71.98 | |
| CPS160 | 1200W | £129.00 | £166.80 | £154.80 | |

## Clarke MULTI FUNCTION TOOL WITH ACCESSORY KIT

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- Variable speed

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## Clarke BELT SANDERS

Makita

CBS2

- Ideal for surface removal, sanding and finishing

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*was £45.59 inc. VAT

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| MODEL | MOTOR | M/MIN | EXC.VAT | INC.VAT |
|---|---|---|---|---|
| Clarke BS1* | 900W | 380 | £34.99 | £41.99 |
| Clarke CBS2 | 1200W | 480 | £79.98 | £95.98 |
| Makita 9911 | 650W | 75-270 | £99.98 | £119.98 |

## 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 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

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## Clarke DRILL PRESSES

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

B = Bench mounted
F = Floor standing

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

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 |
| CDP352F | 550 / 16 | £229.00 | £274.80 |
| CDP452B | 550 / 16 | £239.00 | £286.80 |
| CDP502F | 1100 / 12 | £569.00 | £682.80 |

## Clarke DETAIL SANDERS

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280W

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## Clarke SHEET SANDERS

CON320

- Ergonomic design for optimum comfort

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

## 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 | £149.98 | £179.98 |
| 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 3-IN-1 MULTI SANDER

CMS200

NEW

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1/3 SHEET SANDER

DISC SANDER

## Clarke PALM SANDERS

- Ideal for detail sanding of corners & hard to reach areas

CPS125

NEW

INC DUST EXTRACTION

ONLY £19.98 EXC.VAT £23.98 INC.VAT

## 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 |

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- Supplied with charger, carry case and 1 x 2aH 18V LI-ION Battery

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## Clarke CONTRACTOR 18V BRUSHLESS COMBI DRILLS

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powered by Li-ion

CON180LI

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

*was £191.98 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 | £139.98 | £167.98 |

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* SS = Stainless Steel

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

## Clarke RANDOM ORBITAL SANDER

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- 7000-14000rpm

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## Clarke OSCILLATING BOBBIN SANDER

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- Inc. 6 sanding sleeves/bobbins

COBS1

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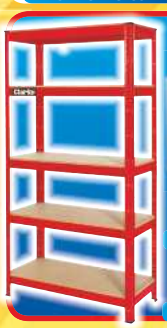
- Simple fast assembly in minutes using only a hammer



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

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

CWS200B

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- 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 |
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## Clarke OSCILLATING BELT & BOBBIN SANDER

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

COEBS1

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29940LH

## 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

BENCH MOUNTED

CWL1000B

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BEST SELLER

LOCKABLE TAILSTOCK

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**Ideal for DIY, furniture or joinery workshops where repeat quantities are required**

• Large 980mm distance between centres • Variable speeds 600-2200rpm • Inc. copy follower assembly, tool rest, drive centre tail stock assembly, face plate, eye shield, 2 chisels & stand

INCLUDES COPY FUNCTION

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INCLUDES STAND

CWL1000CF

## 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**

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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 |
|---|---|---|---|---|---|
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| CBS300 | 305mm/12" | 165mm | 115mm | £398.00 | £477.60 |
| CBS350 | 340mm/14" | 225mm | 160mm | £498.00 | £597.60 |

## TURBO AIR COMPRESSORS

airmaster 8/260 NEW

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

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

* 'V' Twin Pump
# Oil free

| MODEL | MOTOR | CFM | TANK | EXC.VAT | INC.VAT |
|---|---|---|---|---|---|
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| 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 |
| 7/510# | 2HP | 7 | 50ltr | £119.98 | £143.98 |
| 11/550 NEW | 2.5HP | 9.5 | 50ltr | £139.98 | £167.98 |
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CWL325V

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

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• 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

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CONVERT 230V 1PH TO 400V 3PH

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

## Clarke CONTRACTOR ROUTERS

BOSCH

• Powerful heavy duty machines ideal for trade and DIY use

CR4

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*was £107.98 inc. VAT

| MODEL | MOTOR (W) | PLUNGE (mm) | EXC.VAT | INC.VAT |
|---|---|---|---|---|
| CR1200 | 1200 | 0-55 | £44.99 | £53.99 |
| POF1400ACE* | 1400 | 0-55 | £84.99 | £101.99 |
| CR4 | 2000 | 0-66 | £99.98 | £119.98 |

## Clarke GRINDERS & STANDS

• Stands come complete with bolt mountings and feet anchor holes

6" & 8" AVAILABLE WITH LIGHT

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STANDS FROM ONLY £47.98 INC.VAT

# With sanding belt
*8" whetstone & 6" drystone

| MODEL | DUTY | WHEEL DIA. | EXC.VAT | INC.VAT |
|---|---|---|---|---|
| CBG6RP | DIY | 150mm | £35.99 | £43.19 |
| CBG6250 | HD | 150mm | £37.99 | £45.59 |
| CBG6RZ | PRO | 150mm | £42.99 | £51.59 |
| CBG6RSC | HD | 150mm | £56.99 | £68.39 |
| CBG6SB# | PRO | 150mm | £58.99 | £70.79 |
| CBG6RWC | HD | 150mm | £59.98 | £71.98 |
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## Clarke ROUTER TABLE

CRT-1

Router not included

BEST SELLER

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## Clarke JIGSAWS

CON750

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

^was £33.59 inc. VAT

*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 | £24.99 | £29.99 |
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CDTJ12

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Record

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WV7

| MODEL | MOUNTING | JAW (WIDTH/OPENING /DEPTH)mm | EXC.VAT | INC.VAT |
|---|---|---|---|---|
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| Record TV75B | Clamped | 75/50/32 | £22.99 | £27.59 |
| Clarke WV7 | Bolted | 180/205/78 | £29.98 | £35.98 |
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## 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 |
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• For fast, accurate cross, bevel & mitre cutting in most hard & soft woods • 1800W motor • Laser guide

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CMS250S

‡ was £226.80 inc.VAT

| MODEL | BLADE DIA/BORE (mm) | MAX CUT DEPTH/ CROSS | EXC.VAT | INC.VAT |
|---|---|---|---|---|
| CMS2250S | 250/30 | 85/250 | £114.99 | £137.99 |
| C2MS210MP | 216/30 | 65/305 | £139.98 | £167.98 |
| C2MS250MP‡ | 255/30 | 90/305 | £179.00 | £214.80 |

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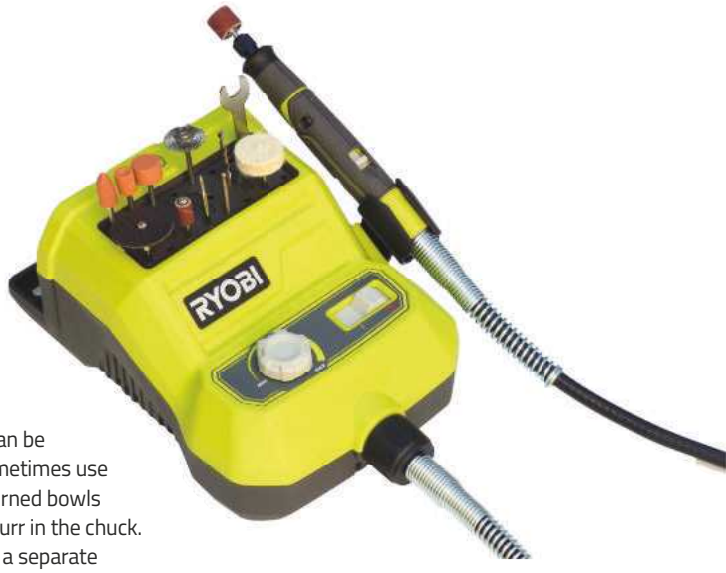
# RYOBI R18RT ONE+ ROTARY TOOL



If you work with materials besides wood, such as metals, plastics or glass, you'll probably find a variety of uses for this neat Ryobi product, says **Phil Davy**

It may be a specialist item, but a rotary tool can be really useful for many tasks, albeit on a smaller scale than usual. Essentially a miniature electric drill, it's capable of drilling, sanding, grinding, engraving, polishing, even routing if there's a suitable base available. For model or dolls' house makers, luthiers, craft enthusiasts or anyone working wood on a diminished scale, it can be indispensable. Woodturners sometimes use a rotary tool to add texture to turned bowls and vases, inserting a suitable burr in the chuck.

With Ryobi's new R18RT tool a separate base unit housing the motor enables handpiece and chuck to be connected via a flexible shaft. This means the grip is that much slimmer than most rotary tools (whether 230V or cordless), which usually have the motor inside the casing. Admittedly, some tools allow a slimline flexible shaft to be added, though in Ryobi's case this is unnecessary. With a diameter of about 22mm the handpiece is perfect for small hands.

Part of the 18V ONE+ range, once a battery is slotted into the back of the base unit you're ready to go. Since the R18RT is sold bare you'll need to add this, plus charger, unless you have Ryobi ONE+ kit already.

With Ryobi's new R18RT tool a separate base unit housing the motor enables handpiece and chuck to be connected via a flexible shaft

## Base & controls

Holes underneath the base enable it to be mounted vertically on the wall. As a freestanding unit it's quite weighty at 1.7kg (with 5Ah battery on board), certainly heavy enough to stay put when operating and unlikely to get dragged across any smooth surface. A holder at the side accommodates the handpiece.

The handpiece is controlled from the base and is activated via a large on/off slider switch. Alongside this is a rotary dial to control tool speed, which varies from 4,000 to 35,000rpm. Adjustment is smooth enough as you rotate the dial, though with such a wide speed range maybe two or three click positions would have been useful.

Covered in tough plastic, the flexible drive has a sturdy steel coiled strain relief at each end to prevent breakage. A threaded collar secures it to the base, the steel inner hex rod mating neatly with a socket at the end of the motor drive shaft. Handpiece and flexible shaft are just over 1m long in total.

Part of the 18V ONE+ range, once a battery is slotted into the back of the base unit you're ready to go

The handpiece is controlled from the base and is activated via a large on/off slider switch

The handpiece is extra slim, so good for small hands

Covered in tough plastic, the flexible drive has a sturdy steel coiled strain relief at each end to prevent breakage

A threaded collar secures it to the base, the steel inner hex rod mating neatly with a socket at the end of the motor drive shaft

I found the handpiece a cinch to operate, whether held like a pen or grasped in the hand

Combined with a nicely textured grip, it's particularly comfortable and easy to control. To change a bit you slide a spring-loaded lever downwards…

… while tightening the collet nut with the small spanner supplied

Alternatively, you can keep items in their rigid plastic box

## SPECIFICATION

**Voltage:** 18V
**Batteries supplied:** No
**Cable length:** 91.5cm
**Collet capacity:** 3.2mm
**No load speed:** 4,000-35,000rpm
**Sound power level:** 95.0dB(A)
**Sound power level uncertainty:** 3.0dB(A)
**Sound pressure level:** 84.0dB(A)
**Sound pressure level uncertainty:** 3.0dB(A)
**Vibration level – main handle:** 23.0m/s2
**Vibration uncertainty:** 1.5m/s2
**Weight with battery:** 1.7kg
**Weight without battery:** 1.3kg

**Typical price:** £89.99
**Web:** www.ryobitools.eu

### Handpiece & bits

The handpiece is extra slim, so good for small hands. Combined with a nicely textured grip, it's particularly comfortable and easy to control. To change a bit you slide a spring-loaded lever downwards, while tightening the collet nut with the small spanner supplied. Collet size is a standard 3.2mm, which means it will accept most accessories by Dremel or Proxxon.

The spanner can be stored in the rubber pad on top of the base. This has numerous holes for bits, so all these can be kept close at hand. Alternatively, you can keep items in their rigid plastic box. A generous range of accessories is provided, including cut-off wheels, wire brush, grinding and polishing wheels, sanding drums, engraving and drill bits.

### In use

I found the handpiece a cinch to operate, whether held like a pen or grasped in the hand. Adjusting speed as you work is simple enough, while it's no problem reaching for the off switch in a hurry. The motor is quite high-pitched at full throttle, though knock the speed back slightly and noise levels are fine. I'd be tempted to mark suitable speed settings around the dial, as there are no indicators apart from Min and Max.

This is a power tool that doesn't need a large capacity battery, so you could manage with one of Ryobi's smaller packs.

### Conclusion

If you work with materials besides wood, such as metals, plastics or glass, you'll probably find a variety of uses for this neat Ryobi product. And with close supervision it would make a great tool for kids to get into crafts or woodworking, too.

### THE VERDICT

**PROS**
- Wide speed range; standard diameter bits

**CONS**
- Noisy at full speed

**RATING: 4.5** out of **5**

# FAITHFULL PRESTIGE COMBINATION SQUARE

A decent combination square is one of the most versatile hand tools in the workshop. As well as checking projects for square, it can be used as a pencil gauge, depth gauge, spirit level, not to mention marking out at both 90 and 45°. This product from Faithfull's new Prestige range is striking in appearance, with a smart black finish that's tough, too. Made from anodised aluminium,


it's lightweight though still sturdy.

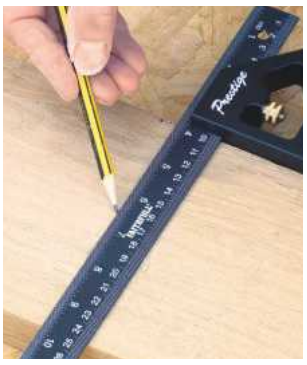
The angular stock has softened edges and together with its unusual shape makes it quite tactile. It incorporates a small level, useful for checking surfaces such as shelves are horizontal. Screwed into the end of the stock is a handy small steel scribing pin, with brass head.

The 25mm wide steel blade is 304mm in length and attached to the stock with a sprung brass screw. Sliding action is smooth with very little play, while locking is positive. Marked in both metric and imperial, graduations run from left to right on one side, right to left on the reverse. These graduations are laser etched and easier to read than those on conventional steel rules; a bonus when using the square as a depth gauge. A hole at one end means you can store the tool from a suitable hook.

### Conclusion

This is an excellent general purpose combination square with multiple uses. In fact, you could almost dispense with using a regular steel rule for those smaller dimensions. It's solid, easy to adjust and doesn't cost a fortune. Importantly, this square was pretty accurate when I tested it. And with the Prestige range there's a 10 year warranty, too.


As well as checking projects for square, it can be used as a pencil gauge, depth gauge, spirit level…




… not to mention marking out at both 90 and 45°


Screwed into the end of the stock is a handy small steel scribing pin, with brass head

## SPECIFICATION

**Typical price:** £23.87
**Web:** www.faithfulltools.com

### THE VERDICT

**PROS**
- Accurate and well made; graduations easy to read

**CONS**
- Lines on level could be closer together

**RATING: 4.5** out of **5**

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D&M TOOLS

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# What's new from D&M TOOLS

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

## TREND R/STAND/A ADJUSTABLE BENCHTOP ROLLER STAND

**MANUFACTURER:** Trend
**D&M GUIDE PRICES:** Single – £54.95; pair – £99.95 (inc VAT)

Work safe. Work Smart. Trend are excited to launch their new Adjustable Roller Stand, allowing woodworkers or metalworkers alike the ability to work safely and smartly when using long lengths of stock.

The incredibly versatile, adaptable roller stand is designed for use on mitre saws, snip saws, tablesaws, planers, bandsaws, mortisers and pillar drills. It excels in areas where long lengths of materials need to be supported as they are machined. An adjustable height range of 50-160mm makes it adaptable for a multitude of machines and models from a variety of manufacturers.

The Trend Roller Stand can be fitted to portable stands, trestles or used on a workbench. It has a simple threaded winder mechanism that adjusts the height to match the surface bed of the tool or machine. This quickly ensures any material is flat and stable once in position. It eliminates binding and prevents the stock from dropping as it is cut, maximising safety by keeping both hands free to control the machinery safely.

The compact all-metal design has a scissor lift action, which allows the roller to always remain parallel as it is adjusted. It keeps the work stable and true to the tool bed. A 62kg weight capacity makes it ideal for supporting larger and longer materials for dimensioning. The 260 × 125mm soleplate maximises stability when used as a portable option and its non-slip rubber pads keep it secure to prevent marking of any surfaces it is used on.

With a 250mm wide bearing surface, the roller offers excellent support for wider materials, and keeps everything stable once positioned on the machine, ready to be cut.

Used singly or paired as an infeed and outfeed option, the new Trend Adjustable Benchtop Roller is the perfect addition to any workshop or on-site setup. Ensure a safer, quicker method of working on long stock and material support in general.


## RECOIL SUSPENSION SYSTEM KNEE PADS

**MANUFACTURER:** Recoil
**D&M GUIDE PRICE:** £59.95 (inc VAT)


Recoil suspension system knee pads are a pair of heavy-duty, joint-protecting knee pads that will reduce the risk of knee damage. A must-have for anyone who works on their knees.

Benefitting from a patented spring-loaded Impact System, these are the only knee pads in the world to use a coil spring pressure reduction system. Scientifically proven to reduce pressure on the knees by 76%, the spring system allows the knee pad to pivot, making it easier to move across a floor.

Fitted with ultra soft and secure fit straps, these soft, secure straps won't dig in and don't chafe. Suitable for numerous occupations – tilers, floor layers, roofers, joiners and anyone who works on their knees for prolonged periods of time.

Extend the life of your knee pads by selecting from a range of accessories available, which can be purchased separately – floor covers, replacement foam and straps, plus drawstring bags for convenient storage. See the demonstration video on our website for further details.

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JEREMY BROUN

In collaboration with

The Woodworker & Good Woodworking

AXMINSTER Tools & Machinery

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THE WILSON
CHELTENHAM ART GALLERY & MUSEUM

# THE ALAN PETERS FURNITURE AWARD

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

Alan Peters' 'Fan table'

## PLEASE NOTE

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

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

## PRIZES OFFERED

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

**2nd prize**
£500 Triton Tools voucher

**3rd prize**
£300 Judges' prize

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

Award deadline is **currently open-ended due to postponement**. A £20 entry fee applies and a maximum of two entries can be made (£20 per entry).

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

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

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

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

Alan Peters chest with silver inlay

Alan Peters and Jeremy Broun in 2005

Alan Peters chest

# WIN! A TRITON TOOLS TJS001 750W PENDULUM ACTION JIGSAW


In conjunction with **Triton Tools**, we're giving one lucky reader the chance to win a **TJS001 750W jigsaw**, featuring a powerful 750W motor with three-stage pendulum action, which is able to deliver an incredibly fast cutting performance

The TJS001's powerful 750W motor and three-stage pendulum action deliver an incredibly fast cutting performance. Dual-axis grips allow the tool to be held with both vertical pressure and horizontal direction control. When a perfectly straight cut is needed, the supplied track adaptor and parallel guide transform the Jigsaw into a precision tool ideal for breaking down larger sheets and fine trimming finished pieces. Detailed work is no problem with the precision bevel, which can cut up to 45° in wood, steel or aluminium.


## Product features

- Dual-axis grips and balanced body design keep the tool on the workpiece, and move the jigsaw with improved stability
- Four-position mode selector with three-stage pendulum action for optimised, fast cutting and reduced wear on the tool and blades
- Constant speed under load maintains a stable cut rate with improved results over conventional jigsaws
- Tool-free, quick-release blade change with T-shank bayonet mounting for fast blade changes and compatibility with a wide range of blades
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- Includes three high-performance blades for curved cutting in wood, high-speed cutting in wood and plastic, and straight cutting of ferrous and non-ferrous metals
- Includes Triton track adaptor for short internal/pocket cuts, cut-outs with straight edges below the length of the plunge saw blade or cuts to an exact length
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- Includes soft case with slot-in accessory organiser for easy portability and protection of the tool and all accessories

## Technical specification

**Angle adjustment range:** 0°-45°, left and right
**Blade type:** T-shank
**Cut capacity – aluminium:** 25mm
**Cut capacity – steel:** 10mm
**Cut capacity – wood:** 110mm
**No load speed:** 800-2,900spm
**Power:** 750W
**H × W × L:** 215 × 85 × 340mm
**Weight:** 3.5kg
**Stroke length:** 26mm
**What's supplied:** 1 × fast wood curve blade T244D; 1 × clean cut wood blade T101B; 1 × metal blade T118A; 1 × plastic base track adaptor; 1 × dust tube; 1 × metal edge guide – parallel fence; 1 × screw; 1 × soft bag; 1 × accessory organiser

To find out more about Triton Tools, see **www.tritontools.com**

## HOW TO ENTER

To be in with a chance of winning the Triton Tools TJS001 750W pendulum action jigsaw, just visit **www.getwoodworking.com/competitions** and answer this simple question:

### QUESTION:

What is the power of the TJS001's motor?

The winner will be randomly drawn from all correct entries. The closing date for the competition is **10 July 2020**

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

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3YR GUARANTEE

French polishing the Smiths' staircase

PART 2

# THE FIRST BIG CLIENT

Just when it seemed that his new-found foray into furniture making may not pay off, **Simon Frost** is met with a phone call that would go on to be the big break he'd been waiting for

It was October – six months after finishing my furniture making course at Robinson House Studio – and I was yet to sell a piece of furniture. My part-time job in media was keeping me afloat, while my workshop days were spent practising my skills by making things for the house, the odd 'portfolio' restoration job for favours, pennies, or nothing at all, and the ongoing task of improving and organising my workspace. I'm not sure that job ever ends.

I needed to start making my fledgling business pay, so I set about thinking up stock to put online for sale in time for Christmas. Not furniture, but some small, simple, well designed and crafted items that I could produce in batch and that people, hopefully, would want to gift. Browsing products online, it seemed that anyone who'd ever picked up a saw was selling the usual suspects – chopping boards, serving trays, candle holders and the like. I decided instead to focus on something more niche – a product with a drastically smaller market of potential buyers, but with accordingly fewer people making them. Synthesiser end cheeks – bespoke pairs of protective 'bumpers' that fix to the ends of specific models of keyboard. I did say it was niche.

Synths typically come with a pair of end cheeks as standard, and standard is the word that best describes them. The machines themselves are beautifully designed instruments, but the end cheeks, often plastic, seem to be something of an afterthought. Functional, but unremarkable, and not as thick nor as proud from the knock-prone edges as you might like. There were some makers selling replacement cheeks, so there must be a market, I thought. But there weren't many of them, and the vast majority were in oak. Maybe there was an opening for more unusual

Preparing the work area and sanding back the banisters ready to take a finish

After disastrous attempts to stain the newels with water-based dyes and Van Dyck crystals, after sealing with shellac, Rubio Monocoat saved the day

Polishing the rails to a mirror shine

end cheeks? So I drove down to Timberline, an exotic hardwoods specialist in Kent, and picked up some zebrano, bubinga, white limba, cypress, lime, mahogany, sycamore and cherry. As well as using more unusual timbers, I would distinguish my product by finishing with French polish and wax, rather than the oil finish that other makers were offering. I spent a day bandsawing the rough shape and then ripping each block into pairs at BuildingBloqs, my local shared workshop, then took them home to plane, shape and finish each pair by hand. I took care to create contours that accentuated pleasing details in the basic shapes, to further differentiate my product and add some quality.

One of the smaller jobs at the Smiths'...

... refinishing these scuffed dining chair legs

My synth end cheeks – a niche product with a small but unsaturated market

## A client appears

I was making the last few pairs, preparing to photograph them and put them online, when a call came. It was a friend of my very first client – a family friend whose dining table I had French polished. She and her husband were beginning to plan for their retirement, and wanted to revive their home while they were still working. Their beautiful maple kitchen had lost some of its sheen over the years and needed refinishing. Three storeys of mahogany banister rails were in need of a polish, and having stripped the paint from the seven newel posts that joined them, they had been surprised to find that the posts were made from pine, which was jarring against the richness of the mahogany. Their unusual South African yellowwood table, too, had seen better days.

I visited them the next day to get an idea of the scale of the work. There was a lot to be done – if I could land the whole job, it would keep me busy into the New Year. I quoted them there and then for five days' work to refinish the kitchen – their priority was to have their kitchen renewed in time for Christmas, and I would need a little more time to cost the other jobs. I offered to take on the kitchen refinish first, in part as a sort of audition for the rest of the work, and they booked me in to start the job a few days later. In the meantime, I tried to put myself in the position of the client – what would I want from someone I was considering hiring, especially someone I knew to be relatively inexperienced?

Samples, for a start. I spent a couple of evenings after my office shifts preparing example finishes on scraps of mahogany for the Smiths (we'll call them the Smiths) to consider for the banister rails. Rather than photographs of different finishes, these can be held in the same light that falls on the banisters, showing how each finish appears in the setting. And, of course, a banister rail is there to be held, so you want to know how it feels to touch. It doesn't take much, but that kind of special treatment goes a long way, I think.

## You're hired!

I was nearing the end of the kitchen job, having sanded back the weathered finish from all of the cupboards, drawers, and kitchen island butcher's block, then oiled with three coats of Osmo, and buffed with wax. The Smiths were delighted with


Midway through the Smiths' kitchen refinish

Preparing cabinets for a finish

Midway through stripping back an unsuccessful staining experiment

Getting there!

their rejuvenated kitchen, and they had chosen a high-shine clear French polish finish for the banister rails – I'd got the job, and they wanted me to do the rest of the work, too. It looked like those end cheeks weren't going to be online in time for Christmas sales, after all – I had to prioritise the work that was paying straight away, so the synth cheeks took a back seat.

The banisters and newel posts were, by far, the most substantial of the various jobs at the Smiths' house. I took care to schedule the noisiest and most inconvenient parts of the job for times when the Smiths were out all day or away for a weekend. The French polishing of the rails took roughly the time I had predicted, and they came up beautifully. I slightly underestimated the job of preparing the area to protect carpets, walls, and so on – another lesson learned.

It was the newel posts that I seriously miscalculated. The Smiths wanted the pine stained to match the mahogany rails. I tested out various dyes and finishes on a plank of pine at home, and found a combination that I was satisfied with, but it was deceptively easy to stain and finish a flat piece of stock.

I learned the hard way that it was an entirely different proposition to achieve a finish that looked natural and close enough in shade to the mahogany when there were beads and coves to contend with. It was much more difficult to prevent grain reversal, for example, on curved surfaces. The posts had their fair share of nooks and an abundance of crannies, and it took several attempts before I found the right combination of preparation, product and finishing to overcome the challenge. Another thing to put down to experience. I'll know next time!

## The extra mile

While working at the Smiths', I noticed that the door to the room where I was keeping my kit was catching on the carpet, so I rehung it for them with some smart new hinges at no additional cost – and the next thing I knew, they were adding more jobs to the list. Apart from the technical lessons, the experience taught me something valuable about client relationships. Treat your customers well – go above and beyond. They'll notice, they may well recommend you to a friend, and if they want something done in future, you stand a good chance of being the person they call.

By the end of January, I was finished at the Smiths', eight or nine separate jobs later, and with a request to design them a coffee table for a possible commission, too. In early February, I hired a photographer friend of mine to take some professional shots of everything I'd done to date, on a day-rate of dinner and beers at the pub, on me. Looking through the photos, it seemed that woodworking was looking more and more like my actual job. My other work was increasingly competing for time with it, to the point where it seemed that, if I could get a couple more clients under my belt, I might even be able to leave it, sooner than expected, and focus on growing my business. And then, out of nowhere, this nasty bug started going around...

Raising the grain between sanding grits and a few coats of Osmo really brought out the figure in the Smiths' cabinets

The Smiths' kitchen, ready in good time for Christmas

Preparing a few samples helped me to land the work

**NEXT TIME**

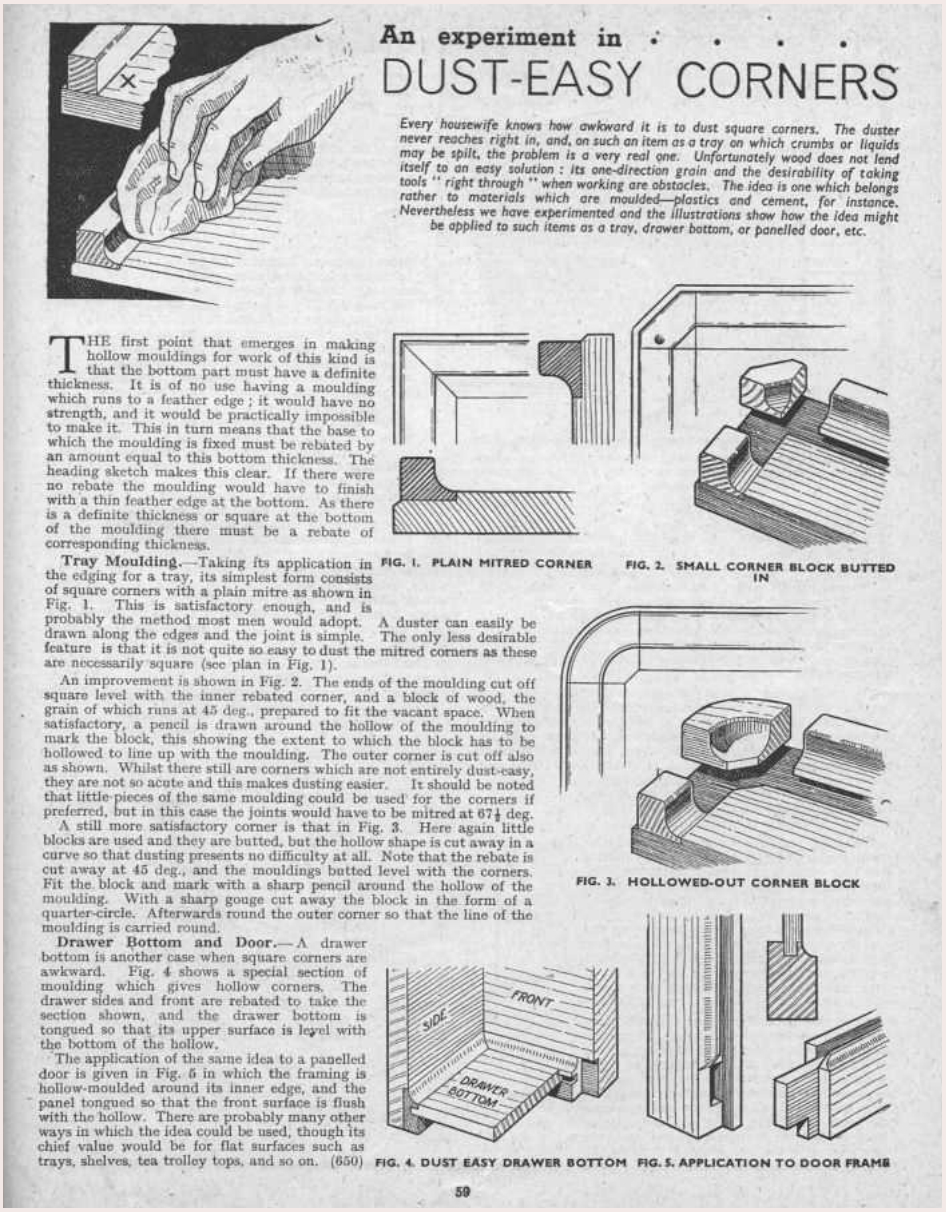
Join Simon in the September issue as he shares more about his journey into professional woodworking. To find out more about Simon and his work, visit his website – **www.frostbespoke.co.uk** – or follow him on instagram: **@si.frost**

# As every housewife knows

After a hard day's dusting, **Robin Gates** puts his feet up with the April 1946 issue of *The Woodworker* and ponders an experiment with 'dust-easy' corners

This year has found me spending far more time than usual indoors, exploring the domestic landscape instead of roaming market towns, marvelling at country churches, and striding over hills to nowhere in particular. Instead of poring over Roman street plans I'm fretting over the contents of our kitchen cupboards. Deciphering weathered tombs has given way to sorting the boxed-up family archives underneath our beds, and the euphoria of reaching Iron Age summits is but a distant memory as I stretch to the high planes of our pelmets and picture rails with the feather duster. In fact, dusting has become quite a science, which is why, having rested my rag and Mr Sheen for a moment, this article on 'Dust-easy Corners' from the April 1946 issue of *The Woodworker* caught my eye like a pair of large yellow Marigolds.

This issue of the magazine came only a year after World War II, a period compared by some to conditions during the COVID-19 pandemic. Inside there's a knock-down wardrobe making the most of materials in short supply, and Editor Charles Hayward was talking up the need for brightening homes grown shabby while wartime factory work, and queuing for food had taken precedence.



An experiment in . . . . .

DUST-EASY CORNERS

*Every housewife knows how awkward it is to dust square corners. The duster never reaches right in, and, on such an item as a tray on which crumbs or liquids may be spilt, the problem is a very real one. Unfortunately wood does not lend itself to an easy solution : its one-direction grain and the desirability of taking tools " right through " when working are obstacles. The idea is one which belongs rather to materials which are moulded—plastics and cement, for instance. Nevertheless we have experimented and the illustrations show how the idea might be applied to such items as a tray, drawer bottom, or panelled door, etc.*

THE first point that emerges in making hollow mouldings for work of this kind is that the bottom part must have a definite thickness. It is of no use having a moulding which runs to a feather edge ; it would have no strength, and it would be practically impossible to make it. This in turn means that the base to which the moulding is fixed must be rebated by an amount equal to this bottom thickness. The heading sketch makes this clear. If there were no rebate the moulding would have to finish with a thin feather edge at the bottom. As there is a definite thickness or square at the bottom of the moulding there must be a rebate of corresponding thickness.

**Tray Moulding.**—Taking its application in the edging for a tray, its simplest form consists of square corners with a plain mitre as shown in Fig. 1. This is satisfactory enough, and is probably the method most men would adopt. A duster can easily be drawn along the edges and the joint is simple. The only less desirable feature is that it is not quite so easy to dust the mitred corners as these are necessarily square (see plan in Fig. 1).

FIG. 1. PLAIN MITRED CORNER

FIG. 2. SMALL CORNER BLOCK BUTTED IN

An improvement is shown in Fig. 2. The ends of the moulding cut off square level with the inner rebated corner, and a block of wood, the grain of which runs at 45 deg., prepared to fit the vacant space. When satisfactory, a pencil is drawn around the hollow of the moulding to mark the block, this showing the extent to which the block has to be hollowed to line up with the moulding. The outer corner is cut off also as shown. Whilst there still are corners which are not entirely dust-easy, they are not so acute and this makes dusting easier. It should be noted that little pieces of the same moulding could be used for the corners if preferred, but in this case the joints would have to be mitred at 67½ deg.

A still more satisfactory corner is that in Fig. 3. Here again little blocks are used and they are butted, but the hollow shape is cut away in a curve so that dusting presents no difficulty at all. Note that the rebate is cut away at 45 deg., and the mouldings butted level with the corners. Fit the block and mark with a sharp pencil around the hollow of the moulding. With a sharp gouge cut away the block in the form of a quarter-circle. Afterwards round the outer corner so that the line of the moulding is carried round.

FIG. 3. HOLLOWED-OUT CORNER BLOCK

**Drawer Bottom and Door.**—A drawer bottom is another case when square corners are awkward. Fig. 4 shows a special section of moulding which gives hollow corners. The drawer sides and front are rebated to take the section shown, and the drawer bottom is tongued so that its upper surface is level with the bottom of the hollow.

The application of the same idea to a panelled door is given in Fig. 5 in which the framing is hollow-moulded around its inner edge, and the panel tongued so that the front surface is flush with the hollow. There are probably many other ways in which the idea could be used, though its chief value would be for flat surfaces such as trays, shelves, tea trolley tops, and so on. (650)

FIG. 4. DUST EASY DRAWER BOTTOM

FIG. 5. APPLICATION TO DOOR FRAME

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## Awkward corners

But it's those dust-easy corners that intrigue me. Having emptied a chest of drawers and wrestled with the dust of past generations solidified in the angles of their bottoms, this is a problem I can relate to. My solution was to work around the angles with a stiff toothbrush, then vacuum up the detritus. But is there an easier way?

"Every housewife knows how awkward it is to dust square corners," he begins. Ah. This does indeed feel awkward for the man of the house now wearing the pinny, and having spent the morning dusting high and low. But I daresay real men didn't dust their own drawers in 1946. We'll press on, and examine the nub of the 'experiment', which is developing right-angled corners with hollow mouldings designed not to trap dust.

Using only hand tools this does add considerably to the otherwise straightforward work of knocking up a drawer. The hollow is shaped using a moulding plane or a scratch tool, while the body of the moulding is rebated into the four walls of the drawer. The base of the moulding, meanwhile, must be thick enough to avoid a fragile feather edge to the hollow where it meets the drawer bottom. For that joint, the moulding must itself be ploughed with a groove to accept a tongue – instead of the usual chamfered edge – cut around the board to sit flush with the edge of the hollow. No doubt all would proceed with greater ease if handled by machine, but in those days only hand work was considered – as evidenced by a good article on using moulding planes earlier in this issue.

For food trays, especially, the problem remains of crumbs or liquids lodging in mitred corners, which is why a complete answer included four hollow corner blocks, shaped by gouge and butt-jointed, making eight extra parts in total for building the 'dust-easy' item. Bringing all these parts together in a drawer would've made for a tricky assembly.

Coincidentally I found a solution from 200 years ago in *Going for a song: English furniture* (BBC, 1969) where Arthur Negus says: "Inside the drawer down the long sides between the side and the bottom you'll see a tiny half-round bead, called a dust-bead. And this dust-bead was used from about 1800 onwards for some 30 years." I think Arthur meant quarter-round, but clearly the dust accumulating in drawers was as much a concern for the Georgian cabinetmaker as it remains to this day.

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# BUILDING AN IRON AGE CHARIOT

**John Greeves** talks to **Robert Hurford** about his first reconstruction of an Iron Age chariot and how some of these ideas changed subsequently with new evidence and the application of experimental archaeology

Robert Hurford, master wheelwright and coach builder, is regarded as one of the leading experts on chariot design and reconstruction. In nearly 20 years he has built around 30 replica chariots for museums, TV and film, as well as for private individuals. He has an immense knowledge of chariots, reconstructing many of them from the Iron Age, Roman, Egyptian, Assyrian, Chinese and ancient Greece period.

Robert claims it was an accident that led him into this specialised field. He had developed an interest in medieval wheelwrighting, an area largely neglected by writers and where little information existed. While researching this, Robert repeatedly came across a vast body

of literature written about chariots but with little reference to their construction. This, in some ways, prepared him for what was to follow.

In 2001, Robert was approached by Mike Loades – writer, television presenter and, most importantly, military historian – who told him that a chariot burial had been found in Wetwang, East Yorkshire, containing the remains of a chariot and the skeleton of a high status woman. The BBC wanted him to build a replica chariot for the *Meet the Ancestors* series and so a love affair with them began. Over the years, chariot reconstructions have taken Robert to many parts of the world and through the field of 'Experimental Archaeology', have provided a deeper understanding of the past.

**2** Unfinished chariot in workshop – major components, rectangular framework, side hoops, pole and wheels all in place

**1** Reconstruction of the first Iron Age chariot made by Robert

## THE WETWANG IRON AGE CHARIOT RECONSTRUCTION

### Overview

This 250 BCE chariot was built 300 years before the most famous charioteer, Boudica. The excavation revealed the chariot had spoked wheels attached to a very wide fixed axle. The low bearing chassis was basically rectangular in shape and joined by a long curving pole at the front bar and axle. At the other end of the pole was a wooden yoke secured by rawhide lashings. This yoke rested on the backs of two small horses or ponies, 11 to 12 hands in height.

The reins ran back from the ponies' heads to the driver's hands via terrets (metal rings), which were mounted on the yoke. Four of these were for the driving reins and a fifth in the middle (which is exclusively found in British excavations) was, and remains, for an uncertain purpose.

**3** Later reconstruction of an Iron Age chariot here showing the double hoop side. The wheel is built with a continuous rim

### Construction, challenges & resolution

Robert's first reconstruction was of the Wetwang chariot (**photo 1**). Building any reconstruction of a chariot can be exacting: "It must cope with the inescapable fact that the principle materials have rotted away," he says. "At best it can only be as good of an approximation as the existing evidence permits." While certain assertions could be made from the excavation – for example, the diameter of the wheel from the iron tyre, the size and length of the nave (hub) – other evidence, especially organic material (such as wood and leather), is far more difficult to ascertain as it only leaves stained traces in the soil. Robert had to turn to other historical evidence to gain further insight into the possible construction.

The only initial pictorial representations he found were on a few Roman and native Iron Age coins. A carved stone called the Padua Stela proved far more worthwhile and depicted a chariot driven by a charioteer and carrying a second occupant. This largely influenced the first reconstruction, along with the evidence from other cultures, previous digs, textual references and what the Wetwang excavation revealed.

### Challenges

There were many challenges in reconstructing the Wetwang chariot. Time was always pressing and posed the immediate question of how to complete the reconstruction within these constraints. Yet, another more immediate question centred on how the Celts fixed the wood together. The Celts didn't use nails or iron fasteners during this period and so a solution had to be found. As Robert told me: "The way you fix all the bits of wood together has to be somehow managed without iron or metal; other ancient chariots were to provide the answer."

In the reconstruction of a chariot, the woodwork is mortised or pegged together. No glue is applied, though several glues were used in the Iron Age. Instead of metal attachments, rawhide bindings were used to secure the joints. The rawhide must be wet during application and can prove very slippery. Once dry it becomes very hard and has considerable strength in holding any structure together.

The chariot was essentially built of ash, with elm used for the nave (the hub), oak for the axle and ash wood for the pole and other parts of the wheel. Robert felt certain that Iron Age people would have used whatever was locally available and suitable for use. "Using elm today for this part of the reconstructed nave (hub)", he argues, "may not be historically correct, even though it's considered common practice today."

The Iron Age tool box was very similar to the types of hand tools we have today except for a twist drill and a plane; the local Celtic population would have possessed small hand saws, hammers, gouges, chisels, etc. They would also have had a pole-lathe and were capable of producing a nave and constructing a wheel with spokes. An iron hoop, known as a tyre, would have squeezed the components of the wheel together, eliminating any need for using nails – the tyre was an Iron Age invention of great importance.

### The main body/chassis

The bodywork of the Wetwang reconstruction was largely based on an interpretation of the Padua Stela. Soil traces in the ground at the Wetwang excavation had suggested that the original shape was a basic rectangle. The main

**4** Robert fitting the 'J' linch pin. Visible is the second replica suspended platform made for the BBC

**5** Later chariot built in 2015. Main components – body work, pole and yoke axle – are visible. Iron tyre on wheel – a 'J' linch pin – is now clearly visible

ash body needed to be strong as it would have the axle and pole lashed to it, as well as holding in place and supporting the arched sides of the chariot (**photo 2**). Robert proceeded to build a strong rectangular overlapping framework (148 × 120cm ) with an internal measurement of 114 × 92cm. He used halving joints to provide the additional strength needed for the frame and sculpted animal heads onto the protruding ends as decoration. Ash was also chosen for the double hoops or bows on either side. These pieces were thoroughly steamed and each arch shaped over a wooden former to construct the hoops or bows. "Once set in shape, the half-joints were pierced by tenons built out on the ends of the bow shapes. These bow-shaped sides helped to hold all of the framework together" (**photo 3**). The joints or components would then be attached and all wrapped around with rawhide ties. This was done by Richard Hopkins – another member of the team from the International Guild of Knot Tyers – who Robert found to be full of brilliant solutions to this sort of problem.

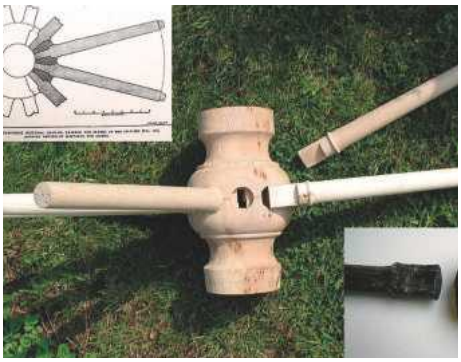
## How to overcome the problem of suspension

Travelling in any horse-drawn carriage over open ground can produce considerable jolting and unease. For a seated person, the risk of being thrown off a speeding chariot seems less likely than the Celtic warrior standing behind with his javelins poised.

A solution to the problem of the vehicle's suspension had to be found and agreed to by the British Museum and those building the chariot. Robert came up with an ingenious idea: the Padua Stela showed chariots with double-arched sides. These arches were shown with a 'Y' configuration within them, but what if the 'Y' was a rawhide strap and a small rectangle platform with protruding corners was suspended from these four 'Y' shaped straps? Here was a practical solution.

The suspended platform was a simple rectangle with two bars set across it with a rawhide strap floor. These lattice-type floors are common to a number of chariots found in the classical world and the solution was heralded as a good one. When tested, "it actually worked except that it created lateral movement, which you had to restrain, thus making it too complicated," says Robert. In subsequent reconstructions, Robert dispensed with a suspended platform and instead incorporated a lattice strap-floor right across the actual framework of the chassis.

**6** Glastonbury Museum wood case showing some of the spokes and tools from the Glastonbury Lake Village excavation



**7** How it fits together: nave and spokes based on the Glastonbury Lake Village excavation – an old spoke and nave fragment

## A box alternative

Besides the small suspended platform, Robert also tested a three-sided box with thin floor boards that could be suspended in the same way and tested as an alternative to the small platform. When tested the box proved to be as effective as the suspended platform, but neither proved, in Robert's mind, to be the ultimate solution.

## Axle, pole & yoke

The axle, pole and yoke form the other timber components of the chariot (**photo 5**). The wide axle was made of oak and had an overall length of 204cm. A cast from the excavation had shown the presence of integral wheel stops, the axle had a large mid-section, and the bearing journal diameter was shown to be 7cm by study of the linch pins. Robin Wood, a pole-lathe turner with an expert knowledge of historic turning techniques, was asked by the BBC to make the axle using an ancient strap-lathe.

The pole was a naturally curved piece of timber measuring 294cm long, which was attached to the axle and bodywork in the front bar and the axle at the back, which had a central channel cut to receive the pole; this was then pegged into position. The third important component is the yoke. This is a shaped piece of wood, joined to the pole, which sits on the horses' backs. It's the means by which the chariot is pulled. Few Iron Age yokes have been found: five are known from Lake Neuchâtel in Switzerland and one from Northern Ireland. Robert based his design on "an amalgam of historical evidence" as well as taking into account the individual horses. He used an angle grinder to carve the great lump of ash into a beautifully sculpted yoke. Five terrets (rein rings) were later fixed along the top of the yoke. The fastening of the dorsal yoke was aided by a wooden pin (sometimes called a 'hester') dropped through a tapered hole (some 10-20cm) from the end of the pole. A long rawhide tie then lashed the yoke and pole together, which was finished off with a Gordian Knot (the type Alexander the Great was presented with as an intractable problem). This combination worked up to a point: "What we found in filming with this first reconstruction was that it didn't take long for the horses to break the pole pin," Robert says, "and it was plainly not the way it was done. In subsequent reconstructions, I did away with it completely and just relied on the rawhide and a tiny peg underneath to stop the yoke from sliding forward."

## Wheels

The complex part of building a chariot is its wheels. The wheels designed for the first Iron Age chariot reconstruction were based on a fragment of a nave (wheel hub) and spokes

**8** Continuous rim wheel from a 2015 replica chariot. Hub or nave with feet end of spokes driven in. Tongue ends of spokes are to be tenoned into the continuous rim

**9** Robert at work on the second copy of an Iron Age chariot made for the BBC

now housed in Glastonbury Museum, and others, including a beautiful pair of preserved wheels in Edinburgh (**photo 6**). The wheels from an excavation often reveal more about construction than other components found in the dig (**photo 7**). One thing for certain is that the wheels didn't have scythes protruding from the centre of the wheel like that well-known Thomas Thornycroft statue of Boudica in a war chariot, which you see in London.

The Wetwang iron tyre (which went around the rim) showed wheels with a diameter of 90cm. The two nave bands found indicated the end diameter of 14cm. The distance between each nave band was 18cm. From the excavation, Robert could also calculate the diameter of the central bore of the naves as being 7cm. The new naves were made of elm and had 12 ash spokes. Other chariot excavations have revealed the number of spokes can vary with chariot wheels having 9, 10 or even 11, as well as 12. It seems certain too that these Iron Age people must have possessed some technique for heat bending timber.

Robert wanted to build a wooden rim from a single piece of timber but because of time constraints, he decided to base the rim on the remains of a wheel found at Holme Pierpoint in Nottinghamshire. The nave was first turned and then bored through to take the axle as well. Mortises for the spokes were then cut and nave hoops driven on. The rim in this first reconstruction was made up of a number of curved pieces, each called a felloe (pronounced felly). Six in all were used to make the rim, with 12 spokes tenoned (feet) first into the hub-end. The inner rim was then marked and the mortises cut onto the rim. The other ends of the spokes (the tongues) were then driven in. No nails or glue are used on the chariot wheels (**photo 8**). All the components are held rigidly in place by an iron hoop (a tyre), which was bonded on while hot and contracted to hold everything firmly in place.

## Decorations

'Celtic Art' contains an array of colours and decorative patterns – some with symbolic or apotropaic meaning (magic intended to turn away harm). Most likely, the original builder would have decorated his chariot in a way we would find hard to comprehend. The first chariot reconstruction was painted using a range of different oxides mined from the Clearwell Caves in the Forest of Dean. These colours, known as 'ochres', produced stunning yellows, browns, reds and purples. Water-based paints were made by mixing the oxides with water, gum arabic and a little honey, which was then applied to the woodwork. This was later sealed with wax to protect the decoration.

**10** Copy of the first chariot sent to the International Museum of the Horse in Kentucky

## The work goes on

Not long after the first Wetwang reconstruction the BBC asked for a new one to be made to look like the first and this chariot can now be found in the Hull & East Riding Museum of Archaeology (**photo 9**), with a third one of the same design sent to the International Museum of the Horse in Kentucky (**photo 10**). Later Iron Age construction by Robert abandoned the suspended platform and opted for a strap-worked woven floor integrated into the chassis. The subsequent Iron Age models also used a one-piece rim rather than felloes. The pole pin became much smaller and the axle was set slightly further back. The mystery of the iron 'J' shaped linch pins were finally revealed in the Ferry Fryston excavation a few years later and this new knowledge was applied to further reconstructions (**photo 11**).

Field trials in those very early days exemplified the amazing stability and manoeuvrability an Iron Age chariot had as a killing machine. Experimental archaeology is constantly presented with questions about the way our ancestors lived. Sometimes these answers can only be found when recreating the actuality of an experience, which ultimately leads to a greater and fuller understanding of our past.

**FURTHER INFORMATION**
Robert Hereford – Chariotmaker –
**www.chariotmaker.co.uk/workshop2.htm**

**11** Later model built in 2015. Note the way in which the 'J ' linch pin is now fitted and how the suspended platform has long gone

**12** The suspended box

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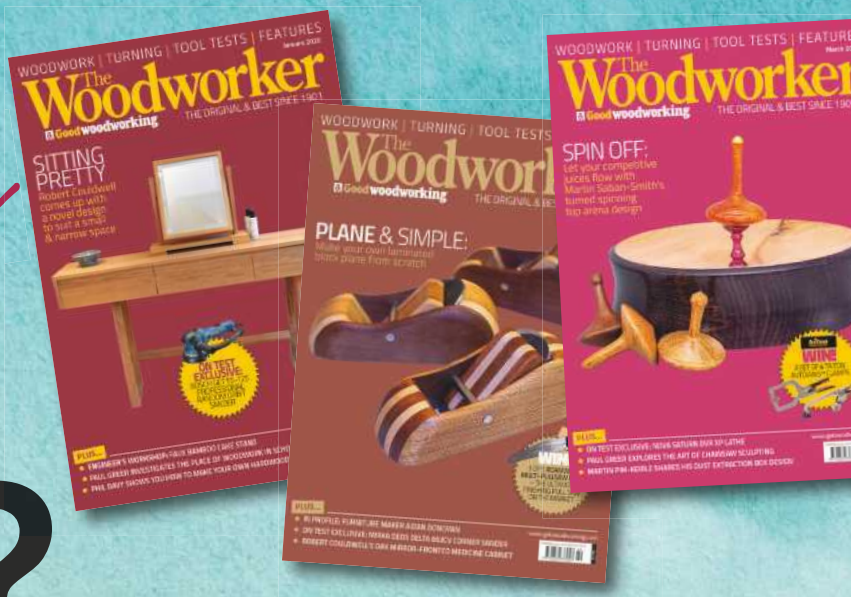


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CODE: 341FP

# WOODWORKER'S ENCYCLOPAEDIA A-Z PART 17

## In part 17 of the directory, **Peter Bishop** breaks out of the Fs and slowly creeps into the Gs

I hope this series is providing you with a fascinating insight into some unusual and everyday words and phrases, along with learning how dung can be a useful identification tool!

Oak framed & ledged door

### Framed, ledged & braced doors

This technique for making exterior doors is very traditional. An outer frame is constructed with rebates to take a boarded facing. Behind this facing, and as an integral part of the door framework, there will be at least one ledge, a middle rail, and a couple of braces – the angled supports. The braces should be built into the frame so that they support the middle and top rails from the hinge side up. This brace arrangement helps to reduce any future 'droop' on the lock side of the door. Don't make or buy doors that alternate the angle of brace; it may look interesting but, in reality, probably won't function correctly.

Framed, ledged & braced door

### Frank joint

If you want to make a feature of a joint or series of joints, instead of hiding them, these can be called a 'frank' joint or joints. Think of exposed dovetails running down the corners of a chest, for example.

### Frass

Frass, or as I'm infamously known to call it, 'beetle poo', is the digested wood droppings left behind by the wood-boring beetle larvae and adult. It appears to be like a fine or coarse sanding dust. Different sizes and shapes are produced by different species of beetle. This feature can be used to help identify what might be causing the infestation. Rubbing the frass between your fingers will help you to determine this if you are aware of what you need to feel and see. Use a hand lens to get a closer view. Experience will help but there are guides online to help with

Signs of wood-boring insect infestation include 'frass'

identification. If you want to check that the family heirloom you've just inherited or that expensive piece of antique furniture you bought has a current infestation, frass can give you an indication. Old furniture will often have surface 'flight' holes where the mature beetle has emerged. Sometimes it's difficult to tell if these are old or new. These adult beetles come out in the spring. Put a few sheets of newspaper under the suspect piece of furniture from, say, March until June, then check to see if any frass drops onto it. If it does, more than a little bit, then you will most likely have an active attack. Take action then and treat the piece accordingly.

French polishing using a 'rubber'

A French-polished table

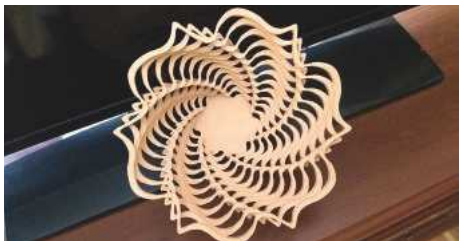
### French polishing

This is a well-used, shellac-based polish, which has been extensively used on furniture, especially antiques. Applied correctly it will provide a deep, high gloss finish that today is not so sought after. The traditional way of preparing French polish, from the shell of the lac beetle, is tedious; however, you can buy ready-mixed stuff that, with care, can provide a very good finish. One of the major problems with French polish is that it is not resistant to water marking: put a mug of coffee on it, with a damp base, and you'll be heading for trouble!

### Fresh cut or sawn

This is a sawmilling phrase that refers to converted lumber that has just come off the saw. It's wet, green (another associated word) and freshly off the saw, hence the names.

Axminster fretsaw



Fretwork bowl

### Fret saw & fretwork

The fret saw has a very fine blade for cutting intricate shapes. Fretwork is the result of this cutting. The pieces cut and produced might be anything from a simple puzzle right through to intricately designed metalwork, which can then be inlaid into a host surface.

### Full or full cut

'Full' as opposed to 'bare'. When writing down details of individual component's finished sizes, I might note that it needs to be full in length, width or thickness. This is a reminder to me that I should not go under the desired size and it should be slightly over – full. We discussed earlier how the word 'bare' applies to a dimension that will be slightly under.

### Fuming

Some wood will react to the introduction of specific chemicals with a colour change. Oak is a fine example because it contains a large amount of tannic acid. Think about when you see an old steel or iron nail driven into oak outside. Reacting with the acid and wet conditions will result in a very dark stain leaching around and down from

Fuming a piece of furniture in a plastic container


Results of a fuming test using 10% ammonia

the nail. Ammonia is the main chemical that will, when used on oak, darken the wood to help increase the depth of colour. A simple, sealed chamber can be made from plastic sheeting and frame wood into which your components, and the liquid ammonia, can be placed. Whole pieces of furniture can be treated in the same way – all you need is a bigger chamber. Care needs to be taken with the ammonia – please do follow the instructions if you choose to use it. A well ventilated room, a face mask and gloves will help. The longer you leave the wood in the chamber, the darker it will get. Using clear plastic will enable you to judge when to stop the process.

### Fungicide

Anything that destroys fungi! Propriety fungicides are available on the market and specifically aimed at use with wood.

Wood decay caused by *Serpula lacrymans* (called true dry rot, which is a type of brown-rot)

### Fungus or fungi

There's a whole range of different types of fungi that attack wood and, in the past, we've discussed those in *The Woodworker*. Here I'll give you what I hope will be a fascinating insight and introduction to the subject. Fungal attacks generally destroy wood by dissolving its cells as a source of food. In extreme cases whole sections of, say, joists, can be eaten away leaving it totally unsuitable for its continued use. There are less devastating fungi that do not attack the structure but seek out the contents of the cells as their food source. The first type can completely destroy the wood and the second can reduce value by introducing stains that have a detrimental effect on appearance. But, in some cases such as with 'spalted' beech, this discolouration becomes a decorative feature of the finished item. Obviously the best way to avoid a fungal attack is to make sure that the timber being installed is protected with a preservative

White rot on oak

and is not placed in a position that might lead to an infestation. A sure way to kill off most fungi is to maintain moisture contents of less than 20% in the wood.

The common furniture beetle

### Furniture beetle

The furniture beetle attack or woodworm, if you like, is the most common one we find in furniture. We covered this in some detail earlier on in the directory under the heading '*anobiidia*' – please refer back to the March 2019 issue.

### Gable or gable end

Decorated with fancy 'barge boards' they can become a decorative feature on buildings.

### Gable window

Any window with a triangular top. Obviously most of these will be found towards the top of a gable end on a building.

Oak gable end frames by S Taylor & Son Ltd

Gable end window in oak

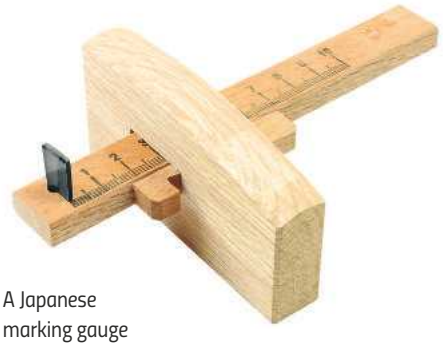
### Gang mill or gang saw

These are circular saw machines that can have more than one blade fitted to the drive shaft or have a series of blades, on separate shafts, in sequence. Sometimes called 'edgers', which we discussed earlier, or 'multi rips'. They are designed to make more than one cut and can produce one or more components as the workpiece passes through the machine.

A gang mortise machine

### Gang mortiser

A gang mortise machine has the capability to cut more than one mortise hole at a time. These will be commercial, factory-based machines, which are generally used for the high production of repeat components.



A Japanese marking gauge

Making gauge in walnut and brass

### Gauge

The basic operational feature of a gauge is the ability to mark one or more parallel lines on your workpiece. There are various types available and many different models. The most common will be the single point marking gauge and the double-point mortise gauge. Both will be fully adjustable.

Standard G cramp

### G cramps

So called because the cramps look similar to the letter 'G', these come in various shapes and sizes. Some can be operated with one hand, others with two. It's always a good idea to have a variety in the workshop – the more the merrier! There will always be that job which requires a couple more.

Girdling in Lille, Northern France

### Girdling

This is the technique of cutting right through the tree's bark, to the wood underneath, all the way round and fairly close to the ground. The result of this is to stop the flow of sap and thus kill off the tree. It's a practice most often seen in the tropics where it's used as a form of pre-drying prior to felling. The tree dies and, if left long enough, will dry. The logs become easier and lighter to handle after felling. For example, the practice was prevalent in Burma where elephants were used to move the teak logs from forest to sawmill.

**IN THE NEXT ISSUE**

In part 18 of this series, Peter will look at more terms in the Gs, including glazing bar, glue, grading, grain and gross features

# LOW, DEEP & LAID BACK



**Liam Barclay** takes matters into his own hands as he builds a striking sculpted sofa in oak to his own personal specifications


WW
PROJECT

## MATERIALS & TOOLS REQUIRED

**Materials**

- American white oak
- Pine for the slats
- M6 insert nuts & connector bolts
- Wood glue
- Danish oil

**Tools**

- Table, mitre, circular, jig & hand saws
- Drill & bits
- Domino jointer
- Screwdrivers & spanners
- Clamps
- Angle grinder fitted with Kutzall carving disc
- Planes & spokeshave
- Files, rasps & sander
- Measuring tape, squares & angle gauges
- Safety glasses & dust mask

The latest project I attempted, in the pursuit of making everything I can for my flat, is the sculpted oak sofa shown here. This piece was designed with geometry to fit what I consider to be a comfortable sofa: low, deep and laid back. The angular legs and sculpted arms give it an aggressive stance, and simple grey upholstery is used to complement the modern look as well as drawing the eye to the wooden frame.

**1** The hardwood planks

It is made from American white oak and took a few months to design and build, as I worked on the project in my spare time.

Please note that the build blog and rough plans, including dimensions for each of the sofa components, can be found on my website, details of which are given at the end of this article.

### Base & back

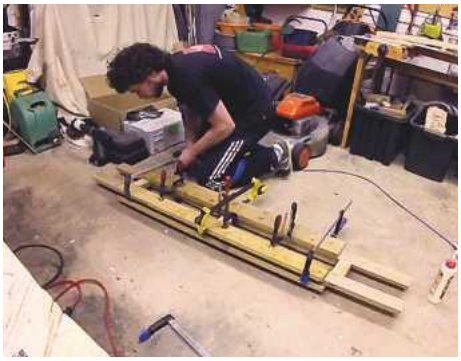
The rails of the base were constructed by measuring and ripping planks to the correct length. The front rail was cut square, but the rear had to be cut with a bevel of 27° to align with the angle the rear foot splays out at.

The back support consisted of an upper and lower rail, separated by three spacers. These were again ripped to length with a bevel. A Domino jointer was used to cut tenons and the pieces were then glued together. Due to the bevelled edges, scrap wood was clamped along the rails to give a square edge to clamp across the joint (see diagrams shown on website).

**2** Ripping the lower cross rails to width

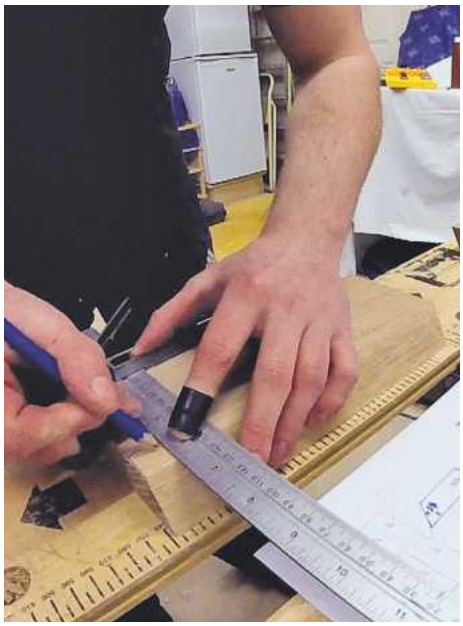
**3** Cutting Dominos to allow the back to be assembled

**4** Test fitting the back assembly



**5** Gluing up the back assembly

**6** Rough cutting the pieces for the leg rail to size using a mitre saw



**7** Making the required angled cuts

## Legs & arms

Apparently I don't like designing things with 90° angles! The lower rail of the leg rises at 5°, to set the angle you sit at, and this is subtly tilted in and features a mitred section to change its width. The front leg and rear foot are angled both to the front/back and side. The arm angles/curve up from the top of the front leg to meet the back support.

A lot of compound cuts (mitre and bevel) were therefore required. The pieces were first cut square to the rough dimensions before being cut to the correct angle using either the mitre or table saw. The front leg and rear foot needed to be tapered, so were therefore attached to a simple jig (scrap wood and toggle clamps) then run through the table saw.

For a Christmas present, I recently treated myself to a Festool Domino jointer and used this to join all the components of the leg/arm assembly together. Due to the angles the pieces needed to be joined at, temporary blocks were clamped to the pieces at an orientation that would allow a clamp to be pulled across the joint.

To give the assembly extra support, a small brace was added between the arm and leg rail. This was glued and screwed in, with walnut dowel, then hammered in to hide the screw. The arm/leg assemblies were now ready to be shaped.

**8** Cutting the compound mitres for the leg rail using a table saw (**PLEASE NOTE BLADE GUARD HAS BEEN REMOVED FOR CLARITY**)

**9** Cutting the compound mitres for the legs on the table saw

**10** Mitring the bottom of the arm so the front leg will splay out when attached

**11** Tapering the front legs

**12** Dominos are used to join the leg rails together

**13** The geometry made for some interesting clamp setup

**14** Support brace between front leg and lower rails

**15** Components assembled ready to start shaping the arms and legs

**16** Cutting into the underside of the arm to allow the curved form to be chiselled out

**17** Chiselling out the underside of the arm

**18** Blocking in the shape of the arm

## Shaping & finish

With the arm/leg assemblies glued up in their rough/block form, it was time to start shaping. I had a rough idea of the lines and curves I wanted to create from the concept sketches, but was mainly making it up as I went along. Eventually I started to see what would work best in 3D.

The shaping was completed using hand tools: a hand saw and chisel were used to rough in the top and bottom side profile curves of the arm and a No.4 plane was used to refine and smooth this into more of a curve. From there, I used a combination of a block plane, spokeshaves, gouge and rasps to sculpt the form I wanted.

Having a right and left arm/leg assembly to try to match, I decided to work on one side until it was close to finished. I was then able to measure and transfer reference lines onto the other, which helped me to achieve the same form. There was a lot of comparing and checking the two while shaping the second, and in the end they were very close to being a mirror image of one another. Everything was then hand sanded up to 240 grit and finished with a couple of coats of Danish oil.

## Making the cushions

I've never sewn before but was keen to give it a try and make the box cushion covers myself. I bought some foam slabs and grey, fire retardant fabric. I used an online tutorial (see 'further information' sidebar), which was very easy to follow. It worked out pretty well – they're not perfect but good enough.

**19** Refining the shape of the arm with a spokeshave


**20** Further shaping work with a spokeshave

**21** The end result is finally coming along

**22** A gouge is used to carve the underside of the arm

**23** Drawing a reference line to make it easier to copy the form to the second arm and leg

**24** Comparing the two sides to make sure they match


**25** Sculpting and sanding are now complete

**26** The foam required for the box cushions

**27** Fabric and zips for the box cushion covers

**28** Sewing one of the zips in place

**29** Not a bad result for an amateur!

## Assembly

The arm/legs, base and back were connected using threaded insert nuts and connector bolts. These could have been permanently joined but I wanted the flexibility to be able to disassemble and move it more easily.

The leg and base were positioned together in the correct location. A hole the diameter of the bolt body (+0.5mm) was then drilled through the leg and into the base to create a pilot hole. A Forstner bit was then used to drill a recess for the bolt head. The pieces were separated and a larger drill bit then used to widen the diameter of the pilot hole in the base. An insert nut could then be driven into the base. The separate components could now be bolted together. I will probably cut some oak plugs to cover the bolt heads once I'm happy it's not going to need to be moved for a while.

**30** Leg and cross rails clamped together to allow the holes of the insert nuts and connector bolts to be drilled

**31** Recesses drilled for the connector bolt heads

Lengths of pine, the height of the front/back oak rails, minus the slat thickness, were then screwed on. The slats could now be placed across and screwed down. The bottom cushion is simply placed onto the slats, and the back cushion is attached via hoop-and-loop material to the back support, which raises it up and creates a gap between it and the bottom cushion.

Overall I'm very pleased with this piece; it looks good, is comfortable and easily sits three people.

## FURTHER INFORMATION

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

The build blog and rough plans, including dimensions for each of the desk components, can be found on his website: **www.liambarclaydesign.co.uk**

To see a video of this build in action, visit Liam's YouTube channel – search for '**Liam Barclay**'. For more regular updates on future projects (a kitchen is coming next), check out his Instagram: **@liambarclay_design**

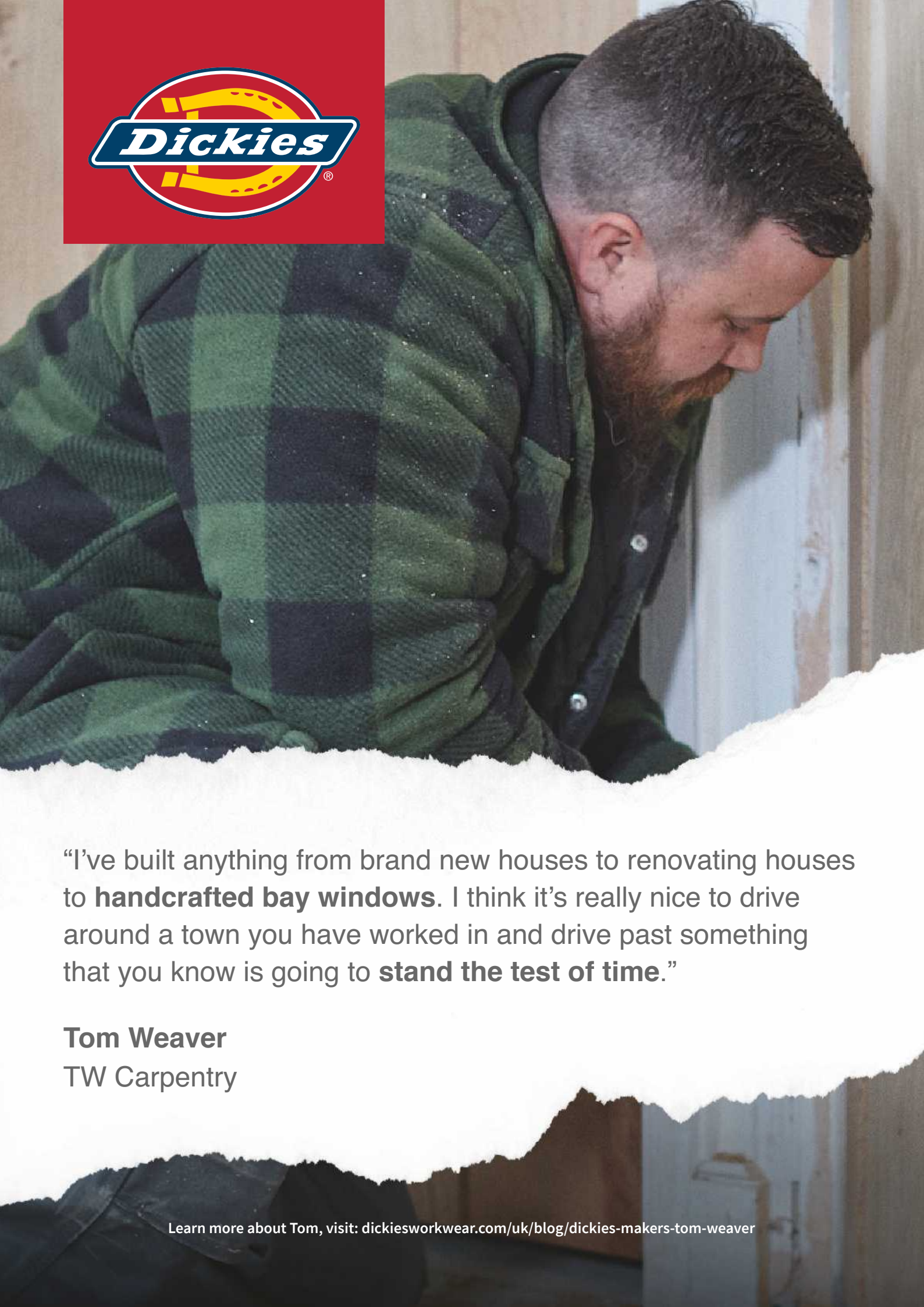
How to make a box cushion with a zip tutorial: **www.youtube.com/watch?v=Gw_40jnjZBE**

**32** Connector bolts used to attach the arms and legs to the rails

**33** Slats screwed to the rails

**34** Back view of the sofa

**35** The completed sculpted oak sofa, ready for use



“I’ve built anything from brand new houses to renovating houses to **handcrafted bay windows**. I think it’s really nice to drive around a town you have worked in and drive past something that you know is going to **stand the test of time**.”

**Tom Weaver**
TW Carpentry

Learn more about Tom, visit: dickiesworkwear.com/uk/blog/dickies-makers-tom-weaver

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Cricket bat willows grown in tube protection

# THE BEST OF THE BEST

## Rigorous selection and stringent moisture control are essential for top English willow cricket bats from J.S. Wright & Sons, says **Ron Smith**

Just outside Great Leighs, a remote village in Essex, England, halfway between Chelmsford and Braintree, sits the world's largest and oldest established company supplying English willow cricket bats, J.S. Wright & Sons Limited. Founded in 1894 by Jessie Samuel Wright, it's the world's only supplier of top-grade English willow used by top batsmen worldwide.

Surrounded by woods and willow plantations, J.S. Wright & Sons operate a spacious factory equipped for sawing, drying and storing the wood. The willows, renewably harvested, come from thousands of farmers throughout England and Wales who grow the trees as a side crop.

Essex is the centre of cricket-bat willow farming in the UK, but it grows well throughout the country because the climate and rich, moist soil with a high water table are ideal for growing *Salix Alba Caerulea*, the preferred variety of willow used in the manufacture of cricket bats. Their cell structure is also better suited to hitting a ball than other woods.

Typically, it takes about 20 years to grow cricket-bat willow before harvesting, and this occurs when the trees reach 56-58in in diameter.

### Exceptional quality control

Jeremy Ruggles, Director of J.S. Wright & Sons and a fourth generation family member, carefully selects only the highest grades of willow. He inspects each willow cleft manually by hand and eye, as shown opposite.

The trees are purchased standing in the field and then felled by specialised tree fellers. They're transported to the yard by lorry. The willows are then cross-cut into three or four 28in lengths. Next, they are cut lengthwise into clefts, which is a large cricket bat-shaped piece ready to be shaped into a bat.

An average tree yields 3-4 bat lengths from which 38-40 clefts can be cut. The end of the clefts are dipped in wax to prevent splitting and are dried to reduce moisture content (MC) and weight.

"The world's best batsmen prefer our English willow. That's because *Salix Alba Caerulea*, a softwood with hardwood properties, is lightweight and white and light brown in colour," says Jeremy.

### Moisture control is critical

Obtaining an optimal MC in the willow is critical when preparing the clefts. To attain this optimal MC, Wright dries all the clefts using drying kilns.

When first cut, the clefts can weigh up to 10kg, but they lose more than half that weight through the drying process. According to Jeremy, he has perfected his kiln-drying technique over the years, a process he now keeps confidential.

"We take special precautions in dealing with moisture. If we didn't, the clefts would be too heavy to lift or too light and could break," he continues. Since local pockets of moisture sometimes remain in the timber, special care is needed when testing the MC to ensure that reasonable uniformity is achieved.

He takes MC readings whenever he thinks the clefts are ready: "I can tell by the temperature and the relative humidity in the driers that I monitor daily. They may be ready when I first check the willow or they may need 10 more days. After drying willow for 25 years, I've definitely got the hang of it," he declares.

Cricket bat clefts laid out, ready to be sent to the customer and made into finished bats

At one time, J.S. Wright used pin-type moisture meters to measure the willow's MC, but Jeremy says that took more time and effort, and often resulted in broken pins as they were pushed into the wood. "We went to the MMC220 pinless meter made by Wagner Meters. It's small, compact, and easily fits in your pocket. To get readings we simply place the MMC220 on the surface. It's much easier to use than a pin meter, and we're able to take more readings in the same time while getting an average MC," he says.

When first used, though, Jeremy discovered the Wagner meter wasn't giving them the same readings as the pin meter. After seeking advice from Wagner, the company changed the species settings on the meter. "We now get very accurate readings with the pinless when compared to the pin version, which is great, and it's much easier

Jeremy Ruggles, Managing Director of J.S. Wright and Sons Ltd visits B3 Cricket in Nottingham

Felling a cricket-bat willow

and faster to use. The Wagner meter is also very good at staying in calibration. Every few months we use their calibration checker to confirm this."

### Exported to bat makers

J.S. Wright & Sons don't actually manufacture the bats. Instead, they provide bat makers with the willow clefts used in every high-grade cricket bat made in the world. 90% of Wright's blades are exported to India and Pakistan, with a smaller percentage going to other countries such as Australia and New Zealand. Upon receipt, bat makers complete the bat-making process.

This process includes 'knocking in' all new cricket bats. 'Knocking' is where they harden and condition the blade's surface. This protects the bat from cracking and increases its usable life. It also improves the middle of the bat so the middle is bigger and better. If this isn't done and a cricketer hits the ball hard with a new bat, he's likely to damage it," Jeremy says.

A mechanical press is also used on cricket bats. The press applies up to two tons per square inch of pressure to the face of the bat through a roller. In its natural state, willow is a very soft timber and has to be pressed to form a hard, resilient layer on the surface. After this is done, the bat can then be shaped.

"Pressing the wood with metal rollers enables batsmen to hit balls further and harder than any other bat," Jeremy adds.

Many bat makers also customise the bats for their cricketer customers, such as altering the length and weight of the blade, altering the length and shape of the handle, or shaping the blade to give it thick edges, scalloped blades, or a traditional shape.

### Huge fan base

Although the game of cricket originated in England, its popularity spread rapidly in the mid-20th century, especially among countries once colonised by Great Britain. Today, with 2.5 billion fans cheering on its players, cricket is also played in South Africa, New Zealand, Australia, but mainly in India and Pakistan.

Using a Wagner MMC220 pinless meter to check the cleft's moisture levels

About 80% of the clefts used by the top 10 best playing nations come from J.S. Wright & Sons – a strong testament to their enduring quality and outstanding performance. And a contributing factor guaranteeing their preeminent quality and performance, notes Jeffery, is the accuracy of the Wagner pinless moisture meter.

"Having optimum moisture content is imperative in ensuring our products meet the highest standards demanded by our customers. Our moisture meter gives us that assurance," he says.

### FURTHER INFORMATION

Ron Smith is a Sales Manager for Wagner Meters, and has over 30 years' experience in instrumentation and measurement systems in different industries. In previous positions, he has served as a Regional Sales Manager, Product and Projects Manager, and Sales Manager with manufacturers involved in measurement instrumentation. To find out more, see **www.wagnermeters.com**

For further information on J.S. Wright & Sons, see **www.cricketbatwillow.com**

# RESTORE AN OLD WINDOW FRAME

## STEP-BY-STEP

**Dremel**'s informative guide takes you through all the necessary steps for restoring an old window frame back to its former glory

Do you need to restore an old window frame? If so, then look no further than this informative and easy-to-follow guide from Dremel, which comprises nine straightforward steps that will help you effectively harness your sanding skills in order to get the job done. Put your knowledge of wood sanding and sanding tools to the test with this handy home improvement article, which will ensure your old window frame looks as good as new.

**STEP 1 Inspect the wood for rot**

Before you start sanding, you'll want to check your window frame for wood rot, a fungus that eats away timber, as this can compromise the structure of the frame. Firstly, remove the frame from its hinges and lay it on your workbench. This is the easiest way to get to work. Using the sharp, pointed tool known as an awl, start tracing along the edges and crevices of the wood and check for soft spots, as this signifies wood rot. Anywhere the awl easily pierces the surface of the wood, you've found rot

### WHAT YOU'LL NEED

- An old window frame
- Safety gloves
- Safety glasses
- Dust mask
- Ear protection
- Awl
- Triangle paint scraper
- 6.4mm (640) Router Bit (HSS)
- Dremel Multi-Tool
- 4.8mm (504) Flap Wheel
- Two-component filler
- Filling knives
- Random orbit sander & 120 grit abrasive
- EZ SpeedClic Sanding Mandrel (SC407)
- 13mm 120 grit (432) Sanding Bands
- Brush
- Degreaser
- Piece of dry cloth
- Small bowl or bucket with water
- Painter's tape
- Packing knife
- Paint suitable for outdoor use
- Paintbrush
- Small foam paint roller
- Paint tray
- A few pieces of scrap wood

**STEP 2 Remove wood rot & old paint**

Before you can clean out the wood rot, you'll need to remove the old paint from the window frame. You can easily do this using a triangle paint scraper as shown in the photo above. Scrape over the whole frame with the tool until you've removed all the loose paint. The paint should flake away with ease. Don't worry if the surface isn't smooth, however – we'll get to the sanding in a later step. Now you can start cleaning out the rot. Using the pointed side of the scraper (or the awl), scrape out the rot you found in step 1. This is the first stage of rot removal – we'll guide you through a more thorough cleaning in the next step

**STEP 3 Thoroughly remove damaged wood**

Thoroughly removing rot helps ensure the structural integrity of your frame and prevents future rot from developing. Before you pick up your Dremel Multi-Tool, put on your safety gloves, goggles, ear defenders and dust mask. Attach the 6.4mm (640) Router Bit to the Multi-Tool and start at a low rpm – such as 10,000 or 15,000 – then begin to rout the places you scraped away in step 2, by applying pressure and moving slowly. Rout away all the wood rot and don't worry about any roughness at this stage as the sanding will smooth everything out

**STEP 4 Sanding the routed parts**

After routing, it's time to start sanding the wood. Insert the 4.8mm Flap Wheel (504) into your Dremel Multi-Tool. This time, you can set the rpm a little higher than the setting used for routing – say around 20,000. Keep your safety gear on and start sanding the surface of the wood. Focus on sanding the holes created by the removal of the wood rot. Keep sanding until the edges of the routed holes are smooth and ready to be filled

**STEP 5 Patch up the holes with filler**

The goal now is to patch up all the holes and restore the frame's uniform surface. Two-component epoxy filler is great for this because it hardens well and is water-resistant. Start with the base filler on your pallet knife and add a squeeze or two of the second component. Using another pallet knife, mix them together until the filler is consistent in both colour and texture. Press it into any holes or gaps, filling one at a time. Wipe away any excess filler with the side of the pallet knife and let the filler dry. Don't worry about getting it perfectly smooth – we'll be moving on to sanding soon

**STEP 6 Sanding the frame**

The next step is to prepare the frame for painting by sanding it. Wearing your safety equipment, start with an orbital sanding tool. This way, you can sand all the top surfaces at once. Then switch to your Dremel Multi-Tool and attach the 120 grit (432) Sanding Band. Starting with a low rpm and applying light pressure, begin in the hard-to-reach areas, such as corners and edges. Pay attention to the areas with filler, ensuring there is a smooth transition between filler and wood. You don't need to remove all the old paint – the goal is a smooth, splinter-free surface that's ready for paint

**STEP 7 Wipe down the frame**

Now that you've used a sanding tool to smooth the frame, it will be quite dusty, so put on your dust mask and use a bristle brush to remove most of the surface dust. You could also use a vacuum cleaner for this part. Next, fill a small bowl with a mix of water and degreaser – the degreaser packaging should give instructions to help you determine the correct ratio. Dip a dry cloth into the mixture and rub down the window frame first, before cleaning the glass. Finally, ensure your work surface is dust-free so your paint job will be perfect

**STEP 8 Tape around the frame's edges**

No matter how confident you are in your painting ability, taping up the glass ensures a neat finish. Top tip: use a strong, good quality tape so it doesn't leave adhesive behind when you remove it later. Is your frame made up of lots of small windows, like ours? If so, simply tape over the wood using one long piece, then use a packing knife to neatly slice away the tape that's covering the cross-sections of wood you'll need to paint

**STEP 9 Paint the sanded window frame**

Next, give the paint a good stir and start by painting all the tricky edges with a small brush. A brush is also handy for the frame's sides. Next, use a roller for the flat topsides. For the best result, paint two thin layers, letting one layer dry before the next. When the final layer has dried, remove the tape. Before doing so, score the edges with the packing knife to cut through any dried paint so it can be easily removed. Finally, attach your frame to the window, stand back and admire your hard work!



**FURTHER INFORMATION**

If you're looking for more inspiration to get your creative juices flowing, take a look at Dremel's website – **www.dremeleurope. com** – which is full of projects and inspiration or follow Dremel on Facebook – **www.facebook. com/ UKDremel** – for regular hints, tips and competitions


This girl makes
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WW PROFILE

# Hattie Poppy Speed

**Kelly Wakeley**, Content Marketer at **Axminster Tools & Machinery**, talks to successful designer, educator and founder of on and offline community, This Girl Makes, **Harriet (Hattie) Poppy Speed**

Harriet (Hattie) Poppy Speed is a successful designer, educator and the founder of on and offline community, This Girl Makes. Hattie's skills, commitment and enthusiasm for her subject earned her recognition from the industry. Among her awards are 'Best in Show' at the 2018 Young Furniture Makers' Exhibition and the Creative & Design Prize at Oxford Brookes 2019 Fuel Awards. Content Marketer at Axminster Tools & Machinery, Kelly Wakeley talked to Hattie about what made her choose the furniture industry, her career so far, and the future of women in woodworking.

## The beginning

Hattie has always been creative and enjoyed making things. After her Dad passed away when she was 14, Hattie used designing and making as a constructive way of coping. Her design journey started with paper crafts and drawing. She had no access to a workshop or tools at home. It was her A-Level in Product Design that gave her the first opportunity to learn about materials, processes and machinery. Hattie was the only girl in her class, which actually did her a favour, and allowed her to stand out. Despite initially being frightened of the teacher, he saw the potential in her and encouraged Hattie to really engage with the subject and look to take it further.

## Choosing a creative pathway

Hattie's first real taste of furniture design was at A-Level when she designed and made an upholstered armchair for her finished piece. She made the frame, turned the legs and spoke to a local craftsman to learn how to upholster it herself; deep buttonholes and everything! Hattie realised the project had incorporated so many of the things she enjoyed, from sketching design ideas to model making, learning new craft skills from other makers and even styling photographs. She spent a lot of her free time on the project and loved every part of the process.

Hattie grew confident that she was choosing a career pathway that would make her employable at the end of it. I talked to Hattie about her career

Hexagonal Jigsaw Stools, 2017. Made by participants of a This Girl Makes stool-making workshop

Hattie helping Milo make at Messums Art Gallery in Wiltshire, 2017

Everything needed for a This Girl Makes stool-making workshop

and the journey she took to get to where she is today, starting by asking her to tell us a bit more about her design background...

### Newcastle College

"I grew up in Northumberland, so after finishing sixth form, I studied at Newcastle College on their Art Foundation Diploma. It was a one-year course where I was able to try lots of different creative disciplines, before specialising; I chose 3D Design. Within our group, I was the only hopeful furniture maker, among a class of aspiring architects, product designers and ceramicists. I brought in pieces of wood from home and would use our workshop sessions to practise woodworking. I think the technician's eyes lit up when he saw a student choosing the hand tools, rather than the laser cutter. After that, he took me under his wing, and invested a lot of time in teaching me the basics of woodworking. Even now, I remember some of the advice he gave me during those afternoons in the college workshop.

### Rycotewood Furniture Centre

"I was determined to learn how to make my design ideas a reality. My addiction to the state of flow I found with woodwork led me to consider options other than university. During an interview for an apprenticeship with a local cabinetmaker, he told me that I should pursue my design education further. He explained that an apprenticeship would just be a lot of "sanding

and heavy lifting." He recommended Rycotewood Furniture Centre in Oxford. Admittedly, it was the idea of studying in close proximity to the University of Oxford that completely seduced me to even consider leaving my beloved northern roots. I visited the college one open evening, saw the workshops and heard that each student had their own bench throughout their time there. Instantly I knew it was the place I had to be!

I studied at Rycotewood for three years, graduating with a First Class BA Hons in Furniture Design and Make. I 100% came into my own while studying there. It gave me so many opportunities to become the designer-maker and person that I had always wanted to be. I'm sure I'll look back one day when I'm really old and still think that was the best decision I ever made. Notable highlights from those three years were: attending the 2017 LINLEY Summer School; being shortlisted for the 2017 Wood Awards Student Designer category; winning Best in Show at the 2018 Young Furniture Makers' Exhibition; and winning Best Undergraduate Poster Design for my research project: A Maker's Guide to Grief."

### Ercol

"Following Rycotewood, I was lucky enough to work as a Design Engineer at Ercol for a year, which was an amazing experience. During 2019 I also attended the Young Professional Industry Experience programme (organised by the Furniture Makers' Company), received funding from Oxford Brookes University's enterprise team, and had my first solo exhibition at Oxford's Old Fire Station."

### And now...

"Now I do a combination of furniture-related roles. I work for the NHS as an Occupational Therapy Technical Instructor, teaching woodwork to patients as rehabilitation following strokes or brain injuries. As well as being Artist-in-Residence at Rycotewood, and teaching a group of 12-16 year olds as part of their new Furniture Saturday Club, I also manage a project called This Girl Makes, which is an on and offline community of designers and makers with events and DIY kits that celebrate and promote women in craft and design."

### Do you have a favourite designer?

"I would say that I have several mentors within the furniture and craft industries, but the most significant is Dr Lynn Jones, tutor at Rycotewood Furniture Centre. She is a complete wonder woman, not to mention educator, researcher, designer, maker and mother! She's someone who seems to radiate creativity, positivity and inspiration. She is also a driving force behind This Girl Makes because it was thanks to her that I developed my feminist voice. Dr Lynn isn't just a designer of 'nice things that look pretty', she taught me that design is a powerful tool to bring people together and make positive change."

### What are you working on at the moment?

"Currently, I am editing This Girl Makes Volume 2, the project's second printed publication. It is an anthology of different makers' stories: who they are, what they do and why they do it. Hearing from so many different creative women, for me, personally, makes the project completely worthwhile.

In the workshop, I've just completed some bespoke toys commissioned for Oxford's Story Museum, as part of their recent renovation project. Since January I have also started working for Rycotewood, delivering the new Furniture National Saturday Club. I was privileged enough to be asked to write the course and develop what projects and activities the students will design and make. So far I am really enjoying it; they've had some great ideas!"

### Why does the industry need This Girl Makes?

"How long do I have? Well for starters, a study by the Design Museum (see **Fig.1**) shows some interesting information. However, for personal reasons, I would say This Girl Makes needs to exist because the world still (unfortunately) has a very outdated view of gender. There is almost an expectation that, as a woman, I should be more interested in design than making, or working in a social role, rather than a practical one. I am lucky to have grown up in a family with hard working female role models, who were very encouraging of my chosen pathway. Not once did I feel my gender inhibited me.

I realised, once I stepped out of my 'bubble', that I seemed to be an exception to some 'rule' that still remains. It wasn't until I was at university studying woodwork, and after investing specific time to do so, that I discovered other makers I identified with. It therefore occurred to me

Corkey's Cabinet, 2018. Playful reinterpretation of a collector's cabinet made in English white ash

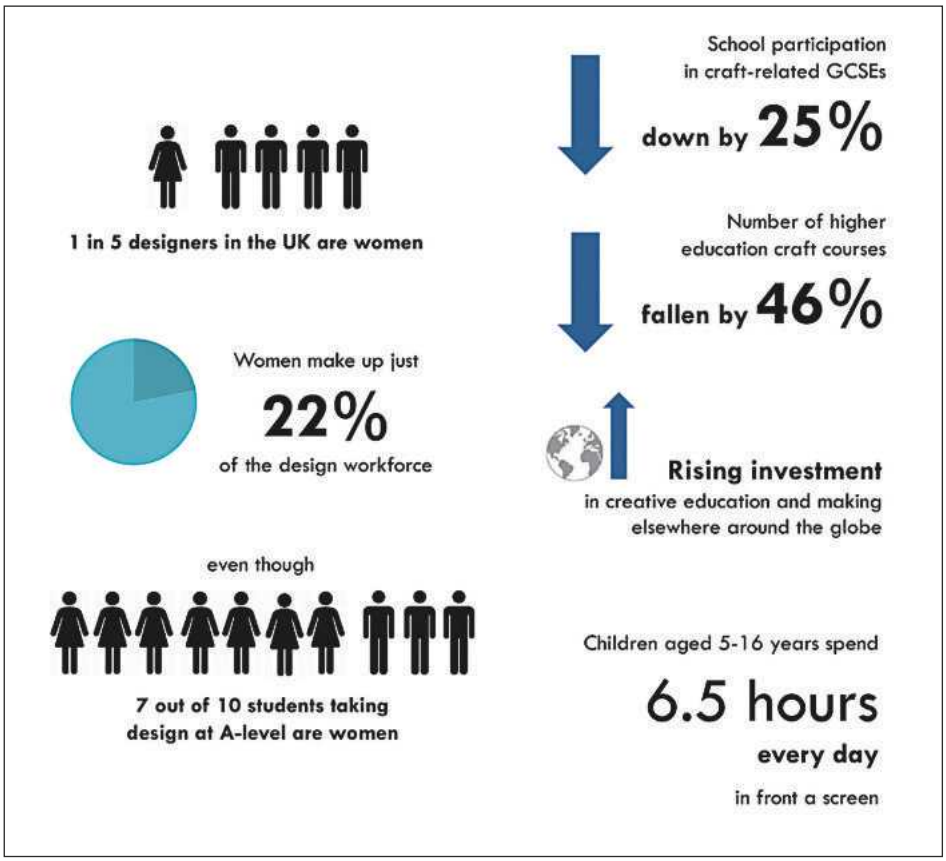


**Fig.1** Infographic created by This Girl Makes

that we need to spread the message that 'women are makers too' to a much, much wider audience, and capture the attention of girls at a much younger age. Because (again, unfortunately) there is a growing misconception that practical subjects are for those who are not academically capable. In many ways, I believe that if Maths and English are necessary GCSEs, then why aren't life skills such as cooking and DIY?"

### This Girl Makes was born

"I pitched the idea of starting a blog about women in craft and design to some makers within industry. It was well received, and so the idea for This Girl Makes was born. The blog has since developed into a range of workshops, events and products, with potential for a lot more. I am often asked why it is called This Girl Makes, and my reply is that it was a very conscious decision, and I openly admit that I took inspiration from the This Girl Can initiative, which promotes sport to women. I would say both organisations are symptoms of the same systemic problem: the fact that girls and young women are simply not encouraged to do things. If we don't encourage girls, they won't have the confidence to try new things. No other girls will see them as role models and feel inspired to also have a go."

### Moving forward...

"It is my hope that there will eventually come a time when there will no longer be a need for organisations like This Girl Makes. Dialogues around gender will have moved on to recognise the needs of different individuals. The structure of the industry will change to support people on an individual basis, and there will be a better representation of people in every sector, in terms of age, race, sexuality and ability.

However, until we get to that point, my advice to others wanting to get into making is to go for it! Whether you want to be a furniture maker or sculptor, to make fine craft objects or just botch things together, then there is no reason why you shouldn't. If you don't know where or who to ask to get started, then that is exactly what the This Girl Makes community has been created for. Whether you see the point in having making skills or not, I think there is priceless value in the therapeutic aspects of craft, and the empowerment that comes from self-sufficiency, independence and confidence in what you have to offer."

Hattie delivering a stool-making workshop as part of This Girl Makes, 2017
Photograph by **Millie Pilkington Photography**

### How do you see the future of the furniture industry?

"I think the industry is much bigger than people think. I certainly realised just how niche my involvement within furniture is when I attended the Young Professional Industry Experience program. Therefore, I think that it is possible for those entering into it (particularly after leaving education) to feel frustrated, lost, or overwhelmed. Especially if they find they don't 'dovetail' into one specific section or role. I discovered that it is OK to carve out your own pathway, if you don't see one that already exists. By welcoming a wider range of people to its fold, and by providing support and encouragement for them to grow, and contribute whatever they have to offer, then I think the UK furniture industry can have a very bright future."

### Can you tell us some of your own future plans?

"Specific plans include the printing of This Girl Makes Volume 2, which will be complete in the next couple of months – watch this space for details of the publication date; as well as my work at Rycotewood, developing the Saturday Club, and possibly other courses that target young people. However, my general plans for the future are to always enjoy the work that I do, and to continue to develop as a maker, teacher and activist. I might even get around to making some more furniture for myself too!"

Photograph by **Mark Reeves Photography**

A feminist marquetry design by Hattie, Linley Summer School, 2017

**FURTHER INFORMATION**

You can follow Hattie's journey and find out more about This Girl Makes through the following platforms:

Web: **www.this-girl-makes.com**
Instagram: **@thisgirlmakes**
Facebook: **www.facebook.com/groups/thisgirlmakes**

Look out for This Girl Makes Volume 2 in your local Axminster store or contact This Girl Makes to find out how to get your copy

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# ME AND MY WORKSHOP


Steve enjoying a cuppa as he installs a new kitchen

## Rick Wheaton meets Devon-based installer of interiors, Steve Dodge

Steve Dodge

**1. What is it – and where is it?**
My workshop is wherever I'm working, with a back up out the back of my van.

**2. What's the best thing about it?**
I can drive the van from home to work, and back again!

**3. And what's the worst?**
Lack of space, and if there's no parking.

**4. How important is it to you?**
I get enormous personal satisfaction from my work.

**5. What do you make in it?**
I create whatever the customer wants.

**6. What is your favourite workshop tip?**
Levelling is really important to me, and I was taught to level twice, second time with the level reversed.

**7. What's your best piece of kit?**
My Festool chop saw – fantastic!

**8. If your workshop caught fire, what one thing would you rescue?**
Me. I'd be out the door pretty quick.

**9. What's your biggest workshop mistake?**
I've made mistakes, obviously, but I've always managed to get around them. You have to.

**10. What's the nicest thing you've ever made?**
A kidney-shaped hardwood (oak) worktop, 40mm thick. I made a template and routed it in one piece.

**11. And what's the worst?**
Sometimes a customer wants something I think is appalling, but I make it anyway.

**12. What's the best lesson you've learned?**
Manners.

**13. If you won the lottery, what would you buy for your workshop?**
Well, I'd like the cash of course, but when it comes to tools, I honestly think I've got all I want – at least for now anyway! I had everything stolen out of my van a while ago, and I replaced it all with the best of the best.

### GET IN TOUCH

We'd love to hear about your workshops, 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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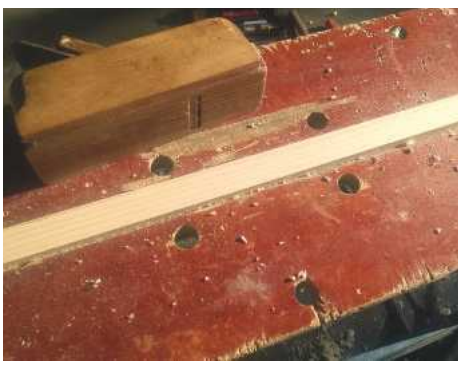
# ORIENTAL DELIGHT PART 1

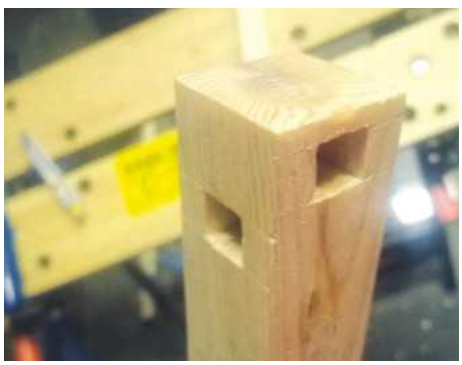
In the first of a two-part series, **Tim Molderez** sets about making a beautiful Japanese-style blanket chest, which features hand-carved panels and a hand-weaved sliding compartment

A few months back I was fortunate enough to travel to Japan. One of my highlights there was a visit to the Takenaka Carpentry Tools Museum to learn a little more about traditional Japanese woodworking. I was amazed to see how much precision and detail could be achieved with nothing but hand tools, and many of the techniques date back over 1,000 years ago! What's even more impressive is that the craftsmen didn't use any nails, screws or glue to join pieces of wood; the wood joints are made so precise that they are plenty strong by themselves.

Meanwhile, my best friend asked if I could make her a blanket chest. The only requirements were that the dimensions had to be 600 × 550 × 600mm and it should have a sliding compartment; apart from that, anything goes! Of course I had to try out as much of the techniques I picked up in Japan as I could. I won't claim I'm much of an experienced woodworker, given this is my first attempt at properly using a chisel. Nonetheless, I really enjoyed making this blanket chest, and I learned a lot in the process. Throughout this article, I will also add a list of 'lessons learned' to some steps. Who knows, maybe you'll find some of it useful. Alright, enough talk, let's get started on the project.



**1** If needed, clean up the surface of each piece with a hand plane



**2** To join the frame components, I chose to use mortise & tenon joints

## Frame: initial shape

The first step is to build the blanket chest's initial frame. From the 28mm-thick sheet of wood, cut the following pieces on the band/tablesaw:

1. 582 × 28 × 28mm (these are the legs) – 4 pieces
2. 530 × 28 × 28mm (these are the horizontal pieces for the front and back sides of the frame) – 4 pieces
3. 580 × 28 × 28mm (these are the horizontal pieces for the left and right sides of the frame) – 4 pieces

If needed, clean up the surface of each component with a hand plane (**photo 1**). To join the pieces


## TOOLS & MATERIALS REQUIRED

Here's a list of all the tools and materials used in this project. I'm sure there are many ways to achieve a similar end result using a different set of tools, but this list is just intended to give you a rough idea:

**TOOLS**

- Bandsaw (alternatively a table saw and jigsaw)
- Chisels and mallet
- Hand plane
- Drill press (a drill should be fine too)
- Plunge router
- Random orbit sander
- Measuring tools (combination square, ruler, utility knife and pencil)

**MATERIALS**

**Wood**

- 1 sheet of 28mm-thick pine (Scots pine, to be precise)
- 1 sheet of 18mm-thick pine

**Metal hardware**

- Pair of hinges
- Latch/sliding lock
- Chain

**Other**

- Wood glue
- Walnut coloured wood stain
- Primer and black lacquer paint
- A range of abrasives (60 and 120 grit)
- Double-sided tape
- Stick-on table feet

of the frame, I chose to use mortise & tenon joints (**photo 2**). The mortises are made in the legs, and the horizontal pieces will receive the tenons. Let's make the mortises first. Using a combination square and utility knife, mark where the mortise should be cut (**photo 3**).

Using a drill press, make a 18mm deep hole to hog away most of the material for the mortise (**photo 4**). The diameter of the drill bit doesn't really matter. If you use a smaller one, you'll just need to make multiple holes. Next, using chisels and a mallet, clean up the hole just drilled in order to make it rectangular (**photo 5**). Next up are the tenons (**photo 6**); these can be cut fairly quickly using a bandsaw.

To finish up the initial frame, you need to start with a test-fit of the joints. It's normal that they won't fit perfectly on the first try. Don't try to force them in: a little force is fine, but not too much. If it doesn't fit, whittle down the sides of the tenon (or the mortise) with a chisel and test the fit often until snug. First do a test-fit of all joints separately. Once you're happy all the joints work separately, it shouldn't be a problem to test-assemble the whole frame. Ensure to take your time when disassembling your joints. Pull the pieces apart and avoid wiggling them.

### Making the side panels

Next, we'll make the eight panels that will fit into the frame's left, right, front and back sides (**photo 10**). We'll also cut dadoes (gutters) in the frame, which the panels can slide into (**photo 11**). Each side of the blanket chest will contain two panels, separated by a middle stud (that we'll make later on). We want to end up with the following pieces:

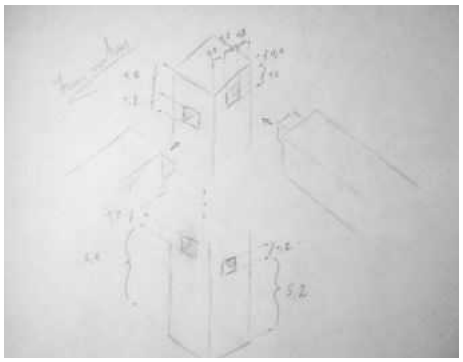
- 250 × 486 × 5mm panel (front/back sides of the chest) – 4 pieces
- 270 × 486 × 5mm panel (left/right sides of the chest) – 4 pieces

These pieces can be cut in one go from a larger sheet of wood, but I ended up gluing together 50mm wide pieces in order to achieve the desired dimensions.

The first step is to cut several 50mm-wide pieces. The length can be oversized as you need to cut everything to size later on anyway.

As I cut these pieces from my 18mm-thick sheet of wood, I resawed each piece into three 5mm-thick components, using the bandsaw (**photo 12**). Note that because these 5mm pieces were created by resawing, it's possible to bookmatch them, such that one panel's grain pattern mirrors that of another (**photo 13**).

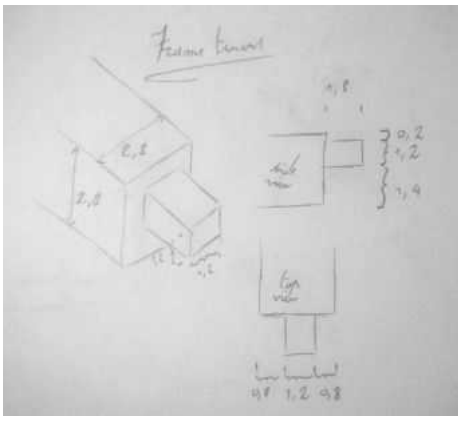
Glue the pieces together to make the eight



**3** Drawing showing where the mortises should be cut

**4** Using a drill press, make a 18mm deep hole to hog away most of the material for the mortise

**5** Using chisels and a mallet, clean up the hole just drilled in order to make it rectangular



**6** Drawing showing locations of the frame tenons

**7** The completed frame should look something like this

## LESSONS LEARNED

**1.** To achieve a flat surface using a hand plane, lay something that you know is straight on top of it (e.g. a metal ruler). Hold it up against a light source, and look for any areas where the light peeks through – the so-called 'low points' (**photo 8**). What you want to do now is to use your hand plane on all the high points – i.e. where the ruler touches the wood. After making a few passes with the hand plane, repeat the process until no more light shows through.

**2.** It's good practice to make pencil marks on each piece of wood you cut, so you can always tell where that piece belongs in the final product, and in which orientation. This avoids mistakes when working with several similar-looking pieces: On each of the frame's pieces, I mark three things:

- An indication of which piece it is (e.g. 'FL' for Front Left leg, 'BU' for Back Side, Upper Piece, etc.)
- An arrow that indicates which way is up when the piece is placed in its location within the blanket chest
- Write 'Front' on the side of the piece, such that you'd see this side when you look at the blanket chest from this orientation

**3.** Note that in each corner of the frame, three pieces of wood are joined (a three-way joint). My 'three-way' joints are essentially two non-interfering mortise & tenon joints. Traditional Japanese three-way joints are much more intricate, and typically do interfere so you can only put the three pieces together in a certain order. I'm guessing the interference can make for a stronger joint, as only one of the three pieces can move freely (instead of two), but there's even less room for error in order to make it work.

**4.** I picked up a good technique for chiselling out small, deep mortises from Paul Sellers' YouTube channel. He only uses chisels; the first step of using a drill press just speeds up the process.

**5.** Once when test-fitting mortise & tenon joints, I found that I used too much force to join an oversized tenon into a mortise. The two pieces still managed to fit together, but when pulling the test-fit apart again, the tenon broke off and was still stuck inside the mortise. This situation can be remedied, however: use the drill press to shred the tenon to bits. In the piece where the tenon broke off, drill a hole where the tenon used to be, clean it up with chisels, then glue in a new piece of wood that acts as the new tenon (**photo 9**)

**8** Hold your piece of wood up against a light source, and look for any areas where the light peeks through – the so-called 'low points'

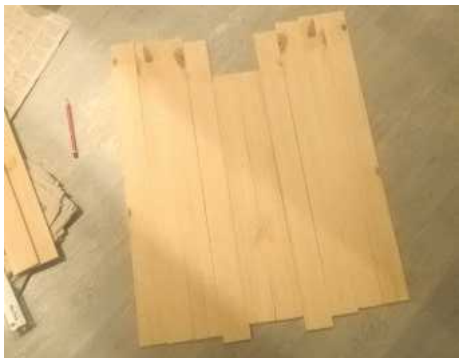
**9** If you suffer a broken tenon, fear not as a new piece of wood can simply be glued into place

panels. I currently don't have enough clamps to keep everything together as the glue dries, so here's my technique: lay a piece of cardboard on top of a flat surface, then attach thin (~10-20mm) strips of double-sided tape to the cardboard (**photo 14**). These strips will hold the pieces together while they dry. I always underestimate how strong double-sided tape is, which is why it's important to keep the strips thin. You can then remove the protective piece of paper from the double-sided tape. Start laying down and gluing the pieces one by one onto the piece of cardboard (**photo 15**). When done, lay a piece of newspaper on top. Evenly stack some weights (e.g. books) on top of that to keep the pieces of the panel flat while the glue dries. Once the glue has dried, carefully take it all apart again.

**10** The eight panels that will fit into the frame's left, right, front and back sides

**11** The dadoes (gutters) in the frame that the panels can slide into

**12** I resawed each piece into three 5mm-thick pieces on the bandsaw



**13** Bookmatching the 5mm pieces

**14** Lay a piece of cardboard on top of a flat surface, then attach thin strips of double-sided tape to the cardboard

Take your time, especially when removing the double-sided tape. Some bits of newspaper and cardboard will be glued to the panel, but that's fine (**photo 16**); that's how you can easily tell where the glue squeeze-out has occurred. You can then use a chisel to clean it all up.

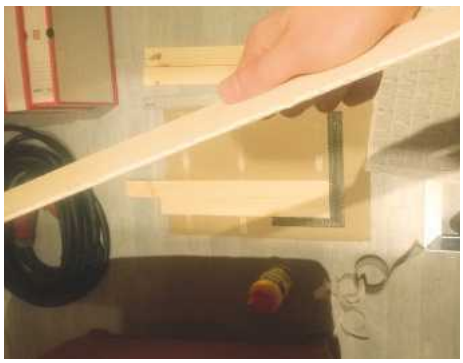
Thoroughly clean up the surface with a random orbit sander. Aside from getting a smooth, flat surface, you want to make sure there is no glue left on the surface. It's difficult to see now, but glue marks can show up easily when staining wood. Finally, each panel can be cut to its final dimensions (as mentioned in the beginning of this step). To be able to slide these panels into the frame, dadoes (gutters) need to be cut into the frame, for each side of each panel. Using a plunge router, put a piece of the frame into your workbench's vice, such that it's flush with the surface. Attach something straight (e.g. a spirit level) to the workbench; this will act as a guide for the router. The guide should be attached such that the router will run right through the middle of the piece. It's a bit finnicky to set up, but luckily you only have to do this once. Once set up, you can cut your dado. Using a 5mm diameter straight router bit, cut the dado at 6mm deep. You may want to do this in two passes: first cutting at 3mm deep, then at 6mm. For the horizontal pieces of the frame, the dadoes should run across the entire piece. However, for the legs, the dadoes should only run between the two mortises (**photo 17**).

### Middle studs

It's now time to make the four middle studs that fit in between the panels on each side of the blanket chest (**photo 18**). We'll also add extra mortises in the frame, which these middle studs will fit into (**photo 19**). Using the sheet of 18mm-thick wood, cut four pieces of this size: 486 × 18 × 18mm. The side panels also need to slide into the middle studs, so you need to cut two dadoes on opposite sides of each middle stud. Using the plunge router, cut a dado in the middle, across the entire length of the stud. You need to use the same router settings as before: a 5mm diameter straight router bit, at 6mm deep. Using the bandsaw, cut tenons on both ends of each middle stud (**photos 20 & 21**). Next, using just a small chisel, carve corresponding mortises in the horizontal frame pieces. Try doing a few test fits; these should fit quite easily as the mortise isn't very deep.

### Bottom panel

Unlike the side panels, there's only one big panel for the bottom of the blanket chest (**photo 22**). As the bottom panel also needs to hold the weight of all the blanket chest's contents, it needs to be a lot thicker as well. Apart from these differences, the bottom is made in a similar fashion to the side panels. From the 18mm-thick sheet of wood, cut 11 × 50mm-wide strips. Each strip needs to be at least 556mm long. Glue all the pieces together, then sand the surfaces. Next, cut the bottom panel to size: 506 × 556mm; you then need to cut 5mm-wide, 6mm-deep dadoes in the frame to hold the bottom panel.



**15** Start laying down and gluing the pieces one by one onto the piece of cardboard

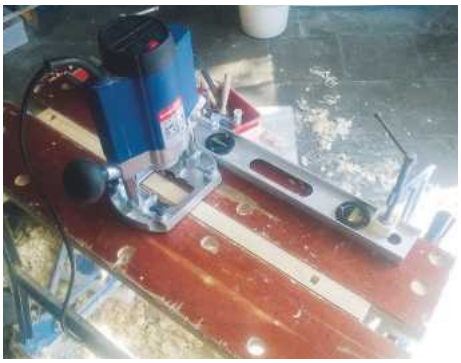
#### LESSONS LEARNED

If there are any gaps after gluing the pieces together, here's what I do: lay a thin strip of wood glue on top of the gap, sprinkle a liberal amount of sawdust on top of it, then go across the gap with a fingertip while making a quick tapping motion. Don't rub it in, as this may leave glue marks on the surface. If all is well, you can just wipe off the excess and the gap should be filled. I don't know if this is the best method, but I don't remove any glue squeeze-out before the glue dries. My reasoning is that it's much easier to see where the glue squeeze-out is after it has dried. If you clean it up with a rag before it has dried, then there's still a very small amount of glue that's rubbed into the surface. You won't be able to see it, but it will show up very clearly when staining the wood, and it's much more difficult to clean up at this stage. I only figured this out in the process, so you can still see some of the glue marks in the final blanket chest. If anyone has some tips on preventing these, please let me know

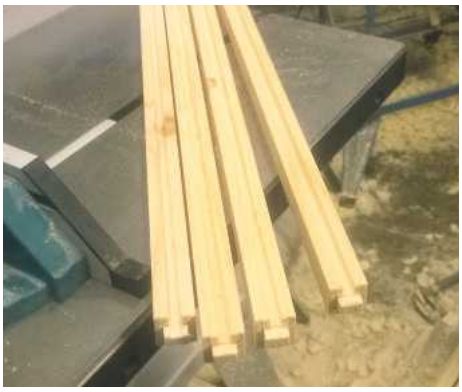
#### LESSONS LEARNED

Respect the wood grain direction! When making mortises with chisels, always chisel the side that goes against the grain first. If you start by chiselling with the grain, you're bound to remove too much. A common analogy that helps me to understand how wood is structured is to think of a piece of wood as a bundle of straws. How would you make a square hole in such a structure?

**16** Some bits of newspaper and cardboard will be glued to the panel, but this will allow you to see where the glue squeeze-out is

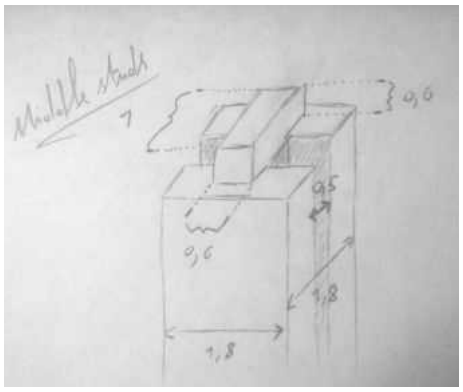


**17** For the legs, the dadoes should only run between the two mortises



**18** The four middle studs that fit in between the panels on each side of the blanket chest

**19** The extra mortises in the frame, which the middle studs will fit into




**20** Drawing showing the middle studs

Finally, you need to create rebates on all sides of the bottom panel such that it will fit inside the frame's dadoes. The process of creating these rebates with the plunge router is mostly similar to creating the dadoes. Instead of putting the panel into the workbench vice, such that it's flush to the surface, it needs to be raised up a little to ensure that the router won't cut into the workbench; this can be done by simply attaching a raiser plank to the workbench (**photo 23**).

## Making the lid

The blanket chest's lid is also made out of 50mm-wide strips of wood like the other panels (**photo 24**). The main difference is that you now have to add some curves. From the 18mm-thick sheet of wood, cut 12 50mm-wide strips, at least 640mm long. You can then glue the strips together, and sand the surfaces. The next step is to cut the lid to size: 590 × 640mm. I then drew a paper template of the lid's corner curves on a computer, printed the template, and copied it onto a thicker piece of paper to make it even sturdier (**photo 25**) Using the template, draw the curve for each of the lid's corners with a pencil, then cut the curved corners on the bandsaw.

Clean up the curves, and round over all edges with abrasives: I found it's best to do this by hand, as power tools are more difficult to control precisely, and can easily remove too much material.

### LESSONS LEARNED

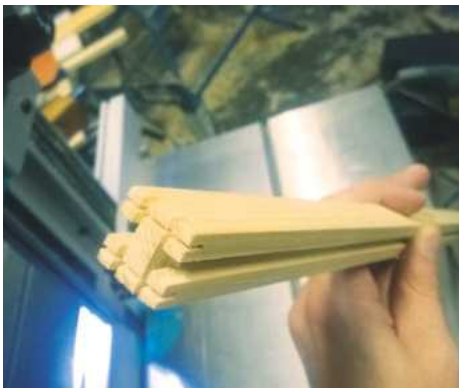
When rounding edges with abrasives, it's best to do this freehand and without a sanding block. A solid sanding block tends to create flat surfaces, whereas if you hold the abrasive using just your hands, the softer skin on your hand will naturally create a rounded edge

## Lock mechanism

Now that all the panels are completed it's time to make a sliding lock for the lid (**photo 26**). I wanted to create a clean look for the blanket chest, with few metal bits exposed. I decided to buy a very simple sliding lock, which would allow me to easily remove the main cylindrical part of the lock (the bolt) from its frame. We only need the bolt; we'll recreate the lock's frame in wood (**photo 27**).

Grab the piece of the blanket chest's frame where the lock should go, and using a bandsaw, cut away a T-shaped section (**photo 28**). Clean up this cut with chisels and/or abrasives.

Next, we want to cut a gutter for the bolt. I won't bore you with any measurements here since it all depends on the bolt you have. The main thing to consider is that you provide enough room for the bolt so it can be either in the open or locked position. Cutting the gutter is similar to making mortises: hog away most of the material



**21** Using the bandsaw, cut tenons on both ends of each middle stud

**22** Unlike the side panels, there's only one big panel for the bottom of the blanket chest

**23** The panel needs to be raised up a little so the router won't cut into the workbench; this can be done by simply attaching a raiser plank to the workbench

**24** The lid is also made out of 50mm-wide strips of wood, as with the other panels

**25** This template shows the lid's corner curves

**26** The sliding lock for the chest lid

with a drill press, then clean it up with chisels (**photo 29**). Once the bottom half of the lock is finished, you can create the top half, by cutting a corresponding T-shaped section on the bandsaw (**photos 30** & **31**). Now cut a corresponding top-half gutter. It's almost identical to the bottom half, except that only the top-half allows the bolt to move between the open and locked position. Make several test assemblies of the lock, and carry out adjustments until the T-shape fits snugly, and the mechanism works smoothly.

With the T-shape in place, drill a few pilot holes, and add some screws. You can also glue it down, but I like the idea of being able to repair the lock if the need ever arises (**photo 32**).

You can now open and close the bolt, but it still needs to be attached to the lid when the lock is closed. To do this, you need to make a small section; this can be made using a bandsaw and drill press (**photos 33** & **34**). In a later step, we'll then attach this to the lid.

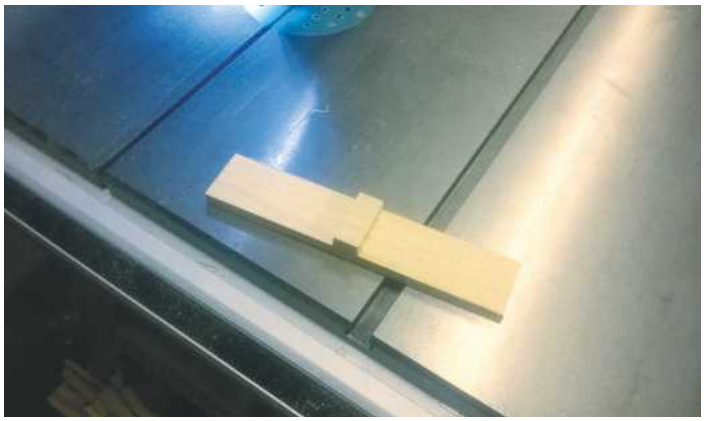
**NEXT MONTH**

Join Tim as he takes you through the final steps for completing this beautiful Japanese-inspired blanket chest

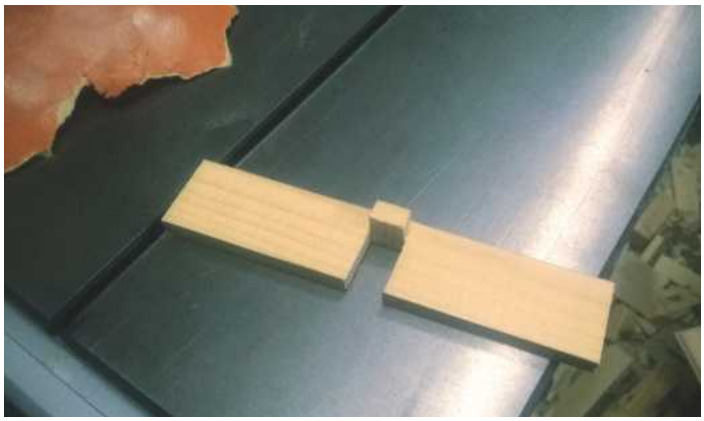
**27** Only the bolt is required for this project; we'll recreate the lock's frame in wood

**28** Using the bandsaw, cut away a T-shaped section

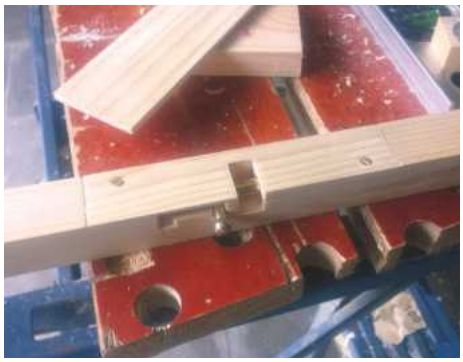
**29** For the gutter, hog away most material with a drill press, then clean it up with chisels



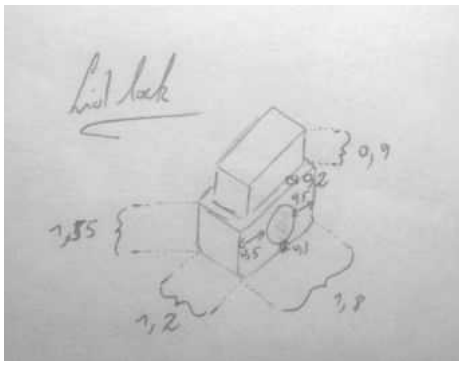
**30** The top half of the lock is made...



**31** ... by cutting a corresponding T-shaped section on the bandsaw



**32** You can also glue it down, but I like the idea of being able to repair the lock if the need ever arises




**33** Drawing showing the lock mechanism

**34** A small section needs to be made that attaches to the lid when the lock is closed

# A WHATNOT FROM WHAT'S-HIS-NAME

## Need a home for your odds and ends? Then try turning one of **Dave Roberts**' Whatnots

What could I do, I thought, with the reclaimed mahogany left over from making the merchant's table (see *WW* Apr)? The timber dated back to the early 19th century, and so it seemed appropriate to make another piece from that period. But what? Or rather, whatnot. This unusual piece of furniture first appeared around then and, as its name implies, it was made to cater for bits and pieces of no single description. I thought one would be perfect for all the odds and ends I have lying around!

The 12mm-thick leaf of mahogany I was using for the shelves had a very slight bow in it and was also badly marked, meaning that turning it satisfactorily would be difficult – the shelves would be too thin, for a start. Instead, I decided to cut the shelves out on a bandsaw and sand them by hand, bringing them down to about 10mm thick; just right for this whatnot. Rest assured, though, I haven't given up turning quite yet! The columns and finials were turned from the same reclaimed mahogany and really was a pleasure. One thing I love about vintage mahogany is that it's always bone dry, meaning that it turns well and takes an excellent finish.

### The columns

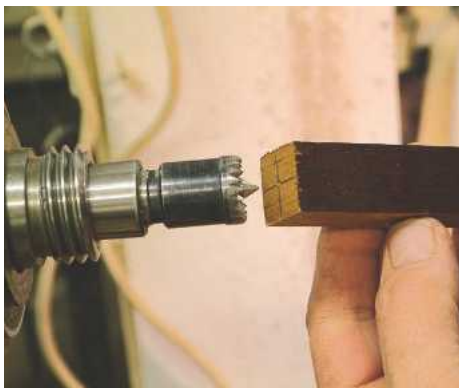
I started with the whatnot's columns, eight of which have 12mm holes in one end and spigots in the other, while one column, which goes at the top and at the back of the piece, has holes in both ends. As there isn't a single screw in sight with this piece, the spigot joints have to fit really tight, and so diligent use of Vernier callipers is needed throughout. The widest point on the columns and the finials is 22mm, so you want to start with the timber at least 25mm. A tablesaw will make short work of cutting the material to size. Use a push stick when cutting the columns to length, not forgetting to leave enough timber for the spigots. If you're worried you might make

### TOOLS YOU'LL NEED

- 6mm Jacobs chuck
- 12mm drill
- Combination chuck
- Spindle roughing gouge
- 12mm skew chisel
- Parting tool
- Detail gouge
- 6mm gouge

**1** Use a push stick when you cut the timber for the columns

**2** Slowly drill the holes in the columns, while they're on the lathe



**3** The Steb centre is one of my favourite ways of driving timber


Good
Woodworking

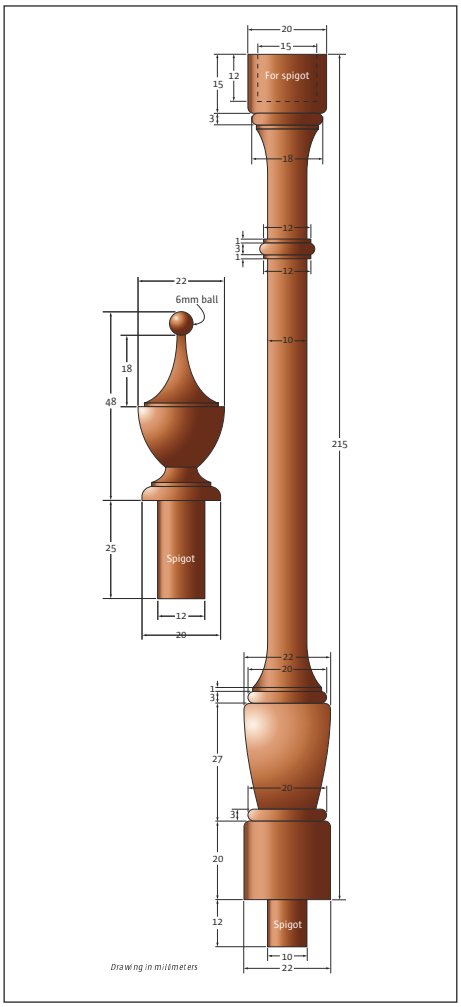



**Fig.1** The columns

**4** Place the drilled end of the column into the revolving centre

**5** Turn the column to a cylinder and square up the end with a skew chisel

**6** Use a parting tool to turn the spigot, checking it with Vernier callipers

**7** You can also use the parting tool to turn the fillets and the beads

a mistake later, cut an extra one. The holes for the ends are 12mm in diameter and 25mm deep. It's much easier to drill them before turning, as this will ensure that they are dead centre. I also find doing it on the lathe is the best method for getting them dead straight. Put the lathe on a low speed, then fit the Jacobs chuck into the headstock, drilling a 6mm hole and finishing it off with a 12mm drill. Put the timber onto the drill and support the other end with the tailstock. Hold the timber while you wind the tailstock in, and make sure that you don't drill too deep.

One of my favourite ways to drive the likes of spindles and legs is to use a Steb centre. Available in three sizes from Robert Sorby, Steb centres give a positive drive and you don't have to hammer them into the timber. Put the drilled end of the column onto the tailstock, fitting the revolving centre inside it, and with the lathe on a speed of around 2,000rpm, turn it to the finished diameter.

Use a 12mm skew chisel to square off the

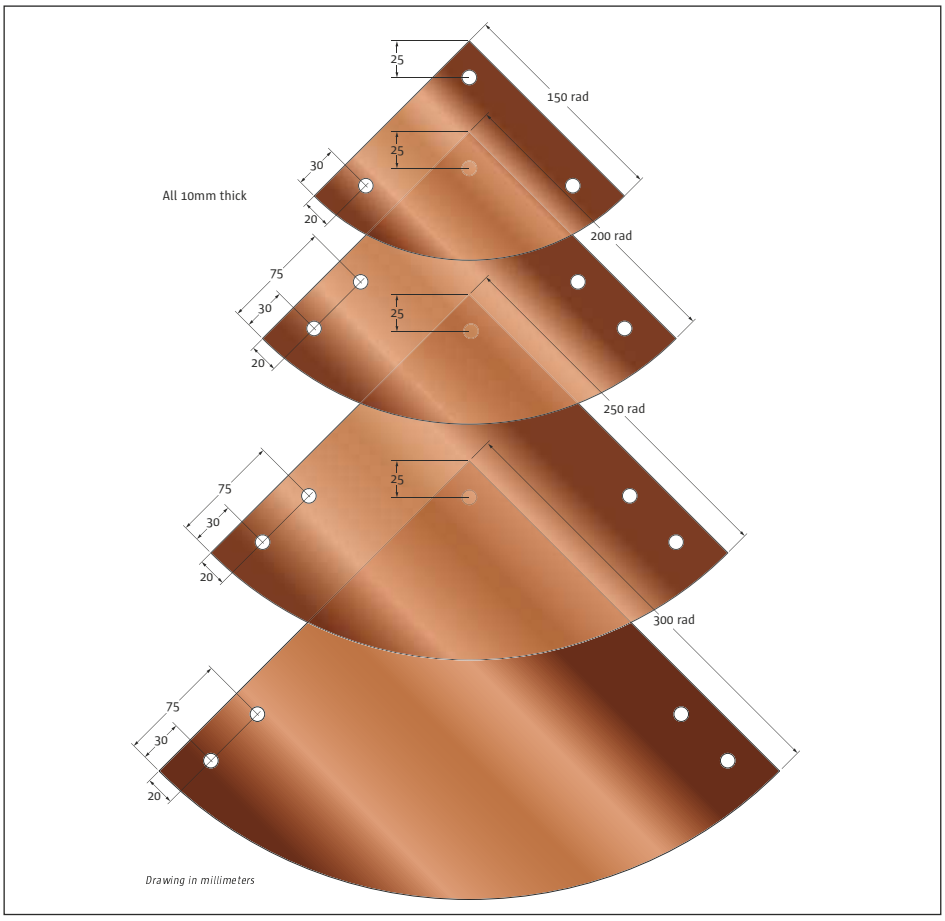



**Fig.2** The shelves

**8** A 6mm gouge will turn away the bulk of the remaining timber

**9** Sanding is a delicate operation – be careful not to remove the detail

**10** Only one coat of stain is needed; don't apply too much

**11** Lay the turned column on the cylinder and pencil in the detail

ends of each column by the tailstock; making them slightly concave will mean that they fit neatly on the shelves. Turn the spigots at the other ends with a parting tool and check them with Vernier callipers. The column is 215mm long, and 10mm thick at the thinnest point. If you are heavy-handed, the column will bend or even break, so work slowly and take light cuts. Use the parting tool to turn the fillets and to round over the beads. You could try a small detail gouge for this, too. The 6mm gouge is then used to remove the bulk of the remaining timber.

Sanding the columns is just as challenging as turning them. I'm rather fond of saying that abrasive isn't a turning tool, and it's far less flexible than one – you're only using it to aid the finish, and so the columns should only need a light rub, just enough to remove the tool marks. I started with 240 grit and worked up to 600 grit. It's so easy to sand out the fine detail, so be careful. For the final sanding, I find that I always get a better finish if I stop the lathe and rub the abrasive up and down the grain, eliminating any fine sanding marks.

As with a lot of mahogany, this piece was actually pretty light in colour, and so I gave it a light stain using Antique Pine, which isn't too dark, but gets rid of that fresh look so that it looks like it was turned some years ago. I did experiment with a mahogany stain, but this left the timber looking too red. Only one coat is needed, but when it's dry, you can apply a coat of sanding sealer, which will only take a few minutes to dry. You can then rub it back with '0000' wire wool, leaving it ready for a coat of polish.

It may seem like a daunting task turning nine columns the same. After all these years of repetition turning, I'm used to it, but if you are turning as an enthusiast, you won't have anyone cracking the whip over you, so just take your time and be patient. You can lay the turned column on top of the next blank and pencil in all the detail, though it's still worth checking it with Vernier callipers. The critical measurement on these columns is the length – if you're a millimetre or so out, it will show when you come to assemble it all together, and it probably won't stand even. Just for your own peace of mind, it's worth making the effort to get it right.

## Making the shelves

This was one good piece of reclaimed mahogany – it was almost a shame to cut it up! I did, though, and carefully, planning it out so that there would be very little waste. Once the plank was marked up, I roughly cut the shelves out with a jigsaw so that they were manageable, and then cut them on the bandsaw with a fine blade, leaving the edge with a fine finish. A disc sander got rid of the bandsaw marks, leaving it ready to be sanded by hand.

With all the shelves cut out, there was a lot of work needed to sand the surfaces flat by hand. I started with 120 grit to get rid of the various marks that the reclaimed timber had acquired over the years, using a cork block with abrasive wrapped around it, and working up and down the grain through the different grades of 'paper up to 600 grit. I found that the abrasive soon clogged up with the French polish that was already on the wood, but as the polish was removed, it became easier. I could have used a belt sander, which would have done the job more quickly, but the risks were too high, as it would be so easy to round over the edges. Instead, I opted for good old elbow grease and time.

At this point, it would be so easy to mess up the whatnot by drilling the holes for the shelves in the wrong places; as before, a millimetre either way will make all the difference. If you work slowly and measure everything twice, though, there shouldn't be a problem. It will help if you drill 6mm holes first and finish with the 12mm drill. Drill slowly and if you get any breakout, don't

**12** For the shelves, I used this fine-looking reclaimed board, which I was loathe to cut up...

**13** ... though I eventually summoned the courage to set to work on the bandsaw with a fine blade

**14** Wrap abrasive around a cork block and sand up and down the grain

**15** Mark out the holes and drill them on the pillar drill

**16** All the finishing is done by hand. Again, work up and down the grain

**17** Hold the timber in a combination chuck while you turn the finials

**18** Assembly is straightforward, using only a little glue

worry, because the columns will cover it over. Both the sides and the edges of the shelves need to be stained. I put a piece of string through one of the holes and hung them from the roof while staining them, so that I could do it all in one go as opposed to one at a time. Wait for the shelves to dry before turning them over and staining the other sides. They will need to dry overnight.

The next job is to apply the sanding sealer, which isn't rocket science, it just needs to be applied slowly and evenly. Don't put too much on the cloth at one time, and rub up and down the grain. Also, don't forget the edges and try to keep it out of the holes. Although it won't take long, make sure all is dry before you rub back with the wire wool. You can now apply the final finish, which is the polish. Rub with the grain, buffing it to a shine, but don't apply too much as it will be difficult to work. You can always rub it back gently with wire wool to remove any excess. Double check that there are no deposits of sanding sealer or polish in the holes, as this will make it difficult for the glue to bond.

## The finials

If you haven't yet had your fill of repetitive work, fear not – there are 12 identical finials left to be turned. By the time you've finished turning this whatnot, you'll have a great understanding of copy turning, making this a pretty useful learning curve. The easiest way to turn these finials is to hold the timber in a combination chuck, enabling you to turn the top of the finial without having the tailstock in the way, which would be a problem if you turned them between centres. Put a piece of mahogany in the chuck big enough to get two finials and turn it to the finished diameter, then pencil in all the detail and turn it. Remember, it isn't supported by the tailstock, so be gentle. Be careful when sanding, otherwise the detail will vanish, then stain and finish. Finally, turn the spigot to shape, check it with Vernier callipers, and part it off.

## Assembly

Providing all the holes are drilled in the right places, there shouldn't be any problems assembling your whatnot. The only thing to watch out for is the amount of glue you use. I used a small amount of PVA – too much, and it would have squeezed out, leaving the surface messy. It's best if you build the piece up in two sections, letting the first dry before you put the second section on. To hang it on the wall, I used two mirror brackets, which are available from DIY sheds. Just remember to pre-drill the holes first before you screw it into the shelf.

## A CORNER IN TIME

Whatnots were first made in about 1800. A light piece of furniture, it earned its name from the expression "what not," which is elliptical for "what may I not say?" and implies the presence or existence of many different, collectively unnameable things.

Unsurprisingly, a whatnot's purpose is to display on its shelves all manner of books and bric-a-brac – yes, "what-nots!" The original whatnots were usually rectangular with tiered shelves supported by turned columns at the corners, and were sometimes fitted with a drawer. With the introduction of machine-carved wood in the 1840s; however, elaborate pierced galleries became more common.

Corner whatnots, like the one I've made, appeared in Victorian times. They were floor-standing at first, but the Victorians, well-known for their accumulation of lots of odd little things, soon made wall-hanging versions to make use of every available display space. Seeing as space is at a premium in today's houses, a whatnot like mine is a pretty practical and attractive possession to have in your home

A student working in the furniture school's extensive workshop

# IS LOCKDOWN KEY TO RELEASING CREATIVITY?

If you're keen to get into furniture making, there's no better time than the present to start looking for ways to fulfil your potential, as **Tom Fraser**, Principal of **The Chippendale International School of Furniture** shows here

Limitations often lead to creative solutions and lockdown is perhaps the greatest limitation many of us will have ever encountered. But being forced to withdraw from society, from our friends and loved ones – from our normal lives – has given us all more time to reflect.

Following what has been a truly difficult time for so many people, possibly a glimmer of hope is that we will come out of this with a changed perspective on what is important. Perhaps more of us will choose to follow creatively fulfilling paths. Given the time to tinker, to experiment with designs, and play about with the limited resources in our garden sheds, the joy of creativity may well be reignited and perhaps we'll see more woodworkers in our midst in years to come.

## Midlife career changers

Long before lockdown, The Chippendale International School of Furniture was a haven for those in midlife seeking a change of career. People with established careers from a range of industries – from lawyers, to GPs, to car mechanics – have chosen to study as professional furniture makers. Often, the appeal has been the freedom to make things by hand, and the gentler pace of life that woodworking affords. There is something very meaningful about being able to produce a piece of furniture that will be used every day. That sense of fulfilment is harder to emulate if you're in a job that you're not particularly passionate about. With more time to reflect, however, perhaps we will see more people embracing the possibility of a new and exciting career in woodworking.

Many of our youngest students joined us because they wanted a faster route into business

## Hobbyists & DIY enthusiasts

Many of our graduates started their woodworking careers carrying out small DIY projects at home. There is something very soothing about working with wood. Craft projects are all-absorbing in their nature and can be welcome distractions during times of stress, and the joy of working with natural materials can be very therapeutic. Often, the demands of everyday life mean we're pulled away from 'just for fun' projects, because they rarely make the top of our priority checklist. This is a shame as making time for the things we love doing can make us so much happier.

My bet is that during lockdown, many hobbyists will have the opportunity to develop their woodworking skills and realise their talent. The creative challenge of not having all the right tools or materials will inspire people to think laterally, so I'm sure that, as a community, we'll learn of all sorts of interesting approaches to design and making in the months and years to come.

Many of our graduates started their woodworking careers carrying out small DIY projects at home

## School leavers

It's certainly a difficult time to be a young person starting out with so much uncertainty at present. While university might not necessarily be a straightforward route to employment for the next few years, perhaps more young people will be encouraged to take up woodworking careers.

Many of our youngest students joined us because they wanted a faster route into business. By building their skills they are able to get a job with an existing furniture company or start a business straightaway. While the coronavirus has thrown a huge spanner in the works for many, one wonders if it will inspire inquisitive minds to follow their dreams of working in a creative field?

If you're keen to get into furniture making, there's no better time than the present to start looking for ways to fulfil your potential... Will you look back on Spring 2020 as a new beginning or a positive turning point when you took the leap? Our woodworking courses are hugely fulfilling and enjoyed by people from all walks of life. If you're interested in finding out more, see details below.

### FURTHER INFORMATION

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

# LETTERS

## ★LETTER OF THE MONTH

## E.H. VARNEY ARTICLE

**Hi Tegan**,
Your short piece about E.H. Varney's series on making a violin (*WW* April) brought back fond memories of the violin making evening class that I attended in Purbrook, near Portsmouth, back in the late 1970s-early 80s. The class was run by local professional luthier, Malcolm Coombes, and Varney's series was the text we used. In fact, I still have my photocopies of the complete series. You asked whether anyone actually made a violin based on his articles, and I certainly did, along with many of those in the class. I still have the instrument and my wife plays it every day.

The class stimulated an interest in musical instrument making generally and I have gone on to make a number of instruments including a dulcimer, mandora and folk flute, and am currently completing a classical guitar, although I can't play one myself!

That class was a good example of what adult education could be, now there is too much vocational emphasis on AE. Back then, I think AE was more about self fulfilment and personal development; every town had a variety of evening classes on a whole range of often quite esoteric subjects, such as violin making, for example. This allowed one to pursue a subject just out of interest and for fulfilment, whereas now it's all about vocation. Try Googling woodwork evening classes now and see how many you get, let alone violin making!

My first interest in woodwork came from enrolling in a woodwork evening class at the local school in 1975. It developed further with the violin making and eventually grew to be a big part of my life, eventually becoming my occupation, but that only came about because I was initially able to follow an interest for the hell of it, which goes to show that good adult education can be life changing.
Best wishes, **Chris Tribe**

*Hi Chris, thanks so much for sharing this with us! I'm thrilled to hear, and see, that the violin referred to in Robin Gates' archive piece was indeed made by someone, and I'm sure you're not the only woodworker to set about making use of these plans. It's even more amazing to hear that your wife uses the instrument every day – that must give you great satisfaction. You're obviously a very established and well respected furniture maker, but it's great to know about your love of instrument making and this demonstrates how woodworking can cover such a broad range of projects. You make a very valid point about adult education too and the importance of woodworking back in the day – I do believe that these resources can be vital in fostering an interest and love of woodwork, and as you say, access to such courses can be life changing for many people. Thanks again!*
*Best wishes,* **Tegan**

Chris Tribe with the E.H. Varney violin he made during an adult education class back in the late 1970s-early 80s

## WHIMSICAL COAT OF ARMS

**Hi Tegan**,
I hope you're well? Attached is a photo of a coat of arms I designed for the university where I work. The coat of arms started out as a bit of a joke among the technicians in the workshops of the Innovation Centre at Bournemouth University. "Innovate or die" was often heard on the Engineering or Product Design courses. One day, for a bit of fun, I looked up the Latin translation for the phrase, and it turned out it wasn't much different from the English. I did a quick sketch of the shield and started to think about the greatest innovations in history. The first was easy, the wheel, and this one is based on a replica of the oldest known example, some 2,000 years B.C. The second is an Aeolipile, reputedly created by Hero of Alexandria in the 1st century A.D. to depict the first known use of steam and was hand-beaten out of thin copper sheet. The third is a light bulb, an example of electricity but also the universal image for ideas. Lastly, the recognised symbol for the Atomic age but created on a printed circuit board as a nod to electronics. Flanking a coat of arms would traditionally be two creatures, often a lion and a mythical beast, but I chose a dodo to illustrate an extinct species. With my tongue lodged firmly in my cheek, I showed the same dodo on the right dressed in a jet pack and helmet, based on the 'Rocketeer' using the intarsia technique – the implication being that learning to fly might have saved them! A variety of timbers were used but the scroll at the bottom was in lime to make carving easy. The lettering was created on a laser engraving machine as the characters were a bit small for hand carving – the added bonus being illustrating modern technology juxtaposed with traditional crafts.
Best regards, **Peter Vivian**


Peter Vivian's coat of arms

*Hi Peter, your email has certainly put a big smile on my face and I think this project is absolutely wonderful! I love the ingenuity that has gone into making this creation and how you've really thought outside the box here! It is a very fun creation and one that I'm sure will bring a lot of pleasure to your colleagues and those who see it. I'm not sure what it is about the dodo but it elicits a sense of fun and nostalgia, and the carving detail is fantastic. It's great to see some intarsia going on here too and every time I take another look at it, another details pops out. This is a wonderfully constructed project, both in terms of how you've approached it and also executed the end result perfectly. Well done!*
*Best wishes,* **Tegan**

## WOODWORKING AT HOME WITH CHILDREN

**Hi Tegan**,
Here in Arkansas, USA, schools are likely to be closed through to the end of the school year and, as such, I've started a newsletter to keep my K-12 students at the Clear Spring School engaged in woodworking at home. This might be of interest to some of your readers facing the same issue: how do we ensure our children are actively learning while also keeping them safe?

In the third volume of the newsletter I look at what is so special about wood, explaining some history and things from an ecological perspective. I also explain the differences between grain, figure and features and how trees grow. The children will be provided with a study kit containing two pieces of wood: one is a sample piece of American hardwood and the other will be a piece of 2×4 spruce that the children will be able to work with and use for upcoming exercises. The students

Some of the children at the Clear Spring School with their woodworking projects

# READERS' HINTS & TIPS

For the next seven 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**

## INCREASED VISIBILITY WHEN WOODWORKING

I think that being able to see things properly is often overlooked (if you'll pardon the pun) in the home workshop. Here are five top tips for better visibility when woodworking.

### TIP 1 – White walls

If they aren't already, then take the time to paint the walls and ceiling of your workshop white. Cheapest brilliant white emulsion will do the job on almost all surfaces, and you'd be amazed at the difference it makes to how well-lit your workspace feels.

### TIP 2 – Cheap LED bulbs

LED bulbs give lots of light but use hardly any power

I expect a lot of fellow readers have fluorescent tubes in their home workshop. There's nothing wrong with them, but they can be quite expensive to replace, and potentially dangerous if the glass tube is exposed for whatever reason. A great alternative or addition is cheap LED bulbs. The big pound shops sell 5W (40W equivalent) bulbs for just £1, and a row of these linked together in baton mounts give a bright, even light. They're cheap to buy and run, don't need time to warm up, and as the 'bulb' is plastic they're pretty safe too. Of the six I installed three years ago, only one has failed in that time.

### TIP 3 – Cheap reading glasses

Generic reading glasses are great when doing precise work such as cutting dovetails

Another bargain waiting to be had is cheap reading glasses. You can pick up a pair for as little as £1.99 in some shops, but why would you want to? Well, even if you don't need them to read (I don't), a pair of cheap reading specs will give you super-vision when doing detail work like cutting dovetails or intricate carving. True, they won't be the last word in style, but I honestly don't think the wood cares how you look.

### TIP 4 – Bouncing light

If you aren't able to put your workbench next to a window, an old mirror (or, better still, some large plastic mirror tiles) placed on the wall behind it will not only bounce light around and brighten your workshop, you'll also get a useful rear-view of your workpiece.

### TIP 5 – 2H pencil for marking out

A 2H pencil (top) gives a sharper, more accurate line than a standard HB (below)

It's worth investing in a 2H pencil for marking out. Being quite a bit harder than a standard HB, you get a sharper, more accurate line that's easier to see, especially when wearing your fashionable new reading glasses!

**Norman Tiddal**

are encouraged to count the visible grain in each piece so they can assess how many years were required for its growth, as well as looking at the end-grain and the radius of its rings and being able to guess how many years were invested by the tree to grow to that point.

The third part of the study kit will be a sanding block, which uses the piece of 2×4 spruce and will ask the children to document their findings when it comes to the grain of the timber and the sanding results. Full details are given for making the sanding block and I hope to hear back from parents, grandparents and teachers as to whether they find these lessons useful.

Best wishes, **Doug Stowe**

*Hi Doug, thanks so much for getting in touch and for sharing this wonderful idea with us. The situation with schools in the UK is likely to take a similar path to those in the USA, and I think that making these learning resources available to children is a fantastic idea. What a perfect time to start introducing children to trees, timber, and making them aware of the scientific properties of the material, as well as the fun side of constructing projects using wood. I do believe that parents and grandchildren will have a lot of fun learning with their young ones and will very much welcome the fact you've gone to the trouble of preparing these study kits. This is such a novel and clever idea, and I'm sure that many teachers reading this will be interested to learn more. Keep up the great work and thank you for sharing your inspirational story.*

*Best wishes,* **Tegan**

Children are encouraged to practise their woodworking techniques, all under the watchful eye of fully trained adults

# 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!

# MORTISE MATE

**Dominic Collings** gets up to speed on a Festool Domino jointer, cutting the 328 mortises required for a couple of planters in eight hours

These planters had to be strong in order to take hooks that would anchor the doors leading out onto my decking.

Using the standard profiles from the pressure-treated timber available from my local supplier, I designed a basic box frame from 12 × 43mm-square railings, with slats cut from a strip of railing in-fill and trim for the top edge made from a 2.4m length of deck boarding.

Because these decking components are all effectively PAR stock there was no need to plane and thickness the timber, while the planters' construction provided the perfect opportunity to use my Festool Domino to speed up and simplify all that jointing.

## Getting started

The 895mm-long spindles were cut in two (minus a little to account for the kerf of the saw blade) on the saw table to produce 24 lengths, 440mm long (**photo 1**). Using an 8mm Domino bit set at a depth of 20mm on the stepped depth stop and using the Festool's thin stock attachment, I cut a mortise on both ends of each horizontal rail (**photo 2**), remembering to reference both cuts from the same face.

Next, without adjusting the fence height, the top mortises were cut into the legs (**photo 3**).

Offsetting their position uniformly is made easy by the Domino, which, unlike some biscuit jointers, has not only a machining line on the plastic insert on the front of the tool, but a scale on either side of the line calibrated in 1mm increments. All that was required, then, was to set the edge of the timber at 21mm on this scale.

The bottom mortises, on the other hand, were set further up the leg by 75mm to effectively create a foot at each corner. This offset is beyond the capacity of the Festool's standard scale, but not of the handy accessory that clips onto the side of the machine to extend the front scale! This add-on fence includes adjustable side stops and made it very easy to position all the lower

**1** I cut the main rails to length on the table saw...

**2** ...then set to work on the ends, cutting the first of my 328 mortises!

**3** The Festool's front scale coped with the offset of the top leg mortises...

**4** ... but the offset scale extension and side-stops were used to cut the lower leg mortises

**5** The result is a very strong double mortise

**6** When it came to rounding the ends of the rails, the belt sander was safer than the router

**7** A stop is ideal when making multiple cuts, but remember to leave the other side of the workpiece free to prevent kickback

**8** I think that workholding is the trickiest part of using the Domino, so I made good use of my bench vice

mortises exactly the same distance up the leg (**photo 4**). After cutting the 64 mortises required, the fence height was reset to 40mm, again using the stepped depth stop, and another 64 mortises were cut into the frame to create double mortises for all of the main structural joints (**photo 5**).

## Making the slats...

The slats that fill the frame are more for decoration than strength, and the easiest way to fit them would've been to rout a groove in the rails. However, in order to get in some more practice with the Domino, I took a slightly more involved route!

Firstly, the slats were cut to size on the mitre saw, which is the best machine I have for cutting long lengths down to size; a stop block (**photo 7**) ensured that all 40 pieces came out exactly the same length. Switching to a 5mm bit in the Domino, a single mortise was cut in the ends of each slat (**photo 8**), and a 20mm-long Domino biscuit was tapped into each of the 80 resulting mortises (**photo 9**). An equal number of mortises were cut into the lower and upper rails, again making good use of the Domino's offset scale.

Finally, the box bottoms were cut from some leftover sections of 18mm birch ply (**photo 10**), and held in place on two sides by 5mm Dominos, which serve as loose tenons (**photo 11**). These cuts alone added another 40 mortises to my fast-increasing tally!

## ... & the trim

The boxes were assembled in sections, firstly by inserting the slats between the top and bottom rails and hammering them into place using a striking block (**photo 12**). The legs were then glued up and cramped into place leaving four completed sides (**photo 13**).

While these sections were drying, I set about making the top trims from a deck board, which was ripped to half its width (**photo 14**) and passed over the router table to mould a round-over on the square sides (**photo 15**). A rebate was cut on the grooved side of the board to create a recess to accommodate the top frame.

**9** No need for glue on the slats: with the Festool's variable mortise width set on minimum the biscuit is a very snug fit

**10** Never throw anything away! You never know when that leftover ply is going to come in handy

**11** Cutting mortises in flat sheet is so much easier than working with the narrow stock

**12** A striking block removes any risk of damage when knocking components together

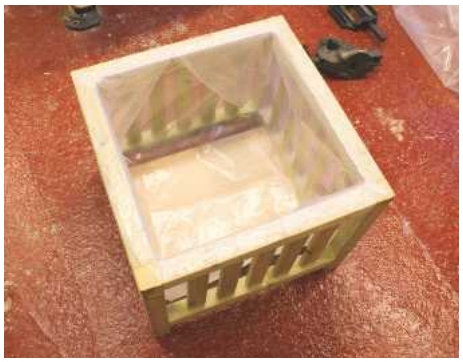
**13** Gluing-up: give some thought to an adhesive's open time, and always give yourself enough time to assemble the components

**14** Clamps: brilliant for holding work while you stand back and hold your mug of tea

**15** Ripping on the table saw; notice the push-stick ready to keep hands a safe distance from the blade as the cut progresses

**16** Again, a push block is a must when rounding-over on the router table

**17** Mitring on my table saw's sliding table is more accurate than cuts made on my mitre saw!



**18** The wrapping dilemma: well, it's not often you wrap something from the inside, is it?

**19** Using galvanised screws will prevent rust; stainless is even better, but more expensive, too

**20** Eight hours and 164 Domino biscuits later, the job's done!

After gluing-up and assembling the remaining sides to make up the boxes, I mitred the trim sections on the table saw (**photo 17**).

When the glue had cured, the planters were lined with polythene sheet, which was stapled to the top ready to hold the soil (**photo 18**). This was rather fiddly, as I found that it's much more difficult to wrap the inside of a box than the outside! Finally, the mitred trim sections were fitted to the tops of the boxes to hide the polythene, and secured in place by drilling and screwing with a countersink bit and galvanised screws (**photo 19**). The resulting holes were filled with dowels made from scrap stock using a plug cutter. The glue was allowed to fully cure before adding the weight of the compost the following day.

As for finish, I personally prefer plain wood to stain in the garden, and I don't mind timber turning a silvery grey. If nothing else, it saves on future maintenance! The board used to make the trim will need some protection where I've cut into the pressure-treated surface, of course, but what I intend to do is let them weather first to soften their appearance, and then seal the exposed sections with a clear sealer.

## Afterword: the Domino

Even though this build involved 328 mortises and used a total of 164 Domino biscuits, it was a very simple project and took just eight hours from start to finish, including two hours of glue drying time. I'd hate to think how long it would've taken to cut the mortises and tenons by more traditional means, so while it's true that the Festool costs a lot of money, to my mind it's an investment that is soon repaid by the time that it can save.

### BISCUIT OPTION

If you aren't lucky enough to possess a Domino then the next best thing is a biscuit jointer, advises Phil Davy, who says that while compressed beech biscuits will not be as strong as Domino tenons, the frame joints can be strengthened by stacking No.20 biscuits one above the other. Set the blade one-third of the way down from the top, make the cut, flip the timber and carry out the second cut

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# THE JOY OF SCRAP

**Phil Skinner** made three mallets and three cutting gauges from timber offcuts

Like most woodworkers, I have a store of scrap that I am convinced will come in useful sometime. Here are two little projects that can be made in a weekend and are a great introduction to making your own tools. They are great to use or give away.

The small mallet is easy to control and I was glad to make the gauges because having several means that each can be set to a particular measurement, thus speeding up work. I can pick them up and know the setting is correct.

**BEEF IT UP**

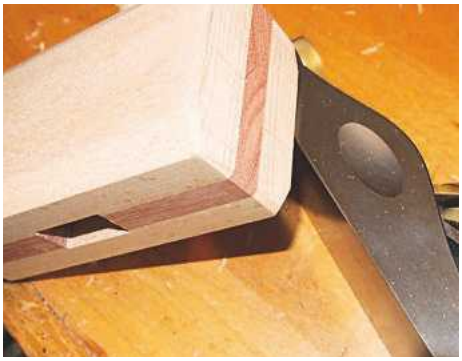
This is a light mallet but it can be beefed up by the addition of brass bar fixed through the head, or you could make a pocket in the wood to accept some lead shot and trap it in there when the head is glued together. A bit of polyurethane glue will hold the shot together and stop it rattling about

## MALLET

**1** The small mallet is made from beech, jarrah, ash and leather. The handle is 270 × 30 × 20mm and the head 130 × 60 × 50mm. The head is made up from three pieces and I had to fit the finished size to what I had in the bin

**2** I had enough wood to make three mallets – two to give away. I ripped and cross-cut the wood to give parts for all the mallets. With more thought I would have matched the handle tenon thickness to that of the jarrah, thus making the whole construction easier. Make a tenon on one end of the handle long enough to go through the handle of the finished mallet, plus a few mm to shape. Glue the wood for the head together and make a mortise for the handle. I did this by cutting bits of wood to make a sandwich to form the mortise, hence making the handle tenon the same thickness as the wood in the middle of the sandwich. Be careful with the glue, use the handle tenon as a spacer and remove it before the glue sets. If you want you can make a slight slope on the sides of the mortise to allow the wedges to open the tenon for a very secure fixing. As this is a small mallet for knocking things gently, this may not be needed. Begin to shape the handle. I made it into an octagonal shape by adding curved chamfers to fit my hand more comfortably

**3** Shape and finish the handle to suit your personal requirements and apply a finish only to the part that will be in contact with your hand



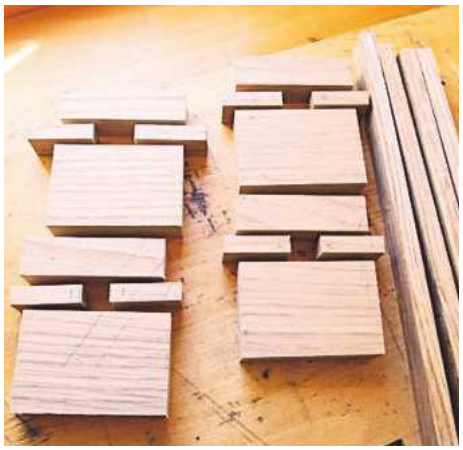
**4** Once the head is glued together, clean up the surfaces, add chamfers to all edges to give it a more pleasing shape, glue 3mm-thick leather to one face and trim off any excess when dry. I put a 5° slope on the faces of the mallet to give me a good striking angle for control

**5** Apply a finish to the surfaces of the head, keeping it out of the mortise, allow to dry and then fit the handle. Apply glue to the mortise, slide in the tenon and fit wedges. Next, clean off any excess glue, tidy up the protruding end and the finish, then stand back and admire!

## CUTTING GAUGE

**1** A friend made me a supply of 8mm brass thumbscrews, which I use in 8mm jig-making inserts from a kit. You could use 8mm bolts and modify them to suit or ask a local engineering company to make you some. The blade is made from an old jigsaw blade shaped to suit or you can find a supplier online. Again I made three, from olive ash, rosewood and rosewood veneer and oak. None of the exotics are essential and other woods can be used, but I happened to have these bits lying around

**2** The fence/stock material in oak was prepared to 25mm-thick and then ripped into the component parts. The arm in ash was prepared to 300 × 25 × 12mm – the same thickness as the thin strip in the middle of the sandwich. The oak piece was big enough for me to cut three at 85mm long. Finished head size was 85 × 60 × 25mm. The threaded insert strip is based on 25 × 25mm screw length and cut into pieces from which to build the sides of the manufactured mortise, in which the arm would run. Mark them to go back together



**3** The parts cut and ready to glue together to make the stock of the marking gauge

**4** To make the mortise for the arm to run in start by using glue to fix one side of the mortise, clamp until set and use this to set the other side, using the arm as a guide to achieve the correct spacing. Don't be afraid to get a tight fit now as the arm can be trimmed to adjust the fit at a later stage

**5** Mark the screw insert hole and drill the holes. So there is no blow-out, place a spare piece of wood in the through mortise. I counterbored the hole so the screw insert would sit just below the surface. Mark the size and shape of the curve on the opposite edge to the hole, then cut, shape and finish this edge. If you intend to glue on an exotic wood surface for wood to run on, now is the time to do this. Clean up afterwards and take off all the sharp edges

**6** Before starting on the arm parts I made a jig so I could plane the edges at an angle; this will give me a better sight of the cutting edge when I'm using it

**7** Mark out and cut the housing for the blade. I cut a slot and then made an insert with a slope to match the wedge, which I glued in and then located a small dowel to add extra grip. It's important not to make the slope on the wedge too steep; I worked on about 5°. Make and shape the wedge so it supports the blade. I made a 10mm plastic insert disc to go under the screw insert so it didn't mark the wooden arm and leave unsightly marks. I finished the whole tool with a couple of coats of Danish oil cut back with 400 grit abrasive so as not to alter any critical dimensions

**8** Here you can see the various components during construction with different curves on the top to suit the hand, fitting the arm snugly in the mortise, the shape of the arm and wedge, shape of the blade and protrusion of the locking screw. This is just the starting point and I've made them to fit my hands

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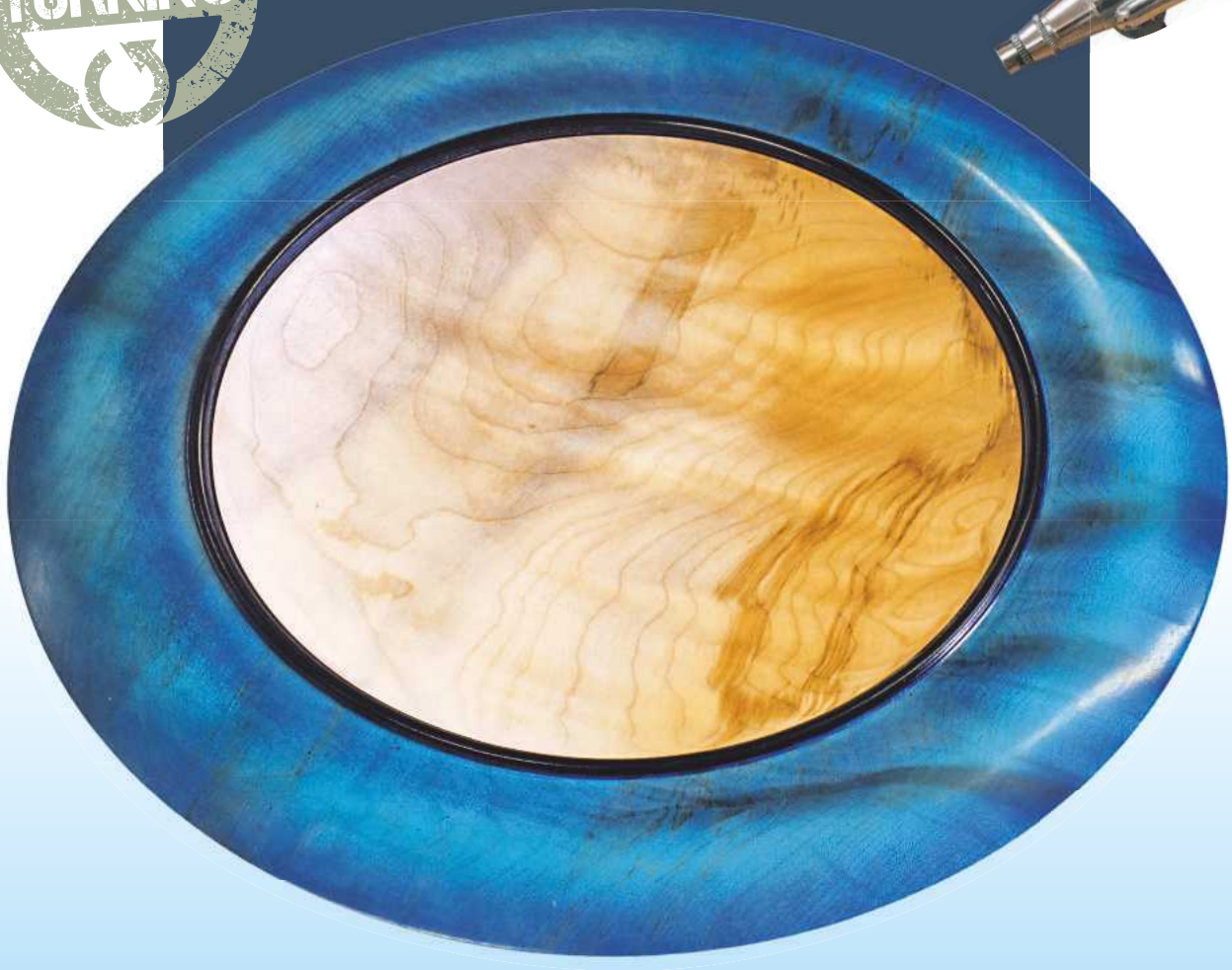
# TURNING THE AIR BLUE

**Les Thorne** shows you how to lift a plain sycamore bowl by applying airbrushing techniques



When I received a bursary award from the Worshipful Company of Turners back in 2007, one of the pieces of equipment I purchased was an airbrush kit with a compressor. I've always liked the sunburst effect that appears on guitars and hoped to emulate colouring techniques like that.

The colouration of this piece comes from a fishing lure that has been painted to look like a mackerel. If you search for wooden fishing lures on Google Images you'll come across many different colour combinations that can be applied to your turning – not sure that calling this a fishy platter is a good selling point, though!

Remember that whenever you are using transparent stains the shade of the wood will have an effect on the colour you end up with. You can use acrylic airbrush colours if you wish, but I prefer the spirit stains available from Chestnut Products; they are very bright, vibrant colours and being pigment-based are not prone to fading over time.

This is a very important consideration to take into account when you are selling high-end woodturned art. Whereas the airbrush is cleaned with water, when using acrylics, the brush must be cleaned with methylated spirits when stains are employed. This means it is very important to protect yourself from the vapours that will be in the air when you subsequently airbrush stains.

**1** Lucky I found this piece of sycamore that I part-turned a couple of years ago; it's about 410mm diameter × 40mm thick and the moisture content is now approximately 12%

**2** The easiest way to remount a roughed-out bowl is to friction drive it between centres; here I'm using the drum chuck from my vacuum-chucking system but without the pump

**3** Just what I needed: to obtain the best effect from the staining you need to have some ripple or figuring in the grain; if there was no curly grain in this blank I would select another

**4** The 10mm bowl gouge is once again the surface-cleaning tool; because the blank will be uneven you need to work off the high points first until all the original surface is turned

**5** Finishing figured grain is never easy because the grain direction is so varied; a good tactic is to shear cut using a 6mm bowl gouge with a traditional grind, which needs to be presented almost upside down

**6** Once the surface is finished as well as you can with the tool, power sand the surface, starting with 120 and working through to 400 grit using compressed air to clean the surface after each stage

**7** To protect the surface from any potential overspray I'm applying lemon oil with a cloth; at this stage you can really see how the ripple is showing on the surface of the sycamore

**8** When I remount the platter on the Stronghold chuck with No.3 jaws the discrepancies on the edge where the timber has warped in the drying are revealed

**9** After truing up the edge, using the same techniques that were employed on the base, I will turn a bead where the coloured edge is going to stop and the central hollowed part begins

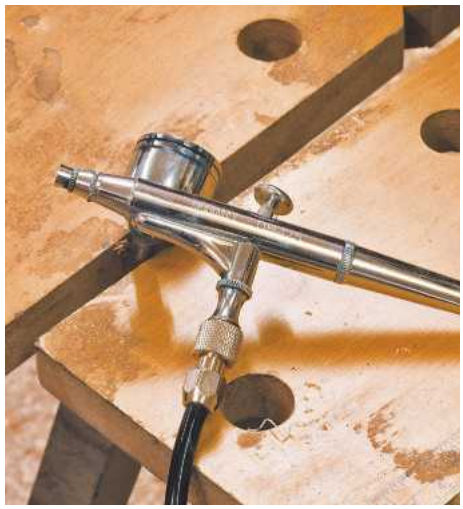
**10** When I used to make these I'd colour this bead detail after finishing the rim, but soon realised that it's more effective to do it at this stage, so out comes the ebonising lacquer

**11** The ebonising lacquer that has over-sprayed onto the rim is cleaned up using a 13mm spindle gouge; the smaller nature of this tool allows you to cut closer to the bead without removing any paint from it

**12** Here you can see how the wood is so clean up against the left-hand side of the black bead. This face needs to be tooled perfectly, ready for sanding

**13** Because I've tooled the surface well, I can start sanding with 240 grit; anything coarser may leave scratches that will be accentuated when the stain is applied

**14** My airbrush setup came as a complete kit from Graphics Direct – **www.graphicsdirect.co.uk**. Having a dedicated compressor means that there is no need to fit regulators into the workshop supply



**15** The business end of the kit is the actual airbrush; this dual-action type is more expensive than some of the single-action models, but in my opinion does a better job

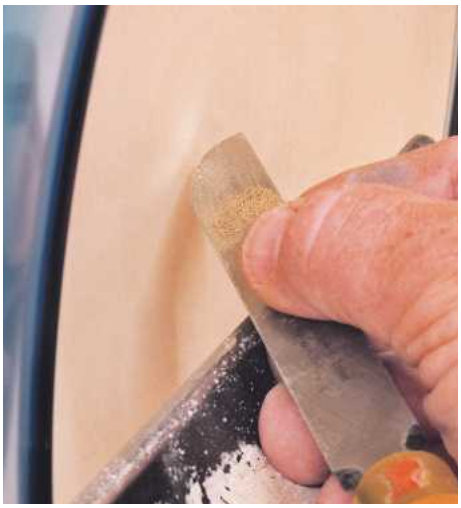
**16** After filling up the little pot with blue stain, start spraying the surface. The lathe is turned on at a slow speed and the paint is started off the rim and then traversed across the surface

**17** When the blue is dry you have the option to shade in the edges with another colour; here I'm using the royal blue to define the inner and outer edges; the stain will not show up on the black bead

**18** The close-up of the edge shows the way in which the translucent stain will penetrate the rippled timber at different rates to give you a range of shades

**19** Turning the inside is just like working on a normal bowl; start from the outer edge and finish each stage as you go using the 10mm bowl gouge with a push cut

**20** If I can get the toolrest close enough to the work, then the smaller 6mm bowl gouge is my tool of choice for the final finishing cut, especially near the centre



**21** If you are struggling to get the curve in the bottom of the platter correct, you can use a scraper with a French curve on it; here it is being applied on its edge as the wood fibres are sheared off

**22** You'll have to be very careful when sanding the inside of the platter not to run over the black rim. Ensure that the drill sanding pad passes over the centre of the bowl so as not to end up with the dreaded lumpy middle


**23** By using a matt oil like this lemon one, the inside of the bowl will not overshadow the gloss of the rim. I believe that paler woods often look better with a matt or satin finish

**24** My vacuum chucking system allows me to remount the platter so I can turn the spigot to remove the marks left by the chuck

**25** The bowl is sucked onto the 125mm drum chuck; now, barring power cuts and a huge dig-in with the tool, the work will stay on throughout the process

**26** Light cuts with a small tool are the order of the day at this stage and I have put the tailstock centre back in place for added security and am taking light but positive cuts

**27** You do need to put the obligatory decorative grooves in the base of the platter, if only to prove that you have reverse turned it, thus keeping other woodturners happy!

**28** With the tailstock removed just finish off with light cuts into the centre, making sure that the base is slightly concave, then sand through the grades as normal

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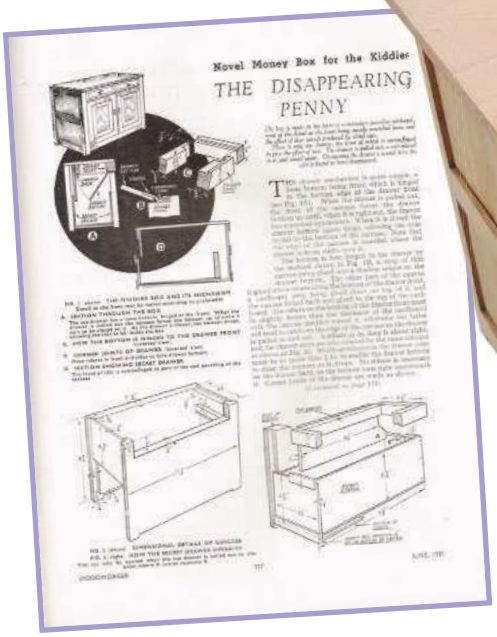

Novel Money Box for the Kiddies
THE DISAPPEARING PENNY



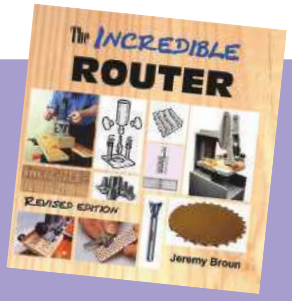
## THE DISAPPEARING PENNY

Bringing us another money box project from *The Woodworker* archives, Peter Dunsmore employs a few modern techniques to recreate this puzzle from the June 1951 edition

**SURVIVING & THRIVING DURING WOODWORKING LOCKDOWN**
In the event of prolonged lockdown, what guidance is there for woodworkers to help meet some of the challenges and how can we turn these into opportunities? Jeremy Broun shares his thoughts

**LIVE WIRE**
Zac Matchett-Smith's live-edge coffee table features a fun, pixellated pattern, which is achieved using contrasting pieces of walnut and maple

## READER OFFER




In conjunction with **Jeremy Broun**, we're giving **20 readers** the chance to get their hands on the brand-new, revised copy of his book, ***The Incredible Router***. Usually priced at £19.95, all you need to do is cover the cost of postage (£5). This is a fantastic offer and will give you the perfect opportunity to expand your knowledge of this invaluable power tool during the lockdown period

**PLUS** ▪ Ladder planter ▪ Baroque guitar – part 2 ▪ Japanese-style blanket chest – part 2 ▪ Marc Fish's Ethereal Lounge Chair ▪ A history of tennis rackets ▪ One-tenth scale model of the *Mayflower*

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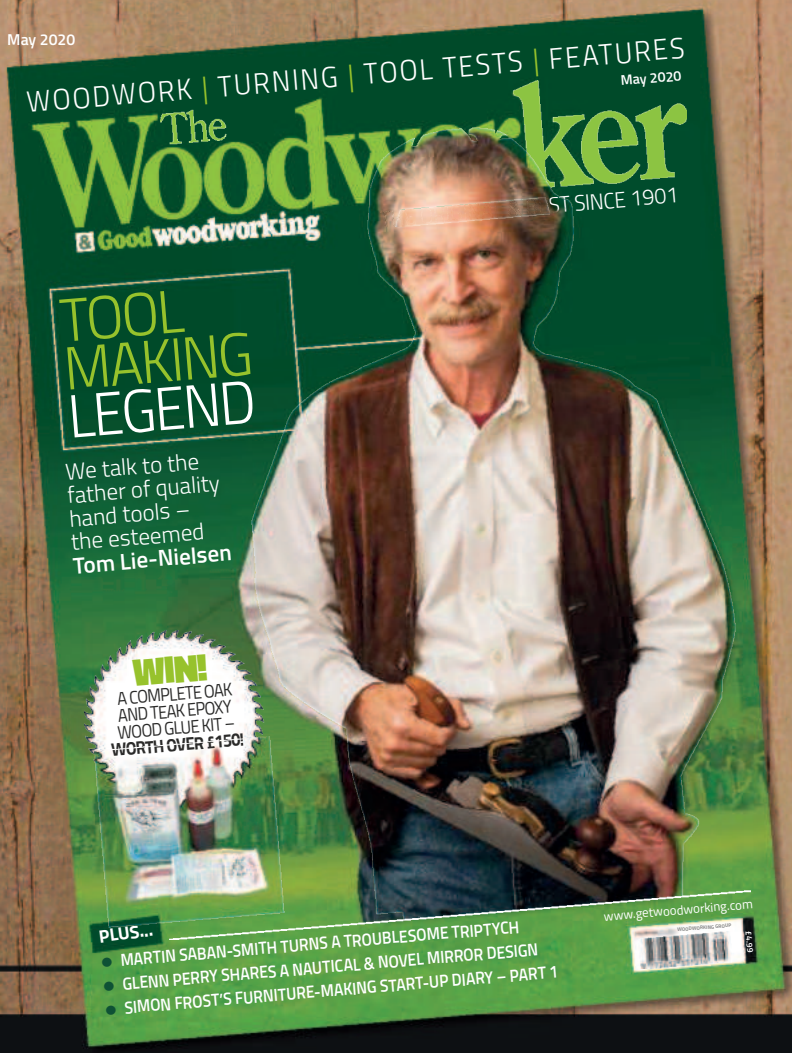


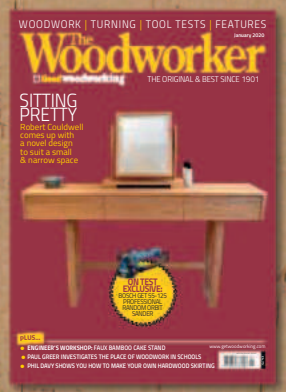


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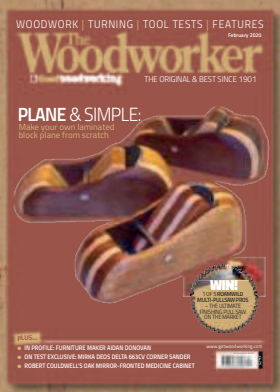


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## FOR SALE


***Woodworker* magazines:** a rare collection of *Woodworker* magazines from 1902–1965 – 187 copies with patterns; £500
**07917 391 800** (Tyne and Wear)

**Trend mortise & tenon jig** – complete with instructions, cramps, bush guides, cutters for ¼in mortise and tenon & sub-base; £120
**01733 897 459** (Peterborough)

**Jet 18Q bandsaw on wheels** – as new & very little used. Come & try it; £1,000 ONO
**07871 726 919** (Cardigan)

**Myford PR11 bench planer** – with extension rollers; £120 – buyer collects
**01497 847 065** (Hereford)

**Axminster 355WL lathe** with four-prong drive & live centres – all unused; buyer collects; £455
**01926 499 259** (Warwick)

**Metabo HC260 10in blade bench planer** together with Metabo SPA 1200 extractor. Also, Hitachi M12V ½in router – sensible offers; buyer collects
**07760 421 396** (St. Albans)

**Wadkin Bursgreen 9in BFT surface planer** single-phase & in nice condition; £225 – no offers
**01288 361 970** (Cornwall)

**Felder CF731 combination machine** (saw, planer, thicknesser & spindle moulder/router) – three-phase; DIY use only; £6,500 – collection only
**07905 267 992** (N.Lincs)

**Bound *Woodworker* annuals** – 1960 to 1970; £10 each plus postage
**01225 706 533** (Bath)

**WoodRat 900** – comes with MR4 rail, mitre box, several cutters (no router) spare parts, plunge bar, dust porting, etc. – all in excellent condition; £450 – buyer collects
**01323 431 913** (Eastbourne)

**Myford ML8 lathe** on maker's stand – comes with bandsaw attachment with many blades, mortising attachment (no chisels), rear sanding attachment with 2 discs, rear turning attachment, several faceplates, Axminster SK114 chuck (new but no jaws), compound slide and as new three-jaw chuck, duplex chuck and jaws, plus many other centres and accessories; £1,200 OVNO – buyer collects
**01323 431 913** (Eastbourne)

**Record Power RPMS-R router table**, complete with Makita RP2310FC 1½in router; very little used. Lack of space forces sale; £450. Buyer to collect
**07774 176 690** (Gloucestershire)

**Myford ML8 bandsaw** – in very good condition with blades; £95
**01395 514 808** (Wiltshire)

**Coronet Minorette planer/thicknesser** with moulding block and cutters, spare blades and woodturning chisels – all in good condition; £350
**01422 202 465** (Halifax)

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**Robert Sorby ProEdge sharpening system** – any condition considered
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**Fence plus guide rails** for a Wadkin 10in AG5 table saw
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**Stanley No.1 plane & Stanley No.2 plane** – one of each wanted by novice collector
**01572 723 976** (Rutland)

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

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

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

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

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# TAKE 5

In the next part of this new series, we look at five different examples of woodworking, furniture making, woodcarving and woodturning, specially selected from Instagram

1 Laminated wood ready to make into trinket dishes and coasters by **@timber_craft_designs**

2 'Groot Uke' – posted by **@gepettosguild** but made by **@tydemusic**: "Strong roots produce beautiful ukes"

3 A few recently carved pendants by **@giles__newman** – available to buy via his website: **www.gilesnewman.com**. "As much as I love carving with English oak", says Giles, "I have so enjoyed the chance to work with other woods recently and uncovering such a beautiful rainbow of different colours in the finished pieces, from the purpleheart wood briar rose necklace to the ebony wood bat pendant (which was insanely hard to carve), the pale cream sycamore feather to the rich reds of the mahogany fox and ivy leaf pendants. To misquote *Forrest Gump:* "Life is like splitting a log; you never know what you're going to get""

4 Textured and embellished coloured hollow form by woodturner **@tracyowen1961**

5 Beautiful sculpted wooden staircase, as seen in **@hide_restaurant** – 85 Piccadilly, London

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