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The Woodworker & Woodturner

May 2016

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Welcome

When it comes to making and materials, there are two schools of thought. The first is a practical one and is based on need and intention; I want to make this, now what do I need to make it and where can I get it from? The second is more of the inspirational type, one where the creative process is stimulated by the material itself. Obviously there is a bit of crossover (or a student exchange) between these two schools, and this is very fortunate for all of us who think of ourselves as woodworkers.

Widen your creativity

I'm of the opinion that those who follow the first discipline need to have a break from the serious stuff from time to time, and to make something with a bit of art in it, and maybe open the door to their creativity a bit wider. Those of the second persuasion also need to not neglect the practical, to create things of necessity and use, and even earn a living now and then. What's really great is when it all comes together, and you can make something both practical and beautiful that will be used and admired by all. And if you can get paid for it too, well, you're in an excellent position and can give yourself a pat on the back.

The joy of giving

I really enjoy seeing the projects that you the readers send in to the magazine here, and I'm glad to say that there is a healthy mix of the practical and the decorative. And, lest you think me firmly stuck in the world of commercial enterprise, let's have a show of appreciation for the things we make purely as a gift or as a favour for someone else. The pleasure of making something – however simple – for friends and family and seeing it gratefully received is more than adequate payment. I bet I'm not the only one who gets a small thrill every time I visit the house of someone I once made something for and see it still in use or on show and looking cared for.

We are truly lucky to be in possession of this gift, and it's even better when we can share it. So, the next time someone is talking about school days, ask if they're still attending, and see if they went to the same one as you did.

mark

You can contact Mark on mark.cass@mytimemedia.com

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May 2016

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CURRENT & BACK ISSUES
Website: www.mags-uk.com
Tel: 01733 688 994

EDITORIAL
Group Editor: Tegan Foley
Email: tegan.foley@mytimemedia.com
Editor: Mark Cass
Email: mark.cass@mytimemedia.com

PRODUCTION
Designer: Malcolm Parker
Retouching Manager: Brian Vickers
Advertising Production: Robin Gray

ADVERTISING
Business Development Manager: David Holden
Email: david.holden@mytimemedia.com
Tel: 01689 869867
Online Sales: David Holden
Email: david.holden@mytimemedia.com
Tel: 01689 869867

MARKETING & SUBSCRIPTIONS
Subscriptions Manager: Kate Hall
Subscriptions: Sarah Pradhan
Tel: +44(0)1858 438798

MANAGEMENT
Head of Design & Production: Julie Miller
Group Advertising Manager: Rhona Bolger
Email: rhona.bolger@mytimemedia.com
Tel: 01689 869891
Chief Executive: Owen Davies
Chairman: Peter Harkness

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In brief...

ANY OTHER BUSINESS

When was the last time you tried something new? Not just an unfamiliar type of gravy or a different colour jumper, but a new woodworking technique or some fresh new kit? Here at *The Woodworker* we're fortunate enough to see a fair amount of new products, but all of us are guilty of keeping our heads in the sand when it comes to methods of working. Sure, if it ain't broke, don't fix it, but there are times when you can tweak things a bit and there's no harm done. It really does pay to keep an open mind about technique and, just because certain practices have been followed for many a year, doesn't mean that a new one might not pay dividends.

Demo days

It's an easier case to make for acquiring new gear, though (budget permitting). Over the years things inevitably get worn out or abruptly cease to function. Occasionally the opportunity to move or expand the workshop will arise, and sometimes it just has to be done and the search for a new planer or something is on the cards. But where to begin? If you can't get to a woodworking show, I've found that it's always worth looking out for demonstration days at your local tool and machine supplier. Here there will be ample opportunity to inspect new kit and to try it out at your leisure. Hopefully too some expert advice and the chance to chat to like-minded craftspeople who are probably looking for the same things themselves.

Online bargains

While there are definitely bargains to be had on eBay and similar, you do need a fair amount of luck to catch the good stuff at a good price – and not at the other end of the country, either. Photos can often be deceptive, however, and there's always the danger of buying a pig in a poke, but fortunately most online deals – especially heavy kit and machinery – do require collection in person. This physical pickup generally coincides with a cash payment, and does provide an opportunity for backing out at the last moment. As with buying a secondhand car, though, it's best to be prepared for disappointment, and you really need to think about it if your machinery bargain is half a day's drive away. Whatever happens, though, be open to change, the novel and the untried – there may well be a pleasant surprise in store.

FELDER GROUP UK OPENS ITS DOORS FOR IN-HOUSE SPRING SHOW

Felder Group UK is due to host their annual Spring In-house Exhibition at their UK headquarters in Milton Keynes on 15 and 16 April 2016, allowing all visitors an opportunity to see one of the widest ranges of machinery on the market and have one-on-one time with the technical sales team, product managers and service technicians.

Live demonstrations will be performed on a variety of machines, including CNC machining centres, edgebanders, wide belt sanders plus a large range of standard machines, offering the chance to witness these high quality, Austrian-built machines in action.

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The Felder Group UK's Managing Director, Matthew Applegarth commented: "2015 was an excellent year for Felder Group UK and 2016 has seen the company's sales and support teams continue to grow. We are looking forward to offering our customers great deals this spring!"

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12 Introduction to Leigh jigs
18 Sharpening with Tormek
19 Bandsaws
25–26 Machining for restoration
26 Turning a pestle & mortar *
27 Scrollsaw course
28–29 Turned boxes (advanced)
4 Bandsaws * (May)
6 Introduction to Leigh jigs (May)
9–10 Bowls & platters (May)
*Course held in Sittingbourne, Kent
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9–10 Dovetails (2 days)
23–24 French polishing (2 days)
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10–15 Windsor chair making
15–17 Turning green wood
17–21 Picture framing
21–24 Intro to relief woodcarving
West Dean College
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9 Living willow chair workshop
22 Intro to pole-lathe turning
24 Make a shavehorse
7 Bark basketry (May)
Weald & Downland Open Air Museum, Singleton
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DEWALT DCS365 184MM 18V CORDLESS MITRE SAW

MANUFACTURER: DeWalt
D&M GUIDE PRICE: From £339.95 (inc VAT)

DeWALT have introduced a new 18V cordless mitre saw to their range. The DCS365 has a four-pole 3,750rpm 18V XR motor so it feels like a corded machine and can perform approximately 250 cuts per charge on a single 18V battery. It utilises the XPS cutline system for increased accuracy on cut lines and with a new mitre angle adjustment system provides accurate and consistent setting of mitre angles. The DCS365 also features a positive back fence, a laser scanned aluminium base and horizontal rails, which create additional capacity for larger materials. At only 11.5kg and without the need for a mains power supply, it is truly portable. The DCS365 comes as a body-only machine or as a kit with two 18V 4.0Ah XR Li-ion batteries and a charger.

MAKITA BO6050J RANDOM ORBIT SANDER/POLISHER

MANUFACTURER: Makita
D&M GUIDE PRICE: £279.95 (inc VAT)

The new Makita BO6050J random orbit sander has two modes of operation. In the traditional random orbit mode for fine finish sanding and buffing the motion of the pad is orbital action plus random action or free-rotation. This stops when firm hand pressure is exerted on the tool. The alternative roto-orbit mode is ideal for stock removal, coarse sanding and polishing. Here the motion of the pad is a combination of orbital action and power driven rotation. This mains powered sander, with 750W motor, will run the 150mm pad up to 6,800 orbits per minute and deliver up to 13,600 sanding orbits per minute. The maximum orbit eccentricity is 5.5mm. The soft-start system smoothly accelerates the pad when the machine is switched on for operator protection. Variable-speed settings can be selected via the dial, which is conveniently located on the slim-line body. This narrow body with soft-grip gives excellent machine control, and the forward hand-mount enables accurate pressure to be applied directly to the pad. Once the machine is switched off the electronic pad brake swiftly stops rotation. The pad has a hook-and-loop fixing to make abrasive changes quick and simple, and the pad can be changed without the aid of tools. The BO6050J weighs in at just 2.6kg and is available in both 110V and 240V versions.

BY IAN WILKIE

All aboard!

Ian Wilkie makes a wooden model of a single deck electric tram from the early 1900s

MATERIALS REQUIRED

300 × 600 × 2 sheets of 3mm birch plywood

500 × 100 × 8mm-thick × 1 piece hardwood

Offcuts of hardwood

Small sheet of veneer – mahogany colour

This article describes how to make a representative model of a single deck electric tram. A single deck is easier to model in wood because double-decker trams involve quite a lot of metal work on the top deck. The tram shown would have carried about 25 passengers and been seen on the streets of Wolverhampton in 1902. Before this date there were horse drawn trams and by 1928, the trams had been replaced by buses so the period of the electric tram in Wolverhampton was very short. This particular tram had a Lorain stud contact system where the power was picked up from studs under the rails and no overhead gantry was required, and this is another advantage when it comes to making a model solely in wood.

The body has a central saloon with two wide windows on either side and two saloon bulkheads with small windows and a sliding door at each end. Two more bulkheads are positioned outside of the saloon at each end behind the driver's platform. Wooden seats run each side of the saloon and in the open area between the bulkheads. A clerestory roof is fitted to give extra ventilation. The driver could operate from either end and stood behind a slightly curved 'dash plate'.

I have made my tram in birch plywood and a variety of hardwoods and left the wood in its natural state, but if you wish to paint the tram the early Wolverhampton livery appears to have been racing green and cream. Destination boards are located at the front and back and long advertisement boards go either side of the clerestory windows, but they do detract from the roof detail and you may choose to omit them.

Note: when writing instructions for a model it is not possible to be too precise because adjustments need to be made as you go along. Sometimes one needs to trim a bit here or sand off a bit there to achieve the desired result. It is wise to make dry runs and check critically as you proceed, and only glue up when you are confident all is well! WW

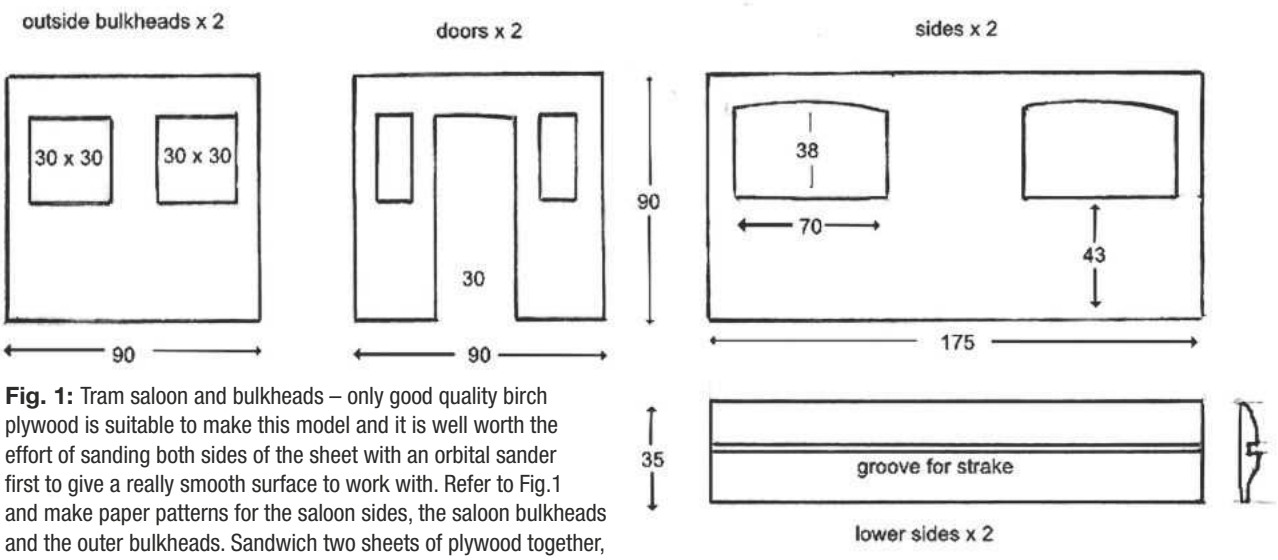
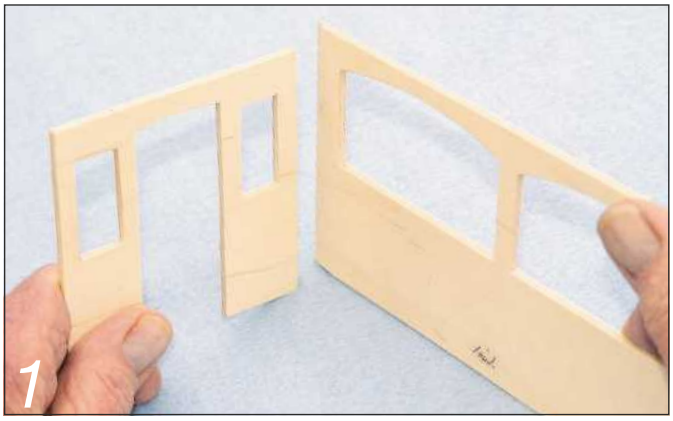


Fig. 1: Tram saloon and bulkheads – only good quality birch plywood is suitable to make this model and it is well worth the effort of sanding both sides of the sheet with an orbital sander first to give a really smooth surface to work with. Refer to Fig.1 and make paper patterns for the saloon sides, the saloon bulkheads and the outer bulkheads. Sandwich two sheets of plywood together, paste on the paper patterns and cut out the six pieces



1

Form a rebate along the inside edges of the saloon bulkheads so that the pieces fit together neatly, 3mm wide × 1.5mm deep. If you do not have a router, then butt joints will be fine

2

Sand all the cut edges thoroughly. It is most annoying to find a whisker trapped in a joint because it is so difficult to remove! I tested the Sand-Flee (see *WW* Jan 2016) and I am most impressed with the result it gives; the sander has a diameter of 50mm and I chose 120 grit. The photo shows the shank mounted directly in a Kirjes sanding machine. I have rigged up an extraction pipe to take away the fine dust and grit. Cut two pieces of hardwood for the lower side panels, 35mm wide × 180 long × 4mm-thick. Plane and shape the wood so that it gently curves down towards the base. Cut a groove halfway down on the outside of the panel and glue in a strip of contrasting wood to make a rubbing strake. Glue the panels under the saloon windows. To avoid seeing the end-grain you can line the inside edges of the windows with strips of veneer

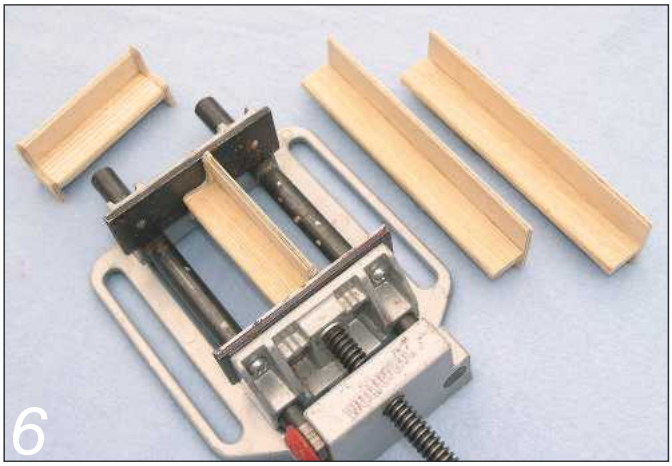
3

Check that all fits well and then glue and cramp up the saloon. I use Woodfast quick-drying PVA wood glue applied with a small artist's paintbrush

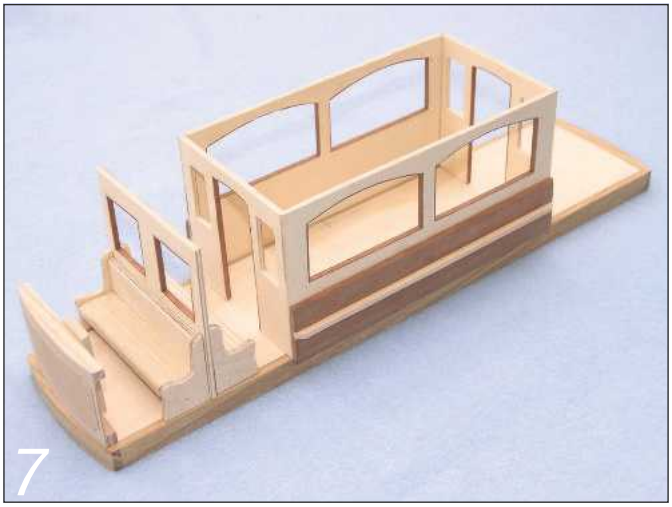
4

Cut out the rectangular base 90mm wide × 390mm long in plywood and glue a strip of 8 × 8mm hardwood along the underside edge on each of the four sides. Shape the ends of the base on a disc sander to give a gentle radius

Form the front and back 'dash' for the driver from ply and strip wood curved to match the radius of the base



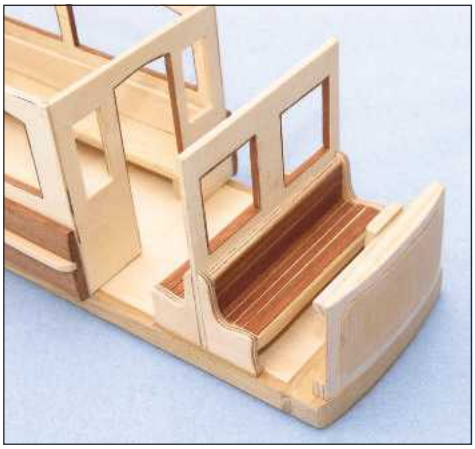
Make up long seats for each side of the saloon and shorter seats for each side of the outer bulkheads from strip wood and butt-joint them together. A simple machine vice is a useful tool to use for cramping up small parts. Put two small blocks under each seat so that they can be glued to the floor at a later stage. The top back of each saloon seat is rebated to take the glazing. As the seats are visible, it is well worth taking the trouble to detail them with contrasting slats of veneer

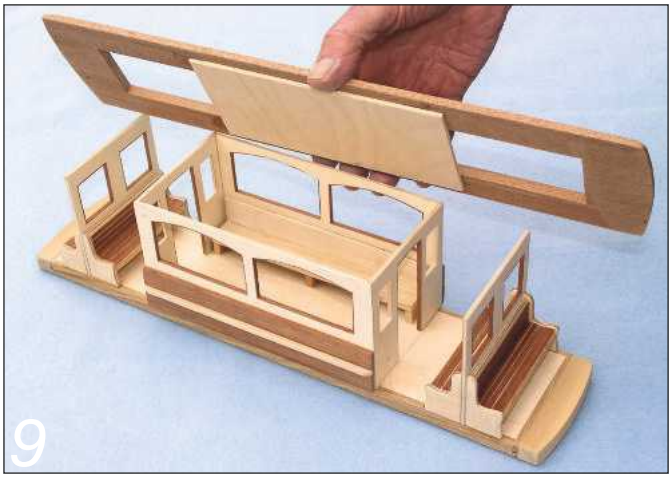


Do a dry run and position the saloon, the bulkheads and the dashes on the base with the shorter seats either side of the outer bulkheads as shown. The photo shows one end laid out and the far end will be exactly the same

8

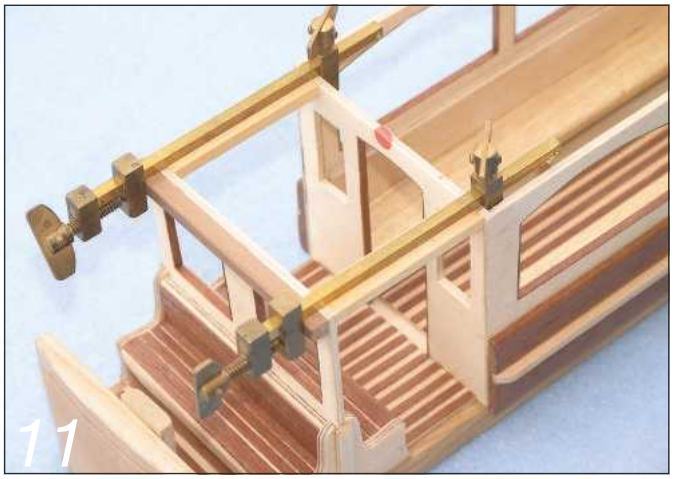
The seat slats have now been added. Passengers were not allowed to use these seats when the driver was operating at that end of the tram



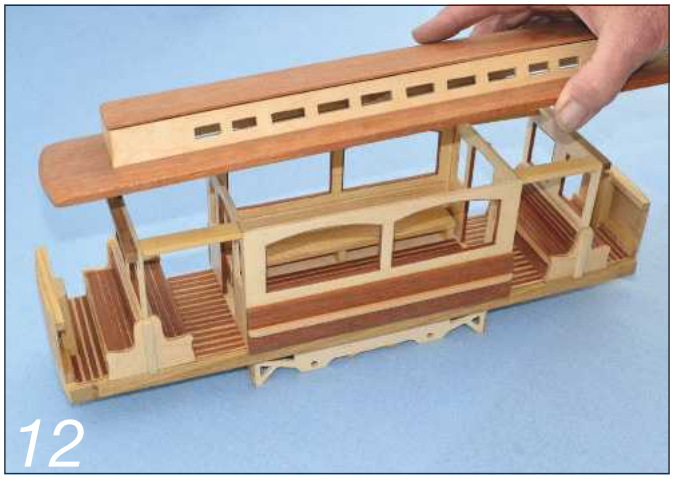


Shape the hardwood roof piece with a small plane and a sander. Note that it curves downwards on each side and at the front and back. Mark out a rectangle in the centre 330mm long × 50mm wide and cut out. Cut the centre plywood roof piece to match the inside dimensions of the saloon, glue it to the underside and check that it locates correctly in the saloon but do not glue it in at this stage

Cut out the four pieces in plywood which form the clerestory: two pieces 330mm long × 28mm and two pieces 50mm long × 28mm. Sandwich the long sides together and cut out the 10 long narrow windows on the scrollsaw. You may notice that I am wearing Optivisors; these are very useful for fine detail work when one needs to see clearly where to cut. The Excalibur scrollsaw has a home-made ply table clamped to it with a very small entry point to ease the risk of small pieces being pulled down through the throat plate. I used a No.5 PGT Olson blade throughout this project to ensure a smooth, accurate cut. Glue each side into the rectangle in the roof and trim if necessary. Take the piece cut out from the hardwood roof and increase its curvature before gluing it on top of the plywood roof

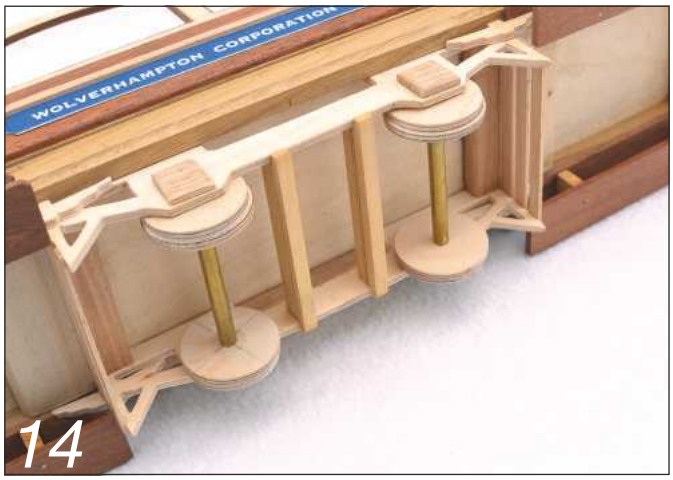


Add beams to support the roof between the bulkheads. Note that all the floors now have contrasting slats in veneer added



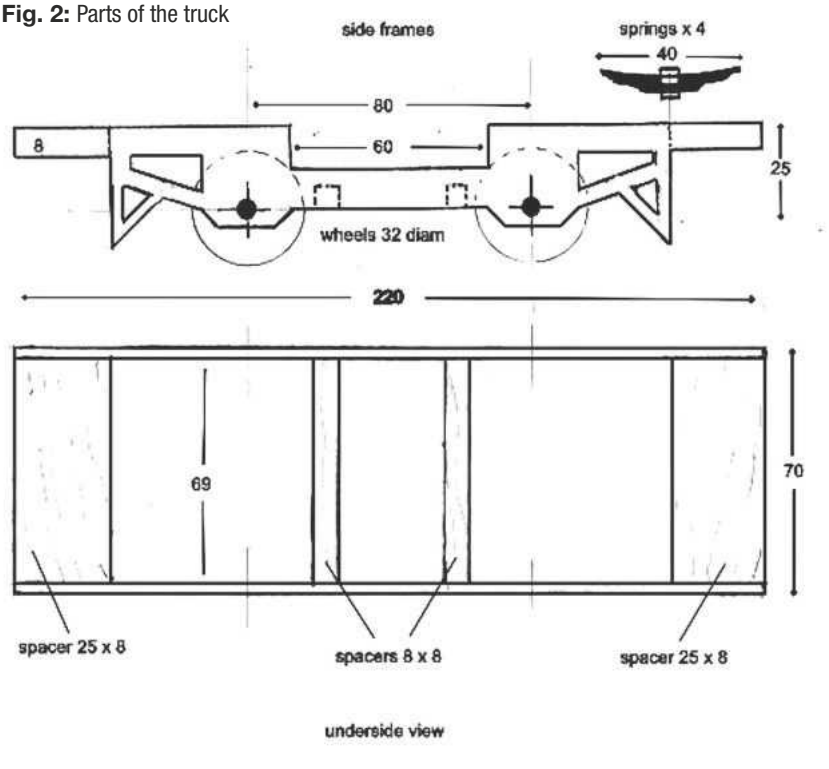
Do a dry run to make sure the completed roof fits well but do not glue on at this stage

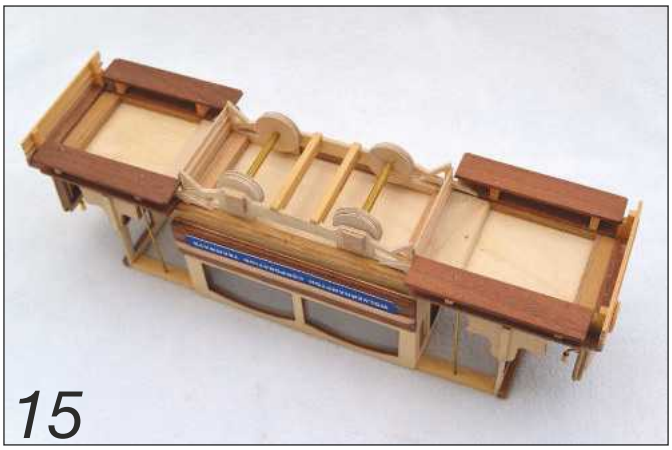
The side frames of the trucks are the most difficult parts to make and in reality are complicated, so I have simplified them as shown in the drawing. Sandwich together two pieces of plywood and cut out the frames. Drill 6mm axle holes while the wood is still sandwiched. Make up the trucks with hardwood spacers and trim where necessary so that the whole frame fits snugly between the underside of the base



The four flanged wheels can be turned or made up from two pieces of ply cut on the scrollsaw. The wheels are positioned on the inside of the trucks. Cut two lengths of 6mm diameter metal rod for the axles, slide on the wheels and secure with a dab of Araldite; making sure the wheels rotate. Glue on four simulated springs and four axle end caps

Fig. 2: Parts of the truck





15

A view of the completed underside with safety slats fore and aft and four steps to enable the passengers to climb aboard

Varnish or paint any areas before assembly taking care to avoid surfaces that will be taking glue. Complete any detailing for the underside and glue the body of the tram to the base. Cut the acetate glazing to fit inside the windows and hold in place with narrow strips of double-sided tape. When the interior is finished, glaze the clerestory windows before gluing on the roof.

Additional detail, such as the front and back lamps, the cab controls, handrails and the destination boards can then be added using scraps of plywood, hardwood and brass wire. Advertising boards can be added, which will give extra colour but they will obscure the clerestory windows.

You should now have a fine model which you have enjoyed making that can be displayed where it will be much admired by all!

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8/510	2HP	7.5	50ltr	£119.98 ~~£155.98~~	£143.98
11/510	2.5HP	9.5	50ltr	£139.98 ~~£179.98~~	£167.98
16/510*	3 HP	14.5	50ltr	£209.00 ~~£263.98~~	£250.80
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DEVIL 6005	400V	2.5-5	£74.99	£89.99
DEVIL 7005	400V	5	£79.98	£95.98
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- 82mm cutting width

CEP1

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- Dust collection port • Inc. 6 sanding sleeves /bobbins
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Evolution Fury 3	210/25.4	60/220mm	£119.98	£143.98
Einhell TH-SM2534	250/30	75/340mm	£159.98	£191.98
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- Perfect for smooth and fine finishing along with hard to reach areas or curved surfaces

CDS-1V

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- 11000rpm Operating Speed
- 860W Motor • 14mm Cutting Depth • Inc. dust bag and storage case

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- Table size 150 x 340mm
- Max. chisel stroke 76mm
- Robust cast iron base & column ensures stability & accuracy
- 95mm depth of cut

CBM1B

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- Air-blower removes dust from cutting area
- Table tilts 0-45°

CSS16V

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CSS16V	120W	400-1700	£79.98	£95.98
TH-SS405E	1200W	400-1600	£79.98	£95.98

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CRT-1

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CBS190	350W	7.5"	£114.99	£137.99

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F = Floor standing
V = Variable speed

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CDP102B	350 / 5	£69.98	£83.98
CDP152B	450 / 12	£119.98	£143.98
CDP202B	450 / 16	£159.98	£191.98
CDP10B	370 / 12	£169.98	£203.98
CDP352F	550 / 16	£199.98	£239.98
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In your own write...

Here are just some of the latest letters we've received since the last issue. Drop us a line on paper or via screen and keyboard to add your voice to the woodworking crowd; you might be one of the lucky few who will manage to get their hands on a coveted *Woodworker* badge!

SNAIL MAIL OR EMAIL?

You can write to us at *The Woodworker*, MyTimeMedia Ltd, Enterprise House, Enterprise Way, Edenbridge, Kent TN8 6HF or send an email to mark.cass@mytimemedia.com

NEXT STEPS

Hi Mark,

As the editor of the excellent *The Woodworker and Woodturner* magazine and a seasoned craftsman yourself, I wondered if I could ask you for some advice about my current situation?

I am a mature student with a background in art and design currently studying Level 2 bench joinery at the University of Brighton, and am not sure what my next step should be once I finish my course...

I am drawn to high quality and precision joinery/carpentry, which I feel is reflected in my work. I am hoping to get into restoration of historic buildings, furniture making and hopefully timber frame buildings, as I feel these would be rewarding areas to work in and suit my skills/style of working.

I know it is quite a wide spectrum, but a few of the joinery/carpentry firms that I've found online do cover all of these aspects, e.g. Seth Evans' joinery workshop.

I feel my main options for further studies are: Level 3 bench joinery – to continue my joinery skills, or Level 2 site carpentry – to become more of an 'all round' carpenter.

I only have until April/May to make a decision, so I am feeling the pressure slightly as I want to make the right choice, and feel like I am going in the right direction.

I have started contacting the companies whose pieces I really like about work experience, but no luck so far. Have you got any advice for me? All suggestions will be gratefully received!

Kind regards, **Peter**

Hi Peter,

Thanks for your enquiry; it's not an uncommon one these days. The three roads available to you are:

1. *Continue your studies (if you can afford it) and take advantage of the skills around you to learn as much as you can.*
2. *Take on private work of your own. This can be challenging at the start, and it really helps to have access to adequate tools and a workshop as well as an understanding first customer or two (this is what friends and family are for).*
3. *Apply in person at as many joinery shops/furniture makers as you can. It's a waste of time to phone or email; you need to meet the people in charge and convince them of your serious intent. Take along a sample of your work and offer to do a day or two for free.*

The historic building restoration work is not easy to get into, and you either need to know someone already there who can help, or be able to show plenty of evidence of previous work in this field. Contact the Landmark Trust to get more information on this type of work.

In an ideal world you would do both the site carpentry course and Level 3 joinery, but if the latter feels more suited, then I'd stick with that.

It's not an easy road, but some of my own mature students have persevered and are now currently employed in this very rewarding part of the construction industry.

I wish you all the best, and let me know how you get on.

Mark

Marine ply is ideal for outdoor projects

OUTDOOR PROJECT

Dear Mark,

I have an outside project planned for my garden and intend to use a manufactured board for a small section of roofing. What would you recommend for this component? It has been suggested to me I use marine ply.

Regards,

Trevor Sleight

Well Trevor, fortunately there are a few options here. Probably the cheapest and easiest to obtain would be OSB (Oriented Strand Board), also known as Sterling board. Certainly marine ply would be ideal (and superior to the OSB) but make sure your supplier can guarantee it's from a sustainable supplier and is actually what it purports to be.

Many tropical plywoods (often referred to as 'Far Eastern') are wrongly claimed to be something they're not. Certainly if the ply is going to be exposed you need to get the best one available. The equivalent British Standard rating used to be WBP (Water and Boil Proof) but I don't think this is still used in the trade. Good luck with it, though, and let me know how the job goes.

Cheers,

Mark

Here at *The Woodworker* we're always pleased to see photos of your work, and we know everyone else is as well! So send them in now and see if you can make the cut

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BY TONY SCOTT

Have a butcher's at this

Tony 'Bodger' Scott creates an old-fashioned chopping board

Back when I was a lad, most butchers did their carving and cutting on a table whose top consisted of several thick blocks of wood, glued together and mounted end-grain up. I'm not sure what the logic was, since I imagine that end-grain would be more likely to absorb and hold blood and fats from the meat.

Most of these butchers' blocks were made of beech, and beech is sometimes held to be naturally anti-bacterial, so perhaps that was the source of the custom?

Whatever the reasoning, these block-topped tables had another appeal, too. They looked rather splendid. So when a kitchen-fitter friend was about to throw away a slab of oak worktop he'd cut out for a new sink, I had a Eureka moment. Why not use his offcut to make an end-grain chopping board like the old-time butchers had? And give the board a double-sided function as well?

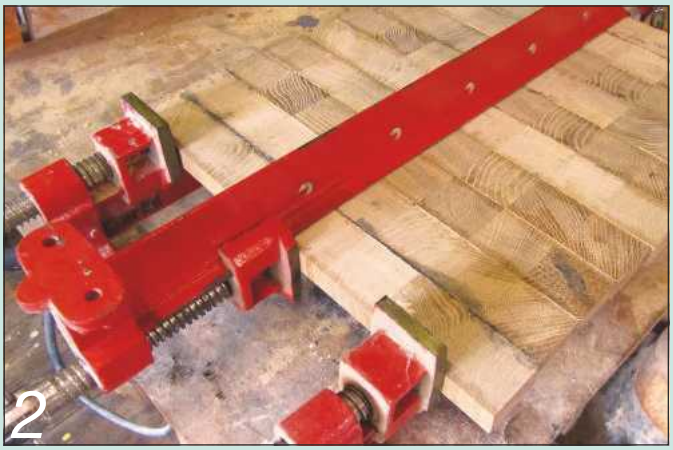
Swift and simple

The project turned out to be remarkably swift and simple. It was a moment's work to set up a bandsaw fence (**photo 1**) about 20mm from the blade, then cut slices from the end of the 40mm-thick worktop. Laying the slices flat was hardly difficult, and gluing them edge-to-edge with waterproof PVA (**photo 2**) required no preparatory work, since the worktop had already been machined flatter than I could have achieved by hand.

I wound up with a board about 420 × 340mm, but of course the faces were still rough from the bandsaw and there were minor variations in level from the flexing of the bandsaw blade (a table saw might have made a neater job of it).

The glued-up board was too wide to fit through my thicknesser, so I used a hand-held plunge router to skim both faces with a flat-ended cutter (**photo 4**). A sheet of thick plywood kept the cutter at a constant height as I swept it back and forth across the board (**photo 5**). The result wasn't perfect, but it was close enough that I could finish it off by scraping and sanding (**photo 7**). The final thickness turned out a little over 15mm – thick enough to stay flat,

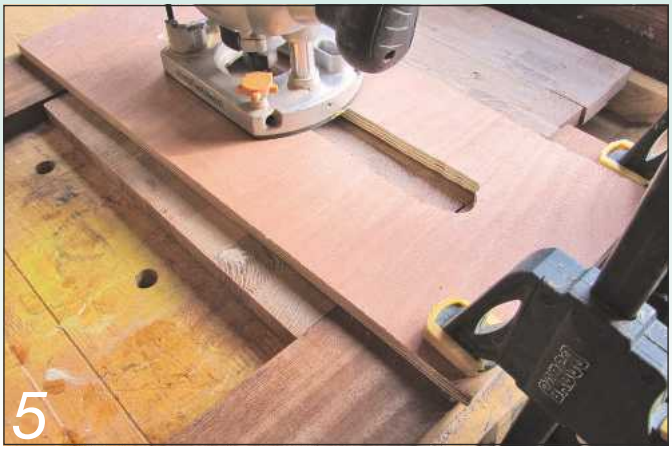
A bandsaw and fence make quick work of creating a series of matched slices from an oak worktop



A clamp on top keeps the slices flat for glue-up. Waterproof PVA removes the need for any joints

The chequerboard pattern of the slices lines up neatly, but the faces and edges need further work

Creating a slot for a moving router is one way to flatten a face that's too big to go through a thicknesser



Sweeping a router across the faces – with the plywood and blocks holding it at a constant height – gets rid of most of the unevenness

With the edges trimmed, the board is getting close to its finished size – and it's a lot flatter, too

A little planing and scraping and a lot of sanding reveals the attractive figuring of the end-grain

A round-over bit smoothes the edges. The channel around the face – made with a coving bit – stops juices dripping off the board

Getting pyrographed letters straight and even is much easier if you trace through a paper template

The oak board – after three coats of olive oil and much buffing – is ready for the kitchen

The remaining piece of a beech worktop lies across the sliced beginnings of a second board, this time of beech

Using a thicknesser on both faces of each slice and on each glued group of slices simplified preparation considerably

but thin enough to pick up without effort.

A quick trim round the edges with the bandsaw, and a pass across a round-over bit in my router table reduced the board to a neat 380 × 310mm (**photo 8**).

Meat and cheese

I've since made a second, slightly thicker board from a left-over piece of beech kitchen worktop (**photo 11**). This time, I held off final glue-up until I'd run both faces of all the slices individually through the thicknesser, glued the slices into three sections, then run the sections through the thicknesser again for a final trim (**photo 12**). The result was much smoother; scraping and sanding the beech to a reasonable finish took much less time than it had with the oak board.

Apart from three coats of olive oil, two last steps established the dual purpose of both boards: one side for carving a drip-free Sunday roast; the other for displaying after-dinner cheeses.

On the meat side of each board, I used a plunge router fitted with a fence and a coving bit to cut a shallow channel right round the face about 20mm in from the edge. Then, without the fence and with the coving bit set a millimetre or so deeper, I routed freehand a triangular reservoir in one corner for the meat juices to run into (**photo 13**).

The cheese side I left flat, but along the edges I added some pyrographed letters. I've tried writing with a pyrograph freehand before, but have always found it hard to keep the letters straight and evenly spaced.

13

The triangular reservoir in the corner is a millimetre or so deeper than the rest of the channel

14

A push-block keeps my hand well away from the round-over bit on my home-made table router

15

Once sealed and buffed with olive oil, the joint-free beech board is ready for its first Sunday joint

So this time I printed off the phrases I wanted on paper, cut them out and spray-mounted them in place. It was then fairly easy to trace through the paper with a hot pyrograph point, pull off the paper and do a final touch-up.

Pun and games

As to the phrases themselves – 'meating place' on one end and, on the other, 'the big cheeses' with the names of my daughter and her husband (the board is a welcome home present for them) – I'm an old Fleet Street hack and can't resist a pun. Indeed, many moons ago when I worked on the *Daily Mirror*, I took great delight in its columnist Bill Connor, who wrote under the name Cassandra.

He invented a factory in Penge whose sole job was to turn out excruciating examples of word-play. My favourite should appeal to woodies who remember their maths lessons. It concerned three Red Indian squaws. One slept on a buffalo hide; another slept on an elk-skin; and the third slept on the skin of a hippopotamus. In the fullness of time, all three had children. The mother who slept on the buffalo skin had a son; the squaw who slept on the hide of an elk had a daughter; the woman on the hippo had twins. And the moral of the story? The squaw on the hippopotamus is equal to the sum of the squaws on the other two hides.

I think my daughter will like the new oak board. My wife certainly does; she wants to keep the beech one for herself! WW

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Motor	230 V~
Input	1100 W

Issue 2016-03-02 | Changes reserved

Happy studying

With his daughter off to university, John English is asked to make a desk with a large work area, which is easy to move around and capable of hiding clutter

When our daughter went to university, I thought it would be nice if she had a small reminder of home to take along. I was thinking a photo, or perhaps a nice notebook, but she told me to build her a desk!

This one is just right for a laptop and a few files. It also has a pen drawer and there's a pretty generous work surface, but the desk is still light and small enough to move from campus to apartment.

By simply extending the lengths of three parts (the back, stretcher and worktop), the desk can be made as wide as you like. Construction of the legs is straightforward mortise & tenon joinery, while the top is designed in three sections so that it can be run through a 305mm bench-top planer and then be assembled. The project can be completed in a few Saturdays, and it's sturdy enough to survive through the next generation of students. I'm not quite ready for that yet!

Part 1

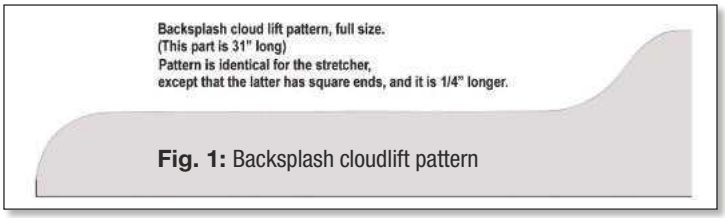


Fig. 1: Backsplash cloudlift pattern

Spindly legs

Each of the desk's two leg assemblies has three black walnut and four white oak spindles. Mahogany and beech might also combine well. The darker walnut spindles line up with three walnut inlays that run across the desktop.

Glue up stock for the four legs (**A**) and then rip, joint, plane and crosscut them to the dimensions shown in the cutting list. Rip, joint and plane stock for the 14 spindles (**B** and **C**), and then mark out for the stub tenons on both ends. These come out at 6mm square by 12mm long, or what will fit nicely into your mortises. You can then set up a 3mm radius roundover bit in the router table and rout the long edges of the spindles and the legs (**photo 1**).

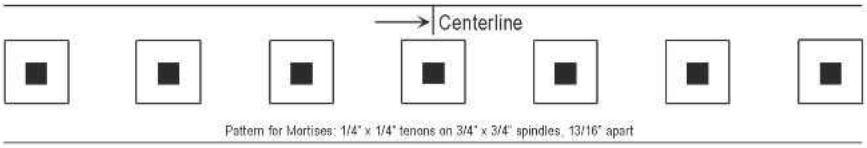
Next, cut and joint stock for the top and bottom cleats (**D** and **E**). All four cleats are chamfered on the ends of their best faces, using a mitre saw set to 45° (**photo 2**). Round over the edges of these best faces on the router table, and then draw a pencil mark 25mm in from the ends (**photo 3**).

Locating the spindles on the cleats is easy with the supplied pattern. Make four photocopies of the full-size pattern, and tape one to each cleat.

CUTTING LIST

Ref	No	Item	T	W	L	Material
A	4	**Leg**	35	63	648	QS white oak
B	6	**Spindle – accent**	19	19	673	Walnut
C	8	**Spindle – standard**	19	19	673	QS white oak
D	2	**Top cleat**	19	41	609	QS white oak
E	2	**Bottom cleat**	19	41	609	QS white oak
F	2	**Top plate**	19	57	670	QS white oak
G	2	**Bottom plate**	19	57	670	QS white oak
H	4	**Feet**	19	86	86	QS white oak
J	1	**Stretcher**	19	121	794	Walnut
K	4	**Buttons**	4	10 1D	12mm OD	Walnut
L	2	**Top – edges**	19	254	914	QS white oak
M	2	**Top – centres**	19	19	914	Walnut
P	1	**Backsplash**	19	70	787	Walnut
Q	2	**File drawer – sides**	17	273	343	QS white oak
R	2	**File drawer – F & B**	17	273	162	QS white oak
S	1	**File drawer – bottom**	12	162	327	Oak plywood
T	1	**File drawer – face**	19	197	292	Walnut
U	2	**Pencil drawer – sides**	17	54	343	QS white oak
V	2	**Pencil drawer – F & B**	17	54	314	QS white oak
W	1	**Pencil drawer – bottom**	12	314	327	Oak plywood
X	1	**Pencil drawer – face**	19	349	73	Walnut
Y	4	**Drawer slides**	17	44	660	QS white oak
Z	4	**Drawer receivers**	19	44	457	QS white oak
AA	4	**Drawer receiver cleats**	19	19	457	QS white oak
AB	1	**File drawer stop**	10	19	267	Hardwood
AC	1	**Pencil drawer stop**	10	19	413	Hardwood

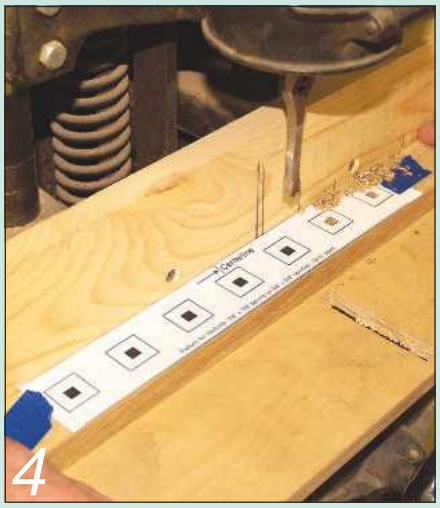
Fig. 3: Mortise pattern



Rout the long edges of the spindles and the legs

All four cleats are chamfered on the ends of their best faces, using a mitre saw set to 45°

Draw a pencil mark 25mm in from the ends



Centre the pattern and chop the mortises

Fig. 2: Parts diagram

Working quickly, run glue into each of the mortises in one pair of cleats

Repeat the process for the second half of the spindles, then clamp each assembly and allow the glue to cure overnight

Assemble the legs to the cleats without glue

Install the top cleats using 32mm screws driven into pre-drilled and counter-bored pilot holes between the legs

Install the bottom cleat using 63mm screws in the legs

Bandsaw the cloud lift stretcher (J) to shape, then clean up the saw marks

Drill two screw holes through each back leg and counter-bore these holes, using a 10mm Forstner bit

Centre the pattern, then chop the mortises (**photo 4**). If you don't have a hollow chisel mortising machine or a mortising kit for the drill press, then drill out most of the waste with a flat-bottomed Forstner bit chucked in the drill press. After drilling, square up the mortise walls with a 6mm chisel and mallet.

Dry fit the spindle tenons to the mortises to check their sizing, and make any minor adjustments needed for a perfect fit. Working quickly, run glue into each of the mortises in one pair of cleats (**photo 5**), and brush a light coat on the shoulders and cheeks of half the spindles. Repeat the process for the second half of the spindles (the second leg), and then clamp each assembly and allow the glue to cure overnight (**photo 6**).

Pre-drill and countersink for four 50mm screws in each of the four legs, and then assemble the legs to the cleats without glue (**photo 7**). You should be able to do this while the glue on the spindles is still drying: everything is already lined up for you and clamped in place. The legs are located at the pencil lines you drew earlier.

All six top and bottom plates (**F** and **G**) are identical in size. The top plates are single thickness, while the bottom ones are doubled up (don't glue them together yet). Chamfer and round over four of the six top and bottom plates, exactly as you did the cleats earlier.

After the cleat assemblies are dry, centre them on the four chamfered top and bottom plates, then glue and screw these in place. Use 32mm screws driven into pre-drilled and counter-bored pilot holes between the legs so they don't go all the way through (**photo 8**). Switch to 63mm screws in the legs. I like to counter-bore for screw heads when possible, rather than counter-sinking (**photo 9**); that's just because sinking is a little inexact, and sometimes the heads still protrude a little. After everything is screwed together, glue and clamp the last two bottom plates in place, and then sand the edges flush after they dry.

Cut the feet (**H**) to size and round over all of their edges using a bearing-guided 3mm radius roundover bit in the router table, then screw and glue the feet to the bottom plates, leaving an even reveal on three sides.

Bandsaw the cloud lift stretcher (**J**) to shape, and then clean up the saw marks. An oscillating belt sander works best for this (**photo 10**), but a drum chucked in a drill press works well, too. Use a 3mm radius roundover bit in the router table to clean up all four long edges (but not the ends) of the stretcher.

I placed the stretcher so that the bottom was 330mm off the ground, but you may want to adjust that up or down for electric outlets, radiators or other obstructions. Drill two screw holes through each back leg and counter-bore these holes, using a 10mm Forstner bit (**photo 11**), then assemble the stretcher to the two leg assemblies, using four 63mm screws. Glue a walnut 10mm domed plug/button (**K**) into each counter-bored hole, to hide the screw head. WW

NEXT MONTH

In the next issue, John will show you how to make the desk top design, the file drawer and the drawer glides, which will complete the build

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KSS60	408mm	61mm	47mm	-60° to +60°	Yes (36v)
KSS80	370mm	82mm	55.5mm	-60° to +50°	No

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Take the plunge with Trend

To celebrate the launch of their new plunge saw blade range, Trend are delighted to be running an exclusive competition for readers of *The Woodworker*

The Trend Professional plunge saw blades are premium quality with micro granular tungsten carbide tips for long lasting performance in timber and abrasive materials. They come in two sizes: 160mm and 165mm diameters

The prize is a One4all voucher worth £2,000, which can be spent at a host of retailers such as B&Q, Argos, Amazon and John Lewis

Trend's Head of Marketing Luke Hulley adds: "Having met many readers at shows across the UK, we have received lots of feedback on Trend products and what people would like to see from us. The new Trend plunge saw blades will make a real difference to woodworkers who are looking for quality plunge saw blades that have a compatibility with the leading brand's plunge saws"

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HOW TO ENTER

Visit the website: www.getwoodworking.com/competitions, and answer the question below

Question: What are the two sizes the new Trend plunge saw blades come in?

A) 160mm and 165mm diameters **B)** 200mm and 300mm diameters **C)** 300mm and 400mm diameters

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The granddaughter clock is a descendant of the grandfather clock. The grandfather clock is more properly known as a long case clock and these first appeared towards the end of the 17th century, being the first design for a clock to stand on the floor and typically over a couple of metres in height. It was the invention of the anchor escapement which made it possible to enclose the weights and pendulum in a narrow body. Next in line followed the grandmother clock as a smaller version, then a century or more ago the granddaughter clock became popular as the smallest member of this family of timepieces. Searching through my small library of furniture history books, I could find only one reference and drawing for a granddaughter clock, but I abandoned this and started my own version from scratch. My aim was to create a modern version of the design, and keep the construction fairly simple. I also took advantage of modern technology and fitted a quartz movement.

Middle part

Various woods were used in the past for long case clocks, I made the one shown from cherry constructing it in three sections: the base, the main body, and the upper part. These are simply screwed together on completion. Jointing is almost entirely with biscuits, with full use being also made of glue blocks. All parts are 16mm-thick, apart from the top which is 30mm to allow for it to be shaped. The material I had was of various widths, wide enough for the sides but not for the front three parts. After planing to the thickness required, the pieces for the fronts were jointed to give the width needed.

Next, I prepared the components for the middle part of the clock to width and length, then prepared for the biscuits (**photo 2**). This included the two cross-rails, positioned 6mm

BY GORDON WARR

It's about time!

Gordon Warr makes a granddaughter clock, a descendant of the grandfather clock, and brings the design into the 21st century by fitting a quartz movement

1

Planing the wood to thickness

2

Preparing the kerfs for biscuit jointing

3

Trial assembly of the main body

CUTTING LIST

All dimensions are in millimetres

Part	Qty	L	W	T
Front of body	1	750	176	16
Sides of body	2	760	124	16
Front of base	1	210	200	16
Sides of base	2	210	136	16
Front of upper section	1	240	200	16
Sides of upper section	2	210	136	16
Top	1	250	164	30
Back – plywood	1	760	164	6
Door – plywood	1	200	155	10
Cross-rails	6	200	70	16
Packing to rear top opening for door	1	200	25	16
Stop for door	1	200	16	6

Widths and thicknesses are NET. An allowance has been added to the lengths.

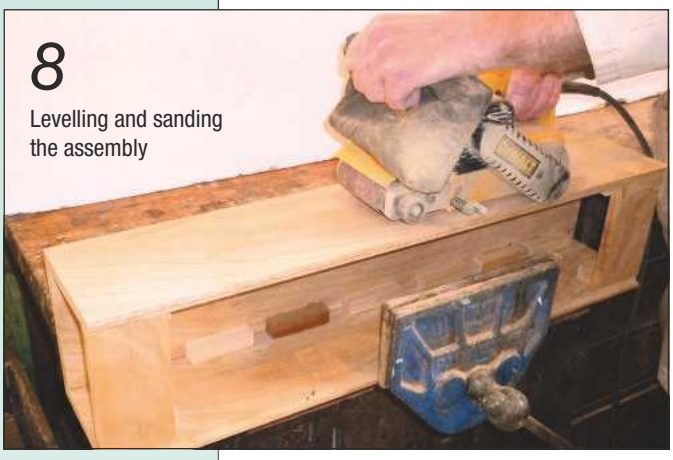
Also required: oddments for glue blocks, and screw blocks: pair of brass face fixing hinges, turn button, plus a set of clock components

The rebates at the rear...

... were formed on the router table

Glue applied and biscuits inserted

Cramped up and left to dry



Boring the blind hole for the clock movement

The first stage of assembling the top section

in from the rear to allow for the ply back. The sides were now rebated along their rear edges for the back (**photos 4** & **5**), and could then be glued and cramped together (**photo 6**), adding a series of glue blocks. These need to be around 16-20mm square. It was only when once out of the cramps that the outer surfaces were cleaned up, mostly by belt sander at this stage.

Upper part

The upper part of the clock followed next, with the construction essentially being similar to the middle section. The width is critical, as it has to sit in place and overlap this middle by 4mm at the front and sides. This is shown in the enlarged section, although this shows that the base arrangement is exactly the same for the upper part. Note that with this part of the clock, the cross-rails at the rear are horizontal, rather than vertical.

Before assembling, a blind hole (**photo 9**) needs to be bored for the movement. While these might vary in size, my experience is that most can be accommodated in a hole of 70mm diameter, or 3 1/8in if available. The depth is critical, and depends on the length of spindle on the movement. Three lengths are available, so the depth of the hole must leave sufficient uncut wood at the bottom of the hole according to the length of spindle. In addition to the large hole, a smaller one has to be bored in the centre of this so that the spindle can pass through.

Assembling the upper part of the clock presented no problems, initially adding the two cross-rails to the sides and using the vice to bring these components close together, then gluing and cramping on the front.

Clock base

At this stage, the base of the clock was prepared and assembled, very similar to

11
Now the front of the top is added

12
The top is cut to length with the ends slightly angled (saw guard removed for clarity)

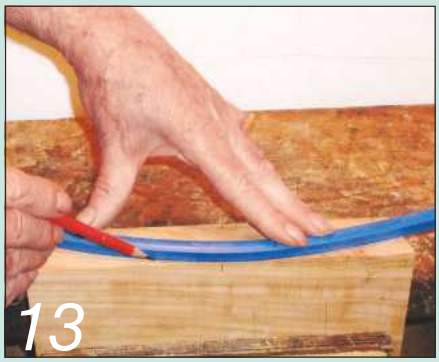
the upper part except that the cross-rails are vertical. Because these rails almost completely cover the rear of this part, they give adequate support on their own for the plywood back, and therefore there was no need to rebate the rear edges as I had done for the main body. Next, I decided to proceed with the top. Once largely prepared I could then form the quadrant moulding to this, along with a similar cut to the lower edge of the top assembly, and the upper edge of the base.

The piece for the top was planed to width and thickness, and cut to length with these cuts being made at a slight angle. I used a draftsman's flexicurve to mark the outline for the curve on both edges (**photo 13**). The waste to this part was initially removed simply by using a power plane (**photo 14**), then a jack plane, but working largely across the grain. Next it was the turn of my belt sander to complete this shaping. I worked from the centre towards the ends; this meant I was working with the grain. Using the sander for shaping of this kind works well, but the sander must be kept following the curve, used with a rocking movement, and constant checks made.

I used a round-ended cutter to form the quadrant cuts to the front and outer ends of these parts, quickly completed on my router table, then used a shaped sanding block and abrasive to leave the cuts well smoothed (**photo 16**).

Rear door

The upper part has a door fitted to the rear, hung on a pair of face fixing brass hinges (**photo 18**). In order to provide sufficient width for the leaves of the hinges, a widening piece was added to one side, and a smaller piece to the opposite one to act as a stop. The door is a simple rectangle of 10mm ply, with a 22mm

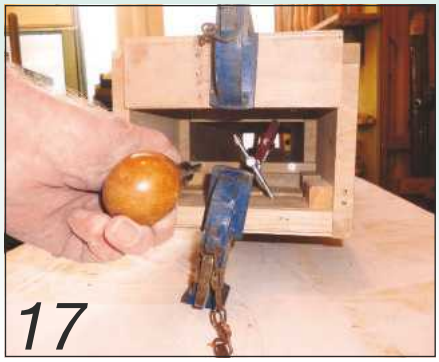


13
Marking out the edges of the top for the curved upper surface

14
A power plane is initially used to remove the bulk of the waste

15
Forming the cove cuts

16
A shaped sanding block is used for the sanding of the coves



17
Screwing the top in place

18
The door to the top section is hung on brass face fixing hinges

The first two coats of polish are applied using a polisher's mop

Flatting down between coats

Bodying-up with a rubber

Securing the face of the clock


The completed clock


The clock from the rear

diameter bored in this to act as a finger hole. The door is kept closed with a small brass turn button.

Assembly

Various screw blocks still required to be added; these were made to a larger section than the glue blocks. They are the means of securing the parts together, so holes were also prepared for this purpose. They were drilled at an angle, to ensure the screws through one block would connect with another, or one of the cross-rails. All the three sections of the clock, along with the top, were now screwed together to ensure I had proper alignment, but were immediately unscrewed ready for the final sanding, and polishing. I went over all outer surfaces with my belt sander fitted with a fine abrasive, and followed this with plenty of hand sanding, which included lightly rounding all the corners, a stage known as 'removing the arrises'.

Finishing

I felt there was only one finish suitable for a clock of this style: French polish. I started this stage by applying a couple of coats with a polisher's mop (**photo 19**), flatting down after each coat (**photo 20**). I followed this with several more applications of polish; these being applied with a rubber. This is made up of a piece of unbleached wadding, covered by a piece of cotton cloth the size of a handkerchief. A rubber (**photo 21**) is used largely in a circular movement so as to drive the polish into the grain, with a trace of linseed oil being smeared on the face of the rubber. As polishing continues, the polish is diluted a little with methylated spirits but very little oil, the final strokes of the rubber being along the grain.

After the polish had been left to harden for a while, all parts could be reassembled, and the back and door refixed. Quartz clock movements are simple to fit, and spring into action once a battery is fitted. And that's the project completed – luckily, I just happen to have a spare corner in my hall where the clock will conveniently fit. WW

SUPPLIERS

Clock movements and components are available from the following suppliers:

- **Hobby's**
- www.hobby.uk.com
- **Martin H Dunn Ltd**
- www.martindunn.co.uk
- **Turners Retreat**
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In brief...

SPRING INTO LIFE WITH YANDLES

Yandles of Martock will be holding their much anticipated Spring Woodworking Show, one of Britain's largest dedicated Woodworking Shows, from 8–9 April this year.

There will be a wide range of masterclasses at the event, where you will be able to come along and sit in on a free class from some of the leading manufacturers in the industry, including Record Power and Robert Sorby.

Confirmed woodturning demonstrators include Nick Agar, Dave Appleby, Gianni Deidda (new to Yandles), Paul Hannaby and Bryan Milham (new to Yandles) along with Les Thorne and Mark Sanger. You can also see demonstrations in carving, chainsaw carving, willow making and blacksmith/knifemaking to name a few. There will also be a range of hobby demonstrations and taster sessions, and as usual, the show benefits from free entry and parking, making it an event not to be missed.

One of Britain's longest running woodworking shows, this event attracts thousands of visitors from all over the UK and Europe. It takes place in Yandles' traditional sawmill, which was founded over 150 years ago and helps make the show unique.

Trade stands at the event will include Record Power, Charnwood, Draper, Triton, Ashley Iles, Robert Sorby and Mirka to name a few, who will all be launching new products and offering special show deals. You can also visit the timber yard where a large selection will be discounted along with discounts in the Woodworking Centre and a sale in the Hobby Shop. Don't forget to look around the 303 Gallery while you're there and when you need a break, be sure to check out the Cedar Tree Café. For further details, see the website: **www.yandles.co.uk**.

BOSCH ANNOUNCES NEW CORDLESS SABRE SAW

Bosch has extended its range of 18V power tools to include a new ultra-compact cordless sabre saw. The GSA 18 V-LI C Professional combines a low weight of just 2.5kg with high power to guarantee fast sawing progress. This precision cordless saw is the ideal tool for electricians, installers and interior construction professionals. It offers a stroke rate of up to 3,050 strokes per minute and has many versatile applications, such as cutting and trimming metal tubes, sheet-metal covers, wood panelling and drywalls.

The GSA 18 V-LI C Professional has a soft-start motor for smooth, precise, controlled operation. This feature means the saw can be safely positioned and guided through metal, wood or plaster with ease. The handle is anatomically shaped for secure grip and comfort, and low vibration values mean that it can be comfortably used even for lengthy periods, as well as one-handed operation. An LED light illuminates the work site so even tight spaces or overhead areas can be seen clearly.

Bosch offers a wide range of system accessories such as saw blades, giving skilled professionals a high degree of flexibility. Thanks to the tried and tested SDS system, saw blades can be changed easily, conveniently and without the need for a wrench. To ensure fast progress and long runtime, the GSA 18 V-LI C Professional has a powerful DC motor and is supplied with a 5.0Ah battery. The 'Electronic Cell Protection' (ECP) system protects the Lithium-ion battery against overload, overheating and total discharge, and maximises battery life. Now available for £428 at specialist retail outlets, the sabre saw is supplied in an L-Boxx including an AL 1860 CV Professional charger and two 5.0Ah Lithium-ion batteries. The tool is also part of the 'Clic & Go' sales system for 18V cordless tools by Bosch. To find out more, see **www.bosch.com**.

SPEEDECK® – THE QUICK FIX FOR DECKING INSTALLATION

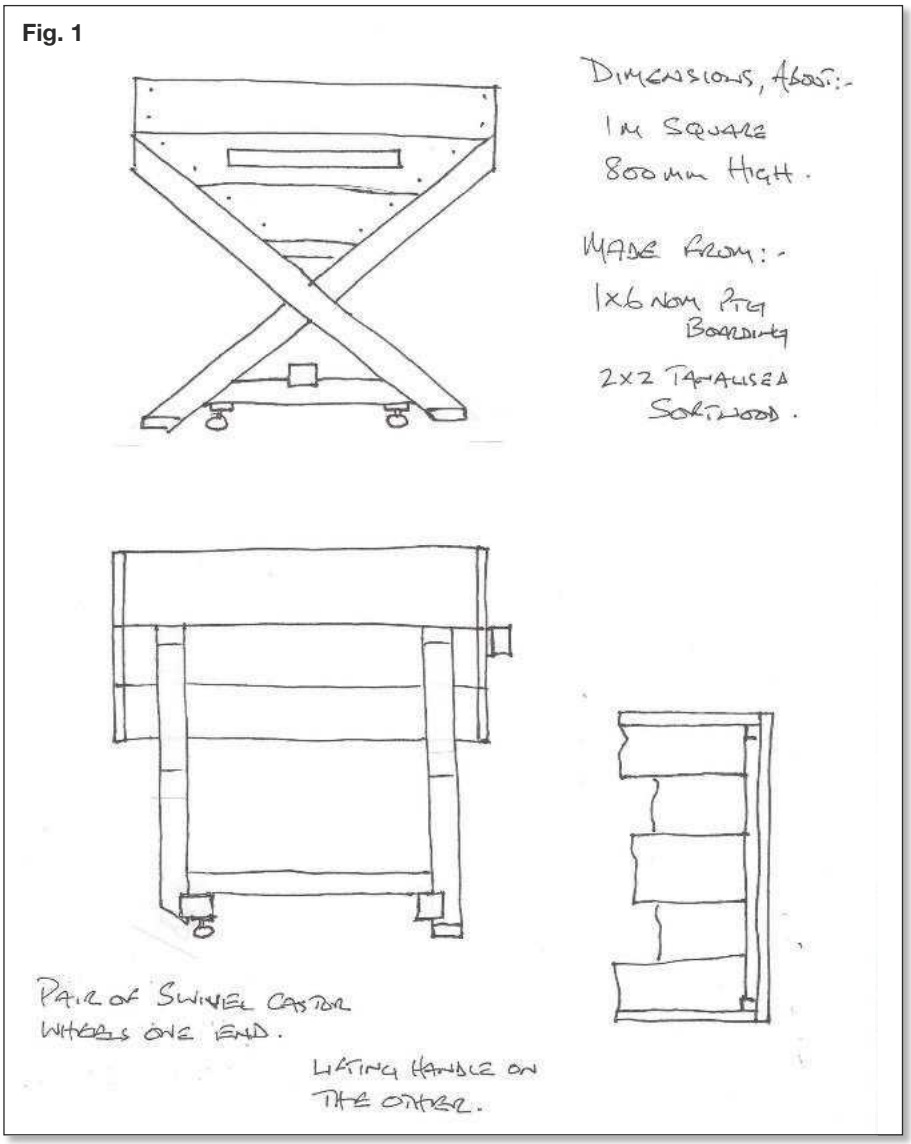
Easy Innovations has just launched Speedeck® – the essential new decking tool. It puts an end to the tedious and time-consuming method of positioning and fixing decking boards one at a time. Now woodworkers and DIY enthusiasts can simultaneously position and fix multiple boards quickly and safely resulting in reduced installation time. Lightweight, durable and easy-to-use Speedeck® partitions up to five boards at a time with perfect gaps, saving valuable time, money and energy. It keeps hands safely clear of nail guns and enables the user to install decking boards in less than half the normal time – so will pay for itself in the first hour. Available in sizes to suit boards from 90-145mm Speedeck® retails at just £23.94 and is available from most good builders merchants and DIY outlets nationwide. For more information, visit **www.speedecktools.co.uk**.

BY PETER BISHOP

All planted up

Peter Bishop shows you how to make this mobile planter using preservative treated softwood and PT & G boards – perfect for spring!

Fig. 1



This is a planter with a bit of a twist; very similar items are available at local garden centres and online. A regular client of mine, whose husband is disabled, thought that a raised planter would be good therapy for him. I pointed out that purpose-made planters would be more expensive than those off the shelf but she insisted that I price up for a pair, the twist being that she wanted them to be mobile. The challenge was to design something stable, substantial and mobile so I came up with this design. Keen to make sure they fitted the bill, I decided that I'd make an extra one for us to use. After a bit of toing and froing, I was commissioned and off we went.

Please note that although many of these images show machines unguarded for clarity, you should ALWAYS ensure that when operating equipment the appropriate guards are in place.

Sketching the idea

The materials are basic, 50 × 50mm nominal preservative treated softwood and 25 × 150, 25mm × 150mm nominal PT & G floor boards. The construction is simple, screwed, glued and housing joints where appropriate. However, the angles and joint positions need to be accurate and matching (**photo 1**). To achieve this I resorted to my favourite technique: I drew a full-size drawing (aka a rod) out on my large workbench top. This firstly allowed me to work out the joint angles etc., and, secondly, I'd be able to mark out the component pieces directly from the drawing. So, with drawing done and wood to hand, I was ready to crack on.

Making the legs

Two pairs of crossed legs formed the basic start to the sub structure (**photo 2**). One pair of legs would reach right to the ground, acting both as supports and brakes. The other pair were to have castors mounted so that if the opposite end was lifted, you could move the planter around. The height of the lower brace, the platform onto which the castors would be fixed, was set so that, once made, the castors and legs at the other end would all sit level. I took the first lot of angles off the drawing and cut the cross-halving joints as marked out. With that done, these dry jointed legs were laid on the drawing and the brace position marked for the castor platform (**photo 3**). Another pair of partial housing joints were then cut to fit the brace. Before gluing these first three pieces together it's easier to fit the castors onto the loose brace (**photo 5**). For my client I bought some new ones; for us I salvaged some old ones! Once that was done loads of waterproof PVA was applied to the joints, the pieces clamped down onto the drawing, to make sure they were positioned correctly and everything screwed together (**photo 6**). A similar but slightly

Angles can be taken straight off the full-size drawing

The next step is to mark out the halving joints for the cross over legs

The lower brace and castor platform needs to be positioned

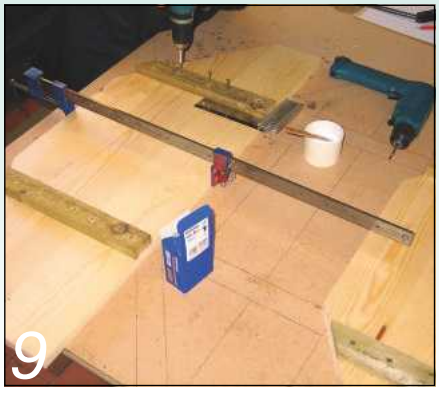
The legs are cramped directly to the drawing board before gluing and screwing

Fit the castors to the lower brace before fixing it onto the leg assembly

The brace with castors attached is screwed and glued on

At the other end a brace is then glued and screwed on

Checking the end measurements and fit. The sides are in the background being glued up



Each end has a couple of braces glued and screwed on

less complicated process followed for the opposite end. A simple, angled brace was cut to fit underneath the jointed legs (**photo 7**). Each jointed pair of legs was then set aside so that the glue could cure and the joints become permanent.

Planter construction

PT & G floorboard formed the sides: three boards down each sloping side with one vertical at the top. On the two 'ends', shall we say, the boards have to be carefully cut to take the difference between the slope and a straight joint (**photo 8**). This means you need an extra half board or so. I cut the six sloping side boards to length and glued them together in their three board formation. This just makes them easier to handle later on. I then marked out, cut and shaped the two end sections; these were held together by screwing and gluing a couple of battens down across their faces. The three sloping side boards were positioned with the tongue down and the groove at the top. I carefully cut the inner part of this top groove away. This creates a simple locating point for the final board that goes on top. It can't bow outwards, over time, because its tongue is held back by the outer part of the groove.

Time to get these made up components together! The assembled leg sections can be set in from each end as much as you like. I thought 100mm was about right. The bench comes in handy again here. I clamped one leg assembly onto the bench (**photo 10**), at right angles to the edge, and then clamped the other one on, squared off again, at the right distance to create the 'set in' as described above. It's a simple job then to take the sloping side sections and just glue and screw them on to the outsides of the legs (**photo 11**). Flip it over, cramp it down and fix the other side on making sure that the spacings and squared junctions are maintained. This partly finished 'box' is taken off the bench and turned up onto one end. Loads of glue and long-ish screws and the first end is fixed on. Turn it end on end and fix the other one in place. Now for a couple of short braces underneath across the bottom of the sides; these will form the rails onto which the bottom can be fixed. The lifting handle is also formed by jointing a batten across the fixed leg end (**photo 13**).

The whole lot is then turned over, legs up. A central brace is fixed between the two leg assemblies to give extra rigidity and support (**photo 12**). Turned onto its leg, you can test the concept now that the bottom boards are screwed to those lower braces (**photo 15**). I used some odd bits of hardwood I had

Position the leg assemblies on the bench, clamp them down and fix on the side boards

The ends can now be fixed directly to the sides

A pair of secondary braces are fitted underneath to support the bottom boards

The handle, on the opposite ends to the castors, is a simple cross batten

The final brace fits across the leg assemblies to give them extra strength

The bottom boards are then fitted

The last two side pieces are screwed and glued on to finish the container section

To add strength to the corners some masonry ties are moulded and screwed on

The final job is to give the container section a coat of preservative

kicking around for this. They had square edges and I left small gaps between for some drainage. The final top two side boards can now go on (**photo 14**). All these had their groove removed earlier on. With the tongue down they should drop into that partial groove left on the outer sides. Glue and screws hold them in place but I strengthened the corners by wrapping some flat masonry ties around them (**photo 17**). This done, the job's a good'un.

Preserving the surfaces

To finish off I gave all the untreated wood surfaces a coat of preservative (**photo 18**). Hopefully this would give the planters a couple of extra years of life. The inside can now be lined with the right stuff bought from your garden centre or, if you're a bit tight like me, any old bits of plastic you have to hand! Compost and soil next and you're ready to plant up (**photo 19**) and enjoy the fruits of your labour! WW

The completed mobile planter, all planted up!

Approach with caution

When it comes to raising bruises, says Stephen Simmons, don't just go steaming in

Bruises are a common problem when working wood, and there are a variety of ways of tackling them. The one we'll be looking at is steaming, but as always there are caveats, the first of which is to remember that, like many restoration techniques, there is no guarantee of complete success. After all, it's likely that some of the bruises you'll want to get out will be on horizontal surfaces, such as table tops, and the effect of light on these surfaces is very critical, and any remaining or – more importantly – additional blemishes will be magnified.

An important part of successful treatment, then, is to approach the job on a percentage basis: if complete removal is not possible, with what level of success would you be happy? 80%? 50%? Be clear in your mind before you start, and you'll save yourself a lot of disappointment and frustration later.

With that in mind, there are three ways of tackling bruises. In ascending order of risk and effort they are: doing nothing; wetting the immediate area with water; and steaming the bruise.

Thought…

Paradoxical as it may seem, as a restorer I rather approve of doing nothing, and I've often advised clients that this is the best course of action, or rather inaction. So ask yourself this: "Is the bruise really disfiguring, or is it simply acceptable wear and tear?" Furniture was made to be used, don't forget, and a few blemishes don't come amiss and can add to the character of a piece, particularly if the original polish remains intact.

This is a crucial consideration, because once you get into steaming you will damage the finish, and if it's a varnish (including French polish) you'll be destroying it. If it is in good condition, is it worth sacrificing when there's no guarantee that the bruise will steam out anyway? And could you replicate it and successfully blend it in with the rest of the piece? Some Victorian varnishes were heavily tinted, so there may also be some critical colour-matching to do into the bargain.

You can see, then, how bad re-finishing can defeat the object of the whole exercise, so there's no shame in being a bit wary about starting in the first place – in restoration, caution is a strength rather than a weakness.

… before action

After all this masterful inactivity come the technicalities. A bruise is a depression of the fibres of the wood as a result of extreme pressure; the fibres themselves, however, are not broken. Nothing can restore broken fibres, so look closely at the damage through a magnifying glass to be quite sure that you are tackling something that has even a chance of being solved.

The essence of this solution is to swell the grain by direct contact with water in some form. There is, therefore, no point in putting the water on top of an impervious hard finish, which is why any polish must be sacrificed. Also, the water must not be allowed to linger, otherwise you run the risk of getting a water stain in the wood, which will have to be bleached out.

FORGET FILLING

Tackling bruises with a filler of any sort is a complete waste of time. Not only do you have the problem of matching colour and texture over a relatively large area, but the filler will also drop out because bruises are shallow, and fillers need steep sides to grip. There's also the likelihood that you'll spend a lot of time and effort for very few tangible results, and you can actually end up with a problem that's bigger and more obvious than the original bruise

Simple solutions

If the damage is in a not too conspicuous place, and if you're good at patching polish, you can remove the polish just round the bruise with a proprietary stripper (or meths if it's French polish). Once neutralised and dry, wet the area with clean water, and let it stand for five minutes or so to swell the grain. Leave to dry completely, and then rub the immediate area down carefully and gently with a 240 grit abrasive. You can repeat this process twice more if necessary – it's just like raising the grain really – but from experience you'll get no further improvement after the third attempt.

Drastic measures

Steaming is just an extreme form of the above technique, and so operates on the same principles. As more polish has to be sacrificed, I would recommend stripping one discrete area such as a whole top or leaf rather than just the area around the bruise because patching can be much more challenging that a complete re-polish.

Now place a piece of clean wet cotton over the bruise and press down firmly with an iron heated to the highest setting. The water in the cloth will be forced into the timber as steam. Hold the iron down for about 20 seconds, re-wet the cloth, repeat, and then check progress. You can repeat twice more straight away, after which you'll be unlikely to gain any further benefit.

Leave the piece to dry overnight before starting to repolish, but remember that steam can change the texture of the surface. It may need some gentle rubbing down or re-colouring, and unless you get this right the solution can look worse than the original problem.

There are two further caveats with steaming. It is not recommended for veneered surfaces as it's exactly the technique that is used for removing the veneer. It is technically possible, particularly with older furniture where the animal glue can be re-activated more than once, but it is risky and can create bigger problems. Secondly, is the show wood or substrate actually wood? I have known composites to swell too much with this technique leading again to – that's right – bigger problems! WW

TIP

Cloths for steaming must be clean and plain white. Any hint of colour or pattern will be steamed into the wood, in which case you'll be faced with the additional problem of bleaching out the stains

BY GORDON WARR

From tree to bowl

Upon having a cypress tree felled in his garden, Gordon Warr decided to make use of some spare blanks to turn two bowls to remind him of the tree's life

My house was built in around 1926, and the first owner planted four coniferous trees in the front garden. I have seen them grow considerably during the time we have occupied this property, but over the last few years one of them, a cypress, simply stopped growing and appeared to have died. Each year there would be less and less leaf, and expert opinion confirmed that the tree, for some unknown reason, had simply died. Although it had not reached a dangerous state, it would have to be removed.

I engaged a local firm of tree experts, and the tree was duly 'dismantled' as seems to be the term used by tree surgeons. However, I requested that a couple of pieces from the trunk be salvaged as I wanted to explore the possibility of turning a couple of bowls (**photo 1**). Cypress is a very ordinary softwood, and in the UK has very little commercial use, and like most if not all softwoods, is far from ideal as a turning timber. My aim was driven largely by sentiment, to have something in the house which for many years we had seen growing in the garden.

And so the tree surgeons cut at my request a couple of blanks from halfway up the trunk. These two pieces were remarkably dry, the tree experts pointing out that the cypress had effectively ceased growing some years ago, and therefore the sap had largely drained away. However, I kept them for several months to ensure the moisture content was suitably low. My aim with these bowls was to adopt different methods of mounting the wood on the lathe, use various toolrests, different sanding techniques, and alternative methods of treating the underside.

For this project I used two bowl blanks that measured approximately 250mm.

1

The two rough blanks cut by the tree surgeons

Bowl 1

The first stage of preparation was to plane one side of the blanks (**photo 2**), then thickness them to the maximum possible. Then one of the pieces was marked to give the required circular outline; for this I used a plastic disc marker (**photo 3**). With bowls,

actual dimensions are rarely critical; normally the aim is to produce the maximum size possible from the blank, with the eyes being more important than measuring tools. I bandsawed the waste off (**photo 4**), with the next stage being to mount it on a faceplate (**photo 5**).

Actual turning starts by trimming the sawn edges to produce what is in effect a cylinder, then with the first design, pencil marks were made on this surface to indicate the extent of the three concave features on the outside. They were starting points, and would soon be removed along with the waste. So far, the only tool I had used was a heavy-duty standard bowl gouge (**photos 6** & **7**).

With the outer surface largely completed, it was on to preparing the underside for mounting on an expanding dovetail chuck. Various makes of these chucks are available, and they have revolutionised bowl turning. I marked out the required diameter using wing compasses (**photo 10**), then formed the required recess to a depth of around 3-4mm. For this I used a square-ended scraper for the bulk of the waste removal, with a small angled scraper for the undercutting to form the dovetail part of the recess.

At this stage, I decided to give the outside of the bowl a final skim with the gouge, followed by sanding. As well as holding the abrasive simply in my fingers, I also used a sanding block with a convex edge, which matched the concave features of the outside (**photo 12**).

Now the bowl could be mounted on the chuck ready for hollowing (**photo 13**). While in theory the bowl should run true when the lathe is switched on, this is not always the case but can usually be corrected by slackening the chuck and revolving the bowl by just a few degrees then retightening.

Almost the whole of the hollowing was completed using the same bowl gouge as was used for the outside, and this combined with a standard straight toolrest. As the hollowing became deeper, I brought into use the Robert Sorby 'S' shaped toolrest for the Sorby toolrest kit, which gives good support without the end of the gouge overhanging too much. Callipers are helpful in determining the thickness of the walls.

Abrasives should not be used until a satisfactory outline has been achieved with the gouge. Sanding should be used for smoothing purposes only and not for levelling out any irregularities. As well as using abrasives when held in the hand,

First I planed one side flat on the surface planer

The waste was sawn off on the bandsaw

3 After thicknessing, the largest disc possible was marked using a disc marker

The next step was to mount the bowl blank on a standard faceplate

It was first trimmed on its periphery to give a cylindrical outline...

...using a heavy-duty bowl gouge

I also used sanding discs with these held in a cordless drill (**photo 14**). These discs are available in sizes of 25, 50 and 75mm, with the various grades of abrasive being held by hook-and-loop.

I was ready for the first stage of finishing. I am not an enthusiast for either wax or oil as a means of finishing, especially for items such as bowls. Although wax and oil are easy to apply and seemingly give an acceptable finish, my favourite remains pre-catalysed lacquer, which is cellulose-based and provides a tough and water-resistant coating to the wood (**photo 15**). I usually apply three or four coats, flatting down between coats and burnishing the final one with fine steel wool. There's an old saying among professional polishers that a finish quickly gained is also quickly lost, and that remains true even with modern versions of wax and oil; they do not adequately seal the wood, especially when it is fairly open-grained.

The underside of the bowl still needed attention. Opinions have changed over the years as to what is the most acceptable for this – views have been influenced to some extent by the chucks and allied equipment which have become available. At one time before the development of expanding dovetail chucks, felt on the underside was considered pleasant enough, with the advantage that it covered any screw holes which might be present. Now polishing to this part of the bowl is the norm, but does any wood have to be removed first?

Years ago I made a set of 'outriggers' (**photo 16**), which attach to one of my chucks in place of the jaws; these in turn have a series of holes bored in them which hold rubber buffers, which when the chuck is tightened, grip the rim of the bowl; this

The three concave forms to the outside...

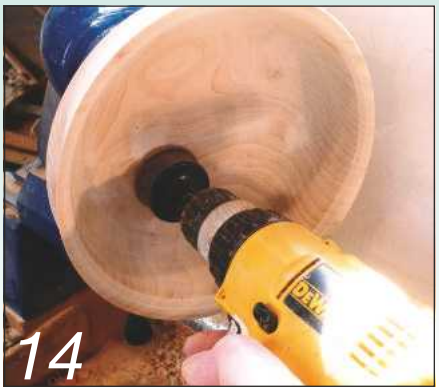
... were also formed

Marking the underside using wing compasses

Testing the fit of the dovetail chuck in the recess

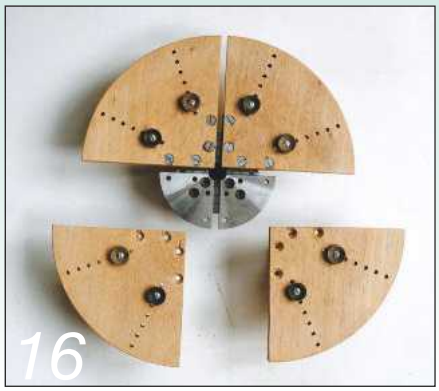
Sanding the outside using abrasive wrapped around a shaped block

Hollowing the inside of the bowl, again using the bowl gouge



Sanding the inside using a sanding disc held in a cordless drill

Applying the pre-cat lacquer



My home-made outrigger system, which attaches to the dovetail chuck

allows the underside of the bowl to be tackled. Here I first simply used the gouge to produce a flat surface ridding it of the recess which had been formed earlier (**photo 17**). Rather than leave the surface flat, I gently hollowed out the centre part to a depth of 2-3mm, which would improve the stability of the bowl. Sanding and polishing this part completed my first bowl.

Bowl 2

While my aim was simply to produce a bowl similar to the first but with a different profile, I also wanted to adopt alternative techniques and use other items of equipment which I have. The emphasis was on embracing alternative equipment, rather than better methods.

One of my chucks has a heavy-duty screw (**photo 18**), which can be gripped in its jaws, then this screw used as a means of mounting the wood. This is what I used. As before, my first stage was to trim the edge of the block into a cylindrical form. Producing the outer profile was quickly achieved, including the small concave cut at the top. This time I marked the diameter of the recess required on the underside

The blank mounted on the outrigger and the underside turned to remove the recess

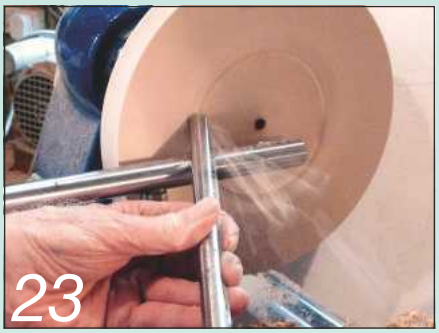
The chuck with the heavy-duty screw in place

This time I marked the circle on the underside with a pencil

Small scrapers were used...

... to form the recess for the dovetail chuck

Using the free spinning disc sander on the outside of the bowl



The hollowing is carried out with a bowl gouge

Sanding of the interior is best done by hand

Sanding the inside of the bowl using a drill powered disc sander

Flatting down the lacquer using an abrasive pad

simply by means of rule and pencil (**photo 19**). I formed the recess for the dovetail jaws of the chuck very much as before, but this time I also formed some shallow 'V' cuts in the bottom of the recess (**photo 20**). This was because I intended to sand and polish this recess. In fact, this was my next step – to finish the whole of the outside, and underside, of the bowl.

For sanding the outside, this time as well as hand holding the abrasive, I used a free spinning disc of 75mm diameter (**photo 22**), which revolves when held against the wood and is a very effective sanding method. This item of lathe equipment is offered by Robert Sorby (www.robert-sorby.co.uk) – alternative grades of abrasive can be quickly mounted being held by hook-and-loop.

Now the bowl could be reversed and mounted on the dovetail jaws of the chuck. Once again, I used the bowl gouge to complete all the hollowing (**photo 23**), bringing in toolrests from the Robert Sorby tool test kit. As with the first bowl, sanding the inside (**photo 24**) was by a combination of hand holding the abrasive, and using sanding discs held in a drill (**photo 25**). Finishing the bowl was exactly the same as for the previous one (**photo 26**).

So the tree has gone from my front garden, but I now have a couple or reminders of the pleasure it gave us over many years. WW

The two completed cypress bowls to remind me of the tree in the front garden

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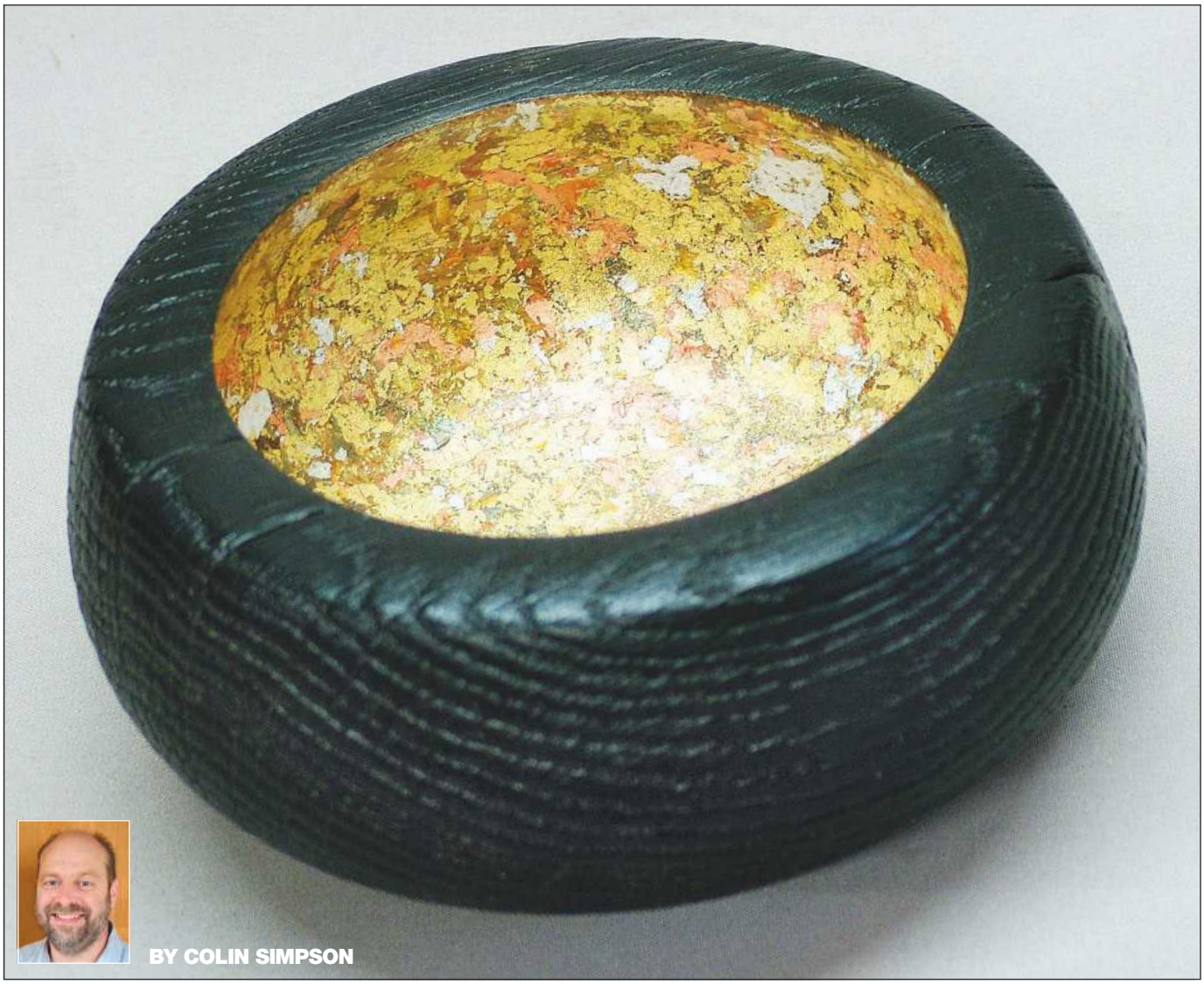


BY COLIN SIMPSON

What a scorcher!

Colin Simpson injects some glamour into a turned bowl by incorporating metal leafing and scorching techniques

I have been asked a couple of times recently if you can undercut a bowl using just a bowl gouge. The answer is yes, but not by that much. If you want a deep undercut, then you will need cranked tools or scrapers. Both these tools can create torn grain, especially of the end-grain, and this means more sanding.

An undercut bowl usually means that there is a sharp curve on the inside of the bowl at the transition between the side wall and the bottom. This can cause problems with the bowl gouge as it is difficult to keep the bevel support. This article will show you how to overcome these problems and will also introduce you to metal leafing and scorching – three techniques in one!

Shaping the bowl

I used a piece of reclaimed oak for this project. It was a beam that was removed from Beddington Church and had a few splits in it, which is one of the reasons I decided to scorch and texture it. As it was only 175mm in diameter, I held it on a screw chuck, but a faceplate would be just as good. Drill an 8mm hole in the top of the blank and screw it onto your screw chuck, making sure that the blank sits firmly up against the screw chuck (**photo 1**) to prevent the piece wobbling. Flatten the base using a pull cut with a swept-back bowl gouge (**photo 2**) and true up the edge (**photo 3**). Cut a spigot to fit your chuck. Whenever I cut my chucking point I always

Make sure the blank sits firmly against the screw chuck

Use a pull cut to flatten the base…

… and a push cut to true up the edge

Pop mark the very centre of your spigots

Begin shaping from the bottom corner…

… working towards the spigot…

… and up the side wall

Try not to have the widest part of your bowl midway between base and rim

Take fine finishing cuts to clean up the surface

cut a small pop mark in the very centre of it using the long point of a skew chisel (**photo 4**). This pop mark is used to align the bowl when it is reverse chucked to turn away the spigot. Start at the bottom corner and begin to shape the outside of the bowl (**photo 5**). With each cut work back towards the spigot and further up the side wall. Try to make a continuous flowing cut. **Photo 6** shows the starting point. Continue round the corner and swing the handle of the tool so it remains in the cut until you reach the end (**photo 7**). I think it is always more aesthetically pleasing if the widest part of the bowl is not halfway between the top and base. Try to get it about one-third from the top or bottom of the piece (**photo 8**). Here it is about one-third of the way up the bowl, but the base of the piece is still too big, so I need to do a little refinement of the shape before making a few finishing cuts (**photo 9**). For these cuts, keep the handle down low and keep the cutting edge at about 45° to the surface of the wood. Aim to get very fine spiral shavings. When you have achieved a good surface finish, use a small gouge to shape the rim of the bowl. I cut mine to a gentle radius (**photo 10**).

Scorching

Clear the lathe bed and floor from shavings, turn off the dust extractor and then heavily scorch the outside of the bowl using a blowtorch (**photo 11**). For safety reasons, it is best to do this outside, where you have more space and are less likely to run into

Cut the rim using a small gouge on its side

Heavily scorch the outside with a blowtorch…

… then brush off the resulting carbon with a stiff wire brush

Use ebony wood dye to blacken the surface

14
This is the position of the gouge for the entry cut...

... gently swing the hand to this position as you cut down the inside wall

To increase the steepness of the cut the bevel needs to point in this direction

any potential problems. Also, always have water at hand to extinguish flames if necessary. Next, clean off the excess carbon using a stiff wire brush (**photo 12**). This should create a nice textured surface but may leave the surface a brown colour rather than dark black. This brown textured effect can look good when oiled, but for this piece I wanted a black exterior, so I applied a coat of Liberon ebony wood dye (**photo 13**). When this is dry, give the piece a couple of coats of Danish oil.

Hollowing

Reverse the piece onto the spigot and start the hollowing process. Start with the bowl gouge on its side with the flute pointing towards 3 o'clock and the handle over the bed bars (**photo 14**). Use the tip of the tool to make the entry cut and as you progress down the inside wall, start to swing the handle towards you at the same time as rolling the flute up to about 1 o'clock (**photo 15**). Continue with this cut, going a little wider and a little deeper each time until you reach the desired rim thickness. Now we need to do the undercutting.

Undercutting

Take a look at **photo 16** and notice where the bevel of the tool is pointing. The direction of the cut will follow the direction of the bevel. So with this cut I am going straight down the inside wall until I reach the transition between the wall and the bottom. **Photo 17** shows this cut with my front hand removed for photo clarity. This will remove a

Keep the tool on its side to cut down the wall

To undercut, the bevel needs to point under the rim

Swing the handle through about 100° while cutting the area coloured in green

A common problem with undercut vessels: the rim interferes with the shaft

21 A steeper bevel angle helps to overcome this problem…

… as the handle doesn't have to swing as far

lot of waste wood to allow for the undercutting. To undercut the rim, make a similar cut but this time with the bevel of the tool pointing parallel with the outside wall (**photo 18**). To achieve this, the handle needs to be right the way over the bed bars. Use this method to cut down the inside wall until you reach the inside 'corner'. In **photo 19**, I have marked this corner with green ink; it is only about 6 or 7mm wide. When you reach this area you need to swing the handle of the tool from where it is in **photo 18** to where it is in **photo 15** – through an arc of about 100° while the cutting edge only moves about 6 or 7mm. You are almost pivoting the tool on the cutting edge. If you do this correctly, you will most likely keep the bevel in contact with the wood and the cut will be controlled. However, there will be times when you will not be able to swing the handle far enough. **Photo 20** shows the shaft of the tool hitting the inside of the rim of the bowl. I cannot swing the handle any more without coming off the bevel.

To solve this problem, the bevel needs to be changed. **Photo 21** shows two of my bowl gouges: the tool on the left is the one I have been using for this project and has a bevel angle of about 45°; the tool on the right has a much steeper bevel angle – about 55° – and enables me to go round the inside corner, keeping the bevel rubbing and without the shaft hitting the inside rim (**photo 22**). This is because I don't have to swing the handle as far.

You can, of course, achieve the same inside shape using a round-nosed scraper, but it is likely that you will get tear-out, especially on the end-grain. By contrast, the

You should be able to achieve a good surface finish

Apply size evenly with a soft brush

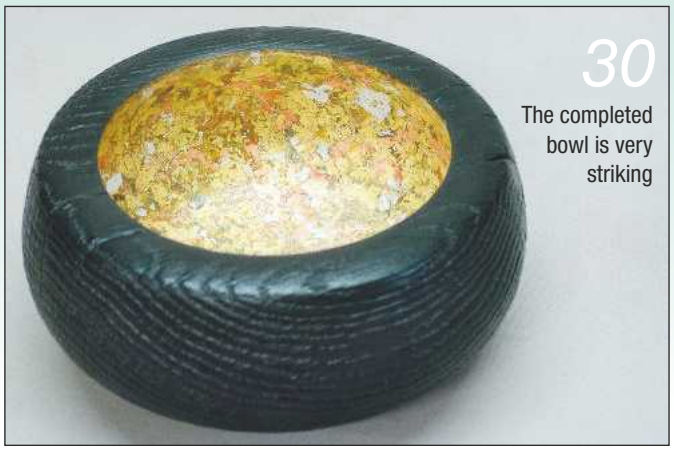
Gold leaf and metals can be bought from a good art shop

Gently brush the loose flakes onto the size, ensuring total coverage

Use a cotton wool ball to rub over the metal leaf; this will remove any flakes that haven't stuck

To ensure the metal leaf doesn't tarnish, spray it with a coat of satin lacquer

Reverse chuck the bowl to remove the chucking spigot



The completed bowl is very striking

cutting action of the bowl gouge should give you a good, clean cut (**photo 23**).

Metal leaf

You could simply sand and finish the bowl at this stage, but I decided to apply a metal leaf finish to the inside. I thought that this bright, smooth finish would contrast well with the black texture of the outside.

Sand the inside of the bowl to 400 grit and seal it with sanding sealer. Remove the bowl from the lathe and apply gold leaf 'size' to the entire inside (**photo 24**). 'Size' is the name given to the glue that sticks metal leaf. Apply the size in an even coat and wait until it has gone tacky. Mine was quick drying so I only had to wait about an hour but some sizes have an open time of considerably longer. **Photo 25** shows the metal leaf I chose to apply. Basically it consists of small flakes of different metals and is much easier to apply than conventional gold leaf. When the size is tacky, shake an amount of the metal flakes into the bowl and gently brush it around to coat the entire inside using a very soft brush (**photo 26**). Now leave it to dry completely – overnight preferably. Once the size is completely dry, use the soft brush or cotton wool ball to rub over the metal leaf removing bits that didn't stick to the size and to gently burnish the metal flakes (**photo 27**). Unlike 24 carat gold leaf, this metal leaf will tarnish over time, so seal it with a coat of satin lacquer (**photo 28**). Finally, reverse chuck the bowl onto a mushroom-shaped dolly to remove the chucking spigot (**photo 29**). I have to say that I am quite pleased with the result. WW

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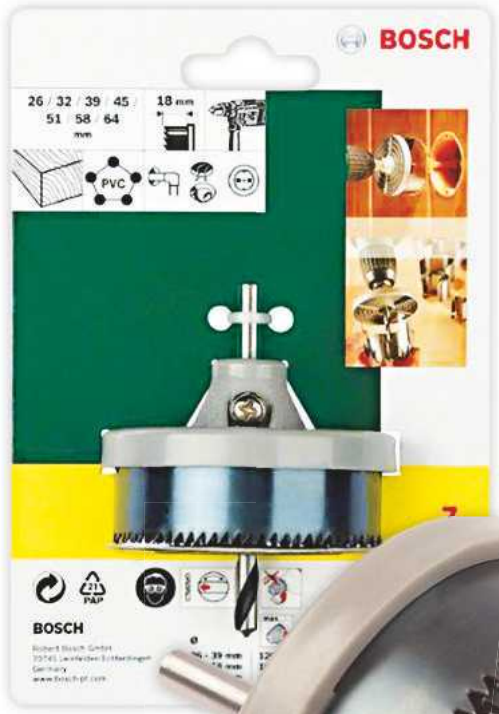

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Make a stand

Douglas Barratt's clever little creation allows you to squint over cooking instructions hands-free

My wife asked me to make a recipe book stand for her sister, whose birthday was fast approaching. As usual this was a last minute request, so it called for a design that would be quick and easy to make. Having just bought a Domino with an auxiliary fence for holding small pieces of timber and the new 4mm cutter with matching 4 × 20mm Dominos, I thought this would be the ideal opportunity to test out the system.

My sister-in-law had asked for the stand to be made from oak to match her kitchen. Preferably, it would also be compact so that it could be easily stored when not in use. My wife had done a little research on the internet and had an idea in mind, but after a couple of quick sketches we started to question the proportions of the different components. As I like the idea of a single pivoting back support, the stand needed a sturdy middle rail, but making the side rails the same size made the design look very heavy.

We decided to cut up paper strips of differing widths and played around with them until we came up with a design that looked pleasing to my wife's eye and which would enable me to finish the stand in time for the birthday party.

The resulting paper design had its components taped together and as it was

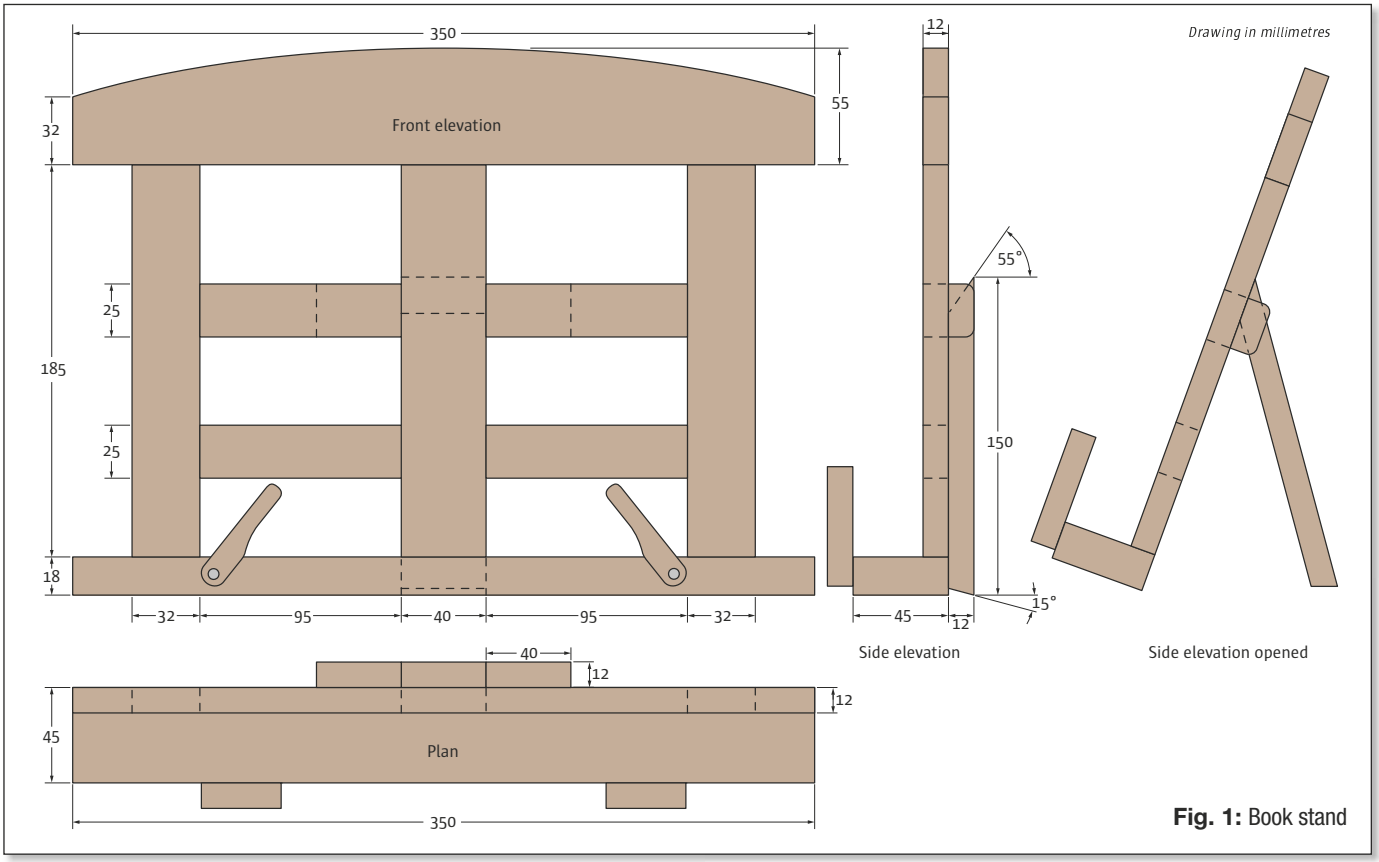


Fig. 1: Book stand

the actual size it was used as a template for the build (**photo 1**). I wrote the sizes on the oak blank for easy reference. The arched top was cut very carefully as this would be used to mark out the timber so as to save time later.

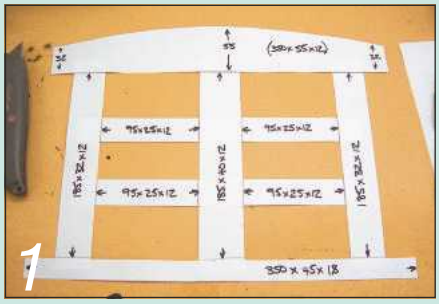
Cutting and jointing

With the design and size of the pieces established, it wasn't long before I had chosen an offcut of American white oak (**photo 2**) and had the components bandsawed out and planed to size. It was then a matter of cutting the pieces to length using a chop saw (**photo 3**), with a sacrificial fence to reduce tear-out and a stop block to ensure all same-length components were identical.

Next, it was time to break out the Domino. The centres of the middle rails were marked on the verticals, with all three of those pieces held together and pushed against a straightedge (**photo 4**); this ensured that when the slots were cut, the mid-rails would line up perfectly. The small components that needed slots in their end-grain were held in place with the auxiliary fence (**photo 5**), which helped ensure the slots were central.

With the slots cut in the central components, the mid-rails were dry-fitted to the verticals, and the position for the Dominos on the top and bottom pieces marked and cut (**photos 6** & **7**).

Using the paper template, I marked the shape of the top rail onto the timber (**photo 8**). I then cut the waste off using the



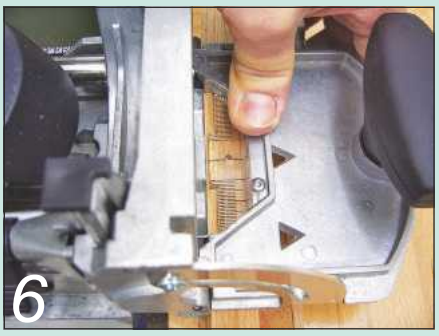
The initial paper design was actual size so it made sense to use it as a template for the build

An offcut of American white oak was selected and the components bandsawed out

I cut the pieces to length using a chop saw, a sacrificial fence reducing tear-out

The centres of the middle rails were marked on the verticals, to get the positions for the Dominos

The small components that needed slots in their end-grain were securely held in place with the auxiliary fence



With the slots cut in the central components, the mid-rails were dry-fitted to the verticals…

… and the positions for the Dominos on the top and bottom pieces marked and cut

Using the paper template, I marked the shape of the top rail onto the timber

I cut the waste for the arch with the bandsaw and formed the arch shape with a compass plane

The bottom rail had a pencil radius cut on it, so the rounded corner would sit on the work surface

I dry-assembled the main frame at this point, and was pleased it all went together well

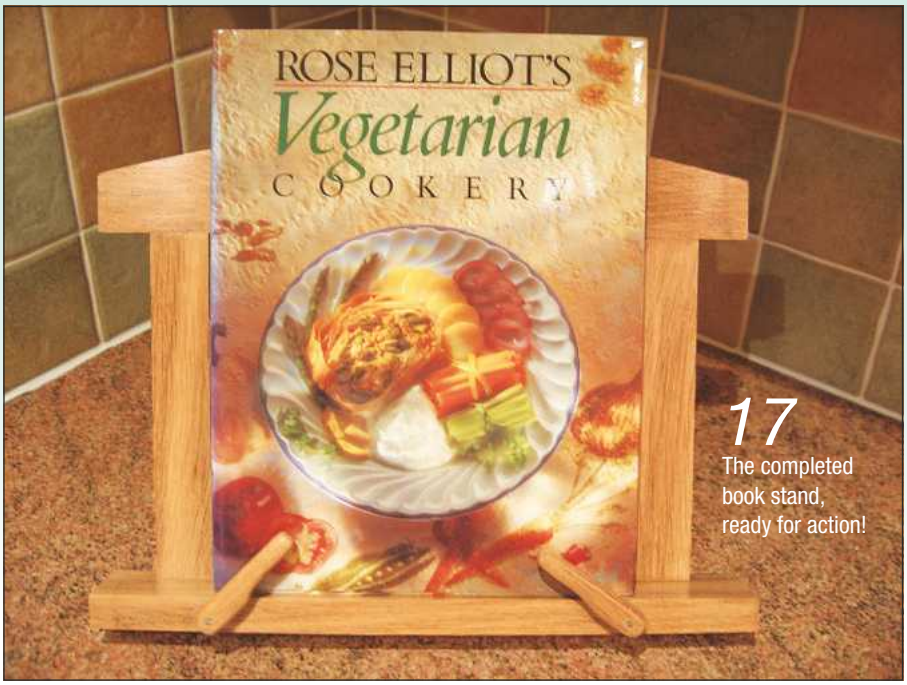
I drilled a hole through the support fractionally larger than the rod…

… made two hinge blocks, lined them up and marked the position of the drill holes for the rod

I then glued and clamped the assembly onto the upper back mid-rails

The two fingers that hold the pages in place were made from further pieces of the mid-rail

Finally, the stand was given a coat of Chestnut acrylic sealer and three coats of acrylic lacquer



bandsaw and formed the arch shape with a compass plane (**photo 9**).

The bottom rail had a pencil radius cut on it at the router table (**photo 10**), so when in use the rounded corner would sit on the work surface. A couple of offcuts from the mid-rails were also run through the router table while it was set up; these were to be used later.

Get it together

At this point I was ready to dry-assemble the main frame (**photo 11**). Happy that it all went together well, it was disassembled, cleaned up and glued together.

After this, I focused attention on the back leg support. The idea was to use a piece of wood the same width as the centre vertical, 150mm long with a 15° angle cut on its base and a 55° angle at its top. A stainless steel rod would pass through it into two small hinge blocks, which would be glued to the upper horizontal mid-rails. I drilled a hole through the support fractionally larger than the rod (**photo 12**), filed the ends of the rod to a point, and then pushed it through the support. I made two hinge blocks from the mid-rail that had been rounded over earlier, lined them up and marked the position of the drill holes for the rod with the filed points (**photo 13**). These blocks were then drilled so that the rod was a tight push-fit into them. The hole in the support was enlarged so that it was free to move on the rod, the blocks pushed onto the rod either side of the support, and then I glued and clamped the assembly onto the upper back mid-rails (**photo 14**).

Last touches

The two fingers that hold the pages in place were made from two further pieces of the mid-rail (rounded over). Cut to rough size, I stuck them together with double-sided tape and shaped them together at the pillar drill with a drum sander (**photo 15**). Each are held in place with a small ring shank stainless steel pin, the finger being drilled so that it will move snugly over the pin, while the shanks prevent the pin pulling out and the finger becoming loose.

Finally, the stand was given a coat of Chestnut acrylic sanding sealer and three coats of acrylic lacquer, the last coat being thinned a little. The stand was de-nibbed lightly with 320 grit abrasive between each coat to give a fine finish.

The recipe book stand was gratefully received, with a promise of a meal in return. The stand will take centre-stage in future cooking preparations! WW

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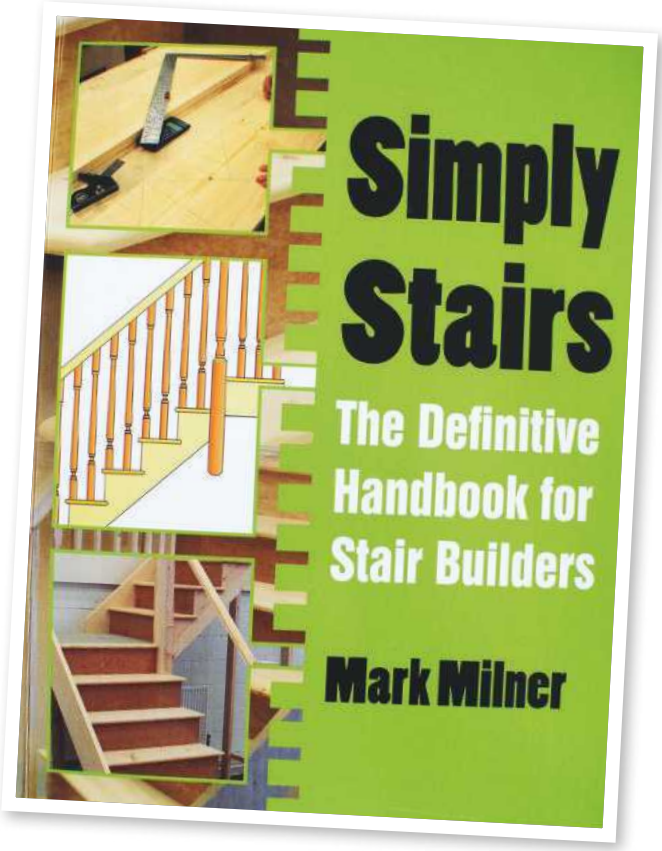
The bible on all things stairs

This definitive handbook for stair builders is a must read for any aspiring joiner or keen woodworker and guides the reader through all aspects of stair design and construction in an authoritative manner



Over the years, I've read a wide variety of woodworking books. These vary from the drily instructional home handyman types of long ago, through carpentry and joinery textbooks to the cheaply published hobbyist variety. There are certainly good things to be found in all of the above, but none has come close to expanding on one of the cornerstones of all joinery, not until that is, I read *Simply Stairs* by Mark Milner.

Tips and techniques

While your average joiner will happily make doors and windows until the cows come home, not every one will take on a staircase. Admittedly, not every joinery shop has the space for this job as you need a fair bit of room to assemble it (although I am reminded of a very successful joiner down my way whose first workshop had only very limited access; all jobs had to pass out through a pavement trapdoor, including one or two 'flat-packed' staircases).

Unlike many others, *Simply Stairs* explains, demystifies and generally shows in the clearest way possible, exactly how to go about planning, designing and making a variety of staircases, and provides a few tips on fitting one, too. Personally I'd be leaving that particular job for someone else, as it's never an easy gig (it is always amusing to hear both sides, though – carpenter vs. joiner – when things have gone less than smoothly on an installation). It's also packed with all manner of tips and useful techniques that will benefit every woodworker, and any number of helpful photos to illustrate them further.

Clear explanations

Simply Stairs is written by a man who really knows his work, and who has a nice clear way of explaining it, too. From the initial site survey and the importance of accurate measurements, finished floor heights and rods, Mark walks the reader through the design stage. This is a crucial part of the job and encompasses building regs, basic ergonomics, safety and convenience, not to mention the often overlooked aesthetics of the work in hand. From teaching my own students the basics of calculating pitch, going and rise, I know just how hard it can be to explain, but Milner not only manages to keep it simple but has even designed a nifty calculator chart to make it even easier. Once the important double-checks have been made, it's on to sourcing materials, making a pitch board and setting out the strings.

A different class

If you think about it, it's very possible to make a professional set of stairs with limited kit and little or no machinery; with a deal of care, a ½in router and a hand-held circ, you can pretty much do the lot. Certainly, the avoidance of a large outlay on machines was a factor in deciding the author to specialise in stairs, and I have to say it looks like it was a very good decision. What lifts this book into a different class, though is the inclusion of all the practical details, the manufacturing nuances and all those little extras that a text book won't mention and which would otherwise take you ages to work out for yourself.

Highly recommended

For any aspiring joiner or keen woodworker, I can't recommend this book highly enough, and I'd like to see a copy of it on the library shelf of every technical college in the land. WW

FURTHER INFORMATION
Published by Whittles Publishing
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- www.whittlespublishing.com

In brief...

ABRANET PERFECTION

A new marketing campaign designed to raise awareness of airborne dust emission associated with sanding has recently been introduced by Mirka. 'Abranet Perfection' is being communicated across print, social media and digital platforms through a series of compelling imagery to highlight the importance of air quality control to minimise occupational exposure to airborne dust in a variety of sanding operations.

The marketing campaign is being supported with a beautifully designed coffee table style book that features pre and post Abranet imagery and data to reinforce the abrasive's ability to deliver clean, virtually dust-free working environments.

The aim was to determine airborne dust emission in sanding with a ventilated manual sanding machine, comparing Abranet products with perforated paper. The results showed that sanding with the abrasive net reduced the airborne dust emission per the removed mass at between 99.96 and 99.99% depending on the material, compared to between 97.05 and 99.76% for perforated paper.

When sanding gypsum plaster, the removed mass per unit time was 2.6 and 1.4 times higher with the net abrasive than in sanding without extraction and when sanding with paper incorporating six holes respectively. While the surface of the paper sanding material became clogged, the Abranet abrasive with extraction improved the effectiveness of the sanding by preventing clogging and increased the removed mass per unit time.

Craig Daycock, managing director of Mirka UK, says: "The laboratory tests conducted in Finland revealed that by using Abranet in conjunction with modern sanding systems, occupational exposure to airborne dust in sanding operations can be decreased to acceptable levels, especially when combined with well-designed sanding machines equipped with local extraction and air supply."
To find out more, visit **www.mirka.com/abranet**.

ASPIRATIONAL WOODWORKERS AND INSPIRATIONAL COURSES

Firmly focused on enabling the complete beginner, the enthusiastic amateur and the aspiring professional to develop the exacting standards of the cabinetmaker, John Lloyd's exciting range of 2016 short courses, as always, have solid hand-skills at their heart and are carefully designed to embrace the vast range of cunning new kit, techniques and materials that are now available to make a woodworker's life easier and more productive.

John offers the perfect balance of traditional and modern woodworking techniques: the 'Skills Week' is a great introduction for the complete beginner, or an opportunity to brush up on vital basics, and not so basic techniques, covering everything from sharpening to simple dovetails and even the chance to get sticky with some vital gluing strategies.

The woodworker's ability is so often judged by the accuracy of their dovetails. The 'Dovetailing' course simplifies the process while looking at some of the more impressive versions of this timeless joint. 'Making a Child's Chair' is a brand-new course for 2016 and is a great introduction to the wonderful world of combining angled joints and curved components on a small scale. Courses in 'Veneering and Inlays' and 'French Polishing and Modern Hand Finishing' demystify these fundamental processes. John's ever popular two-day wood machining course, with health and safety at its core, is designed to allay any fears and introduce students to the benefits of mastering the big machines.

John draws on more than 20 years of teaching experience to present these intensive courses in a relaxed and approachable style. All the courses are held at John's own workshops in the Sussex countryside and are taught by him. Teaching hours are 8.30am-6pm, allowing each student to achieve the very most from their time in the workshops. For full details of all courses and to follow John's blog, visit **www.johnlloydfinefurniture.co.uk**.

SANDON SPRING FAIR

Get into the spirit of spring at Sandon Spring Fair. This new event at Staffordshire's Sandon Hall will celebrate springtime by bringing together the finest food, drink and crafts. Set to take place on Saturday 23 and Sunday 24 April 2016 the fair will feature craft and cookery demonstrations, great stalls selling handcrafted items, delicious food and drink from artisan producers, live music, historic house tours, fun family activities and the chance to explore the hall's 50 acres of formal garden in all its glory.

As well as shopping for ingredients from Staffordshire and further afield, foodies will have plenty of choice of refreshment over the weekend itself, with global 'street food' stands, sit-down afternoon teas served in the genteel surroundings of the hall, a beer tent and bars selling everything from wine and fizz to G&Ts and cocktails.

Admission is £6 per person (accompanied under 16s free) but to benefit from advance 'early bird' discount for online ticket sales, visit **www.sandonspringfair.co.uk**.

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In brief...

PORTABLE POWER TO GO

WOLF Power has introduced the 'Genie', a new range of technically advanced, easy to operate, portable inverter generators for home or business use.

Inverter generators are made possible by advanced electronic circuitry and high-tech magnets that convert the generated AC (Alternating Current) to DC (Direct Current), which is then 'inverted' back to a clean, smooth AC power supply with a pure sine wave at the required voltage and frequency.

There are four new models available and all feature the latest pure sine wave technology to maintain a constant and smooth voltage supply of between + or – 1%; this makes the Wolf Power Genies ideal for use with sensitive electrical equipment, such as computers, TVs, DVDs and PA systems. All models are attractively housed in a durable fully enclosed acoustically insulated casing. Models up to WPG2000 have an ergonomically designed carry handle; model WPG3500 has wheels fitted for ease of movement. They are powered by a highly efficient (neighbourhood friendly) low noise, low emission Wolf four-stroke petrol engine, so you can provide clean, reliable electricity in your own garden or in remote locations. Priced from £179.99, see **www.ukhs.tv** for more information.

NEW TRADE SERIES BANDSAWS

New from Axminster are these bench-top bandsaws with many unique features. The one-piece frame is made from heavy gauge welded steel and is extremely rigid to withstand high blade tensions. A cast-iron deep section table is fitted, featuring a ground table surface and a rack and pinion tilt mechanism with indexing stops for common angles.

The heavy gauge alloy rip fence is mounted on a cast alloy bracket, which also incorporates a fine width adjustment. The fence is clamped with a cam action lever, which is easily released to allow swift adjustment.

Blade guides are all ball-bearing with micro adjustment for accurate control. The top guide is mounted on a steel hexagon bar for stiffness and adjusted for height by a small rack and pinion system. Cast-iron band wheels, nicely machined and balanced, are driven by a multi V-belt with a choice of two speeds (basic) or ratios (upgraded).

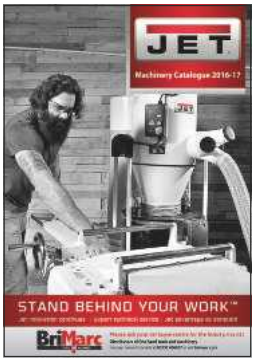
There is a basic model (BS11) and an upgraded model (BS11-INV) – both feature a 750W induction motor; the motor on the upgraded model has an inverter drive to control the motor speed. The basic model is ideal for cutting all types of wood; the upgraded model is suitable for many projects using all kinds of materials, including metals.

Prices start at £949.96 inc VAT for the basic BS11 model. For more information and the latest pricing, please visit **www.axminster.co.uk**. Prices are correct at the time of publication but may be subject to change without notice.

THE KING OF FINISHES

Despite the fact we've all heard of the terms French polish and shellac, it's amazing to think that very few of us actually know what it is and how to do it. It has a reputation for being difficult to master, time consuming and not nearly as robust as some other finishes. Here's the bottom line: none of the above is true. To see what all the fuss is about and add this skill to your finishing repertoire, join Derek Jones at Robinson House Studio this April and October to get acquainted with the King of Finishes. The dates are: 23–24 April and 22–23 October 2016. To find out more, email Derek here: **derek@lowfatroubo.co.uk**.

A CATALOGUE OF JET TREATS



BriMarc Tools & Machinery has just published its new 2016 Jet Machinery Catalogue. This 36-page issue is packed with quality products including bandsaws, planer/thicknessers, pillar drills and many more. Among the new products you will find the Jet JSS-16A scrollsaw, which can easily cope with cutting a wide variety of materials up to 50mm deep, as well as the Jet JWL-1440VS lathe, with mechanical variable-speed. Also, look out for the Jet JDP-17 pillar drill and the new cyclone extractors. You will find all of these innovative products and many more in the 2016 catalogue. For your **FREE** copy, call 03332 406 967 or order online. Copies are also available from any Jet Supercentre – full details are listed at **www.brimarc.com**.

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Tooth and nail

Armed to the teeth with restoration knowledge, Stephen Simmons defends the place of metal fixings in furniture

I like to recycle old nails and screws that I find around, but you can usually find modern equivalents if you look for them

Attractive, hand-cut joints are more or less a prerequisite of quality furniture. This is largely to do with aesthetics, but at the same time, there's an appreciation for the ingenuity of joints like the secret mitred dovetail. Precise joints can secure a piece of furniture with only the additional use of glue, and even the early, relatively crude, mortise & tenons needed just twin wooden pegs to strengthen them.

The emphasis on traditional joint-making in fine furniture means that many people consider the use of metal fixings to be a modern and almost sacrilegious phenomenon. But such a romantic notion ignores the fact that they've been used quite legitimately in fine furniture for centuries, and in surprisingly large quantities, while ordinary mass-produced furniture since the middle of the 19th century has widely used metal fixings.

So next time you're using the Concept KTX screws, just remember that they're merely the latest in a long and honourable tradition!

History nailed

Handmade iron nails have been used since the earliest plank chests, where they were needed for the hinges and locks. The wood and metal in such pieces will have aged together to frequently create something greater than the sum of the parts. In later pieces, the pine backs of fine cabinets were often crudely fixed with iron nails, which regularly split the carcass timber, while smaller nails were used to secure drawer bottoms before the development of the modern runner. As a result, deep grooves worn into cabinets by nail heads are common in surviving pieces, and oxidisation grinning through the finish of the highest quality furniture of the period is witness to the nails and pins holding the mouldings.

Screws have a shorter history than nails, but have come to be seen as more load-bearing. They first appeared in brass with hand-cut threads in the second half of the 17th century. As they were very expensive, their use was limited to the top end of the market, and they were still used in conjunction with nails for securing hinges of long-case clock doors well into the 18th century. Then came a bit of technological progress: brass and iron screws could be cut on a lathe rather than by filing. Although they became more plentiful, the cost didn't fall dramatically until the appearance of standardised machine-made screws in the mid-19th century.

If the use of screws in the so-called Golden Age of English Furniture, however, was commonplace, it was also discrete.

Decaying metal fixings can ruin an antique piece, but removing them isn't necessarily the answer

The only difference now, then, is their visibility and acceptability as a design feature in their own right, just like those original medieval iron nails.

Handling metal fixings

For the restorer, all of this means that nails, pins and screws are as much an integral part of furniture as the wood and the original finish. It also means that they should be accorded as much thought before you start your project. In practice, this presents three specific challenges.

Firstly, do the fixings or the wood hold priority if something has to be sacrificed? If the screws securing the corner blocks of a 19th century chair are locked solid and likely to sheer, what do you do if you need to dismantle the chair to affect some other repair? Do you drill the screws out and save the braces or chop the braces away and (possibly) save the screws? All restoration implies some form of risk and my instinct is to minimise potential damage and loss, so in this case, I would sacrifice the screws, provided the braces were sound. But were the braces riddled with woodworm and crumbling away, I would sacrifice them and keep the screws for re-use.

The second challenge is what you use to replace the screws and nails if they're sacrificed or missing. You may think it rather sad to collect and recycle old nails and screws; I've managed to build up quite a collection, but if you like to get out more, my advice is to use the nearest modern equivalent. When it comes to size, err on the side of the screw being smaller, as an over-large head can stand too proud. New heads can be disguised with a dab of an appropriate earth pigment suspended in shellac if necessary. I always pre-drill for even the smallest pin to avoid splitting.

As a basic principle, I always aim to use the original method of fixing. For example, in the 18th century, the protective cock-beading around drawers was secured either by animal glue, pins, the two together or, very occasionally, by wooden pegs. But if, say, no pins were used in the original, I wouldn't use any for the restoration, even though it's easier and quicker than making tiny oak pegs, which are fiddly and relatively time-consuming. There are, however, two provisos for keeping the status quo: the original fixing should be in the right place and it should do the job intended, or else you're justified in making alterations. On occasion, I have re-aligned or moved a fixing and even substituted a screw for a nail, and vice versa, when the original was clearly ineffective. Never automatically assume that the original was right – woodworkers have always made mistakes.

Thirdly, wood shrinks, and you may need to re-position screw holes. This is particularly important when re-assembling round or oval Victorian tables – the centre joint often springs because the top is secured rigidly with up to a dozen screws through the sub-frame. Unless the screw holes in the underside of the top are re-positioned, the same stresses will be set up and the joint will spring again.

Road to ruin

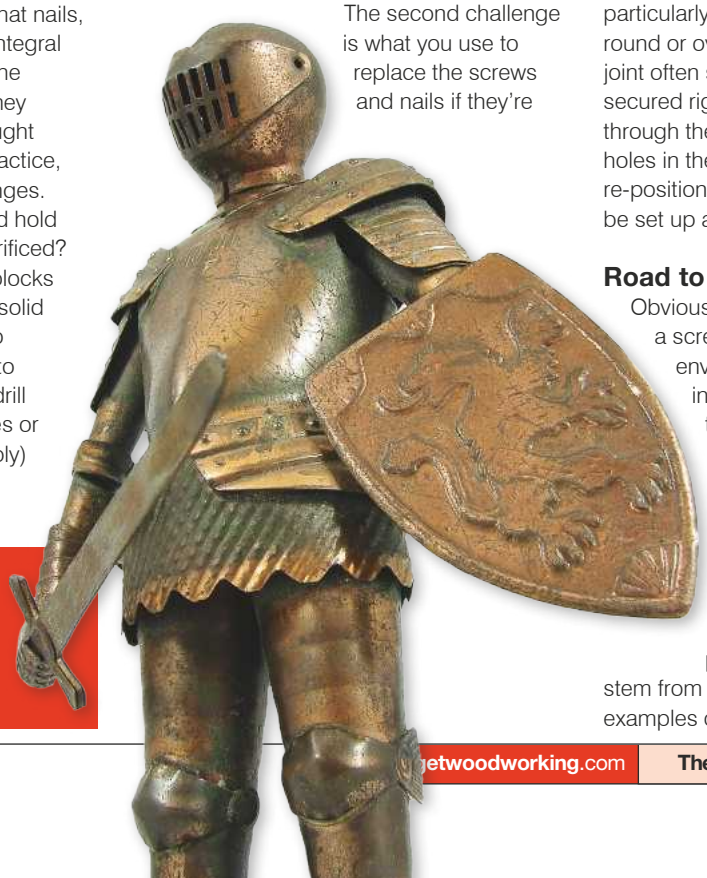
Obviously, just whacking a nail or forcing a screw in where none was originally envisaged or needed has no place in restoration. A screw down through the seat of a Windsor chair is no way to repair a loose leg and drawer sides secured with large-headed nails will soon come adrift again. These are not clever short cuts, and they often cause more harm than good without solving the problem. Ultimately, short cuts stem from sheer laziness, and are examples of 'bodged' jobs. WW

TIP

If, as is often the case, an old screw hole has become enlarged, drill it out and plug it before re-fixing. There's no point in building a weakness into your project

DID YOU KNOW...?

The word mortise comes from the Arabic murtazz, meaning 'fitted in'



The first dust extractor in a Systainer format, the CTL SYS features a clever design coupled with excellent performance

Festool 584202 240V Cleantec CTL SYS mobile dust extractor

£239.95
(from D&M Tools)

When setting up a workshop, sorting out the dust extraction is right up there on the list of things to get done, but it's equally important to consider exactly the same thing when you're working on site. If you're in someone else's home you don't want to be filling it with dust, and it's no good just hoping that there'll be a handy vacuum cleaner knocking about somewhere either. No, you really need to have your own extractor to hand, and anyone with aspirations towards professionalism will make sure they're suitably equipped before crossing the threshold.

Triumph of design

As we all know, there are plenty of full-sized workshop machines available and, while there's nothing to stop you lugging one of those big ones into and out of the van every day, a neat and compact portable vacuum will both fit the working bill and not be too taxing on one's physical frame as you toil up a flight or two of stairs. German power tool specialists Festool have recently brought out an addition to the Cleantec system – the ultra convenient CTL SYS. It's (another) triumph of design, and I'm not just saying that. They've managed to squeeze a top class extractor into one of their standard Systainer cases – the default robust carrying case for all their kit (and increasingly that of other sensible manufacturers, too).

There are some pros I know who won't buy any other brand of power tool, and every workshop I've visited always has at least one or two of the distinctive light grey and green Festool boxes on a shelf or under the workbench. Increasingly this is the case in the majority of builders' vans too, as overall standards improve and more tradies get wise to the benefits of reliable and accurate kit.

A clear winner

So, what makes the CTL SYS such a good thing? For a start its performance is first rate for a small and portable vacuum. I tested it in a vac-off with my own site extractor, and it came out a clear winner for suction power every time. Secondly, the convenience of its size and shape makes it a doddle for packing up and loading into the van. Its usability is further enhanced by an additional shoulder strap, which can clip on – in the most satisfyingly secure way imaginable – in two different configurations (top and side). Also, being essentially a working Systainer case, it will stack up with all other Festool power tool cases as well as those of Makita, Mirka and Mafell, to name but a few.

Anyone who likes a 3D puzzle or who just enjoys the challenge of packing a lot of gear into a small space will fully appreciate the job

The top tray fits into the lower one to enable the hose and inlet port to connect

An integral power outlet enables easy extraction for connected power tools

Inside the vacuum box; note tool housings and filter and bag unit...

the Festool designers have done in shoehorning so much kit into a modestly-sized container. It's a tidy job and no mistake, and it's touches like having a clearly defined place for vacuum tools (crevice tool and upholstery nozzle) that really make a difference. How many of us regularly lose these useful devices for want of a dedicated storage space?

Keeping clean

The L-Rated vacuum comes with a replaceable bag and a large filter. This is readily accessible via a clever bit of engineering: by operating a locking lever and handle, the filter and bag can be removed for routine servicing and cleaning, an act which suddenly becomes something approaching a pleasure. There are also safety sensors on-board, which will prevent the machine overheating if you try to push it beyond its already generous capabilities. It's not just for cleaning up, though; with an integrated power socket it's perfect for hooking up to a sander or other power tool when you need to keep the dust and debris down to a minimum on site. I think we all know the value of keeping a job clean, and this little vac should ensure you stay popular with customers and family alike.

In summary

Overall, the CTL SYS is a compact, well designed and efficient piece of kit – it's the site extractor you've been waiting for. ***MC***

SPECIFICATION

POWER	1,000W
SUCTION HOSE	27mm dia. × 3.0m
WEIGHT, IN BOX	6.9kg
MAX NOISE	67dB

VERDICT

It's hard to fault the CTL SYS – it's compact, well designed, efficient in use and also has the bonus of being extremely quiet

PROS
- Integrates well with other kit
- Everything you need is on-board and close to hand

CONS
- Not suitable for large amounts of coarse debris or wet spills

VALUE FOR MONEY

PERFORMANCE

FURTHER INFORMATION

- Festool
- 01284 760 791
- www.festool.co.uk

The Festool CTL SYS easily out-sucked my brand X vacuum

... which lifts out for cleaning and replacement

The suction hose can connect through the top or at the outlet port for any blowing requirements

The whole kit can be carried around with ease; great if you're working on the stairs, for example

If you're looking for a long-lasting, flexible sanding belt for use in your workshop then have a look at this offering from Mirka, which will transform your sanding

Mirka Abranet sanding belts

As we all know, the belt sander is one of the staples of a joinery shop, but it's only ever as good as the current belt that's fitted. Sure, a rubber belt-cleaning stick will prolong the life of your average abrasive, but what you really want is something that is naturally long-lasting.

Flexible belt

In recent years, Scandinavian sanding specialists Mirka have developed their own very effective abrasive system known as Abranet. Employing a woven wire mesh instead of paper or cloth, their discs and pads have revolutionised the simple act of sanding. Instead of the familiar paper disc with pierced holes (to enable extraction to remove dust at source), the open grid of the metal weave increases airflow dramatically and makes for a super efficient – and virtually dust-free – sanding process.

A fixed disc or pad is one thing; however, a flexible belt quite another. I gave a couple of the new belts a bit of a try-out at *The Woodworker* workshop the other day on an oak top I'd glued up earlier. I'd roughed it down with a semi-worn fabric belt (60 grit) but, although close to flat, smooth it wasn't. The first thing I noticed as I fitted the Mirka was that there was no direction arrow on the inside. This perplexed me at first until I looked a little closer and noticed that, unlike every other type of belt, there was no overlay on the seam. This meant that the belt could fit any old way I wanted, and still be as effective as ever.

A cut above

By hooking up the vacuum extractor system, the amount of dust released into the workshop atmosphere would have been minimal throughout, but with no means of measuring such phenomena, I couldn't be more scientific about it. I did find, though, that the Abranet belts performed in a steady manner, and because they weren't prone to clogging up, a more uniform result was achieved. It goes without saying that the 80 grit belt I employed was a cut above what I've been used to up until now, and this is one brand that I will be reaching for when the sander comes out again.

In summary

Once you've tried the Mirka sanding system you won't want to go back to the dusty and inefficient ways of before. ***MC***

£25.80
for a pack of 10

SPECIFICATION

AVAILABLE IN P80 TO P240 GRIT IN THE FOLLOWING SIZES:
610 × 100mm
533 × 75mm

VERDICT

This sanding belt is flexible in use, produces minimal dust and performs in a steady manner – definitely worth a try and very efficient

PROS
- Longer lasting
- More uniform finish
- Less dust

CONS
- Have found none as yet

VALUE FOR MONEY
PERFORMANCE

FURTHER INFORMATION

- Rest Express
- 01285 831 668
- www.restexpress.co.uk


The perforations are clearly visible


The belt can be fitted in either direction...


... thanks to the seemingly seamless seam

This woodburning unit features a slim and comfortable pen, is temperature adjustable and the range of available tips makes it very versatile in use

Antex FireWriter pyrography kit

We've all been advised against playing with fire, but – and I'm sure I'm not alone here – there's something very satisfying about any activity that involves heat, flames and smoke. From the earliest days of pokerwork, it could well be that the added thrill of a miniature conflagration combined with artistic endeavour has ensured that pyrography (as it is now known) has ensured its continued – and increasing – popularity among woodworkers.

The main unit

The latest pyrography device from Antex provides an opportunity for the amateur or professional to exact the most from this absorbing craft. For anyone who appreciates decorative woodwork, pyrography offers another degree of variety in a happily populated world of making. While it's possible (but hard work) to achieve acceptable results with the crudest of heated tools, the FireWriter really provides plenty of scope for creativity and flair.

The main unit or station will sit on your worktop and contains a transformer and advanced electronics, which ensure that the working tip of the stylus is kept at a constant temperature. The heat output is adjustable from 1 to 10, and it's just a matter of trial and error before you find the right setting for the job in hand. The unit comes with one 'nib' or tip fitted, plus a selection of different gauge wires from which it is easy to fashion your own to suit. These are simple enough to fit and again, a bit of experimentation will soon show which is the best to use.

Design features

In *The Woodworker* studios we liked the overall design of the FireWriter, particularly the choice of side-mounted holster clips (great for the left-hander) and the long power lead and stylus cable. This has to be plugged into the main unit and helps further enhance the safety aspect of the tool. The overall construction is of a high standard, and we never felt like it was going to break or burn out at any point. There are a number of additional attachments available for the stylus, and that's something that would undoubtedly increase the unit's versatility.

In summary

All in all, the FireWriter is a professional quality tool which will enhance any workshop or studio. ***MC***

The changeable tip plus the selection of different gauge wires

The on/off switch is tucked away at the back

The FireWriter lends itself to detailed patterns...

The stylus tip glows hot on the highest setting

... or abstract work

SPECIFICATION

VOLTAGE	230V
AC POWER	40W
TEMP RANGE	0-650°
O/P VOLTAGE	2.5V 10A max

VERDICT

If you're a serious pyrography fan, then the FireWriter could be the machine for you. It is versatile, comfortable to use and a splitter (available separately) enables switching between two pens

PROS
- Robust build quality
- Adjustable controls

CONS
- A touch on the pricey side

VALUE FOR MONEY

PERFORMANCE

FURTHER INFORMATION

- AntexCraft
- 01822 613 565
- www.antexcraft.co.uk

Designed specifically for router table use, the RTJ400 is capable of accurate routing of through and half-blind dovetails as well as box joints

Leigh RTJ400 router table dovetail jig

£284.95

At 6ft 6 and built like a rugby player, Leigh Industries president Matt Grisley somehow personifies his innovative jointing machines. I had been invited to meet him at Axminster's Devon HQ; in fact I had met him more than 10 years before and I was gratified that he remembered me. This time around it was to show me a new router table dovetail jig. It was the struggle to cut dovetails in a timely and consistent manner along with the difference from the standard half-blind dovetail jigs around that led Ken to thinking about a system to speed up the process while allowing a more elegant and adjustable style to the joints. From this, Leigh Industries was born.

Despite its world renown, it's still a pretty close-knit company with only 15 people employed, including Matt's brother, Steve who is the production & purchasing manager, and it seems to work well as the product is still hitting the same high standards and each is as unique as it is ingenious.

If you've seen a Leigh jig, you'll know it's all about diversity as well as simplicity, with basic through and half-blind dovetails a core process, with the more intriguing Isoloc joints, such as the ubiquitous Bear's Ears, allowing you to make your own mark on your projects.

So now it's time to see what new tricks are up the Leigh sleeves...

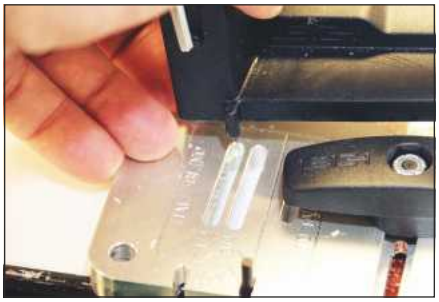
... So what's new?

Leigh has long been at the forefront of high-end jigs for dovetailing, and aside from these unlimited options, their innovative possibilities have been put to much decorative work using some of the more elaborate Isoloc jig templates.

My first impression was that I'd seen it before as it is used on the router table in an inverted fashion, much the same as the Gifkins, Keller and other variants of the fixed template that uses a matched set of dovetail and straight cutters to form the joint. But although a somewhat souped-up version compared to others, a closer look soon dispelled the similarities as there's a lot more than meets the eye. At its base level it does indeed make the standard through dovetails of the other systems, but unlike other

These slide-in guides make it easy to cut any joint of your choosing

The top frame locks to the comb with the aid of these latches



Indexing shoes and slots along with etched lettering...

... make it easy to set positions

Work locates against a side stop

This small red peg sets the correct offset for comb joints

fixed comb jigs out there, the Leigh allows you to move away from the equally spaced tails and pins that confine them, so you have the capability to introduce variety and different, almost hand-cut, features to your projects.

If you know the Leigh system, this one follows similar traits: easily adjusted cam clamps for securing the work, high-quality aluminium extrusions, and importantly on any jig, this one is very easy to get to grips with and, once mastered, pretty easy to go back to and pick up where you left off – well worth considering for that alone.

A neat channel in the top of the jig houses all the relevant information for each type of joint on slide-in strips, showing cutters, positions to cut the joint and so forth, acting as an idiot's guide to walk you through each step.

Two-part system

So aside from the on-board guide, the jig's simplicity is built around the use of indexing pins and corresponding holes, which allows you to attain repeat settings for joints with precision fit each and every time.

The jig is a two-part system; the lower jig comb is connected to an upper frame with quick-release locking connectors.

By making one part of the joint with the jig in one set of indexing positions and then, according to the joint being cut, simply unlocking the top frame from the lower comb and either shunting it over to the next position or spinning the comb around and repositioning the top frame to the comb in the corresponding indexing position that marries up to the first part of the joint, the second part of the joint is cut using the appropriate cutters. And it really is a simple method as the positions are so clearly marked with etched lettering alongside the holes. It makes the initial setting and cutting of each particular joint a breeze, whether a through dovetail, half-blind or finger joint.

In the kit is a pair of cutters to make a set of these standard joints, but there's also a further accessory kit with additional cutters to gain further jointing styles and options.

The jig also comes with the Leigh eBush, the guidebush that matches the comb. While a standard guidebush will do a decent job on the joint, it's well worth acquiring a table insert plate that takes this particular bush as it has a very fine adjustment within its design to achieve the optimum fit on any joint.

It works by having a very marginal oval profile that can be repositioned so that when the work is addressed to it, any joint can be tweaked by a tad, either to make it slightly looser or tighter


The resulting joint is very clean and accurate


Half-blind dovetails show the usual rounded profile when routed


The red pegs slide into the comb for setting different tail spacings


The pegs prevent the guidebush from making a cut


It makes a finer pin profile on through dovetails


This black rod slides into a channel on the jig

and the setting recorded to the slide-in strips for a spot-on setup each time you make that particular joint.

Optimum stock widths

However, despite its diversity, unlike the sliding pin and tail combs of the bigger Leigh jigs, the RTJ400 with its fixed template comb still has to work to stock of certain width tolerances to ensure the subsequent joints are machined correctly with pins and tails, or fingers in the case of box joints, in a balanced manner.

The maximum stock width is 406mm with tables showing the optimum stock widths for each joint and alongside this you can work stock as thin as 3mm up to 26mm thick.

With the jig set up to the correct indexing for any of the joints it can make, it's still based around a uniform equally spaced tail and pin ratio but this is where the additional diversity of the RTJ400 comes into its own. It is supplied with a nifty set of blocks that you slide into the comb spacings to prevent the router from cutting that particular area of the work and in doing so, giving your work a more traditional wider tail fine pin style or variations on the spacings to suit your own designs.

In summary

While I've only scratched the surface of what can be done with this jig, I'm very impressed by it; it really is the fastest and easiest jig to set up and has a lot of options within it without becoming complex and confusing no matter what you try.

Take heed of the tables that show the optimum stock dimensions to suit the joint spacings and it will be a jig that will make your jointing very fast and accurate while still allowing design parameters to be included for a traditional style. In a nutshell, the jig delivers fast, easy and accurate jointing with diversity. ***AK***

SPECIFICATION

MAX STOCK WIDTH	406mm
MIN THICKNESS	3mm
MAX THICKNESS	26mm

Supplied with quick user guide DVD; five instruction strips that sit on the jig; blanking plates; stop rod; depth gauge; 12mm shank dovetail bits: 80-500, 120-500; straight bits 160 and 143-500; four cam speed clamps; hex key; and adjustable side stop. The product also benefits from Leigh's five-year warranty

VERDICT

Fast and easy to set up and capable of producing a wide range of different jointing options

PROS
- Fast setup for any joint
- Plenty of jointing options

CONS
- Stock has to be specific widths

VALUE FOR MONEY

PERFORMANCE

FURTHER INFORMATION

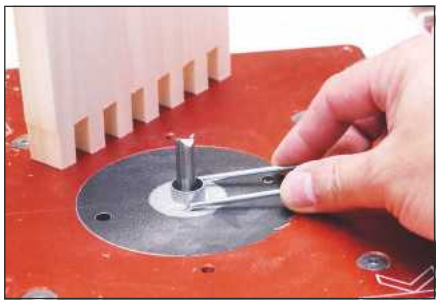
- Axminster Tools & Machinery
- 0800 371 822
- www.axminster.co.uk

The black rod acts as a stop to limit the depth of cut on joints using thinner stock

Each style of joint...

... has a set of indexing marks

The jig comes with the two-part eBush



By moving the guidebush in small increments the fit of the joint can be adjusted

There are various cutters available to give more scope to your jointing

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01279 505 396 (East Herts)

Big Brother Hollower – with handle and shaft but no cutter. In good condition and has had little use. Comes complete with cutter screw and Allen keys; £55
01912 672 121 (Newcastle/Tyne)

Shopsmith Mk5 lathe complete with bandsaw, jointer, circular saw, spare tipped blade, moulder, sanding disc, extended table, plus many extras. Call to make an offer
01476 561 966 (Lincs)

Record Bandsaw BS400 as new, depth of cut – 12in; width of cut – 16in; £500. Hegner Multicut 52 variable-speed, in excellent condition; £300
01777 870 309 (Newark)

***Good Woodworking* magazines**, Nos 1-177, inclusive; £50 ONO – buyer collects
01460 394 234 (Somerset)

Lie-Nielsen No.85 cabinetmaker's scraper plane, used once, as new, boxed; £130 and Veritas bronze edge plane, rare and in lovely condition; £90
01992 620 9961 (Herts)

Record DML lathe, 24 or 36in between centres, made in Sheffield and in very good condition; £100
01992 620 996 (Herts)

Charnwood chuck to fit Nova thread; £50; numerous turning tools; £190; 56lb 6in ceramic tiles; £42; eight books; £5 each; eight acrylic pen holders; £28; chainsaw bib and brace, plus helmet; £65 – buyer collects
01209 211 522 (Cornwall)

Carpenter's marking gauges (two) brass and rosewood; £35. Stanley No.505 combination plane with set of blades, in original box; £55
0208 641 4238 (Surrey)

Coronet Minor M6 lathe plus chisels, some accessories and new control switch; £130 ONO
01189 573 669 (Reading)

Record cast-iron 7in woodworking vice, good condition; £50. Buyer collects
01292 442 532 (Ayr)

Workshop timber clearance – hardwoods, softwoods and some boards; £100 for the lot. Call for more details
01767 640 624 (Beds)

Multico 9½in planer with thicknesser attachment. Two blade cutterblock, 2HP motor and cast-iron bed, plus DeWalt chip extractor; £250
07881 971 737 (Devon)

Old woodworking tools including Slater, Ibbotson, Preston, Marples and Spear & Jackson. Call for details
01628 625 836 (Maidenhead)

Clifton planes for sale: No.4; £130; No.5; £140; No.4½ (brand new); £155, No.6; £160
07818 410 591 (County Durham)

Scheppach Basato 4 bandsaw, little used with four unused spare blades; £400
01912 367 455 (Durham)

Axminster woodturning lathe (240 × 330mm). Extras include 16 chisels, chuck indexing ring and hole-boring kit; £150. Buyer collects
01223 503 860 (Cambridge)

Incra LS precision routing system. Positioner, jumbo right-angle fence, flipstop, hinge crafter and box jointer router table; £385
01777 870 309 (Newark)

Elektra Beckum bandsaw model BAS315-4 GWN55 in excellent condition with Elektra Beckum dust extractor SPA1000 complete with dust bag, hoses, etc.; £400
01795 873 589 (Kent)

Hegner HBD200XL woodturning lathe with electronic speed, TO 3800 Multistar Duplex chuck, Vicmarc VM90 chuck, live and dead centres; £950. Buyer collects
01767 316 925 (Beds)

NuTool HS1500 table saw; £50
01543 424 434 (Staffs)

Myford wood lathe, 32in bed on stand, 6in faceplates, box of tools, various turning blanks. Call to make an offer
01255 425 058 (Essex)

***Woodworker* magazines** (Nov 1944–Mar 1953). Excellent condition for their age; offers considered
01372 374 587 (Surrey)

WANTED

***Woodworker* magazines**. Pre-1951 plus 1984–1986. Grandfather collecting for cabinetmaker grandson
01493 368 180 (Norfolk)

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

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

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

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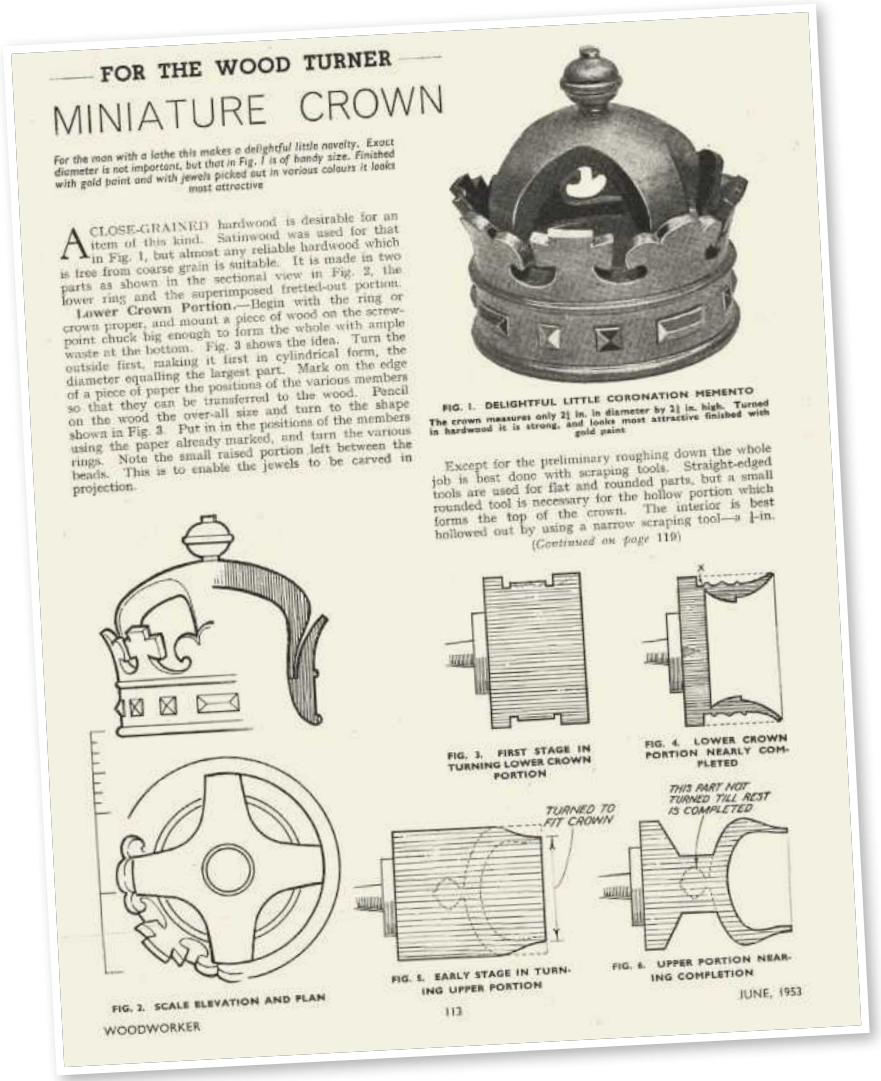
A celebratory turn

To mark the forthcoming coronation of Elizabeth II, this excerpt from *The Woodworker* of June 1953 showed how to turn a replica miniature crown complete with carved jewels

During times of national celebration, or when a common emotion sweeps the land, it's not unusual for a desire to physically express the collective feeling or to somehow otherwise mark the occasion in a way that can be touched and seen. While we might think that there may have been fewer of these times of late, they've nearly all left their mark with a wide range of souvenirs – generally of questionable quality and taste – being produced over the years. Many examples of these may be found on market stalls and in charity shops the length and breadth of the country – and in some antique shops too – but it's fairly unusual to find many handmade ones.

A turned replica

An exception to the rule may well have been this one first published in *The Woodworker* of June 1953. The forthcoming coronation of Queen Elizabeth II in that month and year clearly inspired the staff at *The Woodworker* magazine, to the extent that they produced this little replica crown as a project for readers. I think this turning task would have appealed to all woodworkers – not just dedicated turners – and especially fans of unusual headgear, royalty and the theatre. Regardless of one's political viewpoint, there's something about a crown and all that it has come to represent throughout history and in literature that fascinates and entertains the most of us.



FOR THE WOOD TURNER

MINIATURE CROWN

For the man with a lathe this makes a delightful little novelty. Exact diameter is not important, but that in Fig. 1 is of handy size. Finished with gold paint and with jewels picked out in various colours it looks most attractive

A CLOSE-GRAINED hardwood is desirable for an item of this kind. Satinwood was used for that in Fig. 1, but almost any reliable hardwood which is free from coarse grain is suitable. It is made in two parts as shown in the sectional view in Fig. 2, the lower ring and the superimposed fretted-out portion.

Lower Crown Portion.—Begin with the ring or crown proper, and mount a piece of wood on the screw-point chuck big enough to form the whole with ample waste at the bottom. Fig. 3 shows the idea. Turn the outside first, making it first in cylindrical form, the diameter equalling the largest part. Mark on the edge of a piece of paper the positions of the various members so that they can be transferred to the wood. Pencil on the wood the over-all size and turn to the shape shown in Fig. 3. Put in the positions of the members using the paper already marked, and turn the various rings. Note the small raised portion left between the beads. This is to enable the jewels to be carved in projection.

FIG. 1. DELIGHTFUL LITTLE CORONATION MEMENTO
The crown measures only 2¼ in. in diameter by 2¼ in. high. Turned in hardwood it is strong, and looks most attractive finished with gold paint

Except for the preliminary roughing down the whole job is best done with scraping tools. Straight-edged tools are used for flat and rounded parts, but a small rounded tool is necessary for the hollow portion which forms the top of the crown. The interior is best hollowed out by using a narrow scraping tool—a ¼-in.

(Continued on page 119)

FIG. 2. SCALE ELEVATION AND PLAN

FIG. 3. FIRST STAGE IN TURNING LOWER CROWN PORTION

FIG. 4. LOWER CROWN PORTION NEARLY COMPLETED

FIG. 5. EARLY STAGE IN TURNING UPPER PORTION

TURNED TO FIT CROWN

FIG. 6. UPPER PORTION NEARING COMPLETION

THIS PART NOT TURNED TILL REST IS COMPLETED

WOODWORKER 113 JUNE, 1953

Regal details

On first sighting I thought it was intended to be full size, but clearly that would lift the project into a more seriously skilled level. Whoever designed this miniature one made a nice job of simplifying it to a state where it has retained its instantly recognisable form and all of the essential details, but without any unnecessary fuss or awkwardness.

I particularly like the carved on jewels and, if I had any spare time at all on my hands, would be seriously tempted to make one myself. The article suggests a finish of gold paint, and if you get a good brand and apply it with care it could turn out OK. Depending on the budget available and level of quality of your work, gold leaf would make a nice alternative, but for the life of me I can't think of a convincing treatment for the faux jewels. As ever I welcome your ideas, comments and suggestions on this and on every page we publish in your magazine; just drop me a line here: mark.cass@mytimemedia.com.

More from The Woodworker *archive next month…*

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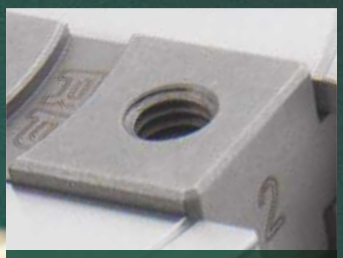

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