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Issue 2 July 2015

GREEN Woodworking

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Tool Holder	QuickIN	QuickIN

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In the July issue...

Welcome

to the July issue of *Woodworking Crafts*

Hello and welcome to the July issue of *Woodworking Crafts*. We have a broad mix of techniques, projects and features, as promised in issue 1. I hope you have followed us from the start, but if you have only just discovered us, do get in touch with our office to see if we have copies of the first issue still available.

Readers win prizes!

I want to draw your attention to both our 'hints, tips & tricks' and 'ask the experts' pages. Both of these are sponsored and give you the chance to win prizes for your efforts. There is also a group test page where you can have the chance to become a panel member, get to try out and then keep a product. It could be anything from abrasives to a cordless drill, and in return, answer some simple questions in a survey and tell us what you thought of that product. For more information, see www.surveymonkey.com/s/wstest.

With no less than three different ways to get involved in the magazine, you stand a very fair chance of winning. Have a go and good luck! Please note that digital issues of *Woodworking Crafts* can be downloaded at www.pocketmags.com. Buy the app now, as the first issue is free to download!

TESTERS WANTED!
Would you like to be part of the Woodworking Crafts product testing panel?
To find out more about testing a range of woodworking products for us, visit www.surveymonkey.com/s/WStest and sign up now!

Anthony Bailey, Editor
Email: anthonyb@thegmcgroup.com

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To find more great projects, tests and techniques like these, visit our fantastic website at:
www.woodworkersinstitute.com

PHOTOGRAPHS BY GARY MARSHALL

Left: A selection of billhooks lacking handles

Woodland ways

A pile of old billhooks

Gary Marshall

Gary has had a life-long interest in woodlands and the countryside. He trained in countryside management and subsequently ran a company working with the local County Councils and Unitary Authority and their Countryside and Rights of Way Teams, as well as a wide range of conservation organisations, including the Woodland Trust. Although supposedly retired, Gary still keeps his hand in, writing the odd management plan – and article! – working as a volunteer on rights of way and woodland work, as a trustee of a woodland charity as well as a networker in the local rural scene.

This month, Gary Marshall gives a fascinating insight into that most humble but versatile of woodsman's tools, the billhook. Chop, chop!

I expect you all have a favourite hand tool that fits your hand perfectly, that has a balanced feel and is like an extension of your own arm and wrist. Although I use power tools in the woods, where appropriate and efficient, I wouldn't think of engaging in any woodland work without my trusty billhook.

A specially handled 'Elwell' single bevel one edged billhook is certainly my favourite right arm extension. Even after my chainsaw's been biting at the coppice, there's still plenty of scope for my Elwell: snedding – cutting off side branches – cutting up brash piles, pointing up stakes, splitting hazel, stripping bark and occasionally delicate hedge laying work. Most hooks are bevelled to an edge from both faces, but I tend to prefer a single bevel, as I can get different cuts using 'forehand' or 'backhand' strokes.

Billhook lore

Getting to grips with billhook lore, I recently spent some time with an old friend and colleague, Ian Swain. Ian owns his own wood and deals in tools, ancient and modern, at craft and country fairs and is an authority on billhooks and the like.

I had assumed that the first billhooks, as we know them, were crafted by local blacksmiths, like the old one I found rusted and buried in my Sussex garden – restored and rehandled by Ian Swain. Well this is true, but Ian told me they go back way further than I had realised. While billhook-like tools exist in other countries – and early 'billhook technology' may have developed originally in Mesopotamia – I'll only be referring to UK items in this article, to avoid writing a book!

In the Glastonbury Museum is a very old hook dating back to the Iron Age lake villages, with a pattern similar to that still used in Norfolk and Suffolk today. The Romans also had similar tools, but with the passing centuries came more and more regional variation, with small industries setting up around the country. People tended to be very traditional about their billhook preferences, insisting on and using only their local patterns.

By the late 1700s and in early Victorian times, industrial manufacturing started. Big factories

Southern England Types: Top row, left to right: Newton spar hook; generic 'Elwell' spar hook; 'Elwell' billhook, No.10 Tenterden pattern; 'Elwell' Dorset pattern sparhook; 'Biped' Dorset type; small Hampshire hurdling hook; small Tenterden pattern hook; possible 'Elwell' Lewes pattern; 'Elwell' Sussex pattern. Bottom row, left to right: Whitehouse hurdling hook; Dorset spar hook; Willow hook; Hants splitting hook; very small spar hook; 'Biped' Sussex pattern; Gilpin 200mm small hook

like Elwell and Brades would send out travellers across the country. These agents would draw round local hooks to ensure the patterns suited regional demands and catalogues were produced listing hundreds of local patterns. The names in these catalogues seem to match many an old trading route. For instance, the main routes from the Midlands into Wales are apparent from patterns 'picked off' from various localities as the 'researchers' worked their way westwards – names include the 'Knighton', 'Shropshire', 'Llandilo' and 'Aberayron'. Ian reckons there was a 'golden age' of billhook production in the early 20th century, when the variety and quality peaked. These are the tools Ian most likes dealing in – and collecting – since he now considers some of these irreplaceable. There is a strong niche demand and they are getting ever harder to source.

Modern day billhooks

Today there are only around three UK manufacturers, plus some 'motley' imports. The cheapest modern hooks tend to be poorly handled with the tangs too short and riveting too close to the blade, so they frequently shear off during heavy repeated use. Sometimes the steel is also of poor quality. There are exceptions, of course, with one Devon manufacturer, according to Ian, still producing 'good serviceable hooks'. They don't have the patina or the feel of an old hook, however. Just look at the photos above and below to see the huge range of shapes and sizes in Ian's current horde.

So you now know who to go to if ever you're rummaging through a boot fair, junk shop or even in your own Aladdin's cave and come across a neglected old hook you'd like to part with. Or, having read this article, feel you really must have one – or more – old billhooks, or even need one rehandled. Just visit www.theluddite.com and Ian Swain will be more than pleased to hear from you. ■

Above: A billhook in action

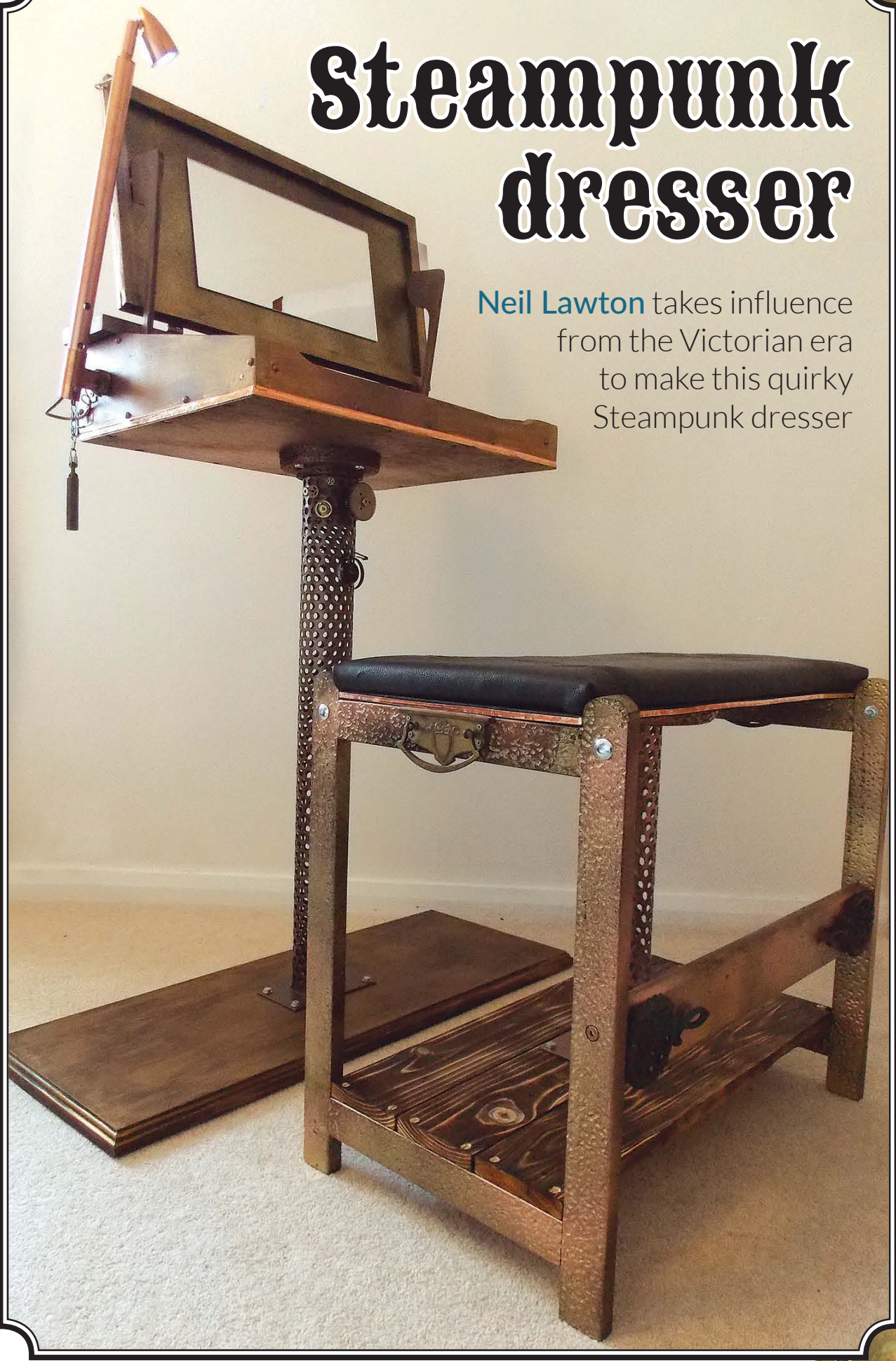
Regional variations: top row, left to right: Westmoreland hook; Kent pattern; spar hook; South Western type spar hook; ditto, Devon pattern hook; Sussex pattern, Gentleman's double-edged billhook – some hedge layers prefer using the smaller blade for splitting down or cutting spars; Leicestershire/Midland billhook; South-west browse hook or furze hook

Bottom row: Kent pattern, Westmoreland double-edged; 'Elwell' Kent Chart pattern; Suffolk pattern, Leicestershire, South west pattern browse hook; Norfolk pattern, 2 × strangely hooked bills – probably foreign or made for export

PHOTOGRAPHS BY NEIL LAWTON

Steampunk dresser

Neil Lawton takes influence from the Victorian era to make this quirky Steampunk dresser



GRAPHICS COURTESY OF DONATAS1205 / SHUTTERSTOCK.COM

I've probably mentioned before, how I hate seeing materials go to waste. Most of the materials for this project were recovered from skips and already on the first step of their journey to landfill. Modern machine jointing techniques have made it possible to utilise offcuts of timber, or timbers that were previously considered commercially unviable, to make various items of flat-pack furniture at an affordable price. But, I still see no reason to let this cheaper material go to waste.

A piece of flat-pack is always going to resemble a piece of flat-pack, so this was never going to be an example of fine woodworking, but rather a re-imagining of its form and use, to bring a discarded item back into service.

I find the Steampunk genre intriguing and decided that in this case, it might be fun to 'punk the junk', so to speak. With this in mind, I incorporated a rather pointless, but working mechanism that can be used to lift the lid and turn the light on. Pointless, it may be, but it is very much in keeping with the Steampunk ethos. The finished item can still be used as originally intended, though now at adult height, or as a dresser with the integral mirror and light.

Neil Lawton

Neil is a woodworker/turner who specialises in the use of reclaimed and recycled materials in his projects and seasons native timbers for his turning work. He works from his home workshop in York, North Yorkshire and works part time in the Design Technology department of the local school.

What you will need

- Reclaimed desk
- Hardwood offcuts
- 6mm ply
- Disc sander
- Gear templates
- Scrollsaw
- Bandsaw
- Sanding stick
- 15.875mm Forstner bit
- Steel rivets
- Wood stain
- Gilt cream
- Black, gold and copper paints
- For the handle: piece of birch ply, a bolt & several nuts
- Magnet
- 22mm plumbing fitting
- LED cluster from torch
- Hot melt glue
- Plastic pipe
- Light switch: small angle bracket & half a spring clip
- Self-adhesive copper tape
- Small resistor
- 9V battery
- Counterweight
- Small safety chain
- Reclaimed metal tubes
- Iroko (*Milicia excelsa*) offcut
- Rotary burr
- Piece of ply for the bottom
- Carpet offcut
- Piece of old leather
- Scorched pallet boards
- Old wooden barometer surround

1 The original desk was retrieved from the skip. It had obviously been exposed to the elements for a long time before being dumped. The bottom had gone completely and the laminated top had warped and twisted too far to reclaim for this project. What remained of the finish was removed using a combination of planing, power sanding and re-routing out the pen slots in the top piece.

Steampunk refers to a subgenre of science fiction and sometimes fantasy – also in recent years, a fashion and lifestyle movement – that incorporates technology and aesthetic designs inspired by 19th-century industrial steam-powered machinery. Although its literary origins are sometimes associated with the cyberpunk genre, steampunk works are often set in an alternative history of the 19th century's British Victorian era – source: Wikipedia Commons

2 Some hardwood offcuts and a piece of 6mm ply were then cut to make a new lid. The lighter weight lid would help reduce the strain on the opening mechanism, which was an important feature for this desk.

3 The hardwood battens were then simply glued and pinned to the underside of the ply. Once this was complete, the lid was then checked for fit. I decided to fit some cheap, but more elaborate surface mount hinges, more in keeping with the Steampunk theme. If you do a search online for Steampunk hardware, you will find all manner of quirky items that you could potentially use. The lid was made to fit the frame, rather than have the original overhang; this would help enable access for the mechanism. ➤


1

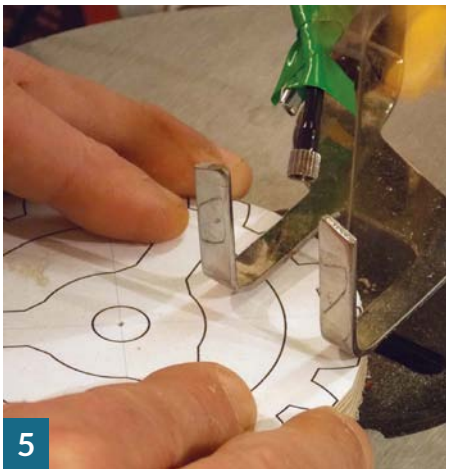

2


3

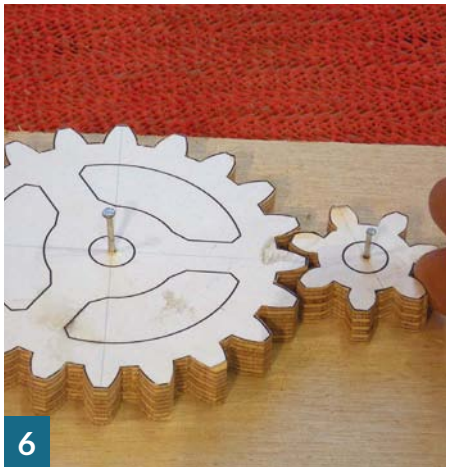
4 I found that a little more internal depth was needed to accommodate the mechanism, so the original bottom rebate was fitted with pallet wood rips, which were later filled and sanded so they were flush.


4

5 The gear templates were printed out from a free online gear generator – www.woodgears.ca – and glued to offcuts of 12mm birch ply. The waste was roughly bandsawn away, then the gears sanded on the disc sander to the flats of the template. The teeth themselves were then cut out using the scrollsaw. The cut has to be accurate and the blower on my saw is not very efficient. I managed to overcome this by taping the outlet of my airbrush compressor to the machine, ensuring the line was never obscured by the dust.


5

6 Pilot holes were drilled through the centres and the gears loosely pinned to a piece of scrap, to check the meshing. As it was, the gears worked perfectly, but this would have identified any catch points, which could have been ironed out by the simple use of a sanding stick.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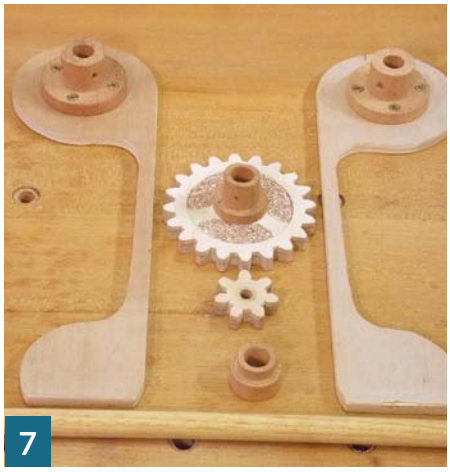
7 The lifting arms for the desk were cut from 6mm ply and bosses turned from beech *(Fagus sylvatica)*. All pieces were drilled to accept a piece of 15mm dowel, which would act as the axle.


7

8 The sides were drilled with a 15.875mm Forstner bit, to allow movement of the axle without too much play. As part of the decorative aspect, the heads were cut from some steel rivets. These would be glued into holes drilled in the panels to give a more industrial effect.


8

9 All the moving parts were stained, rather than painted, to ensure wear would not expose bare wood after continued use. Gilt cream was also applied to give a more metallic effect.


9

10 The frame was sprayed with a combination of black, gold and copper paints and assembled with the mechanism installed. Gilt cream was once again added as a highlight.


10

11 A simple handle was made from birch ply, with the addition of a bolt and several nuts. This was then glued and pinned to the smaller gear.


11

12 With the lid fitted, it became apparent that some sort of end stop was required to stop the lid flipping over and disengaging from the mechanism. This old brass fitting seemed appropriate. A magnet – not shown – was also fitted to one of the lifting arms and the corresponding point inside the open lid; this would help to keep the mechanism engaged.


12

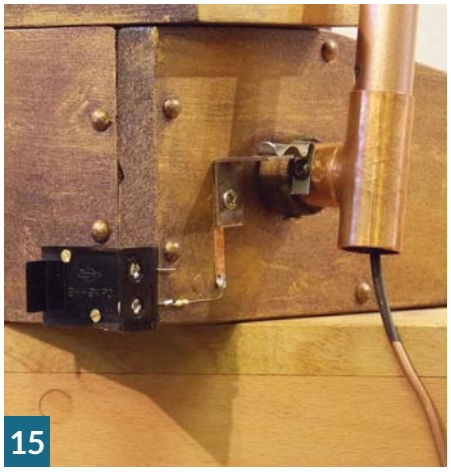
13 A 22mm plumbing fitting was drilled and then screwed onto the boss at the other end of the axle; this would provide a seat for the moving light.


13

14 An LED cluster was removed from a torch bought at the pound shop and the connecting cable soldered on. Hot melt glue was then used to insulate the back of the cluster. Part of an old light fitting and a piece of plastic pipe were assembled and sprayed to complete the unit.


14

15 The light switch was made from a small angle bracket and half a spring clip. They only make contact when the lid is in the correct open position. One wire from the cluster will be attached to the screw that holds the spring clip, with the other going to the battery holder. The circuit is completed by the self-adhesive copper tape and a small resistor. This was included to allow the lower voltage light to be powered by a single 9V battery.


15

16 The completed light assembly. A counterweight and a small safety chain were added to avoid causing unnecessary strain on the mechanism.


16

17 The metal tubes were another skip find, one of these and an offcut of iroko *(Milicia excelsa)* tabletop will become the base of the dresser. A disc and small blank were roughly turned to fit the open tube end; these were then screwed together to form the support for the units base. This was then textured using a rotary burr. This is very dusty work, so I utilised the down draught table I made in *Woodworking Plans & Projects* 99.


17

18 The tube and support was painted and checked for fit.


18

19 Next, a piece of ply was cut for the bottom, drilled, countersunk and marked out for the central support. ➤


19

20 The bottom was then coloured and fitted. The screws that can be seen from the bottom of the support are for effect only; the base is properly attached by screws through the base into the support. With the chain temporarily detached, the lid was lifted without bringing the mechanism with it. This made positioning the acrylic mirror easier. The lid magnet can also be seen here.

21 The tabletop offcut was drilled to accept the mounting bolts for the tube; it was then sanded, routed and coloured. Some gears and clock parts were added to the tube, with room for more embellishment.

22 The original leg assembly, with a few additions, was used to create the stool. The padded seat was made by attaching two layers of carpet offcut to a piece of ply and covering with a piece of old leather. Scorched pallet boards, part of the other tube and an old wooden barometer surround, helped to bring the whole thing together.

23 A few additions to the stool and the dresser is ready to go! ■


20


21


22


23

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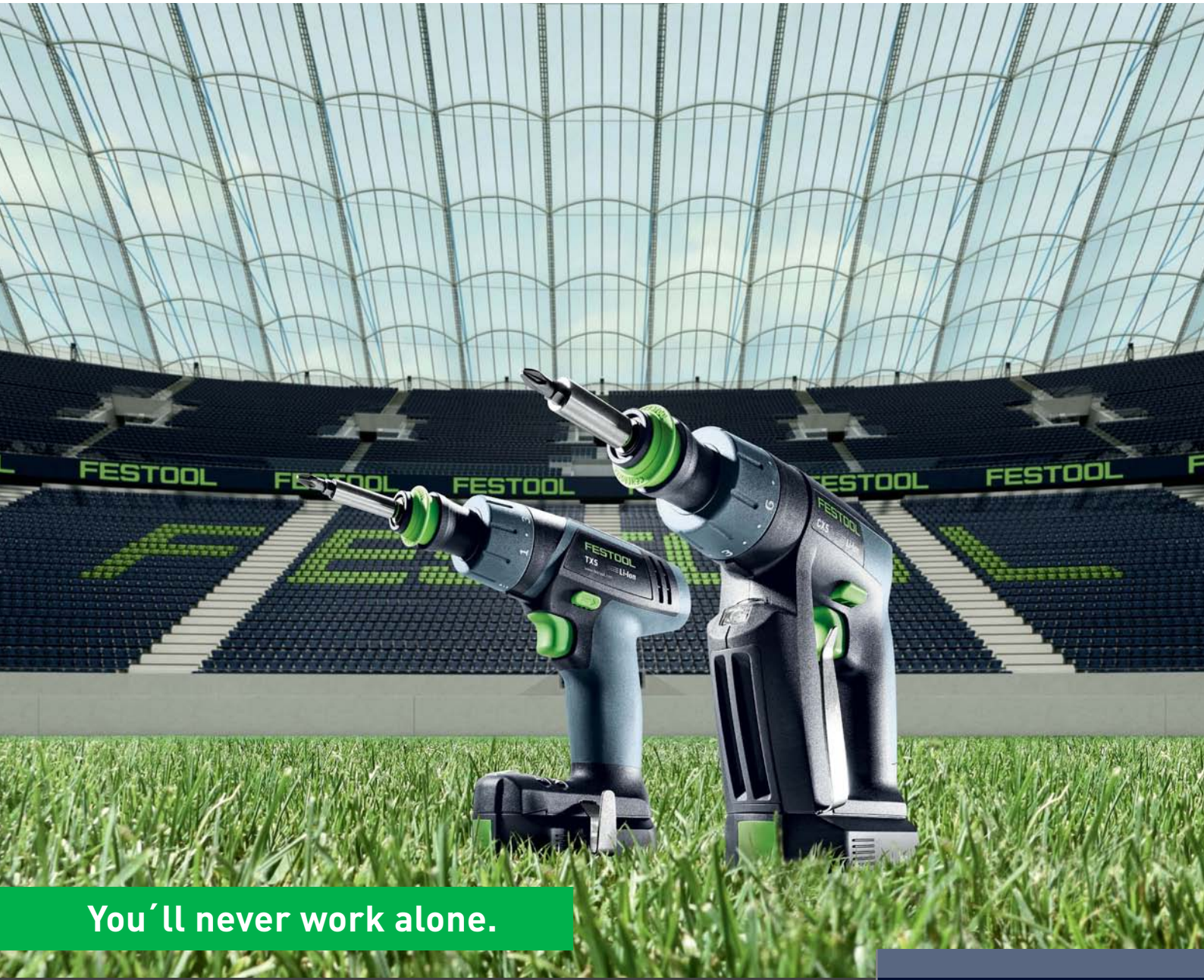

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NEWS & EVENTS

All the latest events and news from the world of woodworking...

Global support for Heroes' wood workshop

PHOTOGRAPHS COURTESY OF HELP FOR HEROES

Above: One of the members practising woodcarving

Right: Inside the fully-equipped wood workshop

A wood workshop, funded and kitted out by donations from woodworkers all over the world, has been officially opened at Help for Heroes northern Recovery Centre. Wounded, injured and sick servicemen, women and veterans being supported at Phoenix House in Catterick, have benefited hugely from participating in weekly woodcraft sessions, with a wide range of machinery, tools and wood where they can practise the craft as therapy, to learn a new skill, or even as the first steps into a new career as part of Help for Heroes Career Recovery Pathway.

Driven by Warrant Officer and Phoenix House volunteer, Chris Morgan, who heads a group called the Woodwork Volunteers, the campaign has resulted in donations of money, equipment, tools and wood pouring in from the woodworking fraternity around the world. The campaign's fundraising target was originally £30,000 but it soon became clear that such an amount was not needed, thanks to donations of equipment from manufacturers and tools and wood given by retired woodworkers or by the relatives of those who have died. The appeal was launched by toolmaker Robert Sorby at the 2013 North of England Woodworking and Power Tool Show, which was prompted by the success of a series of woodturning workshops held by the company for Help for Heroes beneficiaries.

The interest generated by those classes inspired the development of woodworking as part of the curriculum in the recovery process and Chris Morgan has been running regular carving sessions at Phoenix House. The new workshop facilities will enable users to expand their woodcraft skills to include woodturning, fretwork, image-burning and produce carvings and shapes to any design, thanks to a state-of-the-art CNC machine. Many of the machines are adapted for wheelchair users.

The workshop was officially opened by Col John Bridgeman, Master of the Worshipful Company of Turners and Chairman of the Recovery Careers Services, and professional woodturner and teacher, Tony Wilson.

DETAILS:

Where: Phoenix House Recovery Centre, Richmond Road, Catterick Garrison, North Yorkshire, DL9 3AW
Contact: Phoenix House Recovery Centre
Tel: 01748 834 148
Web: www.helpforheroes.org.uk

Record Power spring & summer shows

PHOTOGRAPH COURTESY OF DM-TOOLS.CO.UK

During the next few months, Record Power will be appearing at various dealers' premises across the UK and Ireland to answer your questions and demonstrate products from their extensive range. At many of the events, exclusive show deals will also be available. Find the show nearest to you from the details listed opposite.

DETAILS:

Left: Demonstrating the Record Power BS250 bandsaw

When: 13 June, 2015; 24 June, 2015; 24 June, 2015
Where: Joe McKenna Ltd, 54-56 Parnell Street, Limerick, Ireland; RS Paskin, Oldington Trading Estate, Stourport Road, Kidderminster, Worcestershire DY11 7QP; DJ Evans, St Botolphs Lane, Bury St Edmunds, Suffolk IP33 2AU
Contact: Record Power
Tel: 01246 571 020
Web: www.recordpower.co.uk

Toolshow 2015

Toolshow 2015 is once again building on the massive success of previous events and aims to be the largest toolshow in the country. Held at the American Express Community Stadium near Brighton, once again, you can expect to enjoy free parking, free entry, a wide range of free demos, the best show deals and pitch-side masterclasses.

All the biggest names in the woodworking industry will be present, waiting to show you their new products, answer any questions and offer you some fantastic deals on products. The event organisers are periodically releasing updates on masterclasses and any new exhibitors who have joined. This is an event not to be missed, so visit the website today and be sure to sign up so you don't miss a thing!

DETAILS:

When: 25–26 July, 2015
Where: American Express Community Stadium, Village Way, Brighton BN1 9BL
Contact: PR Industrial
Tel: 01273 774 455
Web: www.prindustrial.co.uk

PHOTOGRAPH COURTESY OF WWW.YOUTUBE.COM

Visitors enjoying the Annual Open Day at Peter Sefton's Furniture School

Peter Sefton Furniture School's Annual Open Day

This event will be taking place again this year at The Threshing Barn from 10am-4pm. You can meet the expert tutors, see professional demonstrations and pick up advice, tools and products along with a stunning furniture exhibition of the pieces designed and made on the Professional Long course, at the students' end of year show.

DETAILS:

When: 18 July, 2015
Where: The Threshing Barn, Welland Road, Upton Upon Severn, Worcester, Worcestershire WR8 0SN
Contact: Peter Sefton
Tel: 01684 591 014
Web: www.peterseftonfurnitureschool.com

PHOTOGRAPH COURTESY OF WWW.TARBYDAVENPORT.COM

A chainsaw carver at last year's event

DETAILS:

When: 26–28 June, 2015
Where: Caerwys, North Wales CH7 5BP
Contact: Woodfest Wales Ltd
Tel: 01745 583 034
Web: www.woodfestwales.co.uk

Woodfest 2015

This interactive festival, which takes place in Caerwys, North Wales, is full of exciting things to do for all the family. Step back in time and see craftsmen and women carrying out traditional crafts and skills, creating beautiful, fascinating and functional art, sculptures, objects, buildings and more and watch the latest high tech forest equipment demonstrated by working professionals.

Woodfest has seven different event arenas with exhilarating displays along with over 150 outside trade stands and demonstrations as well as six main marquees full of interesting and unique goods produced in the UK.

Woodfest is famous for its competitive axe racing, sawing and tree climbing events. Expect to see visiting axemen from all over the world taking part in competitive woodchopping, crosscut sawing, sawing, tree climbing and chainsaw skills. This original extreme sport attracts the world's top lumberjack athletes in competitions based on historic logging techniques. Athletes compete in a variety of disciplines based on traditional logging skills to determine the best in individual disciplines and all round lumberjack.

If you choose, you can camp at the event or take a caravan. Ticket and further event details can be found by visiting the website – see details opposite.

HEALTH & SAFETY NEWS

HSE introduce a footwear rating system known as 'GRIP'

Slips and trips continue to be the biggest cause of workplace injuries, so it is really important that work footwear offers them the right level of slip resistance.

The Health & Safety Laboratory (HSL) – www.hsl.gov.uk – have launched a new footwear rating scheme called 'GRIP'. GRIP provides free information to health and safety managers so that they can make informed, evidence based decisions before purchasing resistance footwear.

Their new white paper 'Get a GRIP' explains how the scheme works and where you can get further information about which footwear has been rated. To request your copy, please e-mail productsupport@hsl.gsi.gov.uk quoting 'GRIPWPHSE'.

PHOTOGRAPH COURTESY OF MASCOT

The Mascot® Preston Safety Boot

A wheel off a wheeled fire escape for the Merseyside Fire and Rescue Museum

PHOTOGRAPH BY PHILLIP GREGSON

Prestigious Churchill Travelling Fellowships awarded to crafters

To mark its 50th anniversary, The Winston Churchill Memorial Trust has awarded Travelling Fellowships to two people working in the woodworking crafts, in order to bring back the benefit and positive change to their profession and community here in the UK.

This is part of a partnership with The Worshipful Company of Carpenters to jointly fund several Fellowships annually in the Crafts and Makers category and the collaboration will promote and encourage woodworking crafts, such as joinery, cabinet and furniture making.

The Worshipful Company of Carpenters is committed to supporting those working in the profession through scholarships, competitions and the Building Crafts College and maintains close links with the carpentry profession and other building trades.

DETAILS:

Contact: The Winston Churchill Memorial Trust
Tel: 020 7 799 1660
Web: www.wcmt.org.uk

WOODWORKING IN THE NEWS...

Ashbrittle yew tree dying

The Ashbrittle yew tree in Somerset is thought to predate Stonehenge, but now it's possibly coming to the end of its life. The tree dates from the Bronze Age, is known to be twice as old as Christianity and with rumours of a pre-Roman chief buried beneath it. It is thought to be the country's oldest living thing, but now it is sadly showing signs of sickness. At 4,000 years old the tree measures 11.5m wide, with six smaller trunks reaching out from the central one, but the leaves and branches are withering and falling.

"It's looking extremely sick at the moment," said Charles Doble, warden of St John the Baptist's church in Ashbrittle, Somerset – whose yard the tree stands in. However, tree expert Dr Owen Johnson said that ash trees go through spells where they might look as though they are not thriving, but a few years later they might look fine. They are almost immortal.

PHOTOGRAPH COURTESY OF WWW.METRO.CO.UK

Britain's oldest living tree, Ashbrittle yew, may be dying

New Amazon study finds 1% of trees hold 50% of the region's carbon

The Amazon is home to an around 16,000 tree species and researchers have found that just 182 species dominate the carbon storage process. This makes up only 1% of all tree species that account for half of the carbon locked in the vast South American rainforest, a study has estimated. After the findings appeared in the journal *Nature Communications*, co-author Sophie Fauset from the University of Leeds explains: "Considering that the Amazon is massively important for the global carbon cycle and stores so much of the planet's biomass, finding out just how that carbon is stored and produced is very important if we want to understand what might happen in the future in different environmental conditions." She added that it is therefore important to maintain a bio-diverse forest, which has a wide range of species with a wide range of life histories and strategies that will be able to deal differently with changes to the environmental conditions.

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

A view over the Amazonian rainforest

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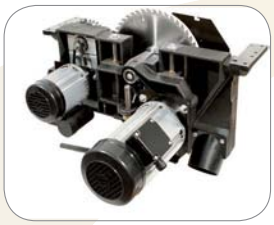

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*Forsa 6.0 / 8.0 / 9.0 above illustrated without professional sliding table carriage (Pro STC) with telescopic arm. **All prices below include Pro STC & TWE**. Substantial price reductions available if standard solo outrigger table required. All prices ex works. Carriage **extra.** Forsa 4.0 / 4.1 - tail lift required. Forsa 6.0 / 8.0 / 9.0 - fork lift truck required. P3 models inc extra support table & clamp

Model	Product Group Series	Specification Includes (as per quoted price)	Mc HP / Scorer / Volts	Depth of cut & length of stroke	Price Exc VAT - Plus Carriage	Price Inc VAT - Plus Carriage
Forsa 4.0 - P2	Professional	Inc Professional STC + TWE + TLE + Scorer	6.5 / 1.0 / 415v	107 mm x 1.6 m	£2,995.00	£3,594.00
Forsa 4.1 - P2	Professional	Inc Professional STC + TWE + TLE + Scorer	6.5 / 1.0 / 415v	107 mm x 2.1 m	£3500.00	£4,200.00
Forsa 6.0 - P2	Professional	Inc Professional STC + TWE + TLE + Scorer	5.4 / 1.0 / 415v	107 mm x 2.1 m	£3,995.00	£4,794.00
Forsa 8.0 - P3	Professional	Inc Professional STC + TWE + TLE + Scorer	6.5 / 1.0 / 415v	107 mm x 2.6 m	£4650.00	£5,580.00
Forsa 9.0 - P3	Professional	Inc Professional STC + TWE + TLE + Scorer	6.5 / 1.0 / 415v	107 mm x 3.2 m	£4,800.00	£5,760.00

STC = Sliding Table Carriage. TWE = Table Width Extension. TLE = Table Length Extension. P3 models inc extra support table & clamp.

PHOTOGRAPHS BY NIGEL HANSON & HURLEY STOFFER

What you will need:

- Some reasonably fresh cut ash *(Fraxinus excelsior)*, preferably straight and knot free
- Axe
- Saw
- Knife and chopping block
- Boiled linseed oil, optional
- Other tools mentioned are optional

Carving a Cleft ash tent peg

Lee Stoffer starts his green woodworking series with a simple project that you won't find too 'in-tents' ...

As the camping season is upon us, I thought it would be nice to look at carving some simple but effective cleft ash *(Fraxinus excelsior)* tent pegs. Traditionally these pegs are produced using a peg knife, which is similar to a clog maker's stock knife. It has a long-handled, cleaver-like blade with a hook on the end, which locates in an eye fixed to a bench or stump. It allows the user to hold the billet in one hand while applying the cut, with leverage from the long handle, with the other and produce pegs very quickly, probably at a rate of two to three a minute at full production speed. I don't have a peg knife or the experience to produce them so fast but here I aim to show you a reasonably quick way to produce similar pegs using a few simple hand tools. With some decent material you should be able to make a dozen pegs in under an hour.

1

1 First, cut the ash to length. Trim the log end to get rid of any end checking, then cut a length of ash somewhere between 200mm and 300mm from a log with a minimum 100mm diameter – in my case, 250mm × 200mm. Most readers may not have a chainsaw or be trained to use one, but a bowsaw will do instead if you don't mind the exercise. ➤

2 You can then start to cleave the log, first in half, then in quarters, then down until the bark edge of each cleft is between 30mm and 50mm billets, as I am doing in the photo here. I was able to get a total of 12 usable billets from this 200mm diameter log.

3 The next step is to clean up the billet you're left with. Start by first removing the bark and then the growth centre. Also take out any wind – twist – at this stage.

4 You can now start rough shaping the peg. Decide which is to be the 'struck' end of the peg and hold it uppermost on the block, chopping from about 50mm down and start to taper the back – narrowest – part of the peg.

5 From the same reference point, taper the side towards the point, but leave that point at least 15mm square at this stage.

6 You can now flip the peg over and taper the sides from the same reference point, working towards the struck end.

7 From just below the original datum point you made, saw in a stop cut from the back of the peg between 15mm and 20mm deep.

8 Gently chop in from about 50mm below the stop cut and persuade the waste to pop out by applying a bit of sideways leverage with the axe to create a catch point for a guy line. Be careful not to chop in too hard and split the catch point off.

9 The next step is to add a bevel to the back edge. It's important to trim back the angle here to make sure the hook will not be struck off by a mallet when driven in.

NEXT MONTH...

I find these pegs particularly useful when camping in woodland or on other fairly soft ground. In the next issue, we'll look at making a selection of striking implements, such as clubs and mallets. Check out the video of me carving a peg on Youtube using this link: https://youtu.be/Cly5lhnVec8 or find my channel via the link from my website


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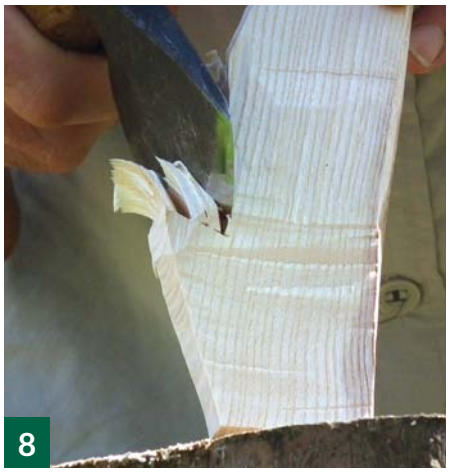
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10 You can now move on to bevelling the top edges of the peg to give a striking area of around 15 × 20mm.

11 To clean up the peg a little, you can use a push cut with the axe. This helps to remove any arris, which will prevent splinters in the future.

12 Now it's time to refine the point. To do this, you need to cut four quick cuts to give a fairly blunt, strong point.

13 If you have a shavehorse or similar clamping device available, you may wish to finish your pegs off on there after roughing out with the axe.

14 Alternatively, use your carving knife. Clean up/bevel the area where the guy line will locate to prevent premature wear on your lines.

15 Your finished pegs should look something like this. Leave them to dry for a week or so and add a coat or two of boiled linseed oil to increase service life if you wish. ■

SHAVEHORSE

The shavehorse is a combination of a vice and a workbench and is used in green woodworking. It consists of a vertical bar, hinged on a pivot attached to the bench seat. The top of the bar is enlarged into the 'horse head', which clamps the workpiece. It is operated by the person sitting astride the 'horse' and pressing their feet onto a treadle bar. The operator can use their legs and upper body weight to provide additional power. Traditionally, shavehorses were made by their users and were constructed entirely out of, generally, found wood, although modern versions now use metal screws, bolts, etc.

A shavehorse

PHOTOGRAPH COURTESY OF WWW.AXEOEXA.COM

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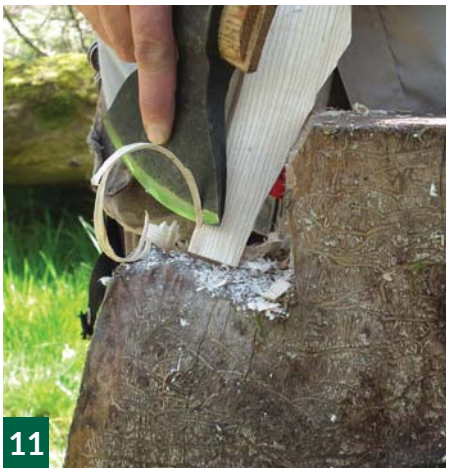

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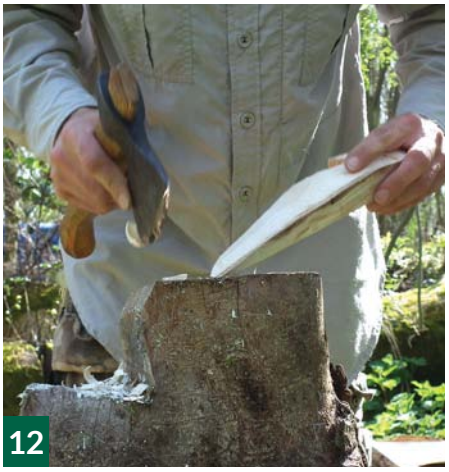

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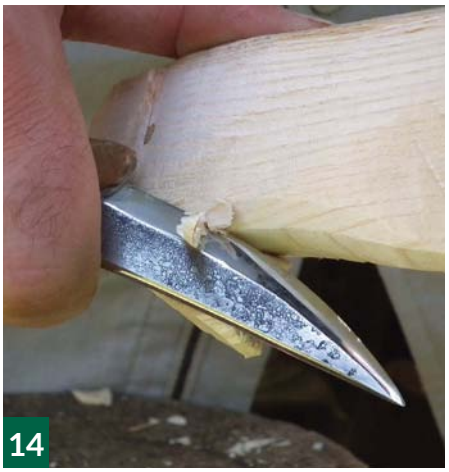

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Lee Stoffer

Lee Stoffer has finally decided to turn his passion for green woodworking into a full-time occupation, making, teaching and demonstrating. Lee can be found showing off his enviable skills at many woodworking shows and events. He is always happy to chat about what is involved and he is keen to encourage other people to try their hand at one or more of these fascinating traditional craft skills. You can visit his Facebook page or his new website to learn more about what he has been up to.

Web: www.covertcraft.com
Facebook: www.facebook.com/covertcraft

Upstyled Painted Furniture

Lucy Bailey explains how to upcycle tired pieces of furniture using simple painting techniques

Painted furniture has a long and industrious history from medieval England through the Arts & Crafts movement and the Bloomsbury Group. With the use of simple hand-printing techniques, why not have a look around your house for that piece of worn-out furniture and try a bit of upcycling for yourself? The triangular design used throughout these projects is a good starting point for beginners – flipping, rotating and tessellating to expand and alter the print. To add a more personal design, however, why not create your own template?

Resources

For all paints and equipment, visit a well-stocked DIY store, such as Wickes.
For lino cutters, foam sheet and other equipment, visit your local arts and crafts suppliers.

What you will need:

- Small and medium paintbrushes
- Abrasives
- Cork block
- Lino
- Lino cutter and roller
- Primer/undercoat
- Paint: emulsion and acrylic
- Clear varnish
- Chalkboard paint
- Dust mask
- Goggles
- Card
- Cutting mat
- Scalpel
- Scissors
- Pencil

Health & safety

1 When sanding down the furniture, ensure you are wearing suitable eye protection and a facemask to prevent you from inhaling the dust.

2 When using lino cutters, always cut in a direction away from yourself and ensure that you keep your fingers clear of the blade.

PHOTOGRAPHS BY LUCY BAILEY

PREPARING YOUR SURFACES

Preparing the wood surfaces will be the same for each piece of furniture. This stage takes the longest and if you invest the time now, you will have a quality, finished product.

1 Sand down your furniture. This removes any excess layers like varnish, but also creates a surface that the paint can adhere to.

2 Paint with a suitable undercoat to 'blind out' the wood or paint underneath.

3 Once dry, paint two thin layers of your chosen colour in matte emulsion paint.


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Dealing with flaking veneer

The Herbert & Gibbs bedside cabinet was originally veneered in oak *(Quercus robur)* using protein glue. Soaking the veneer with a damp cloth rehydrated the glue underneath so that with the aid of a palette knife, it could be lifted off.

My upstyled 1950s Herbert & Gibbs bedside cabinet

I found this cabinet on a rainy day at the tip. It only cost £5, but I immediately saw its potential for holding my sewing machine and knitting equipment.

1 Before painting, the doors and drawer were removed. Using emulsion, the main body of the cabinet was painted grey and the doors and drawer a light pink. To ensure an even coverage, I applied several thin coats. Once dry, diagonal lines were marked up using masking tape on both sides of the cupboard. The tape was pressed down firmly to avoid any paint running underneath the masking tape lines. The first colours were applied alternating between the strips.

2 You can now get an impression of what the overall effect will be with just two colours applied so far. It takes a certain vision to imagine the finished result. If you end up not liking the effect, you can always start again and overpaint. ➤


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3 Using your choice of colours, paint using emulsion, ensuring you don't overload your brush, as this might run over the tape.

4 On the front, I decided to create a simple triangle-shaped stencil that I could repeatedly print.

5 To make a stencil, begin by drawing your chosen shape onto strong card. Use a scalpel to cut out your shape carefully, avoiding overrunning the lines with the blade as this may cause the paint to run. Remove the inside shape.

6 Cut around the edge of the stencil so that you can see the shape; this way, you will print accurately without guessing whether the stencil is the right way round.

7 You should end up with a card shape like this, ready to place on the surface to apply paint.

8 Position the stencil and secure with tape. Use a sponge and a little paint to fill the shape. Dab the paint on. I suggest wiping the back of the stencil between each print to ensure you don't transfer any paint that has overspilled. Once completely dry, apply a matte varnish to prevent the paint from smudging during use.

TOP TIP

If you want to keep a stencil and use it repeatedly, laminate the card before cutting the stencil out. The sides of the card won't wrinkle and you will be able to wipe the stencil clean.


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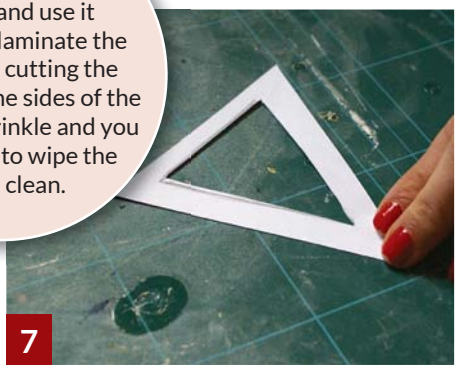
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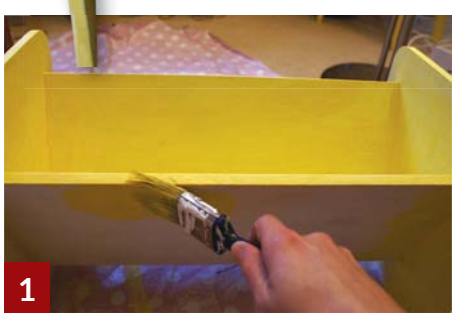
A boring magazine rack made funky!

I collect scraps of paper, magazines, leaflets and postcards from my travels to use as inspiration and I wanted to store these in one place rather than scattered around my workspace. I decided to use lino printing to create a patterned surface on this magazine rack.

1 The rack surface was painted with two coats of yellow emulsion for a bright and warm theme. A master copy of the pattern was drawn out on paper, then overlaid with tracing paper and re-sketched. Greaseproof paper works just as well as tracing paper.

2 To transfer the design onto lino, take some tracing paper drawing, flip it over and lay it on top of the lino. Draw over the lines that have been previously drawn. This will then leave marks on the lino that should be clear enough to use.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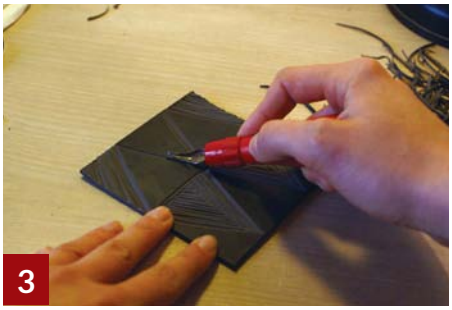
3 Decide which areas will be coloured and which will be clear. Remembering that all areas of the lino that you cut away will not be coloured, however, I think it looks lovely when some of the cut marks are left on the print. You can then cut your design using a lino cutter.

4 The finished lino print should look something like this. Coat your print with paint. When printing onto paper you would usually use ink and a roller, but I found a paintbrush to be just as effective when applying to furniture. Position your lino cut onto the furniture and press firmly onto the piece. Remove and you should have a pattern. You may need to experiment with the pressure that you need to apply to certain areas. Recoat the print between uses, ensure that you wipe the edges of the print so that you don't spread paint to unwanted areas. You need to keep repeating your pattern until you are happy.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TOP TIP
Before cutting out your design, experiment with an offcut of lino to try different blades and see what effects they can create.

5 Leave to dry, then coat with varnish. Water-based varnish is quick drying and has the benefit of being easy to wash off brushes and hands afterwards.


5

Get ideas with this side table

1 For the base colour, I chose roasted red as I wanted a piece that would be striking. I used a large brush and applied two thin coats, ensuring even coverage. I wanted the top of the table to be a chalkboard that I could write onto. There are various types of chalkboard paint, but I suggest choosing a water-based paint. Mask off any areas you don't want to be coated in chalkboard paint. Apply two coats, or as indicated on the label. The paint I used took much longer than the emulsion to dry. I decided I wanted to print on the edge of the table as well. I began by drawing my design on paper. Once you are happy with the pattern you have come up with, draw this design onto this craft foam.

2 You can then cut out your foam design using either a scalpel or sharp scissors. It should be very easy to cut.

3 Use PVA glue to stick it to corrugated card. Once dry, cut around the shape.


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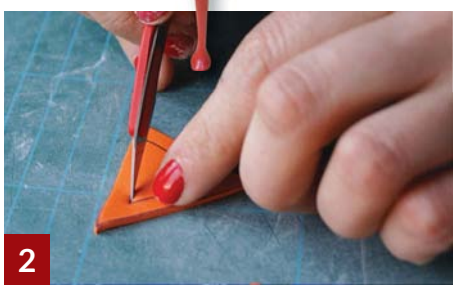
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4 Using a paintbrush or roller, apply paint to your print. Remember to reapply paint each time you use the print and wipe with a damp cloth. Do not soak this print with water, as it will disintegrate. Repeat the print of your design around your table. I stuck with triangles at the same orientation, but you could experiment with tessellating the design. Finish by applying a matte varnish. ■

Lucy Bailey
Lucy enjoys experimenting with a wide range of art forms, including devising performance, puppetry, visual arts and workshop facilitation. As a theatre maker, she devises, directs, performs and constructs costumes, props and sets. As a visual artist, she draws, paints, works with clay and print making techniques. She is particularly interested in community-based and therapeutic arts practices, puppetry and children's theatre.
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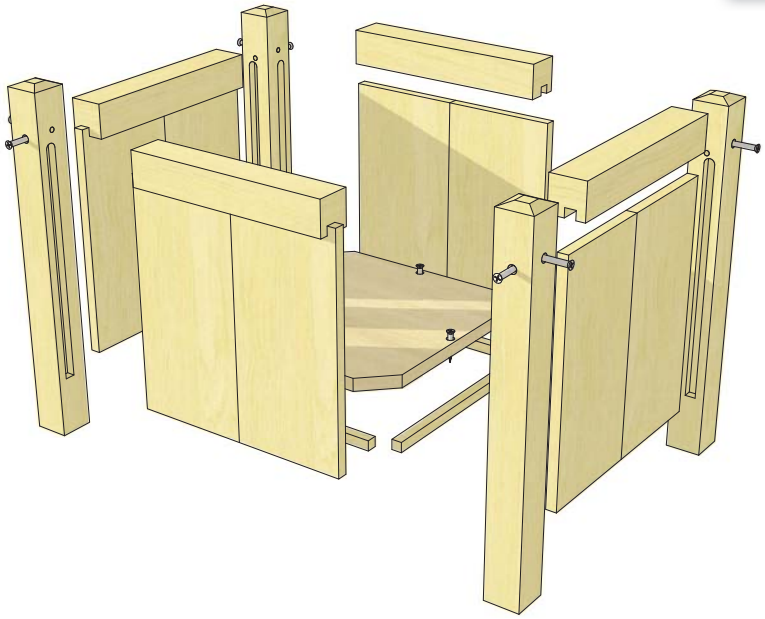
Garden planter

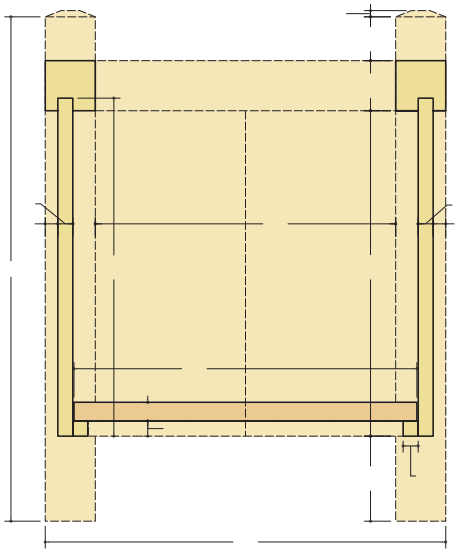
PHOTOGRAPHS COURTESY OF GMC PUBLICATIONS

In this extract from *Woodworking from Offcuts*, **Derek Jones** shows us how to make this garden planter using just a few pieces of leftover decking

When making anything for use outside, select a material that is fit for purpose. This garden planter is made from iroko *(Milicia excelsa)* sourced from decking material; it requires the minimum of finish for it to withstand all that the elements can throw at it before deteriorating beyond repair.

The joinery in this project is not technically challenging, but an element of precise hand tool co-ordination is required for the finishing touches. A router table would make life easier, but is not essential. ➤



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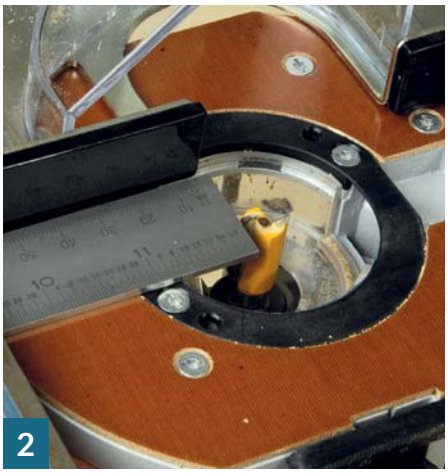
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1 Start by drawing the position of the grooves to accept the side panels on the edge of the stock. As the two internal faces are to be grooved, you will want to position them away from the centreline. The X-shape illustrates the position of the groove in the stock.

2 Use this measurement to make a mark for a stop or clamp to limit the amount of travel of the router when machining the grooves. If your material allows it, machine the components in pairs.

3 I used a 12mm-radius cutter to match the thickness of the side panel. Using a square, capture the measurement from the tip of the cutter to the outside edge of the router base.

4 With a chisel, make a clean mark across the two boards so that they can be realigned when turned through 90° to rout the second face.

5 Line up the chisel indents. The lines marked with an 'X' are the stop lines, so there is no need to mark out for the second row of grooves.

6 Square off the ends of the grooves as there will not be a shoulder on the panels to hide the ends of them.

7 Next, dry-clamp the frame together with the panels in place and mark out for the screws, avoiding the groove and panels.

8 Use a strip of masking tape to set the depth of the screw hole in the corner posts.

9 As you are drilling close to the edge and into a hardwood, carry out a few tests to establish the right size of pilot hole for your screws.


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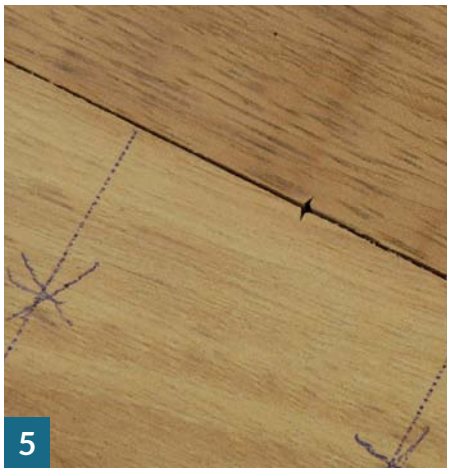
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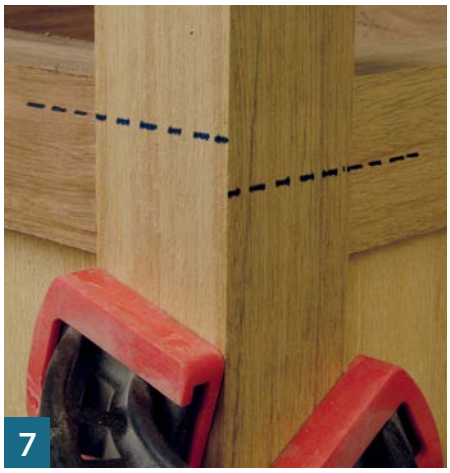
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10 On the inside of the panels, screw a batten along the bottom edge between the corner posts.

11 Before assembling the frame, mark out for the chamfer detail on the top of the four corner posts. Use a marking gauge to divide the end of the post into an even pattern.

12 With your sliding bevel set to 20°, mark the chamfer on all corners around the post.

13 You should be able to cut close to the line with a saw to remove most of the waste.

14 Fine trimming can be done with a block plane. It might help to clamp two posts together in the vice to give a more stable platform to work on.

15 Countersink the screw holes and screw the frame together.

16 You can then cut a piece of marine ply to fit in the bottom of the planter, removing the corners. Screw it to the four battens on the bottom of the sides.

17 Your finished garden planter will look something like this. ■

Derek Jones

Derek Jones is Editor of our sister publication, *Furniture & Cabinetmaking* magazine and is also the man behind New English Workshop – www.newenglishworkshop.co.uk – a partnership of professionals and enthusiasts who offer a variety of woodworking courses. When he's off the GMC clock, Derek manages woodworking projects for customers, which can range from a single wardrobe right up to the complete re-fitting of a five-storey house.

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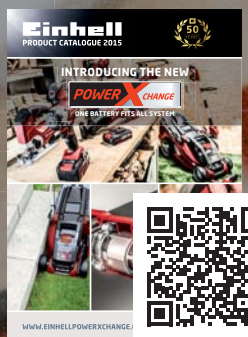

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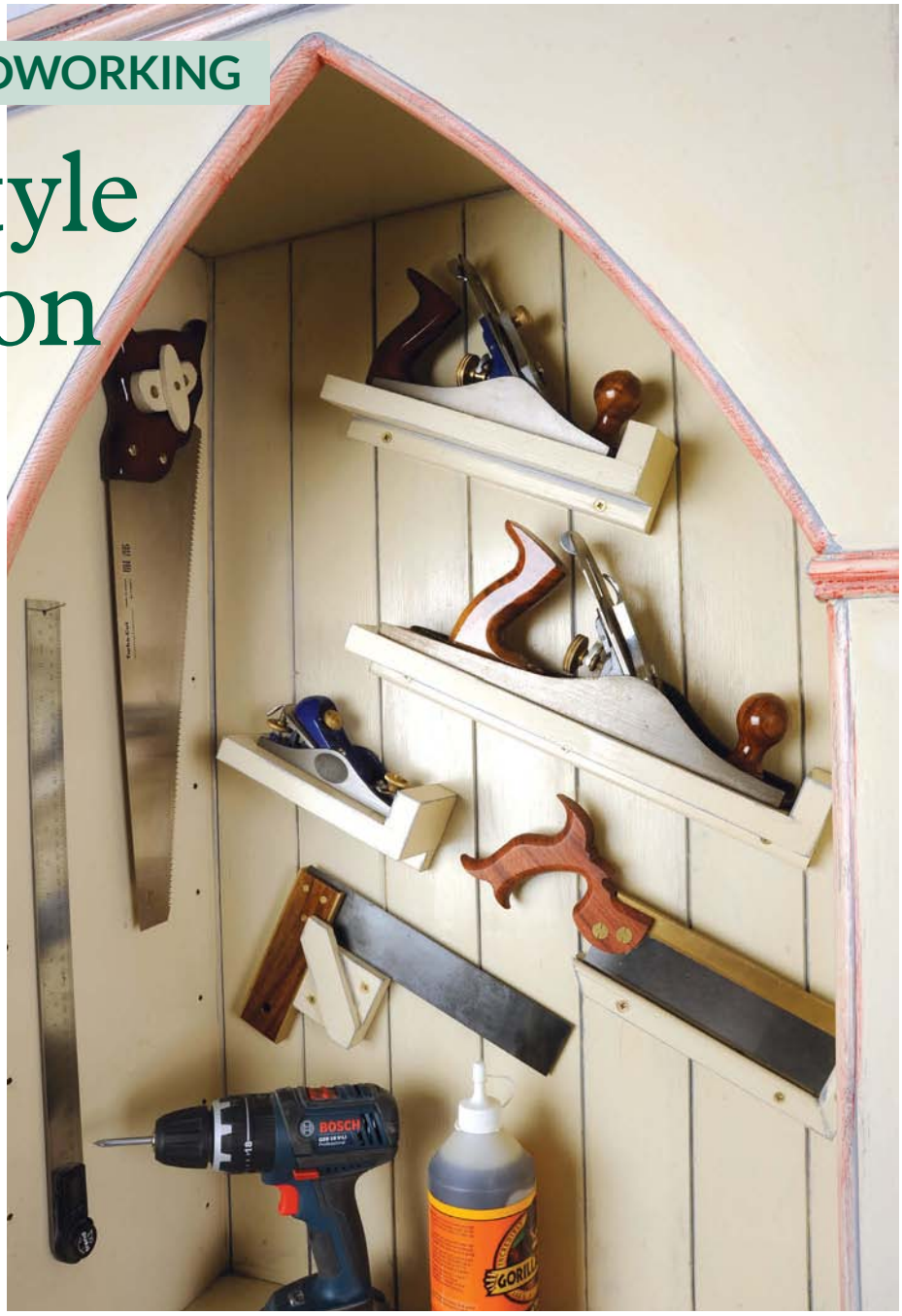
SMALL SPACE WOODWORKING

Gothic-style workstation

The Editor takes an old bookcase and converts it into a Gothic-style workstation



PHOTOGRAPHS BY GMC/ANTHONY BAILEY

In last month's issue, I showed you a speedy makeover for a compact workstation using an old pine *(Pinus spp.)* cupboard, but this month, I decided to go for a different style of workstation, which I like to describe as 'country gothic'. This style is light and airy rather than being dark and brooding.

1 I came across this very solid pine bookcase, which seemed to have potential. I wanted something with a small 'footprint' and some kind of style. Fortunately, this came with a gothic arch top and mouldings. However, it would be easy enough to apply a cutout arch top to a rectangular bookcase and glue the mouldings on to get a similar effect to the one I'm showing here.

2 It had brass loop shelf supports, which I would use to keep the shelves in place, but the actual work surface would need better fixings.

3 The simple solution was to mark the outside of the carcass and carefully screw through the carcass into the middle of the shelf edges. ➤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Imagination

This piece already had a Gothic arch but you could cut out a rounded Roman arch, for example. There are a number of architectural styles you can apply to furniture quite easily – you don't have to stick with the Gothic theme. Mouldings can be bought from a DIY store and applied to the carcass to decorate it.


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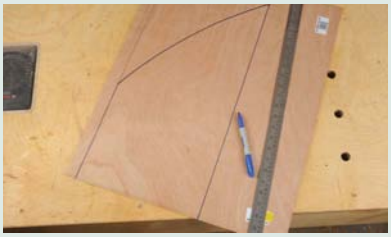
Make your own arch

Measure the width of a plain carcass and free-hand draw half the arch shape you want on a thin board as a template. Cut it out and draw around the shape on a piece of thick ply or MDF, flip it to get an exact mirror shape to complete drawing the arch then cut out using a jigsaw.



4 The top section would hold tools so one shelf was not required. This would be the basis for a projecting work surface, but it needed to be cut using a coping saw so it would fit around the carcass front edge.

5 The carcass looked very dry and unwaxed so a rub down before painting was sufficient. I chose General Finishes' linen colour milk paint for the whole carcass.

6 Although it is a very thick, smooth paint it still needed two coats for an even finish. This piece of tired pine is already looking quite different.

7 The next step was to apply a water-based varnish coat to seal the milk paint before applying effects. It was a General Finishes Satin Topcoat, which is quick drying and quite tough.

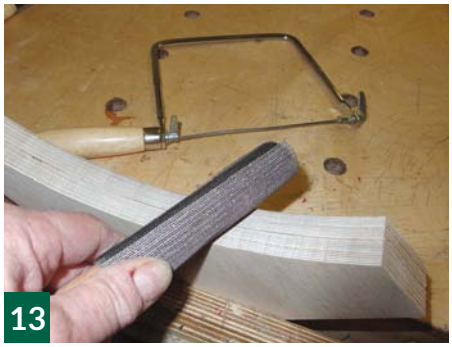
8 A wedge-shaped foam applicator was used to quickly apply grey primer as a finish colour along all the moulding detail, one section at a time.

9 I used lots of rag, which helped me to wipe away the surplus before it had a chance to dry on.

10 A fine web abrasive was used to clean the highlight areas back.

11 Inside the unit, the back panel needed similar treatment. The foam wedge tip ran easily down the TGV grooves.

12 Again, a very rapid wipe away to give a good result. Any heavy overruns can be painted over again.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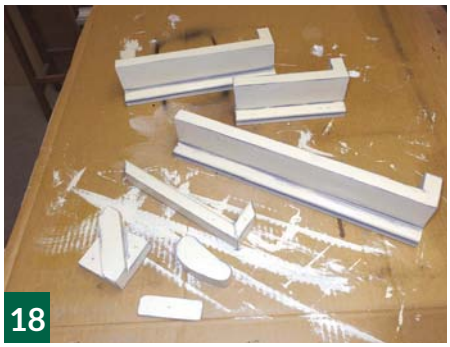
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13 The pine shelf, which was going to be the work surface, needed strengthening brackets, curved to reflect the gothic theme. Once cut out, the edges needed to be sanded with abrasive paper to get a smooth curve.

14 Next, a thick piece of 50 × 50mm softwood was glued and clamped underneath the front for strength and to allow a vice to be fixed on.

15 The brackets are screwed to the ends of the shelf and blocks of wood glued inside to keep the brackets square in place.

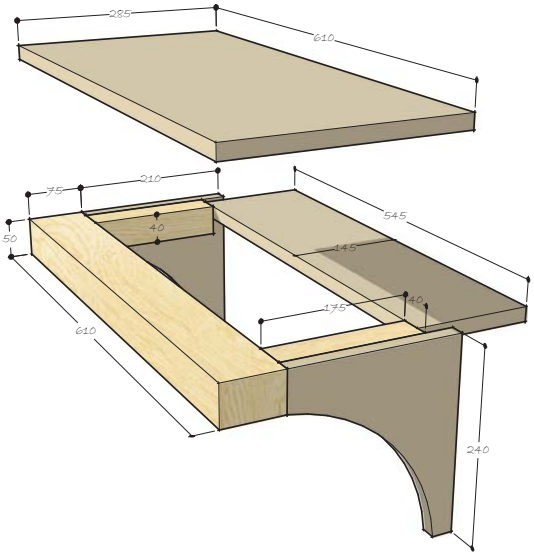
16 I wanted a different way to display the tools so I made a number of fitments from offcuts of ply and softwood, which would screw to the inside of the cabinet.

17 The tool fitments were given the same paint treatment as the carcass, using the foam applicator to add shading to the edges and corners.

18 Here are all the initial pieces I made up ready to fit. In time, I will need to add some more.

19 This is the result, with plenty of space to hold more tools and bits and pieces. The work surface is held in place in the carcass with just two bolts and wing nuts through a bridging piece of ply screwed to the front work surface. It only takes a couple of minutes to fit or remove it when it isn't wanted.

20 Here is the carcass sans work surface. It needs to be fitted to the wall behind so it cannot fall forwards. The finished piece is nice and slimline, doesn't take up much room and looks impressive indoors – nothing shabby about it! ■



NEXT MONTH

In the next issue, we'll look at how this and the previous issue's workstation can be best used.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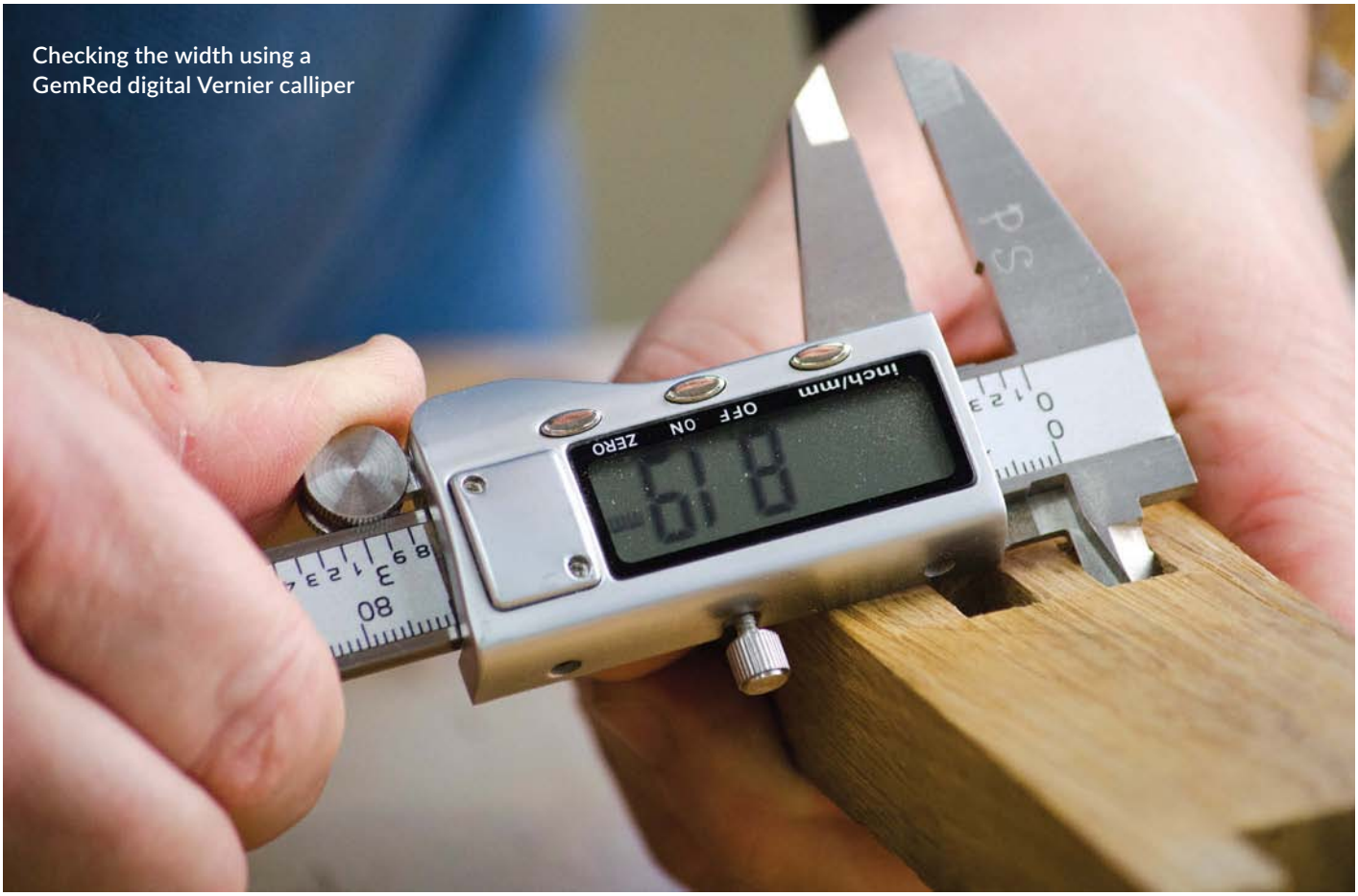


Checking the width using a GemRed digital Vernier calliper

PHOTOGRAPHS BY PETER SEFTON

MEASURING and MARKING

Peter Sefton describes all the essential tools you'll need for marking and measuring

The accurate marking and measuring of timber is a critical part of our furniture making; to do this well, we need quality reliable tools. In this article, we'll look at some of the tools that we use in our teaching workshops and show you how to check the tools that you have, to make sure they are doing what you need.

TAPE MEASURES

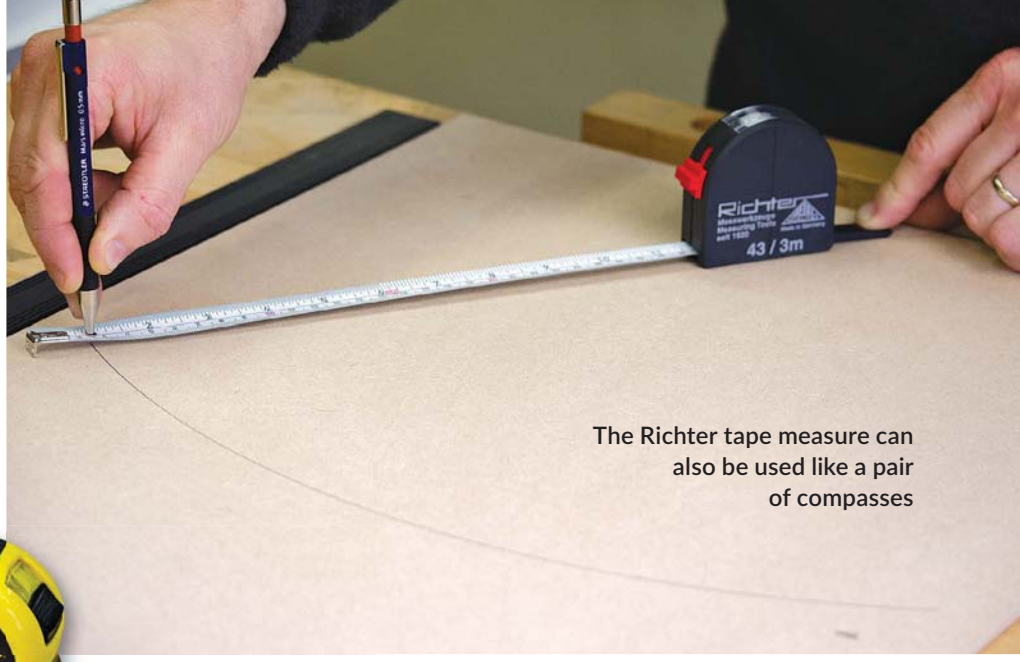
We probably all have at least one tape measure within our toolkit. I have a couple including the 8m Stanley Fat Max and it has proved to be a great tape measure over the years. I use it when rough marking out timber, but I never use it for accurate work because tape measures with the tabs on the end just aren't accurate enough. We try to do the final measure of our timber with either steel rules or Vernier callipers.

I also have a 3m tape measure, which has a viewing window in the top meaning you can read the measurements to the back of the tape measure. This is a really useful feature for the measuring of internal dimensions like window frame or alcoves. When you view the measurement through the window, it is reading to the back edge of the tape measure's body – no more bending the tape and guessing the measurement. This small tape measure also has an interesting asset; a flip-out tab with the centre point on it. If you press the centre point into your work you can actually spin it around as a compass. There's a hole in the main tape setting at 25mm in from the end, if you place your pencil in this and spin it around, hey presto! You have a ready-made compass.

You may have noticed that the tab on the end of your tape measure moves – it is designed to do this. If the tab

on the end is a millimetre thick, then the tabs should move by 1mm; this is so you can measure either internal or external measurements. The offset between the movements in this tape measure should be set but if the tape is dropped or the tab is bent, then the accuracy has been lost. If we do need to measure a longer distance, we would try to hold the tape measure to start on the 100mm mark and then subtract 100mm after measuring.

Whenever we are buying timber or are in our timber storeroom, we always use these tape measures. At this point strangely enough, we often talk in feet and inches. Once we take our timber into our machine shop, we naturally convert to working in millimetres and use more accurate measuring equipment! We find it easier to talk in feet and inches when buying timber and converting it, but we just find it is far more accurate to work in millimetres when reworking the timber. This is a strange anomaly of woodworking that is still present over 40 years after decimalisation – we also tend to buy 8' × 4' 18mm thick!



The Richter tape measure can also be used like a pair of compasses

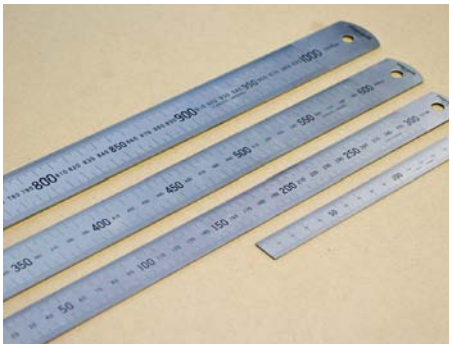
Above: Fat Max and Richter tape measures
Right: The Richter tape measure taking an internal measurement using the viewing window

STEEL RULES

These tape measures are great, but when it comes to accurate work we will always use a solid steel rule. If you're going to get a stainless steel rule I suggest getting one with a satin anodised finish. The shiny stainless steel rules look great hanging in a shop but when you buy one and take it back into your workshop, three or four months later you find they tend to tarnish and you just can't read the measurements at all.

I find that a 150mm rule is a great bit of kit for having in your top pocket or for wood machining but the downside to these rules is they are so easy to get lost in a busy workshop.

My favourite rule and the one I use most of the time is a 300mm satin anodised one. It has millimetres on one edge and half millimetres on the other and it also has inches on the back, just in case you like to deal in old money. They can also have a stop or end hook on them, and the end hook can be very useful for clipping on the edge of the timber or when making repetitive measurements; the use of a rule stop is a great help.



A selection of satin-finish rules

The 300mm rule is the most used in my workshop for marking out joints and general bench work. I use 600mm or 1m rules more for setting out and checking panel work. The one thing I would say that all these rules need to have in common – apart from accuracy – is that when you bend them and flex them for drawing and forming freehand shapes or curves, they must return to straight again once finished with! There's nothing worse than the cheaper ones that just end up bent and staying the shape you were trying to draw – that's no use to anyone in a workshop. ➤

Bending a rule and a bent rule

I find all these rules get slightly thicker and wider as you buy bigger ones; this can be useful for forming tolerances – gaps – around doors when fitting or when cutting parallel strips of veneer for chess boards and such like.

For real accuracy then the INCRA rules are very useful; they are very thin and flexible, having been pierced with incremental holes that a 0.5mm pencil will mark through. This can be great when marking out dovetails, finger or comb joints or other repetitive type of markings. When using a standard rule, it is very easy to have a compound error built into your markings. For instance, if you mark out a set of dovetails with a conventional rule and move the ruler each time you mark the next line, if you made a 0.25mm overmeasurement with each one, after the first 10 markings you will have gained 2.5mm. These errors can build up until all accuracy has been lost. The flexibility of these thin rules can also be useful when measuring around cylinders or inside bowls, for example.

A Woodpecker end stop and rule stop

Using an INCRA T-rule for progressive markings

Using an INCRA flexible rule to measure inside a bowl

DIGITAL CALLIPERS

A GemRed digital Vernier calliper checking thickness

A GemRed digital Vernier calliper checking depth

One of the major changes for me in my woodworking career is the development of digital readouts. For me, gone are the days of slide Vernier callipers or dial callipers; I have now moved over exclusively to digital readouts. The ease of use and big digital readout have become a nice feature as the eyes have aged! Most can be swapped between metric and imperial with the flick of a switch – great if you need it and briefly confusing if you don't and inadvertently catch the button with your finger…

The callipers are often used when checking the thickness of timber after planing, but we also use them for measuring drill bits and mortise chisels. They can be great for checking the fit of joints, testing a tenon to the mortise or using the pin end for measuring the depth of a hole. But never forget the fourth dimension – the offset between the stock and the slider bar. I find that this is the most accurate way of sizing rebates or shoulders.

Left: A GemRed digital Vernier calliper – the fourth dimension – using the offset between the slider bar and stock

BEVEL BOX/INCLINOMETER

The bevel box, or inclinometer as it is often called, has found a real home in our workshop. It is a small 'magic' box that can be zeroed from a bench top and then used to measure the incline or angle on a saw blade, planer fence or spindle moulder block. Or it can be used for the reverse; using the built-in magnets to attach it to a bandsaw blade before zeroing it and placing it on the bed to a very accurate predetermined position. We now use this box on what seems like a daily basis for either setting a sliding bevel, or measuring the slant on a chair back or sloping ceiling in a room being surveyed.

These digital readouts are now standard on a lot of other measuring devices that can be used on thickness planers, spindle moulders and any other machine you may need to get precision measurements from.

Right: A GemRed bevel box measuring a stool leg

Below: A GemRed bevel box measuring a saw blade

OTHER MEASURING TOOLS

I have a couple of other slightly more unusual digital pieces of measuring equipment in my workshop but they are nonetheless very important. I have a moisture meter; these can vary in price from around £20 up to a few hundred but mine cost me about £70. It is fairly accurate and at least gives me a good idea of the surface moisture content when I am out buying timber.

What I am also finding very useful within our workshops are a number of combined digital thermometers with hydrometers. Using these devices in four sections of the workshop, we can monitor both the heat and, more importantly, the moisture level within the workshop and storerooms. If we are suffering with higher levels than desired within the workshop, we can turn on portable dehumidifiers to bring down the level to the expected norms. This is mainly used in our internal timber store to dry and monitor our timber moisture levels down to between 9-11% moisture content, which is ideal for the majority of English homes. We have a permanent dehumidifier set up in our timber store, which is plumbed into the waste water system to remove any excess moisture from the timber. ■

An ATP hydrometer/ thermometer and a moisture meter

Peter Sefton

Peter Sefton is a well-known furniture maker who has 30 years' experience. He is the 'hands-on' principal of Peter Sefton Furniture School in Worcestershire, where he runs long and short courses in fine woodworking, teaching and mentoring students. He also owns Wood Workers Workshop, and he is a Liveryman of the Worshipful Company of Furniture Makers.
Web: www.peterseftonfurnitureschool.com

IN ISSUE 4

In issue 4, I'll look at marking out tools, including squares and gauges.

Hints, Tips & Jigs

Your chance to pass on all your crafty hints, tips and jigs to the readers and maybe even win a prize!

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Foam support for reverse turning

STAR TIP

PHOTOGRAPHS BY ADRIAN COBB

When I was watching a demo by Nikos Siragas in Crete, he was using blue insulation foam for jam chucks to support when re-turning them to alter and adjust the chucking marks and foot section of the item being turned. I liked the idea but thought I could modify it a bit by using denser foam. So, using old contacts from when I worked on sites, I got some 100mm thick Celotex and have made three for myself now.

I glued the Celotex onto some ply and mounted it on a chuck. I found it easily shaped turning tools, although it is dusty with the high density foam particulates coming off in a flurry while turning. The other thing that is good is that it is not so dense as to cause a problem with supporting work properly, in that it will crush to the shape of what is jambed up to it, providing a good non-scratch friction drive.

Adrian Cobb – woodturner & Woodworkers Institute forum member

Safer mitre saws

The gap on most plastic mitre saw inserts is too big

So why not create your own using a piece of MDF?

PHOTOGRAPHS BY GMC/ANTHOY BAILEY

In terms of making mitre saws safer, the 10mm gap in the standard plastic base insert is to allow for bevelled mitre cuts on the flat. The problem is trying to cut small lengths – about 50mm or less. The gap creates a dangerous overhang, giving a cantilevered effect on the wood. By replacing it with a piece of MDF and then cutting into it with the blade, you create a zero clearance insert. It's safer and you create a reference line for the cut. Of course, when you need to cut a bevel cut, you must re-insert the plastic base, but in practice, how often do you do that?

Brian Corrigan

A great solution for ensuring your sanding sealer stays in the jar!

PHOTOGRAPH BY GMC/ANTHONY BAILEY

No more spilt sanding sealer!

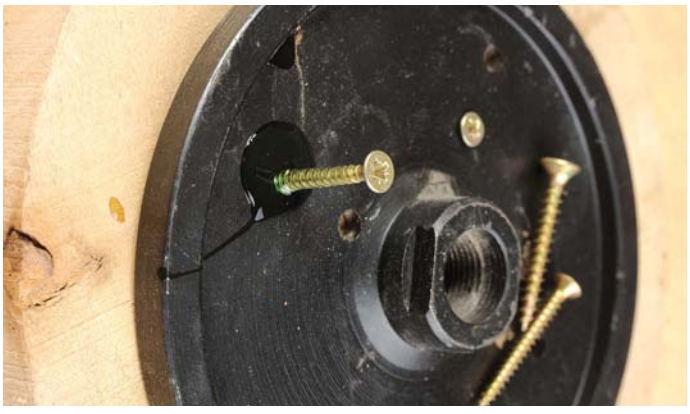
Hi, everyone. I had a nasty habit of spilling sanding sealer so I decided to do something about it. All you need is a 75mm downpipe bracket, a jam jar and a pastry brush.

Basil Waugh

Fastening faceplates

When fastening faceplates onto blocks of wood, it is easy to strip the heads of screws. To keep this from happening, dip the tread of each screw into liquid dishwasher detergent prior to threading it into the wood. The detergent acts as a lubricant and I regularly drive 6mm-thick × 50mm long screws – No.14 × 50mm – into maple *(Acer campestre)* and oak *(Quercus robur)* without difficulty using this method. No pilot holes or pre-drilling needed. Since the screw is already lubricated, it is also much easier to remove.

Bill Neddow



Try using detergent to protect your faceplate screws

PHOTOGRAPH BY GMC/ANTHONY BAILEY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PHOTOGRAPHS BY AMBER BAILEY

Tunbridge ware

Amber Bailey looks at the history of Tunbridge ware and explains how to make your own piece of this traditional craft

Tunbridge ware is a now extinct form of marquetry and inlay that is generally associated with the 19th century although its origins can be traced back as early as the 17th century.

Tunbridge ware uses a variety of veneers to build up motifs and tessellated patterns in minute pieces, often adorning boxes and trinkets. Designs would frequently include parquetry and sections of painted detail. Originally the craft was made in the surroundings of Royal Tunbridge Wells in Kent, where material could be sourced from local woodlands. Eventually the trade expanded out as far as London where much of its retailing took place. A factor that really helped the craft take off was the building of The Pantiles in Tunbridge Wells as this facilitated souvenir shops where Tunbridge ware proved popular with the visiting gentry.

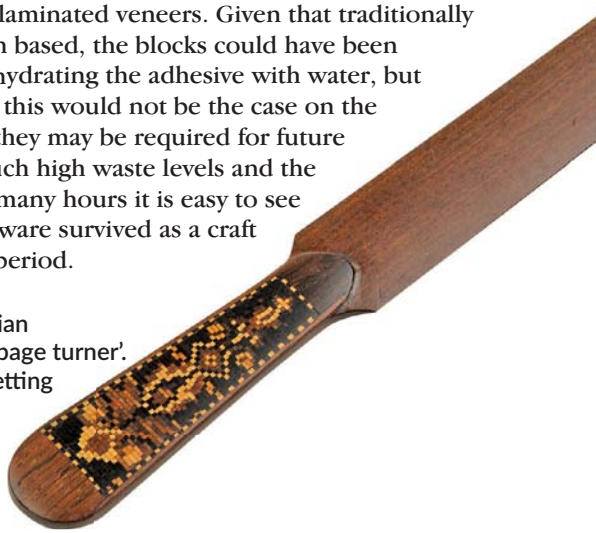
Tunbridge ware developed in the 1800s to produce stickware and half-square mosaic techniques that were similar in manufacture but were more inclined to be turned and the designs tended to use triangular tessera. All three were essentially built up as laminated blocks before being manipulated for individual purposes.

Materials and techniques

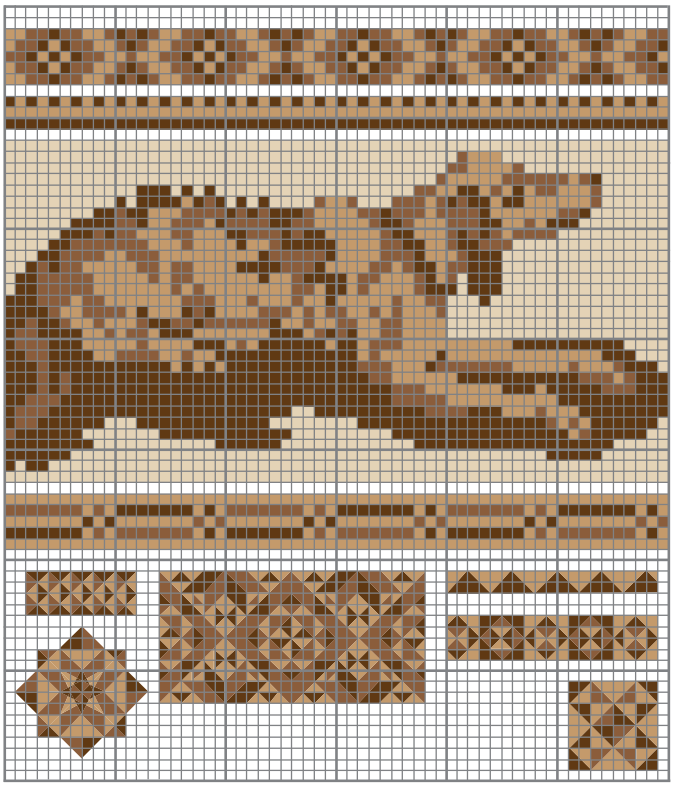
Tunbridge ware tessera were traditionally approximately 1mm squared – although imperial would have been the unit of measurement at the time – but there were instances where sizes varied, normally in correspondence with the design being achieved. Motifs commonly involved imagery relating to the local area, recreating castles and manor houses from prints. These designs would be drawn up on graph or embroidery paper and the Kentish craftsmen would work either directly from the image or would be provided with a timber indication key.

This was one industry that took real pride in using only natural wood. There was no need for dyeing to achieve interesting colours such as green, which was naturally garnered from local oak *(Quercus robur)* that had suffered the fungal attack *Chlorosplenium aeruginascens*.

Band makers worked in a system of following the design by either one column or line at a time. Each column was put together with slices of wood and bound up while the same was done for each line. These packs of wood were glued up tightly with animal glue then sliced up lengthways to make fine cross-section strips that exposed tiny squares of each wood slice. One slice of each pack was then glued up to create the finished design in a solid block. This could then be sliced up to make numerous copies of a single design. This was an arduous task and would result in a number of waste blocks of laminated veneers. Given that traditionally glue was protein based, the blocks could have been separated by rehydrating the adhesive with water, but in all likelihood this would not be the case on the off-chance that they may be required for future designs. With such high waste levels and the involvement of many hours it is easy to see why Tunbridge ware survived as a craft for only a brief period.



A genuine Victorian Tunbridge ware 'page turner'. It stopped you getting newsprint ink on your fingers



I have recreated a selection of classic Tunbridge ware designs; I had to count out the design layout from antique objects

Creating a Tunbridge ware design

1 As the designs consisted of miniature squares, the simplest means of planning out a design is to use grid paper, such as that used for cross-stitch embroidery. Tunbridge ware could be very pictorial, as images would be translated from engravings or sketches. We now have the advantage of photography and computer design software. To create your own design, either mark out using a variety of colours on grid paper or, as I have done, produce a grid on Illustrator to be coloured in, sticking to a limited colour palette.

2 The conventional method of making Tunbridge ware begins with sheets of veneer being cut down to eventually become squares. However, I do not have the equipment for sawing the sheets fine enough and to use up such substantial amounts of wood feels very wasteful. I decided to work with pre-cut stringing, which is already available at the desired 1mm size.

3 Very complicated designs, such as the dog image shown here, involve many pieces, so it may be necessary to cut down all the stringing for economical purposes. Use a Stanley knife or a fretsaw to do this.

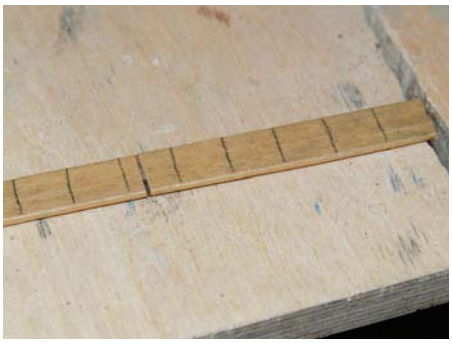
4 Each design is then produced in layers, taping the strips of wood side-by-side on one side. All the taped layers are then put together to form the design.

5 Each of the taped-up layers is then coated with protein glue on the side of exposed wood. Once dry, the tape is carefully removed to leave a single layer. All of the layers can then be adhered one on top of the other and left to dry clamped in a vice to ensure the design remains as compact as possible.

6 Once dry, the blocks can be carefully sliced up with a saw and delicately manipulated like veneer/marquetry – gluing with protein-based adhesives, scraping smooth and polishing with a traditional finish. ➤

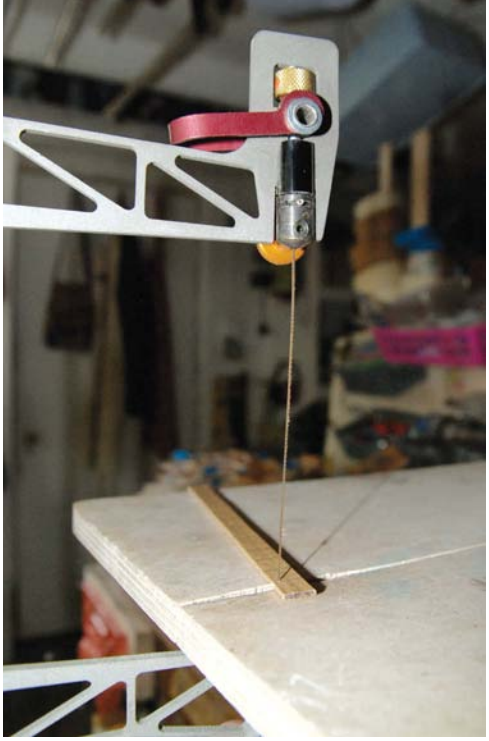
Stringing is available in a variety of timbers...

... and sizes

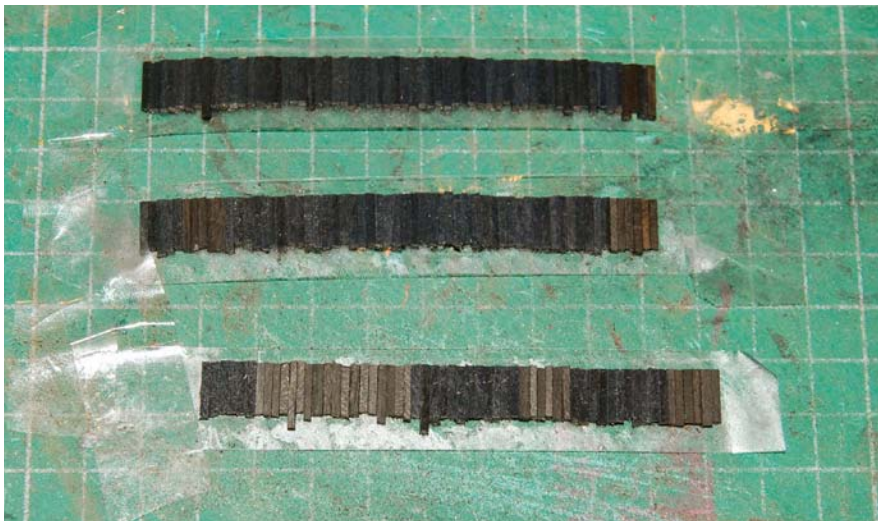


Rather than cutting pieces individually, it can be easier to bundle and tape groups together, marking out where to cut

Look at embroidery designs for inspiration, particularly for different fonts



Be sure to use a fine blade – anything coarse will tear the stringing

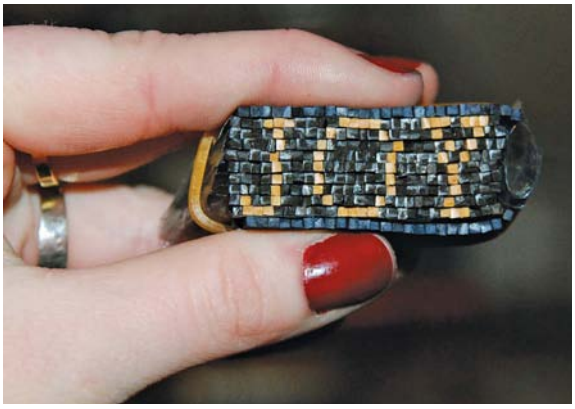


Taping will keep the strips together and ensure the order does not change at any point

ADVICE

Remember that shortening your block of laminated strips will limit the purchase you have when cutting, making it much more difficult to slice.

Being methodical in your work by laying out the strips in order will save you a lot of time!

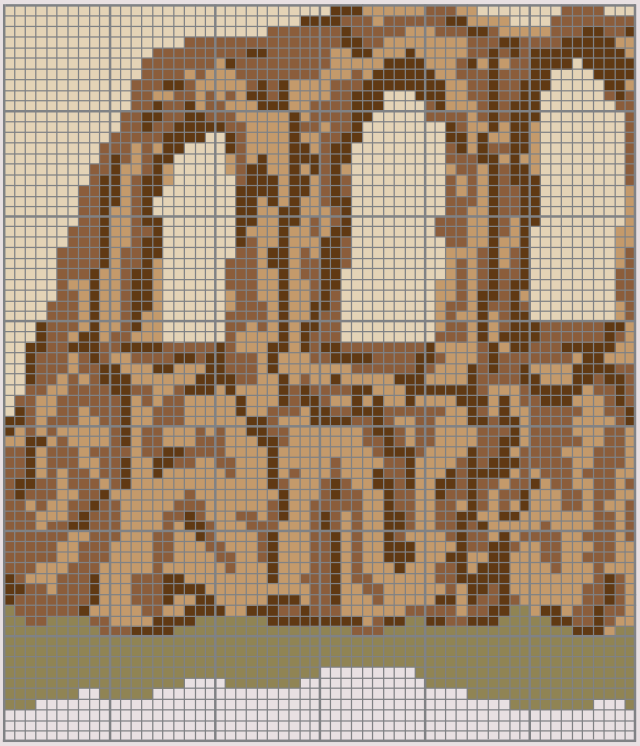


It can be hard to see how the design will turn out in the end. The important thing is to make sure that all the squares align so the design does not end up skewhiff; this should be fairly easy with all the pieces being exactly the same size

It worked!

BAYHAM ABBEY

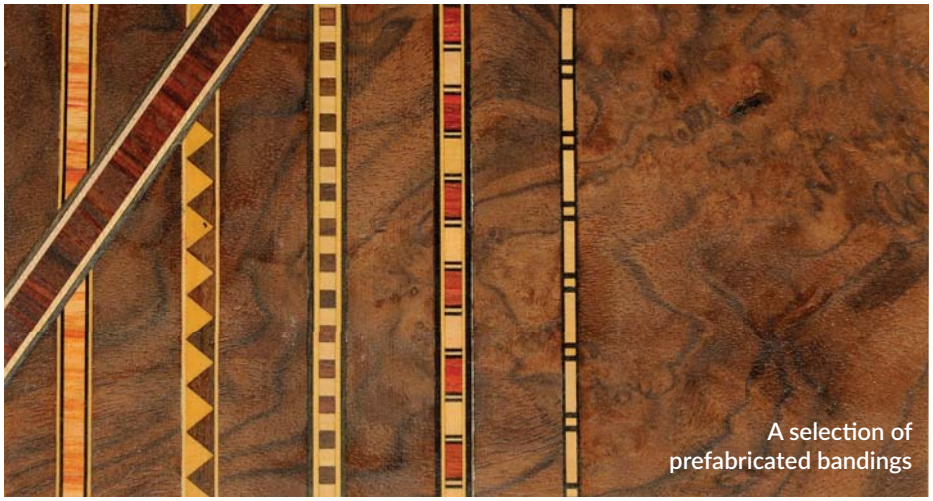
The ruins of Bayham Abbey works well as an image for its very distinctive architecture



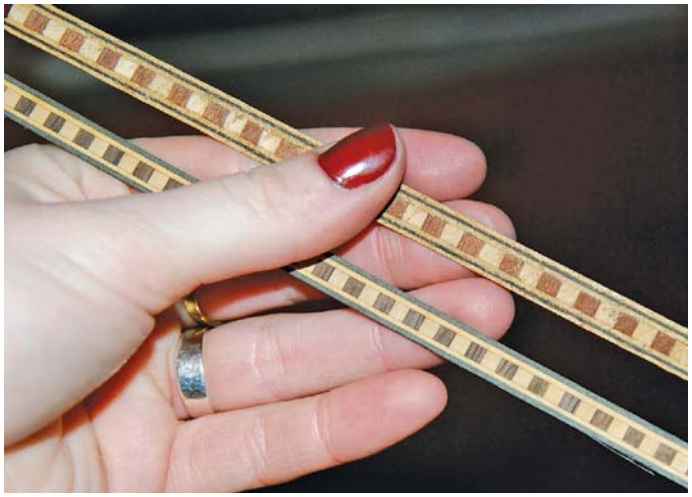
Bayham Abbey drastically simplified to five colours

BANDING

Banding was used to edge Tunbridge-ware-adorned objects and most of the traditional inlay designs are exactly the same as the ones commercially available today. The manufacturing process may be much more mechanised nowadays, but the traditional principles are still followed. Banding is built up with shaped rods and then sliced up in long lengths. These shapes often include triangles, similar to the patterns often found in micro mosaic.



A selection of prefabricated bandings



Two very similar types of banding, with an age gap of over 100 years

The demise of Tunbridge ware

At its high point, a number of companies were solely set up for the manufacture of Tunbridge ware, including the following: Wise; Burrows; Fenner; Nye; Barton; Hollamby; Boyce, Brown and Kemp; Tunbridge Wells Manufacturing Company and several others. By the 1920s, however, the last of the Tunbridge ware manufacturers were in serious trouble attempting to compete against cheaper inlay alternatives. The 1930s saw the briefest of revivals before the industry closed completely. "My boy, I don't want to lose you but my advice to you is that you get out of this industry at once. It's dying – there is no future." This was Thomas Barton's advice to his favourite apprentice shortly before his own death. ■

For further information, visit:
www.tunbridgewellsmuseum.org

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- 225mm x 160mm table, tilts 0-90°
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- Includes stand
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- Great for sawing, cutting, sanding, polishing, chiselling & much more
- 250w motor
- Variable speed

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CMFT250

Clarke BANDSAWS

£109.98 EXC.VAT
£131.98 INC.VAT

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CBS250 INCLUDES STAND

MODEL	MOUNT	MOTOR	THROAT	EX VAT	INC VAT
CL CBS190	Bench	350w	190mm	£109.98	£131.98
CL CBS250	Floor	370w	245mm	£179.98	£215.98

Clarke POWER PLANERS

BLACK & DECKER
FROM ONLY £21.99 EX.VAT £26.39 INC.VAT

- 82mm cutting width

CEP1

MODEL	INPUT POWER	DEPTH OF CUT	EX.VAT	INC.VAT
Clarke CEP1	650W	2mm	£21.99	£26.39
Einhell RT - PL82 ‡	850W	3mm	£49.98	£59.98
B&D KW750K - GB	750W	2mm	£57.99	£69.59

‡ was £65.99 inc.VAT

Clarke TABLE SAWS

CTS10D

LEG STANDS AVAILABLE FOR CTS11 & CTS10D £22.99 EX VAT £27.59 INC VAT

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

INCLUDES LEFT & RIGHT TABLE EXTENSION

*Moulded base

MODEL	MOTOR	BLADE	EX VAT	INC VAT
CTS800B	600w	200mm	£69.98	£83.98
CTS11*	1500w	254mm	£139.98	£167.98
CTS10D	1500w	254mm	£149.98	£179.98

VAC KING WET & DRY VACUUM CLEANERS

FROM ONLY £47.99 EX.VAT £57.59 INC.VAT

- A range of compact, high performance wet & dry vacuum cleaners for use around the home, workshop, garage etc.

MODEL	MOTOR	CAPACITY WET/DRY	EX. VAT	INC. VAT
CVAC20P	1250W	16/12ltr	£47.99	£57.59
CVAC20SS*	1400W	16/12ltr	£59.98	£71.98
CVAC25SS*	1400W	19/17ltr	£64.99	£77.99
CVAC30SSR*	1400W	24/21ltr	£86.99	£104.39

* SS = Stainless Steel

Clarke 1" BELT & 5" DISC SANDER

- Inc. 2 tilt/lock tables and mitre gauge
- 300w motor

CBS1-5
£59.98 EX.VAT
£71.98 INC.VAT

Clarke ELECTRIC POWER FILE CPF13

- Variable belt speed
- Tilting head

*Black & Decker

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

MODEL	MOTOR	EXC.VAT	INC.VAT
CPF13	400W/230V	£44.99	£53.99
KA900E*‡	350w/230V	£49.98	£59.98

‡ was £63.59 inc.VAT

Clarke INDUSTRIAL ELECTRIC FAN HEATERS DEVIL 6003

- Rugged fan heaters for small to medium sized premises
- Tough steel cabinets
- Adjustable heat output with thermostat

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

MODEL	HEAT OUTPUT	EX VAT	NOW INC VAT
Devil 6002	0.7-2kW	£37.99	£45.59
Devil 6003‡	1.5-3kW	£49.98	£59.95
Devil 6005	2.5-5kW	£74.99	£89.99
Devil 6009	4.5-9kW	£129.98	£155.98
Devil 6015	5-10-15kW	£189.98	£227.87

‡ was £71.98 inc.VAT

Clarke DISC SANDER (305MM)

- Powerful, bench mounted disc sander
- 900W
- No load disc speed: 1490rpm
- 305mm Disc Diameter (1 x 60 grit sanding disc included)
- Dimensions (LWH): 440x437x386mm
- Weight: 28kg

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CDS300B

Clarke STATIC PHASE CONVERTERS

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

ROTARY PHASE CONVERTERS ALSO AVAILABLE

CONVERT 230V 1PH TO 400V 3PH

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

MODEL	MAX. MOTOR HP	FUSE	EX 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 JIGSAWS

BOSCH Power Tools

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FROM ONLY £12.99 EX.VAT £15.59 INC.VAT

*DIY #Professional

MODEL	POWER (W)	DEPTH OF CUT (WOOD/STEEL)	EX VAT	INC VAT
Clarke CJS380*	420w	55/6mm	£12.99	£15.59
Clarke CON750#	750w	80/10mm	£24.99	£29.99
B & D KS600*	450w	60/5mm	£29.98	£35.98
Bosch PST700*	500w	70/4mm	£49.98	£59.98

Clarke QUICK RELEASE ALUMINIUM SASH CRAMPS

LIGHTWEIGHT ALUMINIUM

FROM ONLY £6.99 EX.VAT £8.39 INC.VAT

MODEL	SIZE	EX. VAT	INC. VAT
CHT374	600mm	£6.99	£8.39
CHT375	900mm	£7.99	£9.59
CHT376	1200mm	£9.98	£11.98

Clarke CORDLESS DRILL/ DRIVERS PSR18

BOSCH Power Tools

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HUGE CHOICE IN-STORE & ONLINE

MODEL	VOLTS	BATTS	EXC. VAT	INC. VAT
CCD180	18v	1	£34.99	£41.99
CCD240	24v	1	£39.98	£47.98
Bosch PSR18	18v	1	£49.98	£59.98

Clarke CONTRACTOR 18V PRO CORDLESS DRILL/DRIVERS

- 10mm chuck size
- 2 Speed, Variable control - 0-350/0-1250rpm
- 21 torque settings

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2 Batteries

INCLUDES 12 PIECE BIT SET

MODEL	BATTERIES	EXC. VAT	INC. VAT
CON18Ni	2 x Ni-Cd	£64.99	£77.99
CON18Li	2 x Li-Ion	£84.99	£101.99

Clarke ENGINEER'S DRILL PRESS

- Tables tilt 0-45° left & right
- Depth gauge
- Chuck guards

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MODEL	WATTS/ SPEEDS	EXC.VAT	INC.VAT
CDP5EB	350/5	£59.98	£71.98
CDP101B	245/5	£79.98	£95.98
CDP151B	300/5	£106.99	£128.39
CDP10B	370/12	£169.98	£203.96
CDP301B	510/12	£199.98	£239.98
CDP451F	510/16	£239.98	£287.98
CDP501F	980/12	£429.00	£514.80

B=Bench mounted
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Clarke CONTRACTOR BELT SANDERS

Clarke • Ideal for surface removal, sanding and finishing

Makita ABRASIVE SANDING BELTS IN STOCK

BS1

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MODEL	WATT	M/MIN	EX VAT	INC VAT
Clarke BS1	900w	380	£29.98	£35.98
Clarke CBS2	1200w	480	£69.98	£83.98
Makita 9911	650w	75-270	£94.99	£113.99

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- Great for 3mm to 10mm HSS drill bits
- 70W motor
- Drill bit guide ensures sharpening at the correct angle
- Saves cost of new drills

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Clarke SHEET SANDERS

CON300

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*110V in stock

MODEL	SHEET SIZE	MOTOR	EX VAT	INC VAT
COS200	190X90mm	150w	£12.99	£15.59
CON300	230X115mm	330w	£29.98	£35.98
Makita BO455*	112X102mm	200w	£54.99	£65.99

Clarke TABLE SAW CTS13L

- Powerful 1800W Motor
- 5700rpm No Load Speed
- Laser Guide for accurate cutting
- With folding legs and wheels - Large 930 x 640mm Table

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CROS1

- For sanding & polishing
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INC 5 DISCS

BISCUIT JOINER

- 860W Motor
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- Max thickness capacity 130mm
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Clarke 1000MM VARIABLE SPEED WOOD LATHE

CWL1000V

SUPPLIED WITH ROBUST STEEL STAND

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- Large 350mm turning capacity
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- High quality cast iron build

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

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- Simple fast assembly in minutes using only a hammer

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ALSO EXTRA WIDE INDUSTRIAL UNITS AVAILABLE

SAVE 10% WHEN YOU BUY ANY MIX OF 5 FROM THIS RANGE SAVE AT LEAST £17.99 INC.VAT

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

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

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MODEL	SHELF DIMS WxDxH(mm)	EX VAT	INC VAT
150Kg	800x300x1500	£29.98	£35.98
350Kg	900x400x1800	£49.98	£59.98

Clarke PLANERS & THICKNESSERS

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- Ideal for DIY & Hobby use
- Dual purpose, for both finishing & sizing of timber (CP-6 planer only)

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MODEL	MOTOR	MAX THICK. CAPACITY	EXC. VAT	INC. VAT
CP-6	1100w	*	£139.98	£167.98
CPT600	1250w	120mm	£169.98	£203.98
CPT800	1250w	120mm	£189.98	£227.98
CPT1000 NEW	1500w	120mm	£269.98	£323.98

Clarke WOODWORKING LATHES

CWL1000

3 PCE CHISEL SET INCLUDED WITH CWL1000

SEE CATALOGUE FOR ACCESSORIES

MODEL	CENTRE TO CENTRE (mm)	TURNING CAP.	TURNING SPEEDS	EX VAT	INC VAT
CWL1000	1016	350mm	4	£114.99	£137.99
CWL12D	940	305mm	5	£189.98	£227.98

FROM ONLY £114.99 EX.VAT £137.99 INC.VAT

Clarke WOODWORKING VICES

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Record WV7

MODEL	MOUNTING	JAW (WIDTH/OPENING /DEPTH)mm	EXC.VAT	INC.VAT
Clarke CHT152	Bolted	150/152/61	£13.49	£16.19
Stanley Multi Angle	Clamped	72/60/40	£16.99	£20.39
Record V75B	Clamped	75/50/32	£18.99	£22.79
Clarke WV7	Bolted	180/205/78	£24.99	£29.99

Clarke WHETSTONE SHARPENER CWS200

• Produces accurate razor sharp cutting edges on chisels, scissors, tools etc • 120w motor • Grinding disc 200mm • Wet bath • Leather honing wheel

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

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8/250

MODEL	MOTOR	CFM	TANK	EX VAT	INC VAT
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Tiger 7/250	2 Hp	7	24ltr	£89.98	£107.98
Tiger 8/36	1.5 Hp	6.3	24ltr	£109.98	£131.98
Tiger 11/250	2.5Hp	9.5	24ltr	£119.98	£143.98
Tiger 8/510	2Hp	7.5	50ltr	£129.98	£155.98
Tiger 11/510	2.5Hp	9.5	50ltr	£149.98	£179.98
Tiger 16/510	3 Hp	14.5	50ltr	£219.98	£263.98
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• Ideal for cross cutting, ripping, angle and mitre cutting • Easy release / locking mechanism for table extensions • 0-45° tilting blade • Cutting depth: 72mm at 90° / 65mm at 45° • 230V/50Hz, Motor: 1800W, No load speed: 4700rpm

NEW

£119.98 EXC.VAT £143.98 INC.VAT

Shown with optional leg kit CLK5 £22.99 exc.VAT £27.59 inc.VAT

Clarke 10" SLIDING MITRE SAW CMS10S2

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

£129.98 EXC.VAT £155.98 INC.VAT

Clarke MITRE SAW STAND CFMSS1

£64.99 EXC.VAT £77.99 INC.VAT

• Suitable for most sizes/makes of saw • Inc. outriggers & rollers

Clarke DOVETAIL JIG CDTJ12

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

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

Router not included

Clarke ROUTERS CR1C

BOSCH

FROM ONLY £39.98 EX.VAT £47.98 INC.VAT

ACCESSORIES IN STOCK

* DIY

MODEL	MOTOR (W)	PLUNGE (mm)	EX VAT	INC VAT
CR1C*	1200	0-50	£39.98	£47.98
Bosch POF1400ACE	1400	0-55	£74.99	£89.99

Clarke SCROLL SAWS CSS16V

FROM ONLY £64.99 EXC.VAT £77.99 INC.VAT

•120w, 230v motor • 50mm max cut thickness • 400-1,700rpm variable speed • Air-blower removes dust from cutting area

MODEL	MOTOR	SPEED RPM	EX VAT	INC VAT
CSS400B	85w	1450	£64.99	£77.99
CSS16V	120w	400-1700	£79.98	£95.98
CSS400C*	90w	550-1600	£99.98	£119.98

* Includes flexible drive kit for grinding/polishing/sanding

MITRE SAWS

Einhell UK

Makita

FROM ONLY £54.99 EXC.VAT £65.99 INC.VAT

TH-SM 2534

• Quality Range of Mitre saws and blades available

MODEL	BLADE DIA BORE (mm)	MAX CUT DEPTH/CROSS	EX. VAT	INC. VAT
Einhell TH-MS 2112	210/30	55/120mm	£54.99	£65.99
Fury 3	210/25.4	60/200mm	£119.98	£143.98
Einhell TH-SM2534	250/30	75/340mm	£159.98	£191.98
Makita LS1040	260/30	95/130mm	£199.98	£239.98

Clarke ROTARY TOOL KIT CRT40

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Kit includes:

• Height adjustable stand with clamp • Rotary tool • 1m flexible drive • 40x accessories/consumables

Clarke 6" BENCH GRINDER WITH SANDING BELT CBG6SB

£49.98 EXC.VAT £59.98 INC.VAT

• For sanding/shaping wood, plastic & metal • Supplied with coarse grinding wheel & sanding belt

Clarke CONTRACTOR CR2 ROUTER

£109.98 EXC.VAT £131.98 INC.VAT

• Powerful heavy duty machine ideal for trade use • Variable speed control from 7,400-21, 600 rpm • 2100w motor • 0-60mm plunge depth. CR3 Router with 15 Piece Bit Set also available only £94.99 £113.99

INCLUDES 15 PIECE SET WORTH OVER £20

Clarke ROUTER TABLE CRT-1

Router not included

BEST SELLER

£56.99 EXC.VAT £68.39 INC.VAT

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

Clarke DUST EXTRACTOR/ CHIP COLLECTORS

£119.98 EXC.VAT £143.98 INC.VAT

METABO ALSO AVAILABLE

• Powerful 750w motor • 56 litre bag capacity • Flow rate of 850M3/h

MODEL	MOTOR	FLOW RATE	BAG CAP.	EX VAT	INC VAT
CDE35B	750w	850 M3/h	56Ltrs	£119.98	£143.98
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Above: Our tour guide, Lennox Cutting Senior Engineer, Ken Hall

Below: The factory robot, which feeds the laser blade cutter

IRWIN Marples circular saw blades – a factory visit

by Mark Baker and Anthony Bailey

We paid a visit to the factory that makes some of the best circular saw blades available, to find out what makes them so special

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Situated near the medieval Italian city of Udine is an ultra modern factory building, which is the home of a company most woodworkers haven't heard of – Flai – pronounced 'fly'. This is where premium IRWIN Marples circular saw blades are made by their Italian subsidiary factory. Acquired by IRWIN Newell Rubbermaid Italy in 2012, it produces Flai, Marples and Lennox metal cutting blades for the global market. Under the new ownership and with new work processes in place, production has risen from 60,000 blades per annum to a staggering 1.2 million. All this with about 33 skilled employees, some very advanced CNC machinery and some rather old-fashioned hand engineering skills to boot. We were given a full factory tour by the Lennox Cutting Senior Engineer, Ken Hall.

Metrology lab

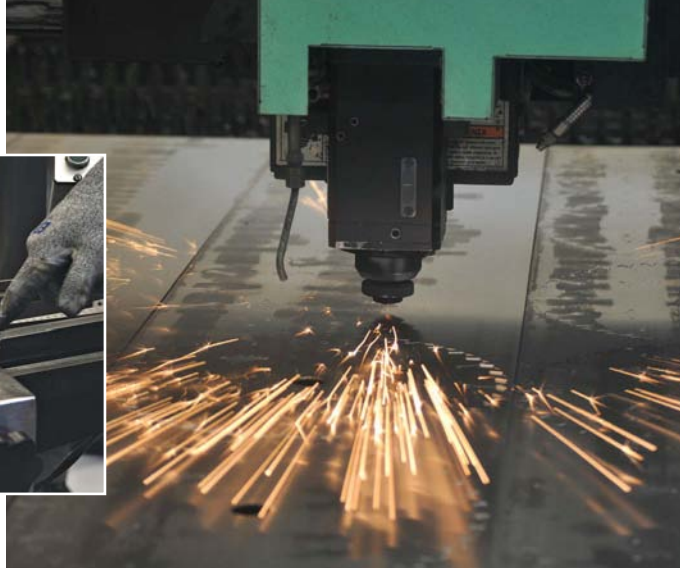
This is a room where measurement checks, metals inspections and checks at various stages of the production process take place. It is a 'clean room' but then the whole factory is remarkably clean and smart. The first thing we noted is that this factory is spotless. Mark Baker, Group Editor for our woodworking titles, commented: "I'm not sure that the surfaces in my home are as clean as this place. My workshop certainly isn't!"

Robot operation

The only robot in the factory spends its entire working life manoeuvring blank sheet steel between work stations. It feeds the laser cutting equipment and retrieves the newly-shaped blade bodies, which are stacked ready for the next operation.

Laser cutting

The lasers use CO2 and laser optics. The focusing lens in one of the lasers is so accurate that just one speck of dust will cause it to malfunction and blow up! The process of using a laser might well produce a micro burr on the steel, so a sanding belt is used to remove that burr. It is worth noting that the gullet of the blade – the gap in between the teeth – changes shape and size according to the diameter of the blade and what material is being cut. The angle of the section area to which the cutting edge will be affixed will change, depending on the previously mentioned considerations. There are also slots laser cut in the blade. These expansion slots allow for some movement during use when a blade heats up due to friction. There are also slots to reduce vibration and



From left to right: the laser optic; tensioning the blade; the laser cutter in action

dampen noise. The shape of these slots vary according to the manufacturer's requirements and their purpose, but the positioning is critical to make everything work properly.

Tensioning & flattening

I did not know that a circular saw blade is always under tension. The laser cut blade is placed in a special machine that creates a groove around the inner section of the blade, which creates the tension without altering the outside diameter.

Every change to a blade affects what tension the blade is placed under. The thickness of the metal used, the diameter and the RPM the blade is run at, so everything has to be adjusted to suit. It takes on average about eight months of research and development to work out the correct blade tension for a given product. After tensioning, the blade is flattened under rollers.

Scanning

After this, the blades are laser scanned in a machine that measures the topography of the blade – effectively mapping every deviation and the highs and lows 'off dead flat'. The two scans below show one blade that is OK and another that is not. The one with red/purple areas shows the areas that are not flat. The nearer the red colour, the more 'out of true'. The scans are of the same blade. It was flat, but to prove how little a tap is required to alter the flatness of a blade, a very small hammer was used to make a delicate tap on one part of the blade. We barely heard this and you can see from the scan how much the blade blank registered that tap. That is not to say the blades are not tough and durable; they're designed to withstand incredible forces.

Blank balance

The blank is then put on a machine – similar to one used for balancing a car tyre – and checked. It effectively measures how many grams the blade is pulling in one direction. If a heavy section/out-of-balance is found, then the exact position is identified, a small section of metal is ground away and it is then rechecked.

Hardness and hard spots

It is important to take away any hardness and localised hard spots within the metal. To do this, the blades are annealed over an 18-hour period in an atmosphere of hydrogen. This process effectively pulls the oxides out of the blade. At the end of the cycle, the blades come out clean and shiny.

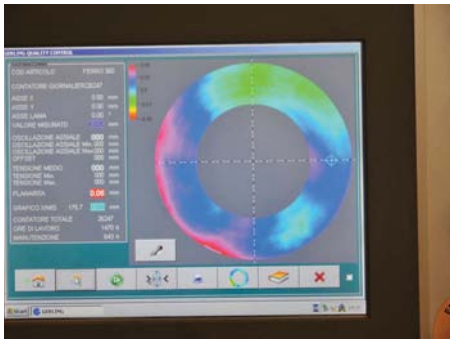
TCT blade tips

After annealing, the blade blank has the tips attached. These can either be brazed or welded. There is a machine that has the tips loaded into it and then it sorts, aligns, picks up each tip and places it into position on the blade blank, ready for it to be fixed in position. Actually, many of the ➤

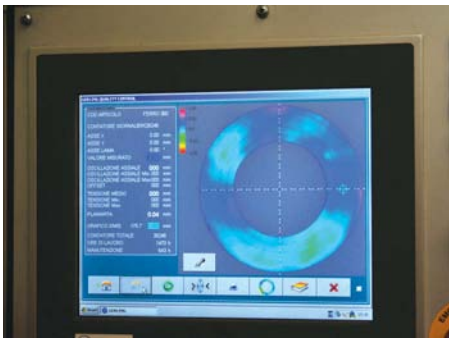
DEVELOPMENT

Flai as a company were formed in 1973 to produce high-quality circular saw blades. Development ever since has continued apace. Currently, Flai DPX blades use nano-grain carbide from Cerazit, with no porosity. Many of the blades created in the factory are laser-cut and the metal used is mostly German steel. Freud and CMT were the first to coat their blades but Flai also coat many of their blades with Dupont Teflon compound, incorporating heat dispersing aluminium flakes. In 2007, IRWIN introduced welded rather than brazed tips on some of their circular saw blades, designed for home and construction use. They are stronger and despite their ability to use slightly thinner sections of TCT – Tungsten carbide Tip – they can still be re-sharpened.

Blade detail, left to right: noise reduction slots; tension ring; expansion slots; tooth gullet and seat for tips

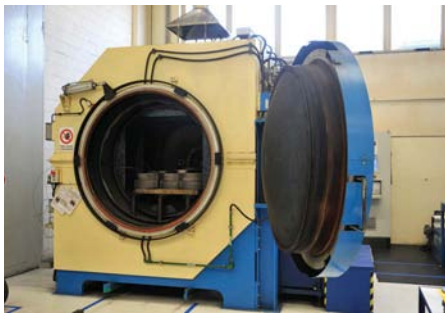


Blade 'out of flat'

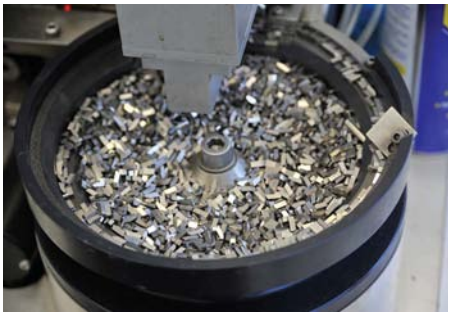


Now corrected with a hammer tap

The blade balanced, ready for the next stage



Blades entering the hydrogen chamber when they will be annealed



Carbide tips sit in a rotating sorting tray

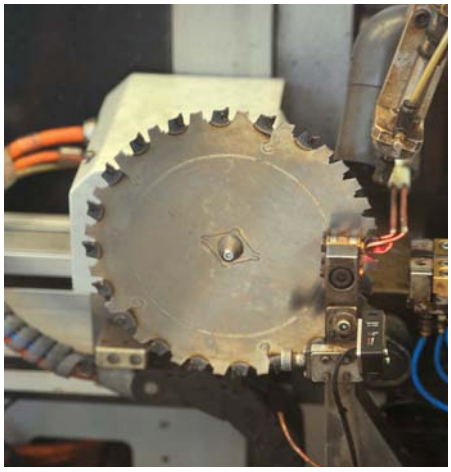
machines have sensors and cameras to show every stage of the process. Many self-analyse and run diagnostics on everything that is happening and will alert the technical teams when something seems abnormal. In conjunction with that, if something isn't available machine or material wise, IRWIN will work with companies accordingly to get what they want. This unit alone cost in excess of £188,000.

There is a lot of discussion as to whether brazed or welded tips are better. Both methods are used in the circular saw and bandsaw blade industry. Brazed tips are usually bigger than those welded on and many people say that brazed tips give a perception of better quality. As they are typically bigger, braised tips can be re-sharpened more often due to the tip size. Welded tips are stronger and allow the use of smaller tips, which brings down the blade cost, although they can't be re-sharpened as often.

Cleaning and coating the blades

Because both methods inject heat into the blade, up to 700°C, this forms a layer of oxidisation that will not allow any coatings to be placed on a blade. The most effective method to clean the surface is to shot blast it with micro-fine abrasive, brush it off, scrub it and then ultrasonic clean using 100% purified water. They are then heated to dry completely before coating them.

The coating is called PTFE – Polytetrafluoroethylene – which is a coating designed to minimise tars and resins from sticking to the blade during the cut. It makes the blade generate less friction and doesn't gum up during the cut. Apparently not all countries seem to like these coated blades – one prefers to have a chrome coating applied. Blade coating not only allows the blade to cut easier with a lack of sticking, but is also a rust preventer. After coating, the blade is heated for a two-hour cycle to cure the PTFE. I noticed some sparkling in the coating applied – these are aluminium flecks that help dissipate heat caused by friction.



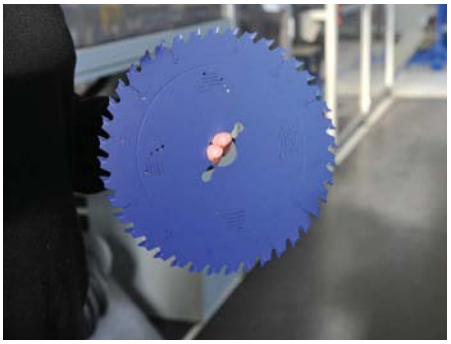
Each tooth is automatically brazed in place

Grinding and shaping the tips

The tip geometry is defined by what it is going to cut. The machines will cut the face off the TCT tooth, shape the top – known as topping – and then cut the side angles. Whether a tip has a pointed, flat or alternating angle cut on consecutive teeth will affect its use. Some have a combination of the three tip cuts – a 'triple chip' design – as well as 'alternating top bevel' and many more. The logos, etc. are applied and coloured resin placed in the vibration dampening slots before packing.

Constant improvement

All the way through we were hearing about the constant process of improving product quality and machines used, more compatibility, how spending £1m on a grinding machine is a wise investment and how new materials for use in cutting edge technology are being explored. Ken Hall said that over £10m had been invested in new equipment and materials in the last three years and more is yet to come. ■



A Teflon-coated blade before tooth grinding

One of the grinding machines shaping the teeth

A perfect cut!

Contact details:

Contact: IRWIN Tools
Tel: 01543 447 001
Web: www.irwin.co.uk

The necessary tools needed to make a tabletop

PHOTOGRAPHS BY MICHAEL T COLLINS

BEGINNERS' GUIDE:

Using hand tools and traditional methods to make a tabletop

Carrying on from the last issue, **Michael T Collins** finishes the table and shows you how to add a hand-finished top

In last month's article, we looked at making the base of a small table, attaching the legs to the skirt using mortise and tenon joints – one of the basic joints of a joiner – and securing the joint with the ancient technique of drawboring. In this article, we will finish the table by adding a hand-finished top.

As I mentioned last time, your tool collection will grow as your experience and needs increase. Well, we have already reached the point where to continue with this project, we need to add a few more 'necessary tools', namely a ripsaw, a couple of 610mm bar clamps, a hand drill, a set of brad point bits, a countersink, a flat head screwdriver and a marking gauge.

Wood selection

To make a tabletop, we need the widest and most stable boards we can find. The most stable wood is quartersawn, where the wood is sawn radially out from the centre of the log, with annular rings running perpendicular to the board's face. ➤

Michael T Collins

Michael has been working wood off and on for 40 years. Having run out of projects in the UK, he moved to a small village in the heart of the Finger Lakes in Upstate New York with his family in 1996. Over the years, he has made bespoke furniture, including clocks, inlay work, Adams fireplaces, bookcases, reproduction furniture, woodcarvings, restorations, bowls, tables and some major construction projects. As a mathematician by training, he is constantly looking to solve puzzles and woodworking for him is a continual process of solving puzzles – or maybe that's just the way he works...

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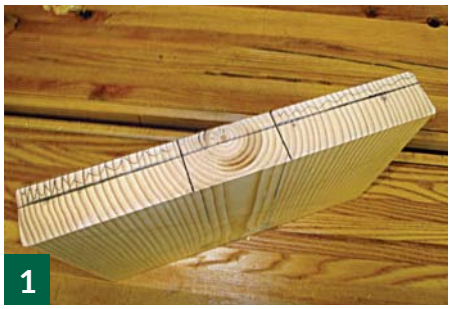
WOOD SELECTION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1 It's hard to find reasonably priced quartersawn boards, but for this table a good source is straight-grained construction timber, especially flat sawn 50 × 305mm. When picking wood look for boards that are cut close to the centre of the log. The table is going to have a 20mm top and is approximately 380 × 510mm so cut off a length 50mm longer than you need; this will leave a few centimetres for grain matching. Rip out the centre section of the wood; this can be set aside for other projects.

2 Designate a face side and mark 20mm with the marking gauge. To aid visibility, run a pencil down this line. Now rip these two pieces using the same technique we used to saw tenons: placing the board in the vice at 45°, saw the two lines you can see, turn the wood over and again saw at 45°. Now saw away the triangle of wood at the bottom of the kerf. If you find that the saw binds in the kerf, rub the side of the saw with beeswax.


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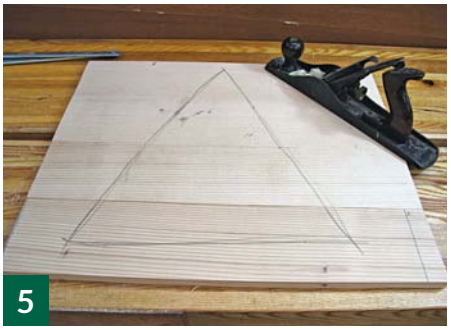
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3 Repeat these three cuts, following the line, until you have ripped the two boards. After the first few cuts, the kerf will keep the saw on track. Repeat for the other boards. Ripping boards will give you quite a work out, but the smell of freshly cut pine makes the effort worthwhile.

4 Construction timber in my neck-of-the-woods has rounded corners, so, if this applies to you, remove these with a few passes of the plane. Use your fingers as a fence – this will aid in getting square edges.

5 The size of your table base will determine the number of boards you will need. For my top I needed four pieces. Lay them sawn face down and arrange them to find the most pleasing grain match. Draw a cabinetmaker's triangle across the boards; this will be the face side and will make reassembling them much easier. Stack the boards with spacers between – sticker – and set aside for a couple of days to allow them to dry flat. It always amazes me how much moisture is still in dry wood – you may also need to weight them down.

JOINTING THE BOARDS


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6 Take adjacent boards and place the sawn faces together and clamp them in the vice. Planing two boards in this manner serves two purposes: a) it provides a more stable surface to plane on; b) while ideally we want to plane perpendicular to the faces, errors do occur and any angle introduced into the planed surface will be compensated for in the other piece.

7 However, this is not an excuse for abandoning square edges. Check with a try square at discrete intervals along the length; a back light will help to see where you need to plane more; mark these areas with a pencil and plane the marks off.

8 It is also important to check for flatness along the length of the wood, on a piece this small you can use the edge of the plane's sole.

Now put the first board aside and rotate the second board along its long axis, pair it with the third board so that mating edges are again together and plane as before. Repeat this process until you have planed all mating edges. When reassembled, the boards should produce a gap-free joint.

GLUE UP

9 Until you are well practised, gluing four boards together in one go is a tricky and sometimes messy business and it's often better to glue up in stages. Run a bead of glue on one edge and spread evenly – I use my fingers to spread an even coat. It's important to use enough glue as we do not want a glue-starved joint.

Now take the mating piece and position it by rubbing the joint back and forth, aligning the cabinet marks until friction prevents it from moving without force. This is known as a rubbed joint. Repeat the process for the other two boards. If your joints are good, then there is no need for clamping, just make sure that the boards remain flat and the mating joints are flush.

Running your finger across the glue joint is an effective way of checking the joint. It's amazing how accurate your index finger is as a feeler gauge. Clamp the boards if you need to. Once the two pairs of boards have set, glue these together using the same technique. If excessive glue squeezes out, remove the excess with a damp cloth without forcing it into the wood grain. If clamping, you can remove the clamps after half an hour. Clear away any excess glue and then wait for the glue to set overnight.

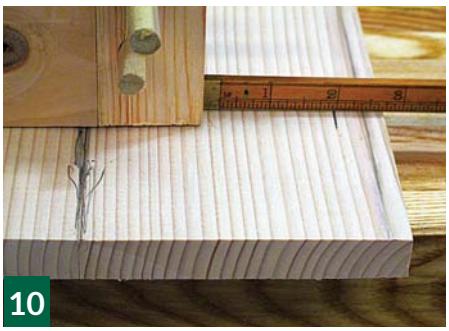
Once set, all remaining visible glue can be removed with a paint scraper. Don't forget to wear eye protection! Historically, the unseen parts of furniture were left unfinished, so the underside of the tabletop just needs


9

a few passes with the Jack plane to bring the roughness down. With this step we are not trying to smooth the surface completely and visible plane marks are quite acceptable and add to the finished hand tool look.

SIZING THE TOP

10 The size of the overlap is a personal choice but needs to be in proportion with the base. Because this table is rectangular, I'm going to have a 60mm overhang on the ends and a 50mm on the sides with a 12mm visible edge and a chamfer that is 30mm. Use the base to size the top.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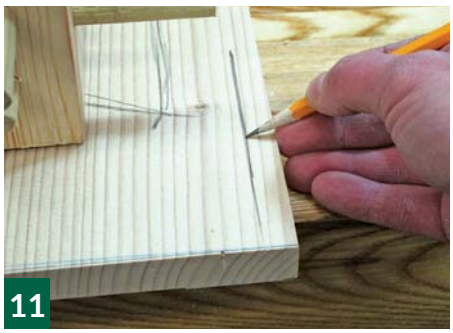
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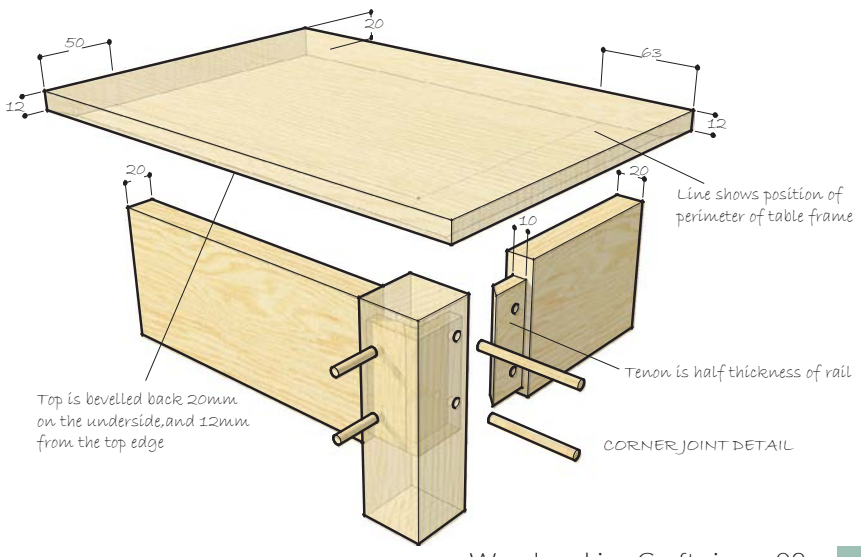
11 With your finger acting as a gauge, use a pencil to draw the table's size – allow 1.5mm extra for waste that will be planed off when finished. Cut the top to size using the rip saw and tenon saw – always cut from the face side so that any tear-out will be on the underside, then chamfer the underside.


12


13

12 Again, using your pencil and a finger as a gauge, mark the extent of the chamfer on the underside and edge of the tabletop. Always chamfer end grain first – this way, any fibres that are torn out will be cleaned up when the long grain is planed.

13 Holding the plane at a slight angle will help to slice the fibres, especially on the end grain. The intersecting chamfers should meet at the corner of the table. You may have to sneak up on your lines to get these faces to intersect. The top surface should be pretty flat and will need just a few strokes of the plane with a fine set to finish the surface.




14

ATTACHING THE TOP

14 Wood is a complex material and expands and contracts based on the amount of humidity in the air. We need to allow for this movement. As a rough guide, a 305mm piece of quartersawn wood will expand approximately 3mm over its width. There are many methods of attaching a top to the base, but the simplest is with screws. Drill holes at an angle from inside the skirt to the top with the 10mm bit then enlarge the pilot hole with a bradpoint bit, rocking the drill back and forth to elongate the hole.

15 Two screws evenly spaced on each side should be plenty for a table this size.


15

PREPARING THE TABLE FOR FINAL FINISH

16 Plane off the extra waste you added when sizing the top, chamfer all exposed edges on both the tabletop and base with a couple of light passes of the block plane.

17 Be especially careful when easing the tabletop end grain so as not to split out any fibres. It's a good idea to ease the end-grain from both sides first. While you are at it, clean up all the legs and skirt with the block plane.

The finish

18 A table can be subjected to a lot of abuse and needs to have a resilient finish. I like to use wipe-on polyurethane; this comes in a variety of sheens and gives a hard durable finish. Finish the base and the topseparately before assembly, following the manufacturer's instructions, and you have your finished tabletop. ■


16


17


18

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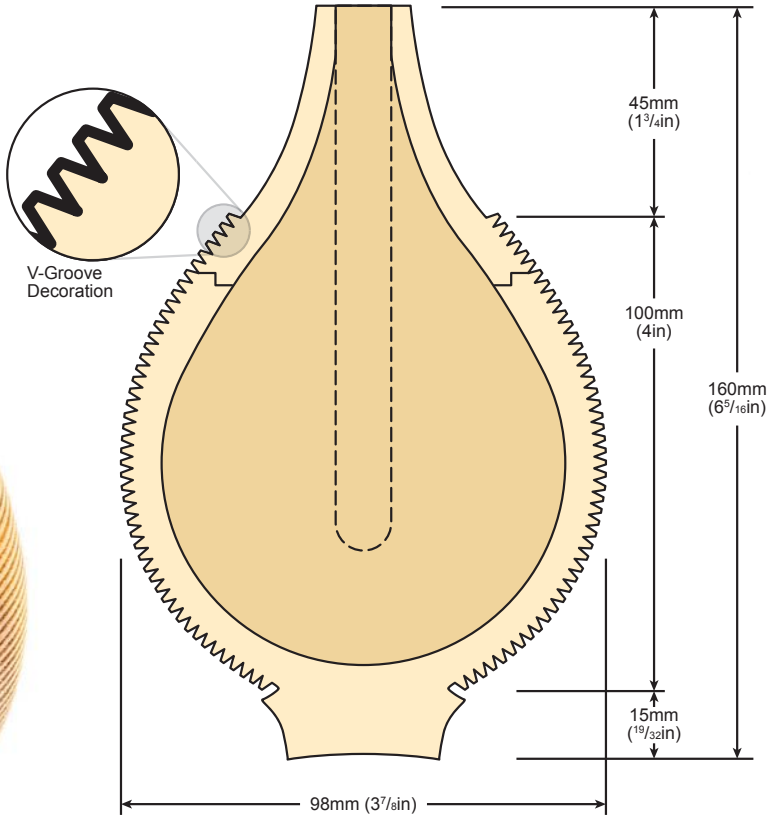
Three turning designs *for you to make*

Mark Baker shows you how to make three classical-inspired turned forms

Acacia form with grooved detail

This end grain/spindle grain orientated project is an ideal one for using up branchwood, pre-dimensioned blanks or offcuts. You could just drill a hole in the centre for a weedpot/bud vase or, because it has a grooved decoration on part of it, produce a full hollow form by creating two parts with the join being disguised by one of the grooves. The shape means that, when in two parts, you can hollow it out with a spindle gouge and a standard round-nosed scraper tip or dedicated hollowing tool if you choose. V-grooves are simple to create with the corner of a skew chisel, parting tool or a dedicated point tool. V-grooves are a simple enhancement and devilishly effective, but ensure to get the depth and width correct or the one that is different stands out.



PHOTOGRAPHS BY GMC/ANTHONY BAILEY; DRAWINGS BY MARK CARR

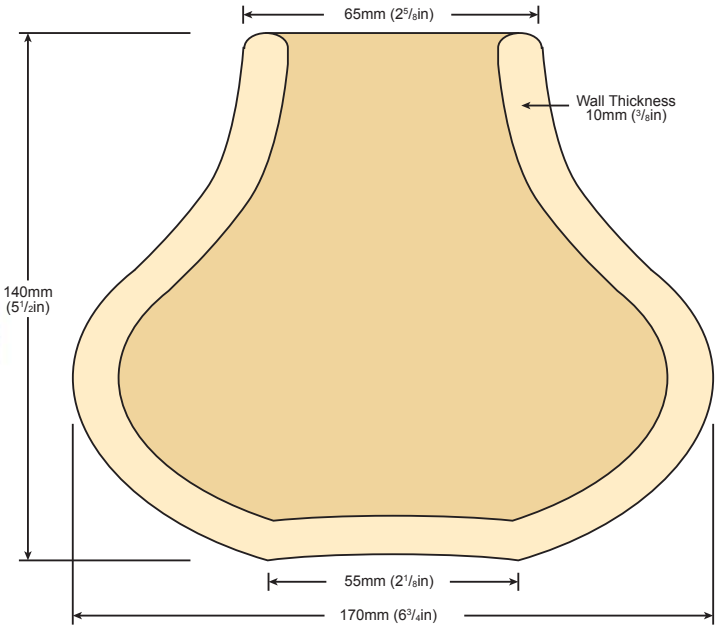
Mark Baker

Mark Baker is Group Editor for all four of our woodworking magazines and directly edits both *Woodturning* and *Woodcarving* magazines. Mark loves working with shapes, exploring form and seeing what can be done with them. The classical and ancient forms feature heavily in Mark's work but he always tries to develop and tweak things further. He has also written a number of turning books.

Walnut calabash-style vessel

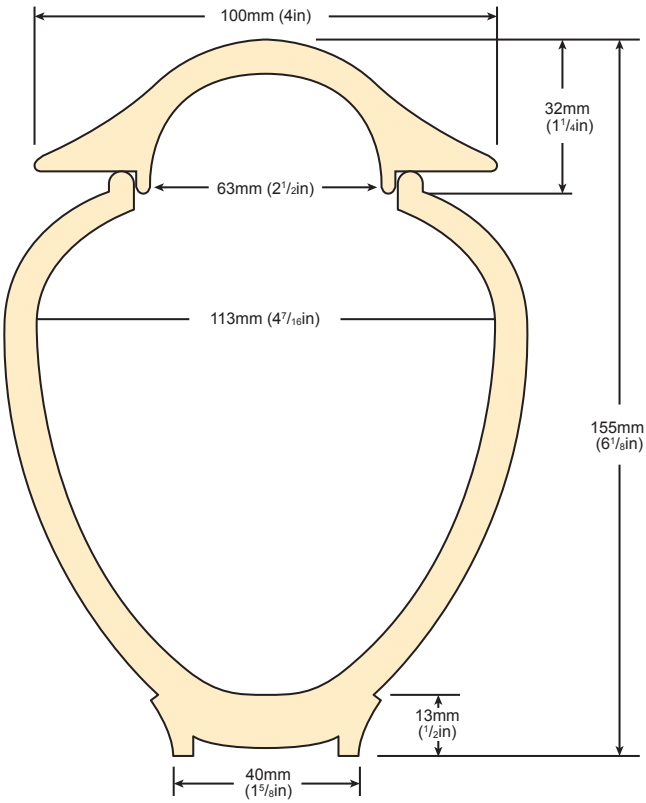
This form is a classic and although the shape may be taller, more squat, wider and suchlike, it remains very similar in all cases. The shape is a derivative of a pear/teardrop-shaped squash gourd, the dried outer shell of which was one of the earliest types of storage items.

The vessel can be made with or without a lid and they can be made from end grain or faceplate-grain orientated timber. This one has faceplate-grain orientation and is made from walnut *(Juglans regia)*. Hollowing it out – especially with a wide opening – can be done using two gouges: one with about a 45° angle and the other about 75-80°. In this case, that did not quite work, so a standard 45° bowl gouge was used in conjunction with a swivel-tip scraper that had a small offset, to allow me to reach the widest inner section.



Figured maple Oriental-style box

This end grain/spindle-turned box from figured maple *(Acer campestre)* is based on some Oriental-style lidded vessels – dating back many centuries and in some cases millenia – I have seen in museums. I love the upstand on the neck and the hat-type lid. The lid nestles without being tight so you do not have to hold the main body when lifting off the lid. The slight quirk near the base creates a tactile and slight visual separation, which in my mind, causes the piece to sit better and look better than just a follow-on bodyline curve. This is where experimentation comes in to find out what you like. The finish is a matt oil finish, but of course, applying a gloss finish would create a different visual effect. Matt oil produces a soft and tactile finish rather than a hard glaze. ■



Pallet *wine rack*

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Emma Kennedy

Emma is Group Editor for GMC Publications' craft titles, which include *Knitting*, *Making*, *Making Jewellery* and *Dolls' House* magazines. She has a background in textiles and interiors and also loves to upcycle old pieces of furniture to give them a new lease of life. As you can see, she has quite an eye for aesthetics!

Emma Kennedy shows you how to create this simple wine rack using the humble pallet

The humble pallet has become a rather resourceful object in the recent past. Its project potential appears to be limitless and is the subject of countless websites, falling under the auspicious title of 'crate craft'! Readily available and in most cases free, it firmly ticks the upcycling box and with a hammer, a few nails and little imagination will morph into a myriad of projects.

WHAT YOU WILL NEED:

- A pallet
- Claw hammer
- Nails
- Screws
- Coarse sanding block
- White emulsion paint
- 50mm paintbrush

1 A standard pallet can be converted quite easily into one or even two wine racks to hang on the wall. The space for the forks of a forklift to slide in is just right for holding wine bottles when turned on their sides.

2 Saw through the pallet just above two boards at the back but cut flush with one bar at what will be the front of the rack.

3 Prise off a board from the waste part of the pallet to make a base for the rack using a chisel and claw hammer.

4 I found that it is easier to hammer the protruding nails flat rather than trying to extract them.

5 Next, the bottom board is screwed on what was the side of the pallet, but which now becomes the base of the wine rack.

6 Use a coarse sanding block to smooth the wood but take care not to get any splinters as you sand. The rack is now ready for a paint effect.

7 To achieve the painted finish shown here, dip a dry brush sparingly in some white paint and apply in rough strokes, almost rubbing it in as you paint. For the numbers, simply find a font or number template of your choice, photocopy to the desired size and trace in place before carefully painting in with black acrylic paint. The finished wine rack should look something like this. ■

Ask the Experts

ANTHONY BAILEY
Editor, *Woodworking Crafts Magazine*

MARK BAKER
Group Editor, GMC woodworking magazines

DEREK JONES
Editor, *Furniture & Cabinetmaking Magazine*

This is your chance to challenge our Editors and for them to try and successfully answer your comments and queries. This month, **Mark Baker** and **Anthony Bailey** field the questions

USING SWAN-NECK TOOLS

STAR QUESTION

PHOTOGRAPHS BY GMC/ANTHONY BAILEY, UNLESS OTHERWISE STATED

Above: Maintain a trailing angle at all times

Left: Only the straight section of the tool shaft should be on the rest when hollowing

"I am having trouble using a swan-neck hollowing tool to undercut the shoulder on vases. Try as I might, the blade twists during the cut and a catch occurs. I must admit to being wary of using the tool now. Do you have some pointers to help me with this problem?"

David Jones – by letter

Mark replies: There are numerous types of hollowing tool that offset cranked sections or swan-necks. Some have swan-neck forms built into the tool shaft of various lengths and degrees of curvature while others have articulated links, so you can adjust the offset of the shaft. If you have the articulated type, it is better to have a minimum of two links so you can create the swan-neck aspect – rather than just an offset – on the shaft so you can reach where you need to go.

Cutters

At the end of the hollowing tools are various shaped cutters. Some only have one type of cutter fitted, but others have interchangeable tips. Some have fixed tips while others have ones that can swivel. You specifically mention a swan-neck tool but not which type you have.

The universal thing to bear in mind with such tools is that the tip supplied should be as close inline with the main straight section of the shaft of the tool as possible. If you have the articulated type, set them so the tip is inline with the main straight section of the shaft. The greater the offset of the tip past the main shaft, the harder it is to stop the tool from rotating downwards during the cut.

Safety

The next part is important: you should only ever rest the main straight section of the shaft – not the cranked or swan-neck part – on the toolrest at any one time. This is the section that is inline with the tip and will give you maximum control. If you do not do this, you will not have full control of the tool.

Depending on the shape of the swan-neck and the depth of vessel being hollowed, you have quite an overhang of the tool projecting over the rest. The further you need to reach, the larger the diameter of the tool shaft you need to minimise vibration and counter that overhang. ➤

If you have anything to say, write to: The Editor, *Woodworking Crafts*, 86 High Street, Lewes, East Sussex BN7 1XN. Alternatively, email: anthonyb@thegmcgroup.com

There are a few shaft options for swan-neck hollowing tools: round-bar, some have a half-round and then one side flat, some have square section shafts and others have a combination of facets and round sections.

If it is the half-round one, it is very stable in use and you use the flat side on the rest for hollowing and this, apart from raising or lowering the handle, fixes the cutting tip position. This would also apply to square or other similar blades with flat sections on them.

With all the tools, never have the handle lower than the cutting tip. So, you effectively need to trail the blade downwards slightly in use. Remember, on internal work, you cut on or just above centre so you need to adjust the rest accordingly to allow the cutter to cut on or just above the centreline at all times. The deeper you go, the more you need to adjust your rest to maintain the presentation angle. Remember to maintain the trail angle of the blade or, as a worst case scenario, horizontal. Never allow the tip to be presented higher than the handle of the tool.

With the round-bar versions, you have a bit more variance with the tip presentation angle due to you being able to rotate the blade. So if you have the blade tip horizontal to the work – if viewed from a clock face, the cutting edge at the 9 o'clock position – it will take an aggressive cut and is good for hogging out the wood. If you rotate the blade so the cutting edge points at the 7.30-8 o'clock position, it is a gentler cut and also better for refining the surface.

Above: Various swan-neck and articulated headed hollowing tools with various cutting tips

Finer tips

It is worth noting that when using the tools, the finer, thinner tips are the ones best used for bulk removing wood: they are fast and efficient and have less pressure exerted on them during the cut, but they are not great for cleaning up a surface. Once hollowed, to refine the shape and surface finish, use a wider broader tip of the correct shape for the work you are creating.

POLY-VEE BELTS & BANDSAWS

"I've had a bandsaw for a while and, just recently, the machine played up with no power to cut. I opened the doors and the poly-vee belt driving the lower bandwheel had stripped apart and appeared to have crossed from one diameter\ pulley to the other. There wasn't lots of dust in the case and it had been running fine up until that point. Unfortunately, it meant removing the lower bandwheel, which proved a bit problematic. It really needs a hub puller which I don't possess, but I got there in the end with a bit of thumping to get it to come loose. I was surprised at how easily the rubber belt split and how it jumped across. Any thoughts on this one?"

Bob Danvers – by email

Always make sure the drive belt is correctly tensioned

Anthony replies: Poly-vee belts splitting on bandsaws isn't unheard of. The quality of the original manufacturer's belts may be suspect where a replacement belt may actually be made of sterner stuff. However, do make sure the drive belt is correctly tensioned. This may seem a bit unnecessary as nothing changes, or does it? If the belt is unreinforced rubber or vibration is occurring then it could de-tension and slip off, so regular tensioning checks make sense. At the same time, clear wood dust from the case and scrape off anything stuck to the bandwheels but only with the blade removed so you cannot get your fingers caught.

WEATHER-RESISTANT JOINTS

"Perhaps you can help me? I've got a couple of rotted fence posts. The rest of the fence run is fine – the posts are good above ground level and have the arris rail mortises cut in them – so it seems a shame to throw them away. I have several other old fence posts lying around – is there some way to cut and join them together that is strong enough to last a while? I don't want to spend money on the fence as we may be moving in the next year or two."

Bob Watkins – by email

Anthony replies: I don't like waste – mending and remaking things is 'in my blood', so to speak. I work with our local footpath group and I have shown them how to repair 'waymark fingerposts' – the technique is the same as the one you need to repair your fence. Use a sliding bevel to mark out a zig-zag shaped scarf joint on the good section of post, saw it out and mark the shape onto your spare piece of post, saw out the second piece and get a good, neat fit. You may need to recut slightly so they lock together tightly, then apply PU – polyurethane glue – which is waterproof and drill and screw the two halves together at an angle, as shown in the photo, and leave to set. Scrape off the surplus glue which foams and sets hard. You now have a tough weather-resistant joint that should last some time.

Repairing a fence post using a zig-zag shaped scarf joint

DEEP SKIRTING BOARDS

"I don't know if you deal with DIY matters but I'm currently renovating an older property; it will be nice once it's finished but I'm trying to do as much of it myself as possible. It should have proper deep skirting boards in most of the rooms but modern skirting boards aren't very tall and I'm also worried about how to fix it to the brickwork behind. I don't want to hammer and nail it in place as I'm sure it will get dented and spoilt. Any tips would be useful, please."

Elizabeth Moncrieff – by letter

Anthony replies: We do indeed deal with DIY as well as standard woodworking matters. Deep skirting, as you call it, also projects forward from the wall slightly to look more impressive. Therefore, the relatively easy answer to fixing it is to nail or use a masonry drill to plug and screw battens to the wall, ensuring they are vertical, although some packing pieces may be necessary to achieve this, then you can easily screw the skirting boards to the battens without damage. The wide lower boards can be plain MDF not even wood, then 'plant' ready-made mouldings on the top edges using glue and oval nails. When you paint over it all, it will look perfectly fine.

PHOTOGRAPH BY GMC/ANTHONY BAILEY

Fixing some existing skirting boards

Things to do in July...

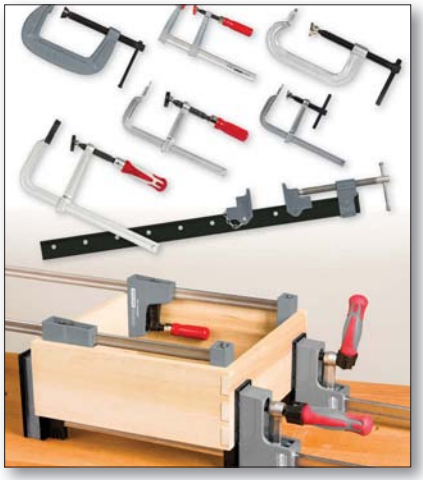
■ June is famous for defying hope and raining as in the rather ironic expression 'flaming June!' July is another matter and with good luck and a following wind, it should be fine and sunny and you can turn your attention to protecting sheds and other outbuildings and structures. Felt roofs long overdue for re-felting can be tackled and wood surfaces wirebrushed and rubbed down with medium abrasive before coating with a good quality varnish. I've taken delivery of a large consignment of Tonkinois varnish – you can Google it – which is superbly long lasting and rain just bounces off it.

Tonkinois varnish is great for treating your garden shed

■ Nowadays, gardens are usually flattened to within an inch of their life with a lawnmower or strimmer, but have a care for 'critters' everywhere, from frogs to hedgehogs and all manner of interesting wildlife. If you chop down a tree or even some branches, pile the pieces nicely with spaces in between – not in the middle of the lawn, obviously – to create a sort of mound and cover with fine material, such as cuttings, grass mowings, etc. It's surprising who may move into your animal hotel! You will be doing something to encourage wildlife by creating a haven where they can live.

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

A foraging European hedgehog



KIT & TOOLS

Take a look at the tools, gadgets and gizmos that we think you will enjoy using in your workshop

Axminster Trade Clamps

This range includes all the standard types of clamp, including G clamps, F clamps, bar spreaders, parallel bar clamps, sash clamps and T bars. These clamps come with a lifetime guarantee and many of them offer the benefit of bulk discounts. Prices valid until 31 December, 2015.

DETAILS:
Contact: Axminster Tools & Machinery
Tel: 03332 406 406 **Web:** www.axminster.co.uk

From £1.96

Festool's 'Unplugged' range

Festool plans to showcase its latest range at UK Construction Week, which takes place from 6–8 October, 2015 at the NEC Birmingham. This new range works for 25% longer between charges thanks to their new 5.2Ah batteries. Festool 'Unplugged' frees you from the constraints of electrical sockets and guarantees the best results every time with the combination of 5.2 Ah high-performance battery packs and brushless EC-TEC motor.

DETAILS:
Contact: Festool
Web: www.festool.co.uk

Hilti launches new 12V cordless range

Operating on a new 12V battery platform and only weighing around 1kg each, the SF 2-A, SFD 2-A and SID 2-A have been designed for working in tight spaces, dark corners or overhead for prolonged periods. As with all Hilti battery platforms – including the 22V and 36V – one battery can operate all tools on the same voltage while an LED indicator enables the charge to be checked at the press of a button.

DETAILS:
Contact: Hilti **Tel:** 0800 886 100
Web: www.hilti.co.uk

Trend Diamond Cross Sharpening range

The Diamond Cross Sharpening range is now available from Trend and the products can be used to sharpen chisels and plane irons and are specially designed for router cutter sharpening. This sharpening range is ideal for shaped router cutters, chisels and woodturning as well as for sharpening larger bladed gardening tools.

DETAILS:
Contact: Trend
Tel: 01923 249 911
Web: www.trend-uk.com

Makita DTD148 18V brushless impact driver

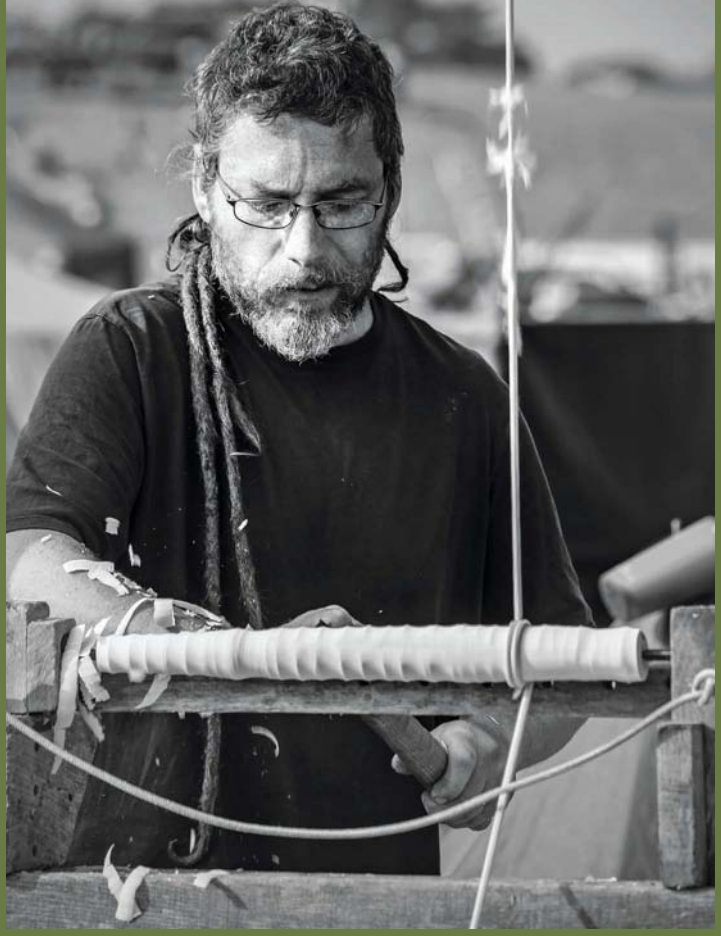
The new Makita DTD148 18V brushless impact driver generates a massive 175Nm of impact torque. The 10mm reduction in overall motor body length aids confined space access while the 5Nm increase in driving torque makes this the most powerful 18V impact driver on the market. It has an electronic switch system that enables you to select the rotation speed and corresponding impacts per minute performance. Its 290W brushless motor will drive an M14 high tensile bolt and, in addition to the three-stage impact settings, there is a T-mode selection for tightening self-drilling screws. Speed control is by the variable position trigger. It comes with two 4.0Ah 18V Lithium-Ion batteries, a DC18RC charger and MakPac case.

DETAILS:
Contact: Makita **Tel:** 01908 211 678 **Web:** www.makitauk.com

From £289

Left: Willow weaving to make baskets

Right: The ancient craft of pole-lathe turning



GREEN Woodworking

In the first of a new series, **Peter Wood** explains how he got into green woodworking

Over the coming months, I'll be explaining some of the different skills involved in this branch of woodworking, with technical advice, projects for you to follow and a look at what's happening around the country. I'll begin with a quick introduction of who I am and how I became a green woodworker.

Catching the bug

A friend of a friend introduced me to the skills of green woodworking and a new path opened up to me. It was a whole different way of viewing my woodworking; in came soft, sap-filled wood, sharp tools and a direct relationship between how the wood was grown and what I could make. I felt it was a way of increasing the value of our home-grown woodlands and in consequence a small contribution to preserving this valuable resource.

A selection of Peter's Windsor chairs

With a simple set of tools and a benchtop, I built my first pole-lathe in my bedsit – I still use it now! Over the next four years, I honed my turning skills, demonstrating at country shows and craft fairs.

The pole-lathe was the traditional machine for turning chair parts with the bodgers in the woods supplying the chair-making industry, so logically I began making Windsor chairs using these time-honoured methods, cleaving green wood, hand shaping the parts, seasoning the wood then assembling. I sold the third chair I made and have been selling chairs for over 25 years.

Greenwood Days

The pole-lathe always creates a lot of interest and one of the many questions has been where you can learn these skills, so when I moved to the National Forest area in the East Midlands, I set up a woodland centre for teaching traditional crafts called Greenwood Days. The centre has increased in size and scope and my making now runs in partnership with my teaching. I teach courses on cleaving, sharpening, steam-bending, pole-lathe turning and lots of styles of Windsor chairs. I also invite experts to come and teach their skills, from coracle-making to willow sculpture, hurdle-making to hedge laying, longbows to contemporary willow/hazel furniture. I teach individuals, companies, universities and take my skills around the country running workshops for colleges, art groups and Scout and Guide groups. I've also branched into sculptures and living willow *(Carya spp.)* structures and, while I can't claim to be an expert in all aspects of green woodworking, I keep abreast of what's happening and know a lot of experts who will be passing on their skills as well.

I hope you enjoy the series and keep me company on this journey. ■

PHOTOGRAPHS BY PETER WOOD

Peter Wood

Peter has been a skilled green wood craftsperson making Windsor chairs and other creations for over 25 years. He demonstrates these skills around the country, gives lectures and runs hands-on workshops for all ages. He set up Greenwood Days in the National Forest as a centre to teach a range of traditional and contemporary crafts. He is also the current world champion pole lathe turner!

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Guidance and inspiration for ambitious carvers

Through fantastic projects and instructional techniques from top professional and talented amateur carvers, *Woodcarving* offers something for everyone. Project include wildlife, chip carving, relief, and stylized carving.

For those who love to make furniture

Furniture & Cabinetmaking is an essential read for the furniture maker. Topical features, industry news and reliable reviews complete the mix of content.

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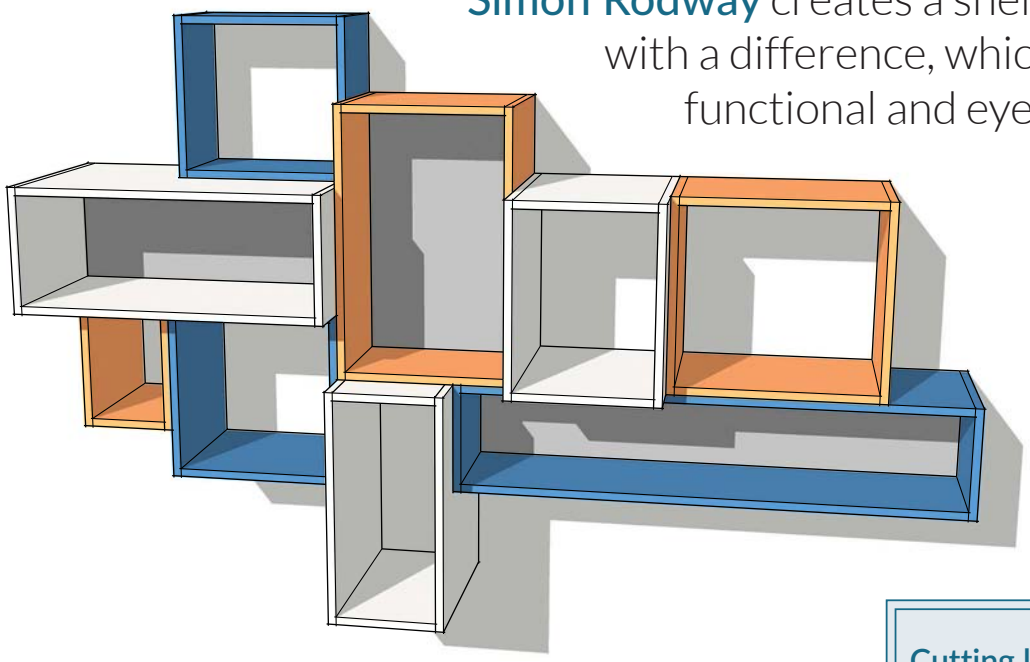
Sculptural shelves

Simon Rodway creates a shelving unit with a difference, which is both functional and eyecatching



Cutting list

Top/bottom	2 @ 236 × 225 × 12mm
Sides	2 @ 410 × 225 × 12mm
Back	1 @ 386 × 236 × 12mm
Fixing blocks	4 @ 50 × 32 × 25mm

This sample includes a back and fixing blocks, which only applies to fixed units.

If you're like me and think that putting up shelves is just about the dullest of DIY jobs – after painting and decorating – then maybe this month's project will give you a bit of inspiration.

The purpose of these shelves is not primarily for storage in any case, but as a display unit and something that is interesting and pleasurable to look at in its own right.

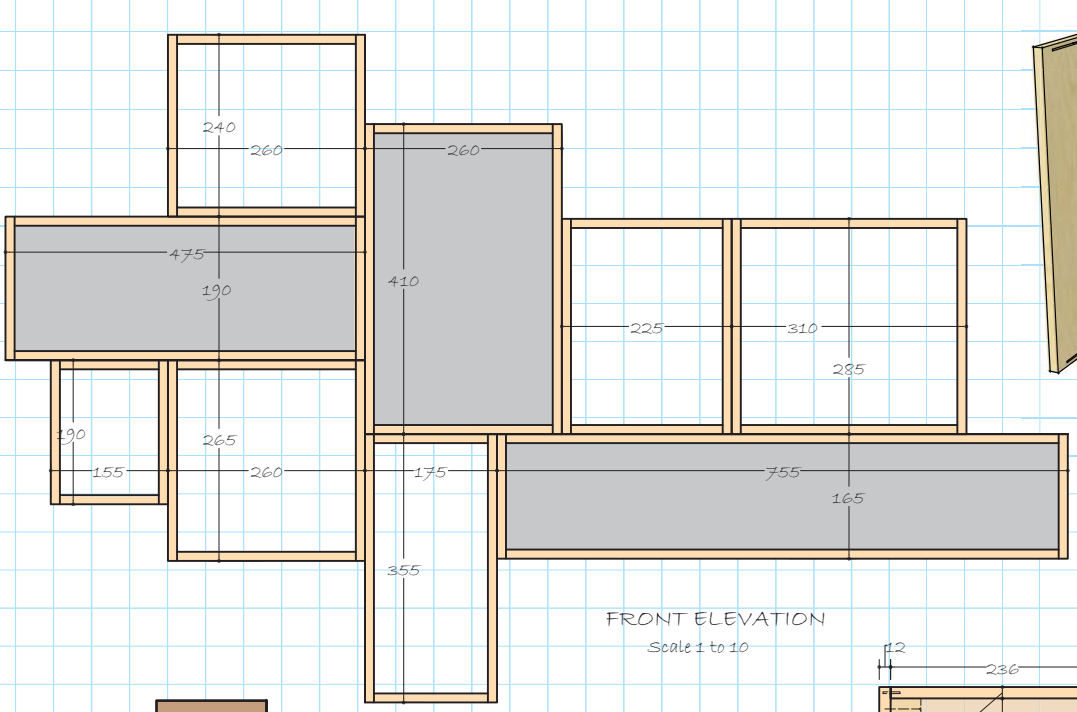
On a practical level, the design allows you to tailor sizes to things you might want to display and the layout I've shown is just one example of how to do it. If you're going to build your own variation of this, I would establish a few rules from the outset, as it's much more difficult to design something when there are relatively few practical constraints, which act as guides to the process. In my case, I started with a central vertical axis or line and two horizontals off on either side, but offset so that one is lower than the other. This kind of layout can help create a sense of movement and makes the thing more dynamic in appearance. Then I just played around in SketchUp with sizes and colours, but with an eye all the time to what I was going to put into the various units, adapting things to take account of structural considerations.

Construction

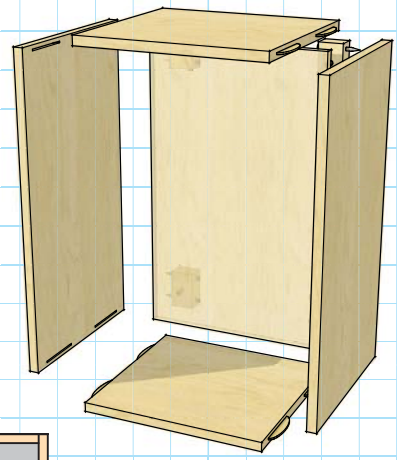
The actual construction is very simple, made up of a sequence of boxes, most of which are open ended front and back, using 12mm plywood throughout. If you can, use biscuits to make the corner joints; these are strong and invisible. If you are painting the shelves, you could screw and glue instead and deep countersinking will allow you to fill the screw heads. Once you have the basic boxes made, lay them out on the floor to make sure it all fits together as planned. I have grouped them into three groups of three, shown in the colour coded diagram, and one box in each of these groups – shown with a grey fill in the elevation – is anchored to the wall using glued and screwed corner blocks. Double check the diagonals on these fixed boxes as they will true the whole assembly up, as well as making sure it stays put!

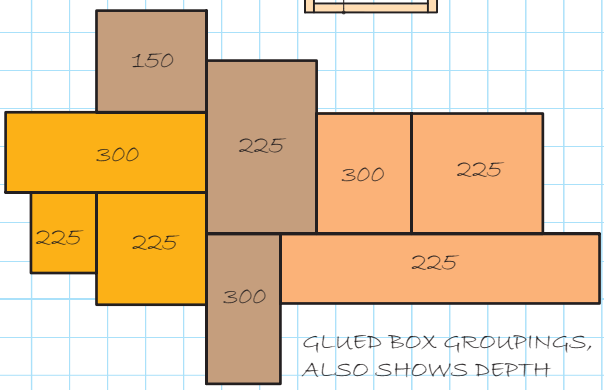
Making the boxes

Once you are happy with the layout, mark the positions of the two open boxes on the third and fixed box in each set of three. Mark out and cut the backs for the three fixed units, which should be a fairly tight push fit. These can be thinner sheet material if you have any handy, to keep weight to a minimum. Paint the boxes and backs

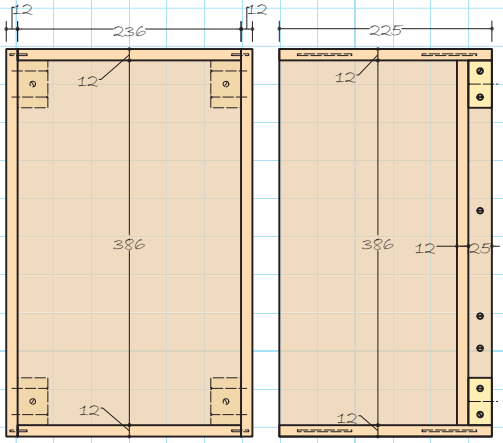


FRONT ELEVATION
Scale 1 to 10





GLUED BOX GROUPINGS, ALSO SHOWS DEPTH



SAMPLE BOX - WALL FIXED

using your chosen colours, avoiding as much as possible any surfaces which are going to be glued together.

Fix the pre-drilled corner glue blocks to each of the three fixed boxes and then glue the two open boxes into position on their fixed box. Make sure to achieve a good glued joint by clamping the boxes together at this stage. You should then have three separate units of three boxes each, which will all fit together like a jigsaw. I have allowed 25mm depth behind the back panels for the fixing blocks and you can pre-drill a few screw holes in this 25mm strip, in order to fix one unit to another once they are on the wall together. However, just make sure you don't drill through somewhere there is no connecting box and obviously use shorter screws that won't break through the face of the next box.

Assembly

Now mark the position of the central group on the wall. It's a good idea to lightly pencil at least one guideline on the wall first using a spirit level, which will give you a true vertical to work to. Then you just have to establish your preferred height by working along this line, which will be hidden once the shelves are in place. Mark, drill and fix the first unit and offer up the second so that it fits neatly. Fix this one and do the same with the third unit. Now you can tighten the whole thing up by using the pre-drilled holes to connect the units to each other. Push the backs into each of the fixed boxes and you could use a very small blob of clear silicone mastic or similar in one top corner to keep them in place – any more than this and you won't be able to get them out again.

Obviously, when it comes to choosing what items you are going to display and where, it would probably be sensible to put heavier things in or above the fixed parts of this shelving. Theoretically, a glued joint is supposed to be stronger than the wood it is joining, but unless you are ultra confident about your gluing techniques, I would stick to this principle. ■

Simon Rodway

Simon Rodway also runs LineMine, a website with articles and online courses on drawing software. A new course, 'SketchUp for Woodworkers', is starting this month. For details and to get discount coupons, see website details below.

Email: sjr@linemine.com
Web: www.linemine.com/courses

Coming next month in Woodworking CRAFTS

ISSUE 3 ON SALE 9 JULY

PHOTOGRAPH BY PETER WOOD

HAND WOODWORKING:
Tools of the trade & plane handle conversion

COMMUNITY FEATURE:
Woodworking at Phoenix House Recovery Centre

POWER WOODWORKING:
Making curtain pelmets

SMALL SPACE WOODWORKING:
Selecting hand tools

WOODLAND WAYS:
Trees from ancient times – lime trees in Britain

POWER WOODWORKING

Bob Adsett on

Bandsaws

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Before long, floor space started to reappear

WORKSHOP CLEAR OUT

Being newly retired, **Bob Adsett** now has more time on his hands, so no excuse for not getting on with his massive workshop clear out

PHOTOGRAPHS BY BOB ADSETT

The plywood boards

To my shame, I have to admit that my workshop has been a dumping ground for the last 10 years. As you can see from the photos, my workshop was a tip: everything was just shoved in and stacked up with no order at all. So the first thing needed was to clear the floor so that I had room to move around safely.

This meant being ruthless with anything that was not needed so things were divided into 'must go' and 'needed' piles. Anything that might be useful in the future went onto the 'needed' pile. And, gradually, floor space started to appear.

Boards for jigs

Among all of this were a number of ply boards of varying sizes and shapes, but what to do with them? Some time ago, ago I needed to cut plywood to size for a one-off job, so I bought a piece of 6mm-thick 1,200 × 600mm MDF and had them take a 150mm wide cut off the long side. When I returned home, I screwed and glued this in the centre of the 450mm piece, which gave me a raised middle to use as a fence. Placing the edge of the sole plate on the saw next to this raised piece, I used it as a fence and cut off the overhang by running the saw down the board on both sides. This now gives a double-sided sawing jig/fence to use on boards up to 1,200mm long. The cut line can be marked and then the jig is clamped to the item to be cut and the saw run along the jig.

Jigs could also be made for 1,600mm or 2,200mm boards.

Using machines

In the main photo, a Kity 439 planer/thicknesser can be seen buried under the ply sheets; I've had this for at least 11 years and have never set it to the correct working height and, as you see, it is on a wooden box made of old packing crates. It was a simple job to make and cut the base to a comfortable

Left: Shelving helps to organise everything

Below: My old cast-iron saw bench

working height: I just cut off 100mm around the base and will turn the base into a cupboard at some time soon.

All machines must be at a working height comfortable for the person using them; this will save strain on the back and make working a lot safer. Each person is different so find your comfortable working height. This applies to all machines, saws, bandsaw, lathes and any other woodworking machine.

Shelving

This old pine *(Pinus spp.)* shelving unit, which I've had for 10 years, is ideal for keeping my power tools organised, instead of having them stacked on top of each other on a side cupboard.

Rollers

In my workshop, I also have a Kity K5-613 bandsaw and a pull-through saw, both of which are no longer made. The bottom of the bandsaw legs are rollers, which are the type used for moving kitchen appliances around. I deliberately used these as they are low to the floor, are stable when moved and can also be locked when the machine is in place and being used.

Cast-iron saw bench

During my clear-out I found the parts of an old cast-iron saw bench. The base is in the tool shed covered with a sheet to protect it. I was given this as it was being scrapped but still worked, and to my knowledge, all the parts are still there. Here you can see the pieces with the top stood on the floor in front of the DeWalt. As I am now retired, I should have time to rebuild the saw – an idea for a future article, perhaps?

Arundel lathe

Now I can get to the lathe – see opposite – a 25-year-old Arundel that has been unused for the last 10 years. It has a solid cast head and tailstocks and has the on/off switch built in under the headstock. After cleaning and checking it over, it ran as good as when I last used it. As you can see in the before and after photos, the lathe area can now be accessed as well as the tools, chucks and turning blanks. This is only part of the job done, however, as there is still a router table to be cleared as well as more general tidying and cleaning. ■

Before, as you can see here, I could barely get to my lathe...

... but now, it is easily accessible

BOB'S SOUNDBITES

1. Make time to keep the workshop clear – you never know when you'll need to use it. Make some shed time, even if it is only half an hour a month.

We are all guilty! Ed

2. If you must leave tools and machines unused for a period of time, run an oily rag over them to protect the steel or cast-iron surfaces.

An oily rag is very useful

3. And the hardest – be ruthless with offcuts – the odds are that you will never use them.

Bob Adsett

Bob started his woodworking career in 1967 in furniture manufacturing before moving into the construction industry. He then worked as a demonstrator and trainer for Kity Machines, which included factory-based training in Soviet-era Latvia. He then joined Axminster where he marketed CMT cutters and helped launch Lamello products. He is now retired and waiting to see what offers may come up!

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PHOTOGRAPHS BY LOUISE BIGGS

Elm chest of drawers

Louise Biggs proves her skills as a furniture restorer as well as a cabinetmaker with this sensitive restoration of an elm chest of drawers

My clients have a collection of antique chests of drawers, which are in everyday use within their home. They asked whether I could carry out some sympathetic repairs to the chests, paying particular attention to the drawer runners on each one as these were worn through years of use. The drawers kept falling off their runners, making them difficult to pull out and push back, not very practical when in constant use. In this article, I'll explain the stages of restoration to an elm *(Ulmus procera)* chest of drawers that was made in the late 17th century.

What you will need:

- Restorer's cat's paw
- Tenon or dovetail saw
- Chisels – various sizes
- Drill and drill bits
- Sash clamps
- 'G' and 'F' clamps
- Mortiser or mortise chisel
- Router and router table
- Straight edge cutter
- Tablesaw
- Planer/thicknesser
- Hammer and pin punch
- Animal/hide glue and glue pot
- Block plane
- Spokeshave
- Square
- Side cutters or pincers
- Cabinet scraper
- Abrasives and cork block
- Low-tack masking tape
- VanDyke crystals dissolved in water
- Shellac sealer
- Garnet polish
- Polish mop
- Grey skin wadding
- Wax sticks of appropriate colours
- Bald's Original Furniture Balm

Japanese restorer's cat's paw

A relatively recent introduction into the UK, the cat's paw is a compact, nicely made quality Japanese tool designed for pulling and prying. One end has the blade, which I used to carefully separate the bottom panels on this elm chest, and the other end has a neat little nail puller. It is a far less destructive tool than a crowbar, which is quite crudely made by comparison.

Price: £23.95 (inc VAT)
Web: www.axminster.co.uk

ASSESSMENT

- The drawer fronts were tilted with uneven gaps around the fronts causing the drawer fronts to stand proud of the carcass front.
- The grooves on the sides of the drawers were badly worn and very uneven.
- The runners within the carcass were loose and worn and had at some point been replaced.
- The drawer rails were loose within their joints.
- There was insect damage to the bottom panels and the bottom rail.
- The whole carcass was somewhat unstable and needed to be tightened up. A large section of wood was glued in the bottom of the carcass on the left-hand side.
- One of the top side panels had dropped down from its groove leaving a gap at the top.
- Many of the applied mouldings were loose but not badly damaged or missing.
- The central panel on one drawer was loose due to differing grain directions, movement and shrinkage.
- Finally, the same drawer had a strange array of wedges and additional timber fitted behind the bottom applied moulding, shown on the left-hand drawer in the photo.

One drawer's central panel was loose

This drawer had also been fitted with wedges and additional timber

The drawer fronts were tilted with uneven gaps around them

The drawer rails were loose and the grooves on the drawers' sides were worn and uneven

STAGES OF RESTORATION

1 Old elm and oak *(Quercus robur)* was used throughout the restoration and animal/hide glue was used as this is reversible and was the glue used originally. The first step was to tighten up the carcass. The moulding was removed from the bottom front rail using a restorer's cat's paw to carefully lever the moulding free. Along with the bottom panel to the left-hand side, which was also removed; this exposed the large section of additional wood that had been glued in. Having exposed the joint area between the bottom rail and the leg, it was clearly seen that the joint, a mortise and tenon weakened by insect damage, had broken.

2 Before separating the tenon, the remaining bottom panels were removed and the peg through the tenon in the leg was drilled out through the centre and the remainder of the peg eased out with a small chisel. Pieces of low-tack masking tape were positioned on the legs to mark the top edge of the rail. The same steps were taken to release the other end of the rail and the remainder of the tenons were cleaned out using a chisel and mallet. ➤

1

2

3 It was clear that the ends of all the legs had been replaced, cut off level with the underside of the bottom moulding. There was no external evidence of any dowels, screws or nails. While cutting out the broken tenon, the chisel hit metal and a brass dowel was revealed right up the middle of the mortise, effectively cutting the tenon in two halves. The replacement leg ends had been firmly glued in place and extensive damage would be caused trying to remove the brass dowel. I decided to keep the false tenon short in the first half of the mortise until it hit the brass dowel and secured it with additional pegs. A section of old elm was prepared to the same thickness as the mortise, one end cut and fitted in the mortise, the other end to be fitted to the rail.

4 A mortise was cut on the underside of the bottom rail at the end, with a shoulder on the top edge. The shoulder will prevent the rail from dropping down and make the repair more effective. The bottom rail was dropped down over the false tenon. The same procedure was carried out on the other end. Once adjustments had been made to the fit, the rail and false tenons were glued and clamped in place with a sash clamp and the chest checked for square.

5 Elm pegs were then fitted through both halves of the false tenons for added strength to prevent the joints pulling apart.

6 The other three drawer rails were supported by a sash clamp and glue injected into the joints. Elm wedges were cut and fitted above and below the rails to tighten up the joints, which had opened up due to carcass movement. The wedges are just visible.

7 The bottom panels and moulding were reinstated. The carcass was now tightened up allowing work to start on the drawer runners. Low-tack tape was placed on the carcass to show the positions of the top edges of the housings for the drawer runners. The drawers were placed in position and wedged with card packers to achieve an even spacing above and below the drawer fronts. This overrode the wear on the runners and drawer grooves and a piece of tape was then put on the drawer fronts corresponding with those on the carcass.

8 The oak drawer liners were restored first. Old glue and dirt was cleaned out of any splits in the sides and backs and these were then glued and clamped. Then any loose dovetails were knocked apart and re-glued.

Low-tack tape

Antique furniture needs to be dealt with in a sensitive manner to avoid damage, especially to the surface finish, which is usually French polish and wax over the top – this develops a patina over time. A weak French polish can easily be damaged by overzealous use of tape, so a low-tack variety is essential to prevent damage.

Rubbed joints

Most of us simply squirt glue on to one surface and clamp another piece of wood straight on to it; this causes glue to spread out and exude as the pressure goes on. A traditional method, which is often more suitable, involves rubbing the two pieces of wood together so the glue exudes as before, but if you rub back and forth enough, then the viscous glue film that remains actually holds the two faces tightly together without a clamp in sight!

9 To eliminate the worn areas above the grooves on the drawer sides, a packing piece as a fence was taped to the drawer side to clear the drawer front and a router was set up to remove the worn area of the groove and create a straight edge. The top edges of the grooves would then be brought in line with the tape on the drawer fronts.

10 The thickness of the carcass runner was known and restricted by the housing in the carcass. Pieces of old oak were prepared and the grooves on the drawer sides built up. The oak sections were rub jointed into place with animal/hide glue and left to set. The built up sections in the drawer grooves were planed flush to the sides and cleaned up with abrasives. These stages were repeated on each side of each drawer to eliminate uneven worn areas.

11 The depth of each groove on the drawer sides was noted. The drawers were put in place and the width of each runner measured taking into account the groove, any space between the drawer sides and the legs and the width in the carcass. The old worn runners were removed and the housings cleaned of any old glue, nails and screws. The timber was prepared for the new runners and each runner was individually fitted. The runners were cut to fit within the housings on the carcass legs. The haunches were cut out at the front of the runners.

12 The haunches act as the depth stops for the drawers against the back face of the drawer front. The fit of each drawer was checked and adjustments made to the width of the runners and the depth of the haunches. The runners were glued into position.

13 Each drawer front was checked for any loose mouldings, those that were loose were lifted, the old glue removed from the drawer front and the back of the moulding and they were then glued and pinned back into position and the pin holes filled with a blend of coloured waxes. ➤


14


15

14 The loose central panel, on the drawer with the strange array of wedges and timber, was lifted and the old glue removed. It was then evident that the bottom mouldings were balanced between a thin bottom edge of drawer front and a piece of timber pinned underneath from a previous repair. The piece of timber, which was not fitted to a straight edge, also held the front edge of the drawer bottom in place and wedges had been pinned over the top to take the drawer over the drawer rail.

15 I decided to cut a straight edge to the bottom edge of the drawer front. A wide section of thick MDF was wedged and clamped to the drawer bottom so that it was parallel to the position of the top edge of the moulding; this acted as a router guide to cut a straight line. A piece of elm was prepared to finish wider than the applied bottom moulding with a rebate moulded on the router table, to fit around the drawer bottom. The front face of the new section was planed level with the drawer front and cleaned up with a scraper and abrasives.

16 The bottom moulding and central panel were glued and pinned in position. The central panel was flattened off on the back side so that it sat back on the drawer front without rocking and a sliver of timber fitted to one side to close the shrinkage gap. Once the glue had set, the new section was levelled to the edge of the mouldings as the mouldings had irregular edges.

17 The new runners and infill timber on the drawers were stained to match and the one drawer front stained and polished to match. After replacing the runners and re-cutting the grooves, the drawer fronts now finish square to the front of the carcass and run smoothly in and out. The chest was treated with a coat of 'Bald's Balm' to clean and revive it and then the whole chest was given a good coat of coloured wax. It was then ready to return to the customer with easily functioning drawers.

NEXT MONTH...

In issue 3 of *Woodworking Crafts*, Louise Biggs shows us the detailed steps for re-French polishing; this is a useful guide for anyone considering using French polish.

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Web: www.baldsbalm.co.uk


16


17

Louise Biggs

Having completed her City and Guilds, Louise trained for a further four years at the London College of Furniture. She joined a London firm working for the top antique dealers and interior designers in London, before starting her own business designing and making bespoke furniture and restoring furniture.
Web: www.anthemion-furniture.co.uk

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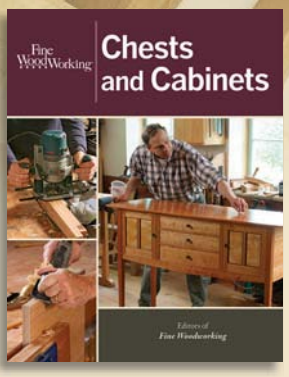

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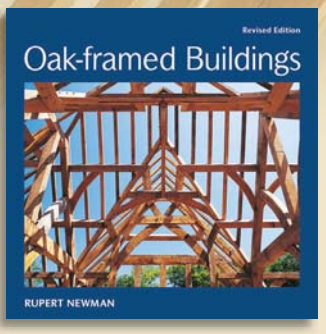

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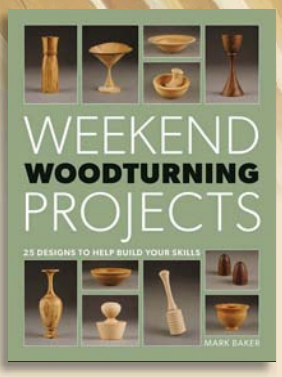

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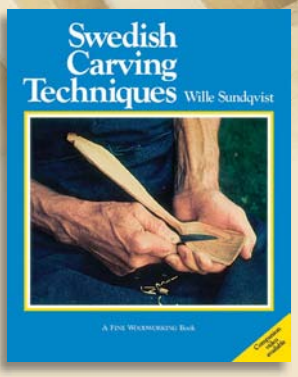

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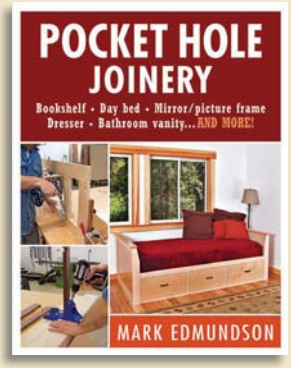

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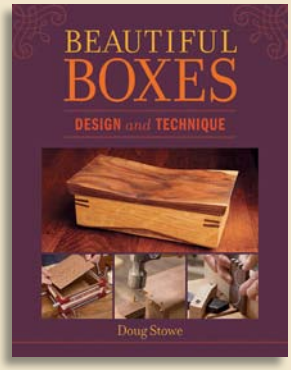

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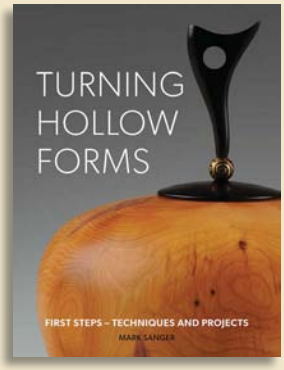

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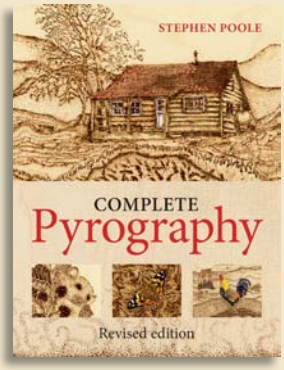

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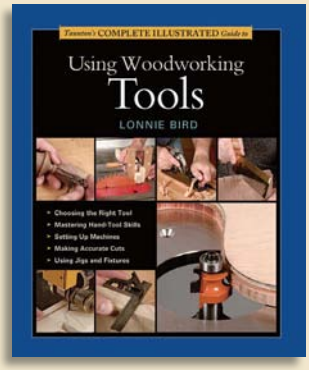

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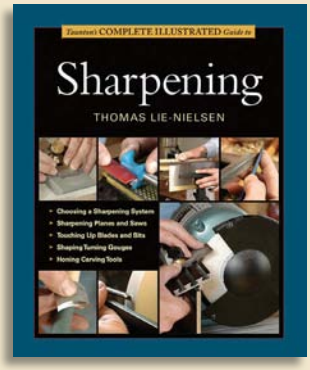

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DIY CONSUMABLES – part I

Above, from left to right: traditional brass slot head and matching bit; two Pozi two-head screws and bit; Pozi head twinfast and bit – rear; front and right, two Ultimate self-drilling head screws and matched bit; long deck and first fix screw with hex head and magnetic bit; assembly screw and Torx Bit Slot heads seem increasingly redundant, with the screwdriver tip invariably slipping off and causing damage. There are limited applications, mainly decorative. Pozi screws drive easily but 'cam out' can occur. Cordless drills are the best way to drive them in. Ultimate is a US brand with a deeper, more enhanced head recess and tough screws that can be withdrawn and used again. Long deck screws have many carpentry uses but need an 18V or mains drill driver to send them home properly. Assembly screws are mainly for metal and plastic but can work in predrilled holes. The Torx recess prevents 'cam out'.

Last month, we showed you a typical comprehensive do-anything toolkit. Here, we delve into the complicated world of consumables – the things that get used and used up during the course of DIY activity

Let's steer away from anything to do with utilities, i.e. gas, water and electricity. We can touch on them in a future issue but, for now, we'll stick with wood and where you need to fix it. The list isn't exhaustive but it covers most of the things you will need. A key thing is to keep all your supplies organised, as I have found that if your shelves get in a pickle, there may be two or three lots of something you only started out needing one of – it's easy to overstock before you know it.

GLUES

Epoxy resin bonds almost anything to anything and it is waterproof. Disposable gloves should be worn to avoid a skin reaction. It is better for smaller jobs and can act as a filling as well as a bonding adhesive.

PU glue is a stick-all adhesive that foams as it cures. Moisture helps accelerate the process. It is good for gap-filling and exterior work due to water resistance. It is easy to trim away any excess foaming but ensure to clamp surfaces firmly when assembling a joint.

The good old staple, PVA, can be bought as a sealer, craft glue or full strength wood glue. Choose the latter type carefully; it is also available for exterior work, although I'm not sure how successful it is unless the joints

Sticking things together is a vital requirement. The thing is, there are so many choices to make

Left to right: two-part epoxy resin; PU (polyurethane); PVA (polyvinyl acetate); aliphatic resin and CA (cyanoacrylate) – bonding spray and thickening powder

are well sealed against weather.

Aliphatic resin has a yellow to orangey colour and has a faster 'grab' than PVA and dries quicker. It is available in different grades from interior to exterior quality and is favoured by cabinetmakers over PVA.

CA glue is a firm favourite for all types of small repair in various materials from china, to metal, to wood. The cheap pound shop variety is perfectly adequate for most jobs. You can buy a better quality from specialist suppliers, including thicker, less runny versions or use the special powder shown here. For rapid mitre jointing, a spray accelerator can be used.

SCREWS

This is today's technology as screw design has advanced considerably. In most instances, screws are a better substitute than nails. However, buy the better quality ones because they are less likely to snap or the head recesses to 'cam out', thus causing damage. There has been a proliferation of head types, which can be confusing.

NAILS

Nails now seem a bit old tech if you are in 'the trade', but they are cheap and still have some uses. Most can't resist pulling apart except ring nails, which grip in the wood. Nails can cause splitting, and hammer dents on wood are inevitable.

For fencing and animal run construction, staples are great for fixing mesh or wire. Upholstery tacks work but they do split open the chair frame wood in the process. Felt nails for roofing are essential but the top layers of felt need to be bonded over the nails to avoid water ingress. Cut nails were once a standard method for 'second fix' carpentry but they aren't as sharp edged as they used to be and modern house construction doesn't suit them either. Galvanised nails aren't the same as masonry nails that look similar but are much harder. The oval nail is less damaging than the equivalent size round or French wire nail. ■

Left, top to bottom, then left-right: staple; upholstery tack; galvanised felting nail; picture frame clip; cut nail; galvanised; masonry; panel pin; coated pin; ring nail; wire nail; oval and veneer pin

PHOTOGRAPHS BY ROGER BUSE

Scrollsaw coasters

Roger Buse creates four scrollsaw cut coasters, with leaf designs

"That's a beautiful piece of rosewood *(Dalbergia latifolia)*." Lesley – my partner – was referring to a strip of plantation grown rosewood she had picked out of a rack at Timberline in Tonbridge. "Can you make me a set of decorated coasters, like the ones you made for my nieces last year out of yew *(Taxus baccata)*?" Thus began this little project. I decided, since the wood was thicker than the yew coasters and since it was rosewood, I had to conceive of something more versatile than a straight set of coasters. The idea came to me that if I could connect the coasters into a square, I could end up with a mat suitable for placing a flower arrangement, tea pot or tureen on in the middle of a table. It seemed to me that the obvious method of joining the pieces was in the manner of a four piece jigsaw puzzle.

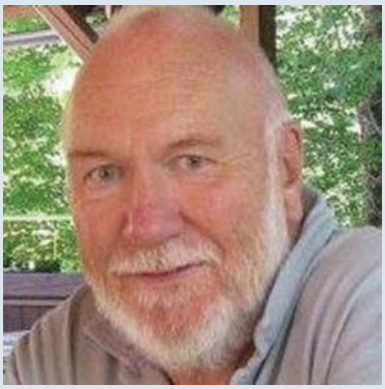
The dimensions of the rosewood were 650 × 110 × 10mm, so to make a square where the puzzle interlocks between the top two pieces and the bottom two fitted snugly, it would be necessary to cut two pieces from the rosewood plank and build up a matrix of rosewood and a cheaper sacrificial timber, to create one workpiece that could be cut as a whole.

What you will need:

- Rosewood: 650 × 110 × 10mm
- Pencil
- A3 paper
- Scrap wood
- Radial arm saw
- 3M spray mount
- 20mm panel pins
- Scrollsaw
- Oil
- Abrasive

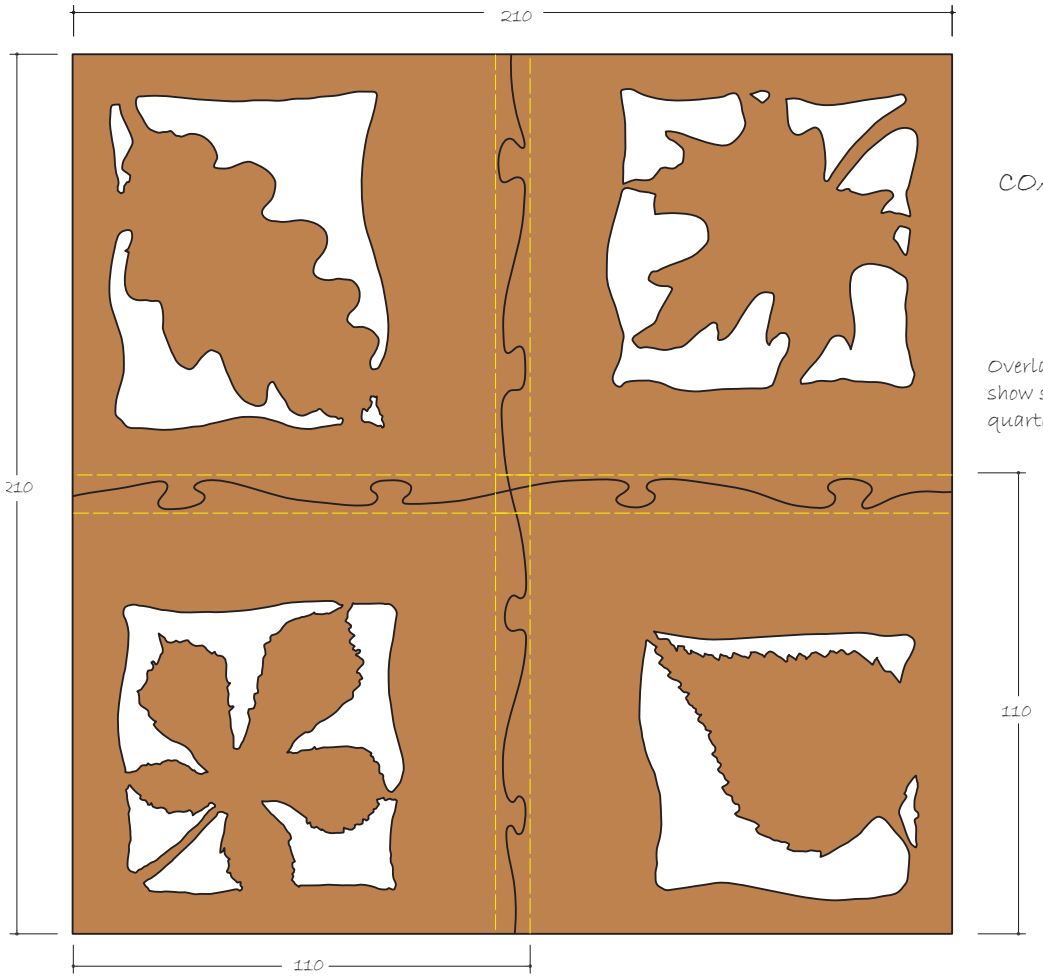
Cutting

A few words about cutting accuracy. When you stray from a pattern line, as you invariably will, don't panic and head straight back to the line. This makes your error immediately obvious. Instead, work back to the line slowly with a smooth flowing cut, then when the pattern is removed, no one will be any the wiser.



Roger Buse

Roger has a long history in the woodworking industry, including jointly designing and manufacturing the revolutionary VB36 woodturning lathe with Nigel Voisey and in his role of managing director of Hegner UK. Hegner make what are arguably the best scrollsaws in the world and Roger is an acknowledged scrollsaw expert. He has now retired and enjoys nothing more than globe trotting or swanning about in a canal boat, when he isn't using a scrollsaw, of course...



COASTER TEMPLATE

Not to scale

Overlapping yellow squares show starting size for each quarter piece

1 Draw alignment markings on the pattern, with a placement mark for the overlap when positioning the pattern onto the assembled rosewood and sacrificial material matrix. On an A3 piece of paper draw a square at 210 × 210mm. Draw the 10mm lines to delineate the overlap across the square, drawing within them the first set of jigsaw interlocks, keeping them 1mm inside the lines, then repeat.

2 Cut two 250mm lengths of rosewood and use a scrap piece of 10mm ply for the sacrificial pieces. Cut two pieces at 250 × 100mm and assemble the two pieces of ply and rosewood to form the matrix with the prescribed rosewood overlap. Hold together with 20mm panel pins placed 10mm in from the ends of the matrix.

3 Fold the edges of the pattern along the line of the edge of the drawing, then apply the pattern using 3M spray mount. Apply the spray mount to the back of the pattern, then wait 30 seconds before placing it on the matrix.

4 Add further panel pins through all areas of waste material in the pattern before proceeding.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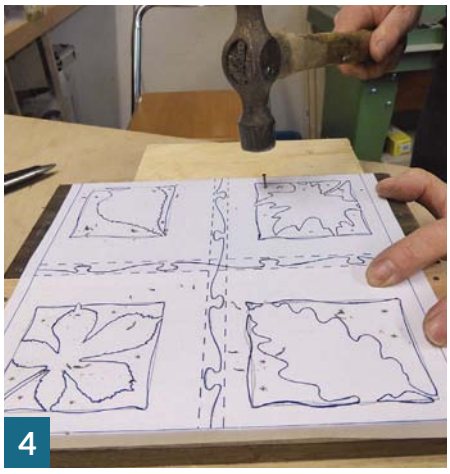
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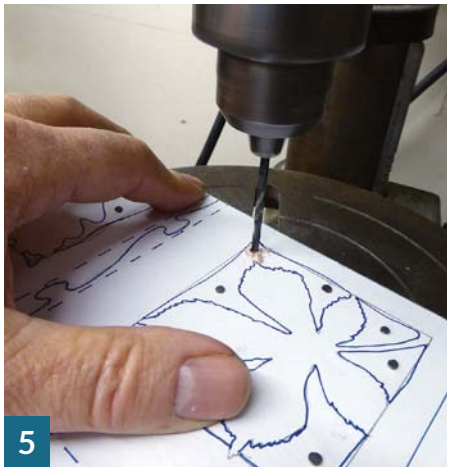
5 You are now ready to start cutting out the pattern. Making the right blade selection for the material to be cut, coupled with the intricacy of the work is so important. Following my self-imposed edict of 'never use a finer blade than is absolutely necessary', and because of the 20mm thickness of the matrix, I chose a No.9 blade for wood and plastics. For the final preparation for the cutting process, drill small holes for blade insertion in the waste areas. Now, the order in which you proceed with the cutting can make the job easier…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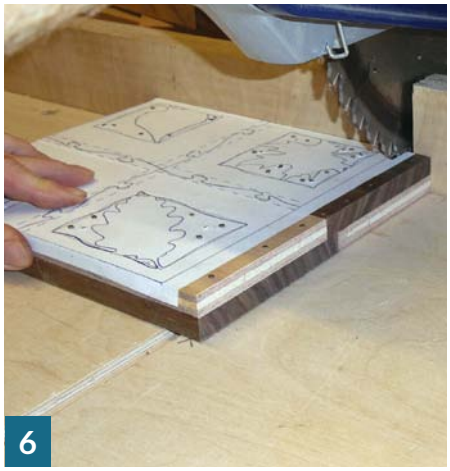
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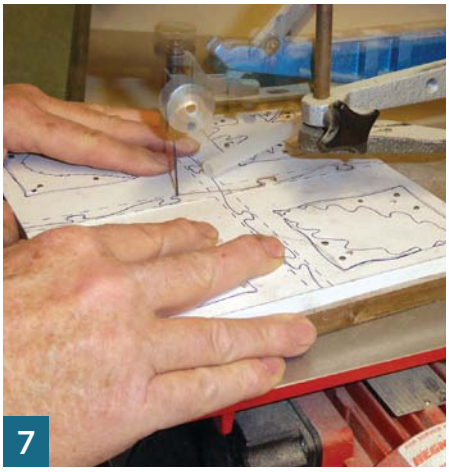
6 With the radial arm or tablesaw, cut the two ends of the matrix off, along the outer edges of the pattern…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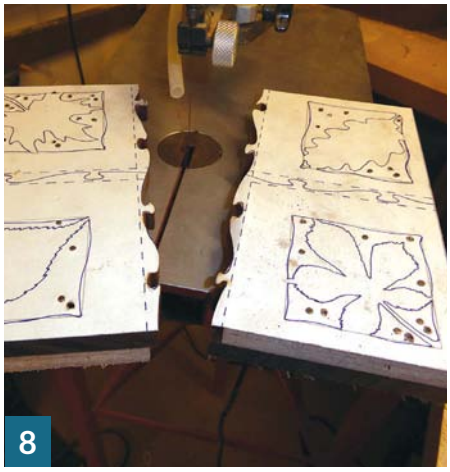
7 … before moving to the scrollsaw. Here, you need to separate the top and bottom coaster pairs along the overlap.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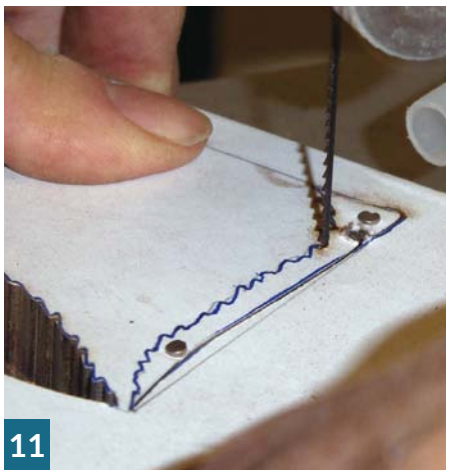
8 You need to take care to follow the pattern as closely as possible along the overlap, as you don't have much room for error, as you can see from the photo here.


9

9 The next step is to separate the individual coasters, before you move on to creating more detail.


10

10 Next, cut the waste part out of the pattern on the individual pieces. The very smallest of the waste pieces of the pattern, due to their size, cannot be pinned. You need to remove these first before moving on to the larger segments. When inserting the blades for internal cuts, it is simply a matter of freeing the top of the blade from the top arm, inserting it through the pre-drilled hole in the work, before re-inserting it in the special pierce-work clamp and re-tensioning the scrollsaw blade.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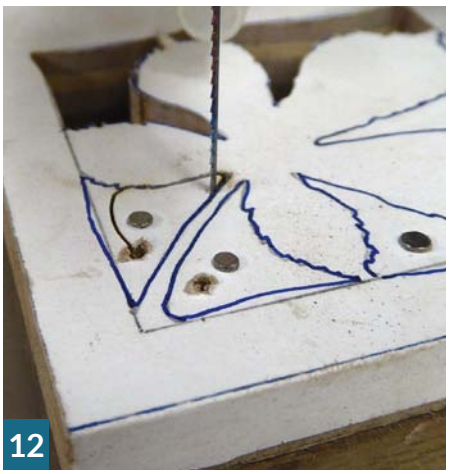
11 While cutting out your pattern, it is always worth remembering that you will get the smoothest finish if you work anti-clockwise around a pierced segment on a pattern – the left-hand side of the blade gives a smoother cut due to a peculiarity in the manufacturing process.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12 Cutting tight corners can be accomplished by stopping the cutting pressure and turning the work smartly, thus pivoting on the back of the blade.

13 When the pattern demands a very crisp corner, approach it from both sides.

14 Remove the last waste piece and the rosewood should fall away from the sacrificial plywood to reveal the coaster pattern.

15 If any of the coasters have the pattern still glued to them, simply peel the pattern off, which should be an easy job.

16 After peeling off the paper, it may leave a small amount of glue residue on the rosewood. Don't worry, as this can be quickly removed with a clean cloth dipped in methylated spirits.

17 The next operation is to sand the placemats prior to finishing, to remove any sprue and provide a very smooth surface. It is almost impossible to sand the internal cuts without removing detail, but these surfaces should be fairly smooth and clean anyway. I usually use progressively finer grades of abrasive from 120 through to 1,200 grit.

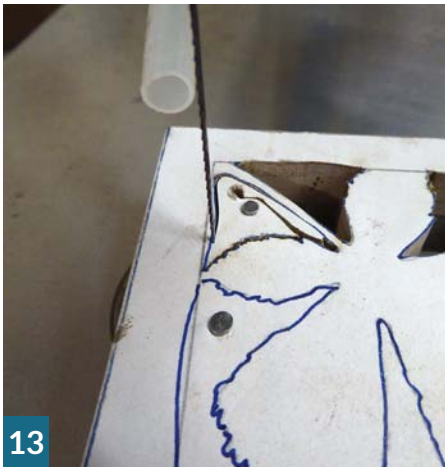
18 To give the coasters an oiled finish – and especially with small intricate fretted items – immerse the items in an oil bath, which is the most efficient method. Top up the oil to cover the top piece before leaving them to soak up the oil for 48 hours.

19 After 48 hours, remove the pieces from the bath and let the surplus oil drip back into the bath. Then, wipe them with a paper towel before hanging them up to dry.

20 Your final coasters should look something like this. ■

Patterns

Leaves always make good decorative motifs on wooden objects. I chose to make each coaster with a different leaf motif – I used oak *(Quercus robur)*, maple *(Acer campestre)*, birch *(Betula pendula)* and horse chestnut *(Aesculus hippocastanum)*. Make a couple of copies of your finished patterns. If you haven't the facilities to make a copy, visit your local copy shop to make copies of your drawings, in case you need to make a second set!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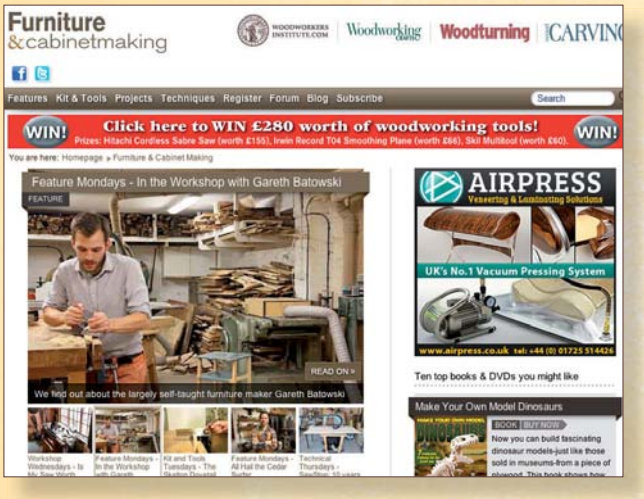

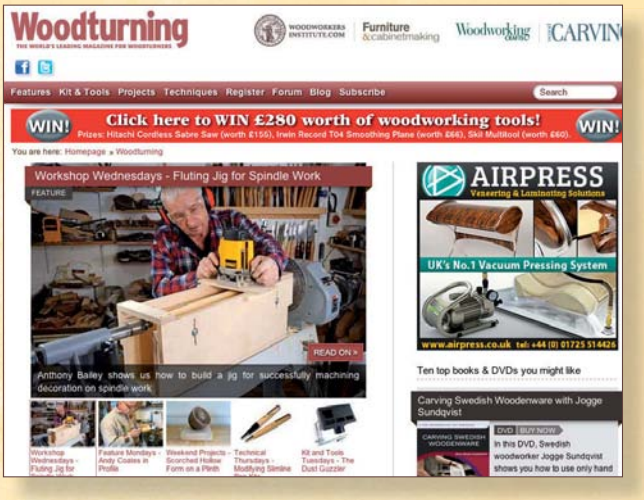

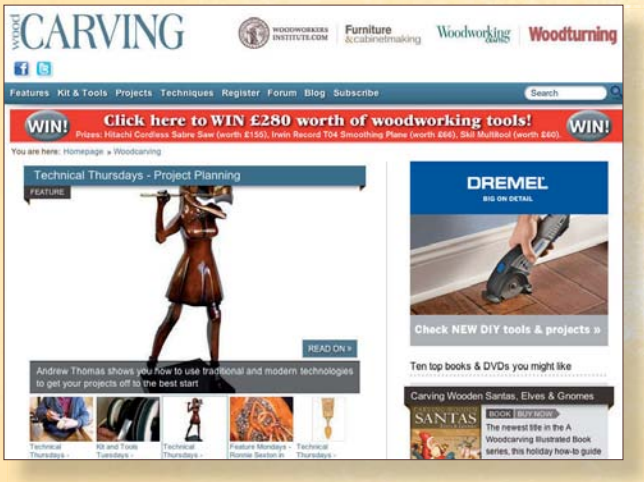

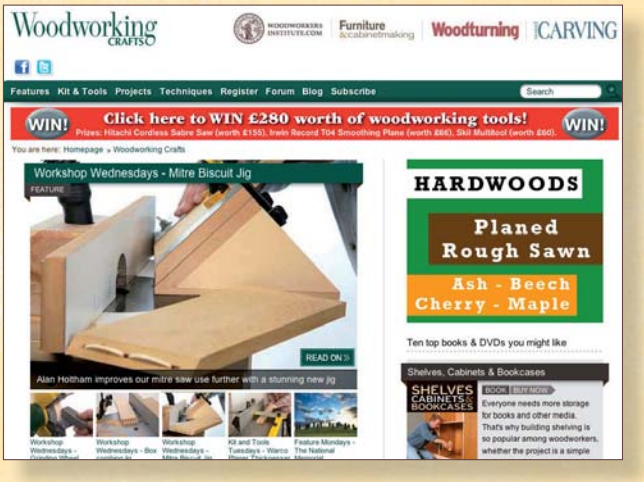

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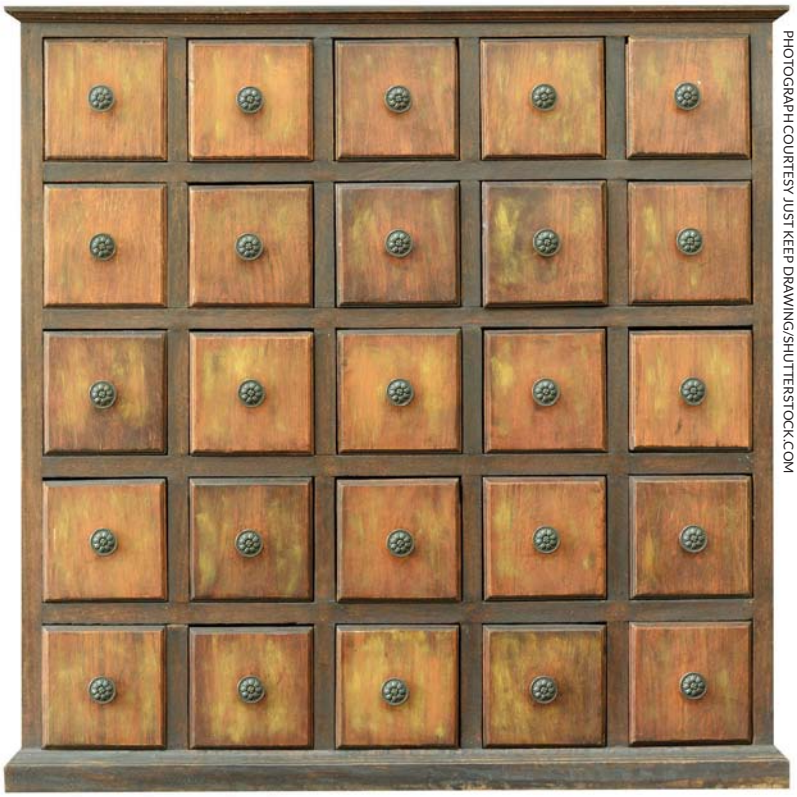
Not an English style at all, perhaps more Spanish in influence? In the right setting, it could give a different 'look' to a room. It might even be better with a dark mahogany finish for a richer effect



PHOTOGRAPH COURTESY JUST KEEP DRAWING/SHUTTERSTOCK.COM

Not actually apothecary drawers but similar in size and concept. If you have lots of small items to store it could be very handy

Design inspiration

Here are some storage ideas, which you don't have to build. When looking around second-hand and charity furniture shops, you can often find unusual styles of furniture that you can't buy new!

PHOTOGRAPH COURTESY NUWATPHOTO/SHUTTERSTOCK.COM

Clean-lined design always wins in our book and this cabinet has all that, broken only by the texturing of the inset panels and discrete small metal handles

PHOTOGRAPH COURTESY BALONCICI/SHUTTERSTOCK.COM

Small chests of drawers come in all types and sizes and this one would fit perfectly in an awkward, narrow space

PHOTOGRAPH COURTESY WILLIAM MILNER/SHUTTERSTOCK.COM

For the lighter more modern look, how about this unit, perfect for the dining room or lounge? The trick with good design is to use subtle tricks to make it look 'right'. The overhang top with the underneath bevel and the arched bottom rail and discreet turned knobs all combine to give it a slightly 'Shaker' appearance

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