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



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Welcome

On the whole, woodworkers are an optimistic lot (yes, you'd have to be, I can imagine one or two of the minority thinking), and this is both a good thing, and a reason why we are unstoppable. No sooner is one job finished than another is begun, and I'm sure I'm not the only one who frequently has more than one on the go.

So, we have two things here: one, a boundless optimism and belief that we can – and will – accomplish anything, and two, enough enthusiasm for more than one job at a time. Yes, this is all favourable stuff, but I have a word of warning for the over-keen – it is completion. We all know that great feeling you get when you finish a job (and hopefully to universal approval or, failing that, simple self satisfaction), but if you don't complete it then it's almost worse than never having started at all. And perish the thought that it's there in front of you every day as a mocking reminder; such a situation is intolerable for anyone who has pride in his or her work, and rightly so.

OK, we can see that over-enthusiasm could lead to multiple non-completions, but how could optimism ever be a bad thing? Apart from badly underestimating how long a job will take, I'm guessing that many of us will have found out for ourselves early on in our careers. Can we all remember the first job we took on that was a little out of our reach? Hopefully it all worked out OK (and sorry to remind you if it's still a painful memory). It's great to aim for the stars, but just make sure you have a safety net to catch you if you fall. Fortunately it's not life and death stuff we're dealing with, and there's generally someone else around you can call on if you find yourself struggling.

Having experienced all this – and more – myself, I now possess a clearer and more realistic understanding of just what I'm taking on each time I'm asked to do a job.



The Editor ticks the completion box on his latest job and is relieved he didn't underestimate too badly this time...

I suspect a lot of us feel the same way. But that doesn't mean we have to play safe and stick to the easy stuff; a working challenge should always be at least considered and never just rejected out of hand. There's every likelihood that it will somehow prove to be within your capabilities, and if not, well, you can always get someone else to lend a hand. Onwards, my brothers and sisters.

Mark

You can contact Mark on editor.ww@mytimemedia.com

THIS MONTH THE EDITOR HAS BEEN:

Measuring up • avoiding computers • painting • watching the waves

WOODWORK

16 Up, up & away – part 2

In part 2 of his toy aeroplane build, having made all of the turned components, Ian Wilkie now sets about completing the propeller, wings, tailplane and undercarriage, then we're ready for take off!

32 Archive

This excerpt from *The Woodworker* of December 1919 looks at the grouping of members for turning patterns, and it's great to see that much of the information contained is still very relevant to this day

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39 Alive & kicking

"I say, darling – the table has moved!" Michael Forster explores the truth that timber has a life of its own

51 Reproducing Regency

David Oldfield believes that you can learn a huge amount in trying to emulate a classic piece like the bookcase shown below

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62 Flexible joints

It might look wacky to our eyes, but Stephen Simmons shows there's an inherent logic to Japanese joinery

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Avoid burnt fingers and soggy toast with Peter Whittle's rack and scissors – perfect weekend projects

68 Workshop workhorse

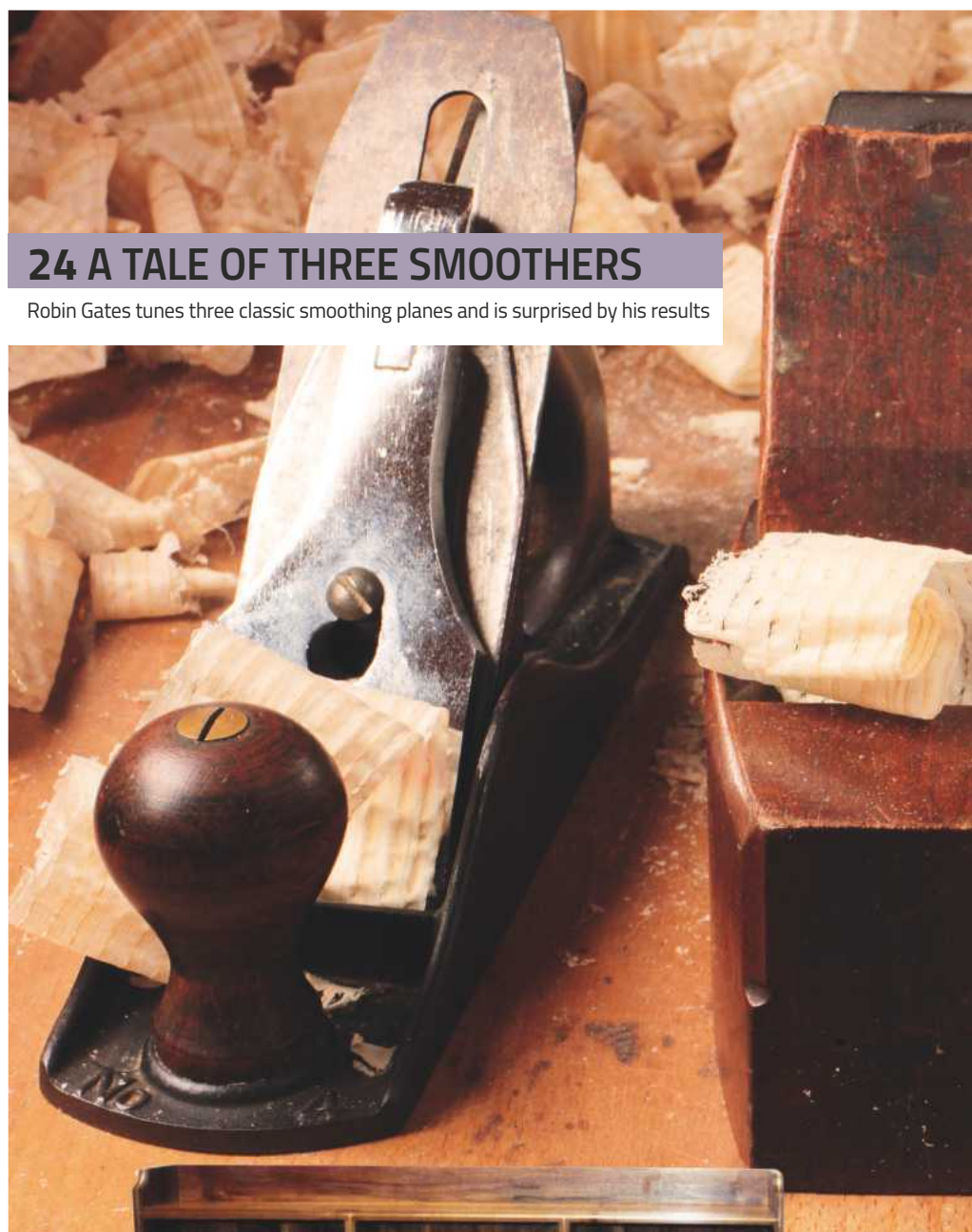
Every woodworker needs a sawhorse or two, says Stuart Gooda. Here he shares his guide to building one quickly and easily

90 Timeslip

In the final part of this series, Peter Baker reflects back on his association with Harris Lebus Ltd – the biggest furniture manufacturer in the world



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Robin Gates tunes three classic smoothing planes and is surprised by his results



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Taking influence from a traditional leg used on an ancient Roman couch, Niall Yates sets about turning a replica and experiments with using casting materials

58 Let there be (tea) light

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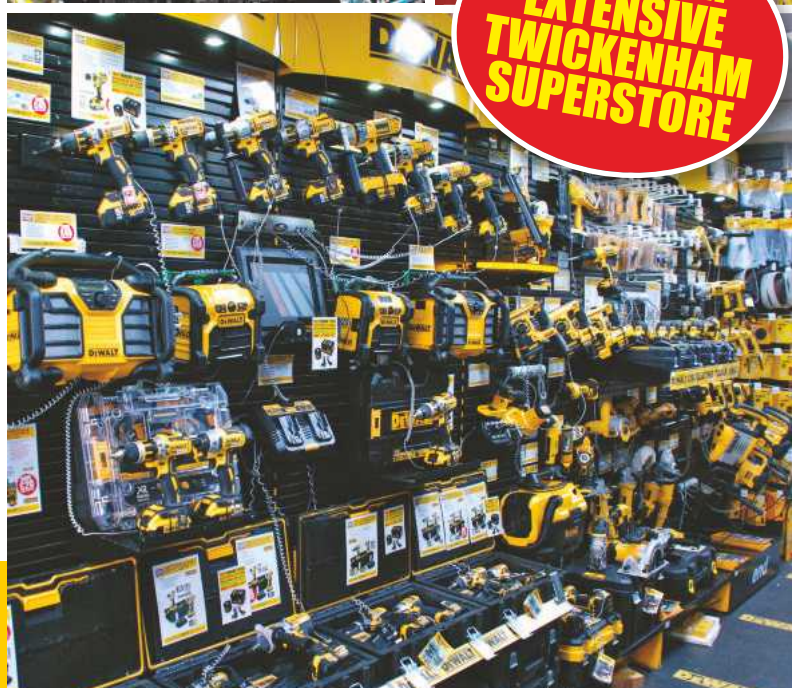
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ANY OTHER BUSINESS

I don't know how busy you are at the moment, but if you're anything like most woodworkers I know you'll probably have a fair bit on the go (is there a woodworking equivalent for 'irons in the fire?'). I've always thought it's a good thing to be busy, but it's important not to take it too far and overload yourself with jobs and favours. In fact, I think it would be a very good idea to sit down with a cup of tea and peruse the odd magazine or two.

Here at *The Woodworker* we're always doing our best to bring you interesting and useful articles, and we can only cross our fingers some months and hope we're doing the right thing. It's great hearing from you the reader out there in a workshop somewhere in the world, so keep your emails coming and extend that family

feeling. And while you're at it, feel free to express a preference for any subject matter you'd like to read about; it might take us a while but we'll do our utmost to feature it before long. And even if you don't make it to the keyboard, the very act of thinking about your favourite topics will likely have some kind of energising effect, and you'll be turning out a new master work before you know it. You're welcome.

Write to Mark at editor.ww@mytimemedia.com and why not attach a photo while you're at it?

Mark

FURNITURE-MAKING EXCELLENCE REWARDED

Furniture Crafts student Alexander Manville has been awarded a Medal for Excellence from the City & Guilds Group in recognition of his exceptional talents.

Alexander, from Cookley, was recognised for his outstanding work towards his Level 2 Furniture Making course, which he completed last year at Royal Leamington Spa College under the tutelage of lecturer Jamie Ward. During his time at the college, Alexander also won a competition to design a new bench for the campus as well as the Paul Roden Memorial Trophy.

City & Guilds Group has awarded Medals for Excellence for over 100 years to celebrate exceptional talent among learners, lecturers and trainers who have achieved great results by producing exceptional work – going above and beyond what is expected to achieve their goals.

Alexander is now passing on this knowledge to the next generation, working as a technician at Ercall Wood Technology College in Wellington.

On receiving the award, Alexander said: "To be awarded the Medal for Excellence is pretty amazing! I didn't know Jamie was putting me forward for it so it was really unexpected and humbling. I thoroughly enjoyed the course and found it rewarding and challenging, and to get the medal is a real confidence boost and endorsement in your ability. I worked really hard and it has paid off! I can't praise Jamie and Oli Renison the technician enough – they were so encouraging and supportive throughout the course. I'm now pleased to be passing on my skills to the next generation at Ercall Wood, but in the future I would like to have my own business."



Alexander receiving his Medal from Angela Joyce, Group Principal and CEO of WCG

Alexander has been invited to the Lion Awards in London this month, where he will be eligible for a number of awards, including the People's Choice.

Jamie Ward, course leader for Furniture Crafts, said: "Alexander grabbed the opportunity of studying furniture making with both hands, pushing boundaries and immersing himself in the course. He had an amazing hardworking approach and gained distinctions for all of his work. Over the last few years a number of our students have won the Medal for Excellence, so we're really proud that Alexander has continued this success."

Royal Leamington Spa College offers a range of Furniture Crafts courses; see www.warwickshire.ac.uk/courses to find out more.

DIARY – JUNE

1–2 Adirondack chair*
5–6 & 6* Wood machining
5–9, 8–9* & 27–28 Beginners' woodturning
6–9 Introduction to the lathe & mill
13 Bandsaws
13 Introduction to gear cutting
13 Spindle moulding*
14–15 & 15–16* Bowls & platters
15–16 Woodcarving with Paul Gardner
20 Bird, bee & bat boxes
20 Fruit making with wooden chucks
21* Scrollsaws
23* Turning pepper mills
27 Introduction to Leigh Jigs
28* Sharpening with Tormek
* Course held in Sittingbourne, Kent
Axminster Tools & Machinery
Unit 10 Weycroft Avenue
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Tel: 08009 751 905
Web: www.axminster.co.uk

5–8 Woodturning – hollow vessels with surface embellishment
8–11 An introduction to picture framing
9–11 Wildlife woodcarving in relief
9–11 Woodturning for beginners with Mark Hancock
16–18 Furniture upcycling workshop with Furniture Magpies
25 Woodcarving – a taster day
West Dean College
West Dean, near Chichester
West Sussex PO18 0QZ
Tel: 01243 811 301
Web: www.westdean.org.uk

3 Chair making – part II
10 Basic jointing weekend
19 Veneering and laminating
24 Chair making – part III
Chris Tribe, The Cornmill, Railway Road
Ilkley, West Yorkshire LS29 8HT
Tel: 01943 602 836
Web: www.christribefurniturecourses.com

3–4 Pole-lathe turning/stool making
14 Build your own shaving horse
17 Green woodworking experience
18 Father's day Greenwood experience
24 Spoon carving
25 Fan bird carving
28–29 Build your own pole-lathe
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 Web: www.johndaviswoodturning.com
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Cameron Nutt, 20, who trains at North West Regional College in Northern Ireland and works for J&R Snodgrass will represent the UK in Carpentry; Angus Bruce-Gardner, 22, who trained at Waters and Acland and who works for Silverlining will represent the UK in Cabinet Making; and Conor Willmott, 20, who trains at West Suffolk College and works at Precision Carpentry and Joinery will represent the UK in Joinery.

The two-year (or more) process has seen competitors win regional heats, a national final, European finals and last month, jump the final hurdle reaching the most testing international standards at a team selection showdown. 32 talented skilled professionals will continue to undergo a rigorous regime of Olympic style training in preparation for the most intense week of competition imaginable. Skills represented range from Aircraft Maintenance and Mechanical Engineering through to Restaurant Service and Cyber Security.

WorldSkills UK, which helps young people 'Go Further, Faster', is spearheading the use of competition in the workplace, training centres, schools and colleges, to inspire the next generation and fill the skills gap.

CEO Dr Neil Bentley, said: "This is a critical moment for the future of these inspirational young people – and our economy. The WorldSkills Finals in Abu Dhabi are more important than international sporting fixtures spurring on competitors to achieve the highest international standards to inspire more and more young people to get into apprenticeships and technical careers, getting them off to the best start in work and life. Our ability to produce the right number of skilled, motivated, young people is vital for productivity, competitiveness and economic growth. Skills top



Angus Bruce-Gardner

the agenda of so many organisations – Governments across the UK and the CBI through to the Trade Unions and education sector. Team UK represents the very future success of our economy and what they represent will help determine whether we thrive or fail post Brexit."

WorldSkills UK, funded and supported by the DfE, devolved governments and commercial partners, utilises revolutionary training techniques usually associated with elite sporting teams, athletes and competitors. Performance coaches and skills experts spend hundreds of hours honing their skills and drawing upon physical, mental and holistic methodology to produce optimum achievement under the most testing 'pressure cooker' conditions.

WorldSkills Finals are held every two years when over 1,000 delegates

from more than 70 countries gather for four days of competition. This year's final is seen as an important litmus test as to how well the UK will fare post Brexit with the rest of the World. Homegrown skills will become ever more important as industry seeks to reduce reliance on workers from the EU.

In 2015, at the most recent WorldSkills Finals held in São Paulo, Team UK finished overall seventh in the medal table, ahead of France and Germany, bringing home an impressive haul of medals including three gold, four silver, two bronze and 23 medallions of excellence. To find out more, see www.worldskillsuk.org, and we'll bring you more news as it happens.



Cameron Nutt



Conor Willmott

WEALD & DOWNLAND WOOD SHOW 2017



Taking place from 17–18 June at Weald & Downland Living Museum in Chichester, West Sussex, the annual Wood Show is a wonderful event that celebrates wood and its many traditional uses. See a wide range of wood craft demonstrations, a working wood yard, exhibitors and displays. From viewing the Museum's collection of over 50 timber-framed buildings to crafted wooden items, there will be plenty to see, do and buy.

Explore the Museum's woodyard and stands around the site to see traditional

demonstrations, and walk through the Museum's working woodyard, with its rack saw bench and timber crane, seeing craftspeople at work, and watch horse logging.

There will also be a range of quality trade and traditional craft stands in the events field, plus even more demonstrations, and to celebrate Father's Day, bring your dad to the Wood Show and he will enter free of charge on this special weekend. To find out more about this great show, see www.wealddown.co.uk/events/wood-show.



EWS 2017

The European Woodworking Show returns this year and is due to take place from 16–17 September, at the historic Cressing Temple Barns near Braintree in Essex.

Demonstrators and exhibitors really enjoy EWS and most take little persuading to return to the show to either demonstrate their skills or showcase their wares. The show's overseas contingent includes Chris Schwarz of Lost Art Press, Dave Jeske of Blue Spruce Toolworks, Ron Hock of Hock Tools, Thomas Lie-Nielsen of Lie-Nielsen Toolworks, Chris Vesper, Sadatsugu Watanabe, and Chris Vesper of Veritas tools.

Firm favourites will be returning, including turners Joey Richardson and Mark Hancock; pyrographer extraordinaire Bob Neill; timber hewer Steve Woodley; woodcarvers Peter Berry, Tim Atkins and Dave Johnson; marionette maker Lenka Pavlickova; scrollsaw expert Fiona Kingdon; Japanese joint maker Brian Walsh; plus furniture makers David Charlesworth, Dylan Pym, David Barron and Treeincarnated.

Willy Rackham, The International Boat Building College, Willow Sculpture by Louise, blacksmith Nic Westerman, knife maker Ord Knives, and Dave Wilkins stick maker, add variety to the show and every effort will be made to make EWS 2017 as diverse and as interesting as possible.

The British Woodcarvers' Association (BWA) will also be hosting their extremely popular public vote competition.

There will also be many familiar tool suppliers in attendance including Turners Retreat, Trend Tools & Machinery, Lie-Nielsen Toolworks, Gransfors Bruks axes, Pfeil, Auriou and Flexcut carving tools, Classic Hand Tools, Lincolnshire Woodcraft, Chestnut Products, David Barron Furniture, and a host of other retailers. For full details and advance tickets, see www.ews2017.com.



LOCAL WOODTURNER TO SHOWCASE HIS TALENTS IN AN EXCLUSIVE MASTERCLASS

Local woodturner Arthur Martin, from Surrey, will be giving the Scouts a chance to learn the craft as he delivers a masterclass in his local area.

Arthur has been chosen to host a pop-up masterclass in Lightwater to help launch GrandFest

2017. Now in its third successive year, GrandFest, the one-day festival that celebrates the heritage skills of talented older people, GrandMakers, returns to East London this year, proudly presented by charity Royal Voluntary Service.

Taking place on Sunday 18 June in London, the GrandMakers, all over 70 years old, will run masterclasses in their preferred skill, taking over nearby restaurants, shops and museums in the Spitalfields area.

Arthur's GrandFest pop-up masterclass will be held at the Lightwater Scout Hall and is eagerly anticipated by the Scouts aged between 10 and 14. They will be able to learn the art of woodturning where Arthur will share his expertise. Arthur will demonstrate how a lathe works and he will show the Scouts how to create a small turned wooden object.

Arthur's love of woodturning began when he was a school boy and was inspired by an old teacher who shared the same passion. Since Arthur retired in 2009, he has been able to indulge in his skill, perfecting his craft in his own bespoke workshop where he's able to wood turn daily, which keeps him mentally and physically active. Arthur is a member of The Surrey Association of Woodturners (www.sawoodturners.org), one of the largest turning clubs in the country. To find out more about GrandFest, see www.grandfest.royalvoluntaryservice.org.uk.



NEW MAKITA LXT DRYWALL SCREWDRIVER, TEK SCREWDRIVER VERSION & PIN NAILER

Makita's latest version of the popular 18B cordless drywall screwdriver runs up to an impressive maximum 2,500rpm – lower than its predecessor – but delivers greater driving torque from the innovative Brushless motor. A TEK screwdriver version is now available for the first time from Makita, which is sure to appeal to cladding contractors.

The new Makita DFS250 LXT drywall screwdriver with 1/2in hex drive shank will drive home 5mm drywall screws, 6mm self-drilling screws and 90mm x 4.5 coarse thread fixings. The specification includes variable-speed control trigger, ergonomic soft grip with thumb and fore finger grip pads, belt clip and LED job light, while the aluminium gear housing saves overall weight.

This new drywall screwdriver features Push Drive Technology where, with the lock-on button engaged, the motor will not rotate under no-load conditions, resulting in reduced overall power consumption. The drive will start rotating at full speed only when the screw is pressured on the board surface. The DFS250 has a one-touch bit locator and a silent clutch that cuts drive when the screw is home. Weighing just 1.8kg the DFS250 is available either as a body only machine or with two 5.0Ah Lithium-ion batteries in a Makpac case.

The new Makita DFS251 machine is the TEK screw version, which offers all the attributes of the DFS250, and in addition will power a 6mm hex screw socket. TEK screws are the core fixings for cladding and panel walling systems.

The new Makita DPT353 LXT pin nailer takes 23 gauge (0.6mm) size nails and can deliver 15, 18, 25, 30 and 35mm length nails. The magazine will hold 100 nails of each of these sizes. The finished driving depth, that is, how deep below the surface the nail head finishes, or level if required, is adjusted by the simple rotary adjuster adjacent to the nose assembly. The anti dry-fire mechanism stops the nailer operating if the machine has run out of nails. The nose tip has been redesigned for better visibility, thus enabling the operator to get a quick and easy view of the desired firing point on the workpiece.

The DPT353 has a low reaction force mechanism, which enables easier nailing of long pins. Makita recommends that a trigger safety lock should always be applied when the machine is not in use. With LED job light, soft grip handle, belt clip and battery fuel gauge, the new DPT353 LXT pin nailer will appeal to all installers and construction trades. It is available with two 5.0Ah Lithium-ion batteries in a Makpac case, or as a body only machine. To find out more, see www.makitauk.com.



THE HAND-CRAFTED CABINET YOUR GUITAR DESERVES



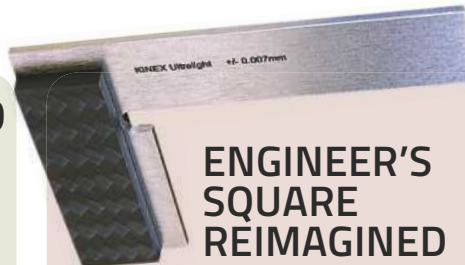
When creativity and a passion for the guitar come together, the result can be both beautiful and practical.

Andrew Cockerill (24) from York has played the guitar for over 10 years, but his other passion is woodworking. He is currently completing a furniture design course at the Chippendale International School of Furniture, and as part of the course, he's

designed and crafted a guitar cabinet in oak and sycamore, with an innovative opening mechanism, which is both a functional storage space and a beautiful display cabinet.

Andrew has set up Northern Woodwright Furniture, based in East Lothian, to make bespoke hand-crafted cabinets for other like-minded guitar enthusiasts.

"I'd be delighted to hand-make guitar cabinets for anyone who wants to show off, as well as store, their guitar. There's nothing like them on the market, and I can build each cabinet to particular specifications – making them both bespoke and unique," says Andrew. To find out more about his exciting new furniture making business, see www.northernwoodwrightfurniture.com.



ENGINEER'S SQUARE REIMAGINED

The production of engineer's squares is largely controlled by standards, such as the British BS939 or German DIN871. As well as dictating the tolerances to which the square must conform, these standards also specify the materials used and the design. Because the purchasing departments of large companies use these standards to define their requirements, most manufacturers stick to them rigidly and only manufacture products that conform to the standard in all respects, but what happens when you dare to step away from the standard and make something deliciously different; just because you think it ought to exist?

Produced from state-of-the-art titanium and carbon fibre the Kinex Ultralight Square is more accurate than either engineer's grade B or DIN875/1. It weighs just 12g (just under half an ounce) – light enough to slip into a shirt pocket without affecting the perpendicularity of your tie. The carbon fibre cheeks of the stock are set back 4mm from the inside of the plate, so it will rest on an edge all by itself. The clean, minimalist design accentuates the quality of the materials used and surface finish achieved through careful uncompromising manufacture. The Kinex Ultralight is presented in a purpose-made milled aluminium gift box with a fitted foam rubber insert and sliding acrylic lid. Priced at £44.50, see www.workshopheaven.com.



THE MIRKA AOS-B CORDLESS SANDER KNOWS HOW TO SET STANDARDS

Mirka's AOS-B cordless sander, the smallest battery-driven spot repair sander on the market, has been awarded the 'Product Design' prize at the prestigious Red Dot Design Awards. The award recognises the ergonomic, high performance and longevity of the product, delivering tangible benefits to end users in the automotive industry.

This is the second time Mirka has won a Red Dot Design Award after its DEROS sander, which launched in 2012, was awarded the 'Red Dot Industrial Design Award' in 2014. The judges for this year's award were particularly impressed with several of the Mirka AOS-B's features, including its lightweight ergonomic design that allows the tool to be moved easily from job to job and to be used for long periods of time without experiencing fatigue, and the sander's consistent performance for the duration of its battery life, which can last up to 16 hours when used for spot repair applications. To find out how you can get your hands on this great tool, see www.mirka.com/uk.

GLENN LUCAS DEMOS FOR AXMINSTER WOODTURNERS

Woodturner Glenn Lucas recently flew in from Dublin to demonstrate for Axminster Woodturning Club.

The club was celebrating the 30th anniversary of the AWGB (Association of Woodturners of Great Britain). The AWGB had given the club a grant, which they were able to use for the club members' benefit. Glenn was their turner of choice to showcase his skills and share in the celebration with them.

Club secretary, Barrie Golding, said: "We used the grant that the AWGB gave us to help with costs in bringing him over and were able to offer around 20 places to other clubs in the area of the south west – we could have sold out a couple of times over such was the demand. We felt especially privileged in getting Glenn over here as it was his only date in the UK this year. He turned out to be a marvellous guest and a thoroughly entertaining demonstrator."

Glenn is well-known on the international turning stage and regularly tours in Europe, North America and the southern hemisphere.

His programme began with him turning a Viking bowl similar to the one found under

the streets of Dublin. He followed with an Irish platter, a utility bowl and an insight into the sharpening techniques he uses.

Axminster Tools & Machinery, the main raffle sponsor, supplied an Evolution chuck and some C jaws for prizes. Glenn also donated one of his bowls and some DVDs. According to Barrie, this made the selling of tickets very easy.

Glenn flew back to Dublin on the Sunday morning. A tough week lay ahead of him, then a tour of Australia and New Zealand. To find out more, see www.glennlucaswoodturning.com.



TREND'S NEW ROUTER TABLE BACK FENCE



This new product is complete for incorporation into user-made router tables and features sliding cheeks to reduce cutter aperture size as well as an edge planing facility of 1.4mm and 2.4mm. It is supplied with top featherboard pressure, a clear safety guard, dust spout aperture and table fixing bolts. The router table back fence will require two slots to accept fixing bolts and a user-made router table will require safety device accessories to be fitted. Now available from all Trend routing centres with an RRP of £77.94; see www.trend-uk.com for more information.

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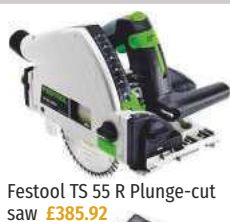


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Kuny's Tech Gear MegaMouth LED Lighted Tool Bag **£79.99**



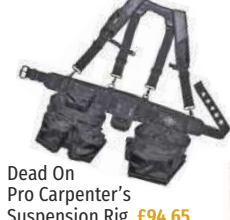
Mafell LS 103 Ec Chain Mortiser **£2268**



Hultafors Quattro Adjustable Try Square 250mm (10in) **£24.13**



DMT Double Sided Diamond Whetstone 200mm Coarse/Extra Coarse **£120.00**



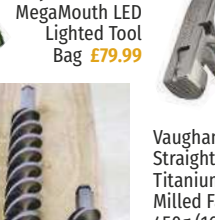
Dead On Pro Carpenter's Suspension Rig **£94.65**



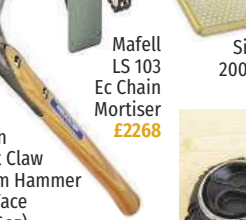
Henry Taylor Heavy Duty Socket Firmer Chisels 3/4" - 2" **£56.54**



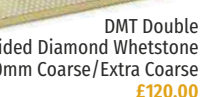
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MANUFACTURER: Festool

D&M GUIDE PRICE: £244.95 (inc VAT)

Festool has developed truly unique optics for the new STL 450 grazing light. The powerful focus of the light cone enables you to identify any flaws and unevenness immediately. By checking the surfaces to be worked on in the early stages of the machining process, you can achieve an optimum working result.

The newly developed and unique Festool optics produce such a highly focused light cone that you can immediately detect any unevenness and flaws on the primed surface. It allows you to check your end result during the work process itself, and thereby achieve the perfect surface.

Thanks to its robust plastic housing and long LED service life, the grazing light is optimally equipped for tough building site conditions and is maintenance-free. It is available stand-alone or with a hands-free tripod.



FESTOOL



DEWALT DCN680D2 18V XR BRUSHLESS 18-GAUGE BRAD NAILER

MANUFACTURER: DeWalt

D&M GUIDE PRICE: £469.95 (inc VAT)

The latest generation 18V XR Li-ion Brushless 18-gauge nailer offers the cutting edge in nailing technology.

The Brushless motor offers runtime that cannot be beaten in such a compact package. This compact, lightweight and ergonomic design makes the tool easy and comfortable to use but durable enough for worksite environments. Mechanical rather than gas operation offers low running costs and consistent performance at low temperatures.

Sequential mode allows for precision placement and the bump operating mode provides the user with production speed of up to four nails per second. Supplied complete with 2 x 2.0Ah XR battery packs and a charger means it is compatible with all of your other 18V XR DEWALT power tools.

The depth of drive can be easily adjusted using the thumb wheel depth adjuster and tool-free stall/jam clearance minimises down time. Furthermore, trigger and contact trip lock-off prevent accidental discharge of the fastener.

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UP, UP & AWAY PART 2



In part 2 of his toy aeroplane build, having made all of the turned components, **Ian Wilkie** now sets about completing the propeller, wings, tailplane and undercarriage, then we're ready for take off!

In part 1 of this project, I covered the making of all the turned parts – the fuselage, engine, cylinders and nose cone, tip tanks, wheels and hubcaps, and finally the pilot and observer – and now I'll continue with the propeller, wings, tailplane, fin and undercarriage, before putting everything together and adding the finishing touches. Much of this work, as you'll see, is carried out using a scrollsaw. **WW**

CUTTING LIST

Wings: 6mm plywood or thicknessed hardwood – 255 × 70mm – qty 2

Support blocks: 50 × 12 × 7mm thick – qty 4

Struts: 6mm dia. dowel × 80mm long – qty 4

Tailplane: 2mm plywood – 120 × 40mm – qty 1

Fin: 2mm plywood – 40 × 60mm – qty 1

Skid: 6mm plywood – qty 1

Undercarriage: 6mm plywood

Propeller: 4mm plywood

Axle: 6mm dia. dowel × 80mm long – qty 1

PROPELLER, WINGS, TAILPLANE, FIN & UNDERCARRIAGE



16 I frequently use bamboo barbecue skewers for dowelling and other small parts. Sometimes, however, I need a larger diameter, as in this project where I needed 6mm dowel for the struts and undercarriage. I have recently discovered a source I had not considered before – bamboo knitting needles! They come in a useful range of diameters, are very strong, and the diameter is accurate all along the length. I bought a pack of 36 needles in 18 sizes from 2-10mm for under £10. This is considerably cheaper than buying proprietary dowel

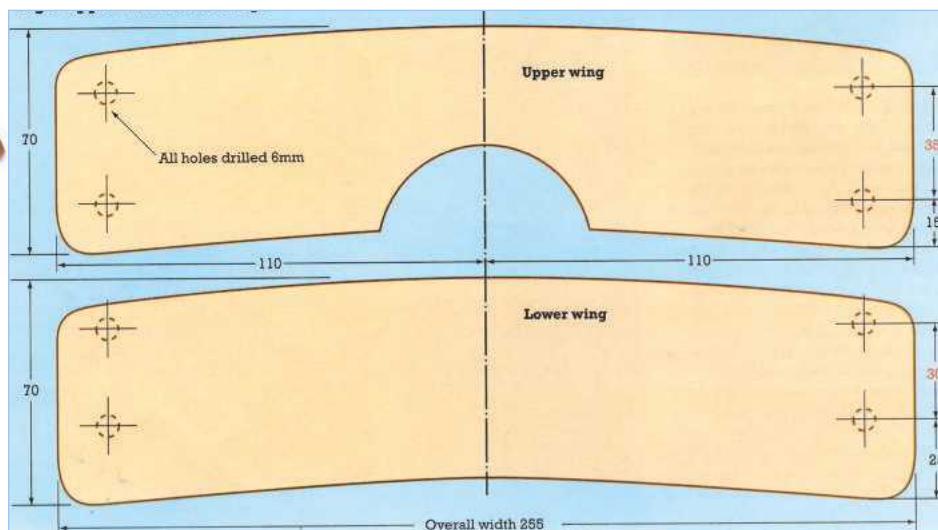
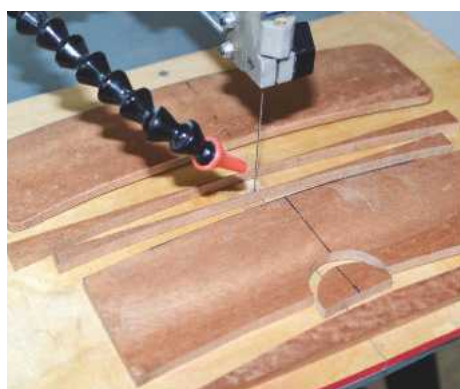


Fig.3 Upper and lower wings



17 First make templates for the top and bottom wings as shown in **Fig.3** and mark the position of the four holes for the struts and the two holes on the underside of the lower wing for the undercarriage screws. Cut out the two wing shapes on a scrollsaw and sand the edges smooth



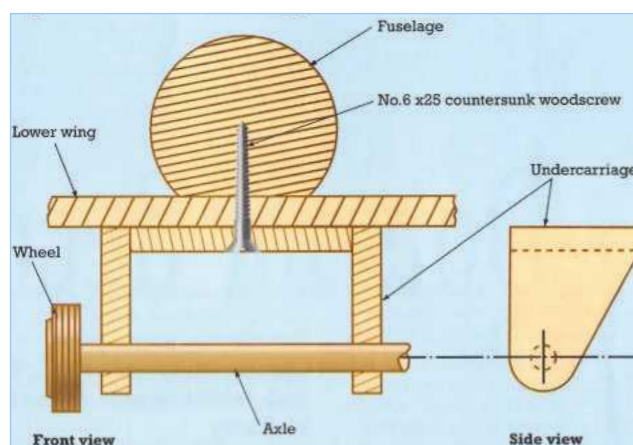
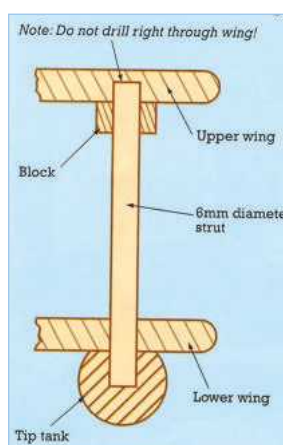
18 Hold the fuselage securely in a vice and drill 2 x 20mm holes to a depth of 18mm for the pilot and observer. The first hole is 60mm from the front



19 Using the templates for accuracy, carefully mark the position where the holes for the struts go. Glue the support blocks under the upper wing and on top of the lower wing. Drill 6mm holes through the blocks and the wings



20 Glue on the two tip tanks so they are positioned directly under the holes on the lower wing. Drill again through the pre-drilled holes, this time advancing 10mm into the tanks. Glue the four struts through the wing and into the tip tanks; this gives a good, strong wing assembly. Insert the other ends of the struts into the upper wing support blocks noting that the upper wing is slightly ahead of the lower wing



Figs.4 & 5 Wheel and undercarriage

21 Cut out the three pieces of ply, which make up the undercarriage as shown in **Fig.5**, and drill a 6.5mm axle hole in each side piece. Drill a 4mm countersunk centre hole in the crosspiece to line up with the front screw hole already drilled in the underside of the wing, then glue the three parts together. Cut a 6mm dowel 80mm long for the axle, which can be trimmed later when the aeroplane is assembled. It is easier to paint the tyres and hubs separately before gluing the wheels to the axle

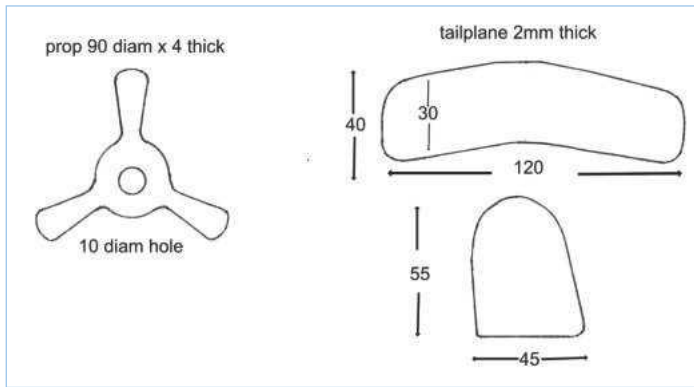


Fig.6 Propeller, tailplane and fin



22 Cut out the tailplane and fin. Hold the fuselage firmly in a vice and saw a 30mm long $\times$ 2mm wide slot for the tailplane following the glue line

FINISHING



23 In the same way, saw a 45mm long $\times$ 2mm wide slot in the top of the fuselage to take the fin



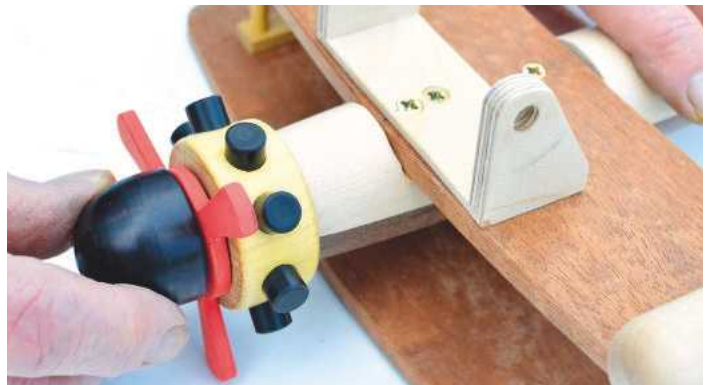
24 Make a three-bladed propeller as shown in **Fig.6** to fit between the engine and nose cone



25 Apply paint and varnish to all parts as desired taking care to avoid surfaces which are to take glue. Next, screw the wing assembly to the fuselage from the underside using two small screws



26 Screw the undercarriage under the wing assembly towards the engine, using two small screws



27 Glue the nose cone, propeller, engine and fuselage together making sure that the propeller can rotate freely



28 Thread the axle through the holes in the undercarriage, trim if necessary and glue on the wheels. The axle should rotate freely in the undercarriage



29 Glue on the tailplane and fin, then add a skid under the tail



Finally, add any roundels or markings, then pop Biggles and Algy into their seats, taxi to the runway and it's chocks away and into the blue!





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Getting to grips with the
Spiers infill smoother

A tale of three smoothers

Robin Gates tunes three classic smoothing planes and is surprised by his results

I was sheltering from the rain in a local junk shop – or antiques store, as they call them nowadays. It can be a rueful experience browsing in these places, being reacquainted with the clutter I've thrown out, now waxed with a coat of dealer's hyperbole and tied with a breath-taking price tag. But on this occasion I was pleasantly surprised by a wooden smoothing plane keeping company with the domestic bygones and, at £6, cheaper than fish and chips. At this price it stood in danger of being upcycled as a table lamp, so, as a woodworker, I felt duty-bound to return it safely to the bench.

Besides, although I already had a forest of woodies in the shed, ranging from jack and jointer to bullnose, plough and moulding planes, somehow the coffin smoother (so called because of its shape) had escaped me. I carried it to the cash desk as though it were an injured bird.

Together with my go-to Stanley No.4, and a Spiers infill plane I'd bought out of pure lust, the woody completed a trio of smoothing classics. While they all did the same job, they were as different from each other as Pavarotti, Domingo and Carreras, so I decided it would be illuminating to tune them equally and see how they performed when on song.

Benchmark Stanley

To my mind the cast-iron Stanley No.4 of a certain age is the bench mark among smoothing planes; describing a tool as better or worse than this low-slung icon of the woodworker's trade is a fair measure of quality. I inherited mine, a home-grown Sheffield example, from my Dad around 30 years ago. When he bought it in 1960



1 The Preston woody flanked by the Stanley No.4 and Spiers infill smoothers

it would have cost about £2, or 240 times more than *The Beano*, which would have been of more interest to me back then.

Bristling with levers and screws the No.4 is a real sophisticate in the present company, like a smart phone among smoke signals and semaphore flags. And yet we have to keep in mind that what matters is not the technology of the tool but how effective it is, its ease of handling and the quality of the smoothed surface it leaves in its wake.

The best way to understand this plane is to fully dismantle it, beginning with removal of the lever cap. This works by a cam mechanism invented by

American toolmaker Leonard Bailey in the mid-19th century; several of his inventions subsequently acquired by Stanley came to define the bench plane and have been copied with varying degrees of success by plane makers around the world. The lever cap clamps the blade and cap iron to the sloping frog where several other features come together. The frog not only determines the blade's bedding angle, it integrates the depth adjusting wheel and the lateral adjustment lever, and can be moved lengthways to adjust the mouth.

My No.4 has more than a full turn of play in the depth adjustment wheel, mostly because



2 Flattening the Stanley's sole on aluminium oxide abrasive



3 The flattened sole shows a satin sheen



4 Honing a 30° bevel for the Stanley with an Eclipse 36 guide



5 The Stanley's cap iron set $\frac{1}{2}$ in from the cutting edge



6 Loosening the frog fixing screws...



7 ... then turning the mouth adjustment screw...



8 ... to set a narrow opening

of a sloppy fit of its Y-shaped lever in the blade, but once engaged it operates with a micrometer's precision and has no consequence for the quality of the cut.

Holy Spiers

I'd heard such reverential talk of wood infill planes that they'd become shrouded in mystery like holy relics, and I never dreamed I'd own one until a late night scroll through eBay brought a battle-scarred Spiers smoother to my attention. As a time-served cabinetmaker Stewart Spiers was well qualified to design a good hand plane and the products of his small premises in River Terrace, Ayr, were highly influential, being copied by others – notably Thomas Norris in London.

In the 1900s when a joiner made 40 shillings a week, a plane of this quality, with body of dovetailed steel plates and Brazilian rosewood infill, cost 21 shillings, which was six times the cost of an all-wood smoother. With that in mind, imagine the owner's feelings when this plane suffered a knock and its most alluring feature, that graceful rear handle with shapely rearward-pointing spur, snapped off. But they were not to be defeated. Using brass plates, they made a repair as elegant as it is solid, returning their valued plane to service – and ensuring it would still be working a century later. Aside from practical necessity, the repair added character to an already beautiful tool, and also put off the collectors, so that it was soon winging its way to my shed for the price of a tank of diesel – and who wants to drive, anyway?

The Spiers infill is a halfway house between the woody and the Stanley, having gained a handle and a heavy bronze lever cap, which is tightened onto the cap iron by a knurled screw with a decorative 'Saracen's head'. Otherwise its notable features are its thick blade and sheer weight, being so dense that I wonder if the handle



9 The Stanley planes the standard riven ash



10 Brass repair plate in the Spiers' shapely handle

may have snapped from lifting the plane too sharply. Certainly I always use two hands.

Preston woody

Long before the concept of form following function became popular the wooden smoother was the textbook example waiting to be noticed. Some woodies were fitted with a sliding steel toe to adjust the mouth, while others had a full-length steel wear plate, but this Preston smoother is of the purest sort with solid beech stock, tapered blade, cap iron and a wedge to lock it all together – no more nor less than is required for the job.



11 The Spiers' sole was scored but the mouth was in good shape

In the 1900s, when this plane left 'The Whittall Works' of Edward Preston & Sons in Birmingham, fitted with a 'cast steel brass nutted double iron' it cost three shillings and ninepence, which, using the Bank of England's inflation calculator, would be £21 in today's money. The closest to it now would be a coffin smoother hand-made by Philly Planes at £220, a price that's justified when you consider the investment of time and skill to perfect that deceptively simple shape. Achieving the exact fit of blade and wedge alone, enabling minute adjustment by hammer taps, would be a lifetime project for me.

An old woody that's served its time doesn't



12 Working back and forth on aluminium oxide...



13 ... restored the sole to flatness



14 Removing rust from the bed with abrasive around a scraper



15 Grinding the Spiers' blade prior to honing



16 Flattening the back of the blade using a steel rule spacer



17 Tapping the Spiers' short blade with a cross pene hammer



18 The Spiers takes a shaving of the standard riven ash

come down the years without the odd knock or bruise, and this Preston is no exception. The top of the wedge is a tad splintered and 'half-crown' impressions in the heel speak more of the steel hammer face than the wooden mallet, but there are no splits, just the dark patina of graceful ageing and a spot of green paint hinting at the wider scope of workshop activities where this plane once resided.

Sharps & flats

For a smoothing plane to be on song it needs sharps and flats in the right places, so this is where I focused my attention – on the cutting

edge, the sole, and mating surfaces like the cap iron, blade and bed.

The metal soles of the Stanley and the Spiers were both in need of flattening, so I spent a gritty afternoon working them on aluminium oxide abrasive until they showed a satin sheen from heel to toe.

Investigation with a try-square and torch showed the Preston's sole to be more seriously uneven but with a woody this is less of a problem because you can simply plane it flat – using one plane to fix another. Gripping the curve-sided stock had me flummoxed for a while but a couple of G-cramps did the trick. Now it was a pleasant

job planing down to the pinkish hue of a pristine surface in the beech, taking wispy shavings with the freshly-fettled Stanley No.4 until the try-square signalled job done.

As for the beds, the Stanley's removable metal frog was a good fit and flat as far as the eye could see, so I didn't meddle, but the wooden beds of the Spiers and the Preston had a flaky build-up, which I carefully pared away with a chisel. I removed a similar build-up from the tapering prongs of the Preston's wooden wedge where they contacted the cap iron, and dealt with light rust inside the Spiers' mouth using fine abrasive wrapped around a scraper.

Onto the cutting gear, and so that I could compare the planes on level terms, I treated all three blades the same. After flattening the back, using a steel rule to lift the blade a little and concentrate effort where needed, I used an Eclipse 36 honing guide to achieve a 30° bevel at the edge.

For the Spiers and Preston a preparatory visit to the grinding wheel was needed because freehand sharpening had rounded their bevels like ovolo mouldings, so that the edge was at nearer 40° than 30°, but I get a childish thrill from making sparks on the grinder; they remind me of the enormous garden bonfires my mother used to make, lighting up the night sky.

I used a leather belt loaded with Autosol metal polish to strop the edge to a somewhat hazy mirror finish; the polish turning from white to grey shows just how effective it is at removing metal. I also cleaned the upper surfaces of the back irons so they wouldn't drag on passing shavings, and levelled their leading edges to ensure a gap-free fit with their respective blades. The rough mating surface of the Stanley's lever cap needed levelling too, but I couldn't reach the inside of the Spiers' pivoting lever cap so let that be.



19 The £6 Preston woody from a junk shop



21 Two G cramps hold the curve-sided woody for planing flat



22 One plane fixes another: using the fettled Stanley on the Preston



23 The pinkish hue of freshly exposed beech in the Preston's sole



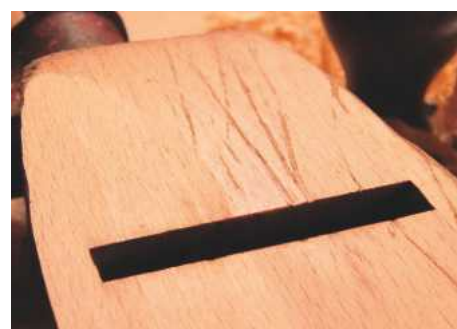
20 Torch light seeps between the hollowed sole and the try-square

Setting up

In setting up the planes for comparison I was aiming for uniformity, beginning with setting the cap iron back from the edge by the customary imperial standard of $\frac{1}{2}$ in (0.8mm). To set the minimum blade depth for a full width shaving, I put the plane to the wood with the retracted blade fitted finger-tight and adjusted the depth until it began to bite. This is easiest with the Stanley, using the brass wheel, which can be turned even without taking your hand off the handle, but really not much quicker than adjusting the other two once accustomed to the system.

The Preston is adjusted by deft taps of the hammer – on the blade to project or angle it, above the toe to retract it, on the wedge to tighten it, or sharply on the heel to free everything and begin again. Adjustment of the Spiers, having that elegant rear handle, forgoes hammering the wood in favour of loosening the lever cap screw and urging the blade back up by hand. When tapping the blade I'd hold the plane in one hand with my fingertips in the mouth so I could feel the effect of the blow, then watch a shaving taking shape to see if the blade required lateral adjustment.

Incidentally, I wonder if the prevailing fashion for using a dainty brass hammer has much basis in tradition since Charles Hayward's 1946 book *Tools for Woodwork* shows a wooden trying plane



24 Most of the wear was in front of the mouth



25 Grinding the Preston's blade before honing...



26 ... with the Eclipse guide set for a 30° bevel



27 Stropping the blade on a leather belt loaded with Autosol metal polish...



28 ... produced a hazy mirror finish

being adjusted using a common-or-garden Warrington. With the Spiers' blade being somewhat short, I found a hammer's cross pene just right for tapping it without adding further scuffs to the top of the handle.

Using the Stanley's adjustable frog, I narrowed the gap between blade and mouth to about 0.8mm, theoretically minimising the risk of tear-out, and it turned out the Spiers' fixed opening was not much greater, but the gap for the Preston was over 2mm.

For the test timber I chose a piece of air-dried riven ash converted from a log last year, so it had lovely straight grain, and I gave each plane a slippery head start with a scribble of beeswax on the sole.

All planes are equal

Cutting to the chase, all three planes performed equally well, smoothing the ash to a gorgeous lustre. Following one plane with another, in any order, brought no further improvement – and that being despite the differences in mouth opening, which surprised me.

Without sophisticated instrumentation it's impossible to quantify the smoothness of a surface but the next best thing is to measure the thickness of the shaving. With dimensioning having been done, the smoother's job is in its

name, smoothing, and removing the minimum of wood in the process, hence the relevance of a shaving's thickness. This is measured conveniently using a micrometer screw gauge. Since many woodworkers talk in terms of 'thou' or thousandths of an inch, this is a job for an old imperial (or current American) micrometer.

In this test the shavings were consistently about 2 thou from every plane, suggesting that differences in design and materials count for less than tuning. If well prepared, the humble woody, the bells-and-whistles No.4 and the elegant infill, are equally good at what they do.

But I don't expect to get the best out of a plane without a lot of practice, let alone three different planes with such individual features and handling, so the 2 thou shaving is an index of my present tuning and planing skills rather than a limit on what these planes will do in the future.

Bearing in mind the emphasis placed on thick blades and weight for some of today's high-end planes, if a thick blade were such a telling advantage then surely the Stanley should have come a poor third because its blade (2mm) is only half the thickness of the other two (4mm), and if overall weight is significant, the Preston (0.9kg) should have been the loser because it is only half the weight of the Spiers (1.8kg). I'd suggest what matters most is that the sole is

flat and the blade is sharp and firmly bedded. I should add that all three blades are 50mm wide, and bedded at about 45°.

Numbers & nuances

On the basis of these results, if I were shopping for a new plane I'd pay less attention to the numbers relating to weights and measures and focus instead on the nuances of design, which determine how a plane handles and operates. And in that department there's a clear winner as far as I'm concerned – the Preston woody. Not only do I enjoy the simplicity of adjusting its blade with a delicate tap of the hammer, but its warm and subtly chamfered body nestles in my hands as softly as a sleeping rabbit. **WW**



29 The Preston's cap iron set 1/2in from the edge



30 The softly chamfered woody nestles comfortably in the hands



31 The Preston smoother returns a 2 thou shaving



32 Blades and cap irons, from top to bottom: Stanley No.4, Preston and Spiers

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! You can write to us at **The Woodworker, MyTimeMedia Ltd, Suite 25, Eden House, Enterprise Way, Edenbridge, Kent TN8 6HF** or send an email to editor.ww@mytimemedia.com

★ STAR LETTER

Bandsaw tyres



An example of a Delta Homecraft 10in bandsaw, similar to Doug's

Hi Mark,

I have been importing a 1953 Delta Homecraft 10in bandsaw from the United States a bit at a time. It is currently about 98% complete but it needs new tyres for the drive wheels and I cannot find a manufacturer in the UK. They are 10in diameter x 19mm wide x 0.095in thick (apologies for the mixture of measurements). I've been through the magazine to check for stores that might have some new old stock, but to no avail. I have checked on the internet and found some in the USA for £18-£25, but they then want £25-£30 shipping to get them over here. Are there any UK companies that you know of that might sell them by any chance? Your help would be most appreciated. **Doug**



Fitting a bandsaw tyre

Hi Doug,

Whereas a rubber belt can be readily obtained in many sizes, the actual tyres, which fit the wheels snugly and provide the friction to grip the blade, are a tad more specialist. It seems unlikely that any UK shop will have this item on the shelf (although they may have had once). One way to go is to see if you can get a pair made to order locally; it's possible that a secondhand machinery dealer may have a useful contact for this purpose. The other solution I can suggest is to fabricate them yourself: it's actually easier than you might think. A strip of suitably thick rubber can be cut to size and simply glued to each wheel with a contact adhesive. It may sound crude, but the constant pressure from the blade will ensure that the tyres remain firmly in place. Most kit from the early '50s features simple yet effective engineering, so I think you should be in with a good chance of getting your Delta back to work before long. Please let me know how you get on.

Mark

Writing for the magazine

Hi Mark,

I've only been reading *The Woodworker* on and off for a year or two. I like the variety of the articles and would like to write something myself. Can you give me any advice? I prefer working with hand tools, which I inherited from my uncle. **David**

Hi David,

We're always keen to see photos of and learn about readers' work, so the best thing you can do is to email me a photo or two with a brief description of the piece and the work involved. For the writing, it's important to be clear about what you've done and it's always good to include any difficulties you may have encountered (as a warning to others) or any 'eureka' moments of joy. When it comes to photos, there's a lot to consider, so I've written a short guide to explain the basics. If any other reader would like to know more about getting work published, please get in touch on the usual address:

editor.ww@mytimemedia.com

Mark



David prefers working with hand tools, but how about you? If you'd like to write an article for us, do get in touch

Paper quality issues

Hi Mark,

Yesterday I received my copy of *The Woodworker* and I must say that the feel and quality of the pages is very poor. The texture is almost as bad as newsprint. I pay for a quality mag – are you going to reduce the price to allow for the paper? Thankfully the content has maintained a very high standard.

Best regards,

Roy K Oxley

Hi Roy,

I'm sorry to hear of your dissatisfaction with this aspect of the magazine, and I have to say that I completely agree with you. Unfortunately this comes down to rising paper prices, which has therefore forced the owners to use a thinner stock than before. Unfortunately this decision

*was out of our hands, made by top management, and we were not made aware of this change in paper stock occurring, so thank you for bringing this to our attention. This has, sadly, coincided with our long-awaited magazine redesign, which is a great shame, as this obviously has an impact on people's impression of the end product. I'm pleased to hear, however, that you still value the content (and I'd like to think that you're not alone there), but I feel the full potential of the magazine can never be fully realised until we once more have a decent budget available. So, here's hoping that things pick up, magazine sales go through the roof, and we can make *The Woodworker* the best it possibly can be. If this happens (fingers crossed), then the first thing we'll do is address the poor paper stock issue. All the best,*

Mark

GET IN TOUCH! Don't forget, we're always keen to see your photos, so please don't hesitate to send them in if you've snapped something of interest recently.

Email me on the usual address: editor.ww@mytimemedia.com

Please note that all digital photos need to be greater than **1MB** in size to guarantee sufficiently good reproduction for the printed page

WORKSHOP



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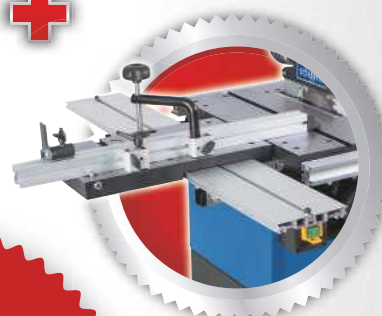


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Table size	530 x 400 mm
Table size with extension	530 X 1000 mm
Table height	870 mm
Cutting depth at 90° max.	60 mm
Cutting depth at 45° max.	44 mm
Motor	230 V~
Input	1100 W

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Patterns & profiles

It's good to see that woodturning has been a popular part of the contents of our magazine for many a year, and this excerpt from the past shows that there is still much that can be learned for all of us

One of the best things about taking an interest in all things woodwork (and this definitely applies to just about everything else in life), is the way one's knowledge slowly increases with time. Often it will come about by chance, or there will be some small item of discovery that arrives unexpectedly with a mass of familiar stuff. Leafing through a copy of *The Woodworker* magazine from December 1919 the other day, I chanced upon this small article – one of a series – on patterns and shapes for woodturning.

Basic tenets of classical design

This is just the sort of thing I wish I'd read a long time ago, and presents, in a comfortable and homely way, the basic shapes and profiles that can be found on much of our domestic furniture and fittings. Not only are these of interest to turners, but the shapes and their names are of considerable importance to any woodworker just starting out. The drawings and associated terminology will go towards understanding the basic tenets of classical design. This is something that underpins much of what we see around us and a working knowledge of which is essential for any design student, however contemporary their work. Although much has changed over the centuries, the appreciation of a fine curve or a pleasing proportion remains the same to the human eye.

Oh, and despite my relative ignorance of many of the technical aspects of turning, I'd like to think that the 'Table of Speeds for Power Lathes' is still fairly relevant. As ever, your thoughts and comments are welcome.

Mark

DO GET IN TOUCH

If any readers have memories and photos of things they or their forebears made from *The Woodworker*, please get in touch as we'd love to see them. Just email me on the usual address: editor.ww@mytimemedia.com and we'll get them in the mag

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WOOD TURNING

GROUPING OF MEMBERS FOR TURNING PATTERNS

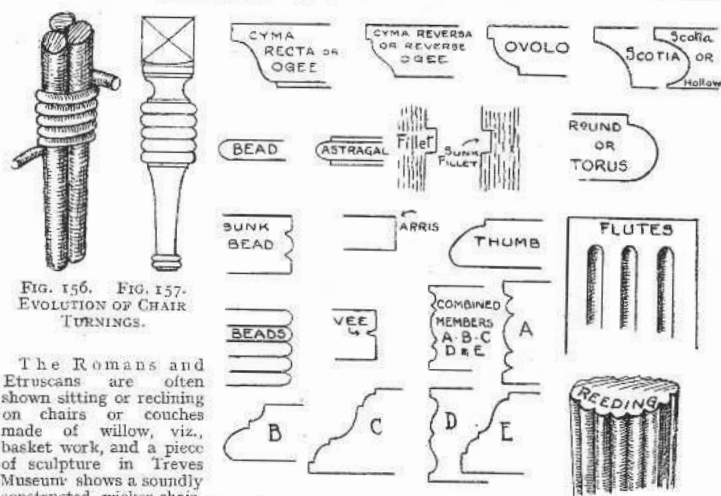


FIG. 156. FIG. 157.
EVOLUTION OF CHAIR
TURNINGS.

The Romans and Etruscans are often shown sitting or reclining on chairs or couches made of willow, viz. basket work, and a piece of sculpture in Treves Museum shows a soundly constructed wicker chair, the front legs of which are bound round with osiers. It is probable that this binding of the legs, so as to strengthen them suggested the contour of the turned beads which are so familiar on chair legs, as at Figs. 156 and 157.

Turning patterns are made up of concave, convex, or serpentine lines, combined with fillets and vee cuts. These members are classified, and every wood turner should be familiar with their names. Fig. 158 illustrates the members generally used by the turner. Take, for example, Fig. 159. Commence at the top and analyse it. First we have the square; next, the ogee, and the fillet; then we come to the serpentine swell and we find upon examination that even this shape is a combination of the hollow and round (or, to give them their correct names, the scotia bead). Small bead, fillet and scotia again follow; after which we have a swell, which with its fillets might be classed as a large ovolio moulding. The

FIG. 158.—MEMBERS GENERALLY USED BY WOOD TURNERS.

ogee, fillet, and major portion of the shaft follow on, and we arrive at the small astragal mould which breaks the upper and lower portion of the shaft. The shaft is finished by a fillet, and then we have the crushed ball form which is ornamented by a sunk bead. In turning patterns the general effect consists of a good grouping of the various members and a correct proportion of the lines which are used.

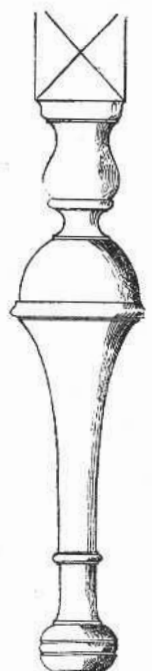


FIG. 159.—
EXAMPLE OF
TURNED SHAFT

The previous articles of this series appeared in the February to November numbers, inclusive, 5d. each, post free from EVANS BROS., LTD., Montague House, Russell Square, London, W.C.1.

Chessmen.—(Continued from page 231).

Knights: Two black pieces and two white. The lower portion is turned with a small pin on it so as to engage with a hole which is bored into the horse's head. The upper portion forming the head is hand-carved.

Bishops: Two black pieces and two white.

Queens: One black piece and one white.

Kings: One black piece and one white.

Suitable woods are boxwood and ebony. The bottom of each piece is turned slightly concave, so that each piece will stand secure and firm. By those who do not grudge the cost ivory may be used instead of boxwood.

589

Table of Speeds for Power Lathes.

In all cases where power lathes are being installed

for special purposes the following table of speeds should be consulted:—

DIAMETER OF WOOD TO BE TURNED.	REVOLUTIONS OF WORK PER MINUTE. Approximately
1 in.	3,000
2 ins.	2,500
3 ins.	1,500
5 ins.	1,000
8 ins.	650
12 ins.	570
18 ins.	300
24 ins.	250

After consulting the above table the advantage of driving lathes by variable speed motors is obvious. (Further examples of Wood Turnings will be given in the next volume).

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• Dimensions L / W / H:	380 / 380 / 390mm
• Grinding wheel size ø / width:	250 x 63mm
• Grind stone speed range:	90 -150 rpm
• Grit /Grindstone material:	K 220 / Aluminium Oxide
• Honing wheel size ø / width:	225 x 30mm
• Input power:	180 W
• Motor:	230 V
• Weight:	13kg



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Stick by me

Animal glue remains an age-old product that now enjoys modern technologies of production, and chemist control and understanding, says **Fredk G Page**

When I was at secondary school in the 1940s, the woodworking shop always had a certain aroma. It was a mixture of fresh wood shavings and the glue pot! The latter stood proudly on what we would now call a wood-burning stove and in those days used that convenient fuel called 'coke'. The pot was in fact a traditional 'double boiler' made of cast-iron. The outer pot contained water and the smaller inner pot held the glue. Sometimes the inside water would boil over, spilling onto the hot stove. This was more often than not the source of the so-called workshop glue aroma. Some glue often found its way into this water jacket, thus adding to the all-pervading familiar odour.

A history of glue

Early references to glue date from antiquity but it was not until 1500-1700 that glue of animal

origin was commonly used in furniture jointing although evidence shows the use of animal glue, and sometimes casein glue, in earlier violin making.

The first European commercial glue making from animal remains and hides appears to have been in Holland, dating from the end of the 17th century, followed by a works in England at about 1700 ⁽¹⁾. Nevertheless, the early history of violin making from the Brescia area of northern Italy in the early 16th century shows the Brescian and Cremonese master craftsmen used glue prepared from animal remains. To the present time such glue remains the traditional choice on the basis of certain properties required not only by the violin maker but also the cabinetmaker or restorer.

Because of the development of structural jointing in cabinetmaking and the treatment of surfaces with veneers in the 17th century onwards, the reliance upon animal glue developed. The first British patent appeared in 1750 for fish

glue and was soon followed by others involving animal remains and bones.

Glue making

Animal glues are made from the protein material extracted from the bones, hides and other animal remains by boiling in water. This extracted material is cooked to form a gelatine-like material that can be reliquified by heat; in effect a reversed thermo-setting glue having fairly fast setting time. Its major use up until the 1950s was in furniture jointing (particularly piano and violin making), and also book-binding, etc. Sight of a simmering cast-iron glue pot with its familiar brush almost certainly points to an animal or hide glue and no doubt jogs many youthful memories.

The process of manufacture depends upon the desired product; gelatine and glue are very similar materials but the latter is much less refined. Both are produced from the insoluble



1 A pair of cast-iron glue pots



2 Glue brushes





3 Liberon pearl glue is available in the UK



4 No woodburner in your workshop? You'll need one of these

fibrous protein – collagen – of which connective tissue and bone consist. In gelatine or glue production any extraneous material, such as meat etc., would be removed from the crushed bone after degreasing with benzene or other solvent, followed by further division and grading, depending on whether gelatine or glue is to be the final product. The raw materials for production of glue or gelatine may undergo de-hairing and mechanical loosening followed when necessary by bleaching and sterilisation using sulphur dioxide. Other pre-treatments may involve using lime followed by dilute acid in order to convert calcium phosphate and other mineral salts to a soluble form. The remaining insoluble sponge-like material, known as ossein, is processed further and during this cooking process individual molecular chains form consisting of triple-stranded helical coils, which are responsible for the bonding strength of the final glue. Though these intramolecular forces are relatively weak their large number becomes collectively strong. Too higher processing temperatures can break these weak bonds, but nevertheless, subsequent cooling allows them to reform, but

randomly, instead of in their native arrangement. In this process the conditions employed directly influence the performance of the final glue. Hot water extraction and other pre-treatments (either acidic or basic) influence the triple-helix structures leading to more disordered or 'random' coils of single protein chains. The temperature at which this denaturation occurs is chosen by the glue maker having in mind the nature of the original collagen source. A mild extraction at moderate pH and temperature, say around 60°C, favours gelatinous protein fractions of longer chain length and higher molecular weight. Although the process of denaturation reduces the triple-helix arrangement, it is on gelling that the single random protein coils undergo partial rearrangement (renaturation) back into collagen-like triple helices. This ability to form a rigid gel on cooling, which can be repeatedly reliquified by reheating, is one of the unique properties of animal glues. Nevertheless, some degree of lower glue strength results.

The final filtration, concentration, gelling and drying, leads to an acceptable grade of gelatine or glue. If glue is the only product desired then processing would be less sophisticated than described above. In simple terms it is the collagen, whether obtained from bones or other waste animal products, that provides glue.

For ordinary glue manufacture the process remains simply one of extracting the maximum amount of collagen from whatever source is available by controlled treatment with water and concentrating the final liquid to about 15% solids, which on further air-drying produces the solid plate glue.

The final liquors at this concentration are run into trays containing a metal grid divided into squares. Once the glue has cooled and set to a jelly, usually overnight, these squares would be cut with a knife and placed on a wire grill tray. By stacking these on trolleys with spacers to allow free circulation of air they would be placed in drying tunnels having extractor fans at one end and steam-heated coils at the other.

The trolleys would travel very slowly from the extractor end to the steam-heated exit. Here, the

product emerging, if of sound quality, will be free of impurities and should be a transparent uniform light-brownish colour, and should break with a glassy fracture. At this point the glue should have a moisture content of not less than 8% and not more than 16%, but is typically at 15%.

To make pearl glue there is an additional stage involving a tower in which very cold white spirit or benzene is circulated. At the top is a perforated plate through which the warm liquid glue flows. As it drips through the plate it forms pearls, which chill as they fall through the solvent and on removal by sieving are afterwards turned frequently in a current of warm air until the pearls are dry.

Testing glues

This may involve a simple procedure such as gluing two wooden blocks together for breaking by measured mechanical means. One important laboratory test called a 'Bloom' test (or gram test) appears in various BSI publications (2), but a simple practical method of testing is described by Schofield (3). In his report, animal glue was compared with modern PVAs and polyurethanes by measuring the force necessary to break a glued standardised joint.

Not unexpectedly the animal glue joint proved the least effective but had the great advantage in that the breakage occurred at the glue line, there being no damage to the timber which was not the case with other adhesives. Reproducible laboratory measurements of the jelly strength and the viscosity of glue also show a direct relationship to adhesive strength. Indeed, glue is sometimes graded on the basis of its gel strength – this is a measure of how many grams of force are needed to achieve a 4mm depression by a plunger of fixed diameter into a 12.5% gelled solution of the glue at 10°C and is known as the Bloom Gelometer test. Grades may vary between 32g and 512g by this method and a measure of 192g is judged best suited for woodworking joints. The higher the gram strength the stronger the glue and its higher molecular weight – but its gelling time is shortened. Clearly, animal glue is strong glue, as proved in Schofield's tests, in which he showed its computed bonding



5 Half-fill your glue pot with pearls...



6 ... fill with water...



7 ... and leave until morning

strength to be 76% of the best modern PVA. As a cold setting glue the bond strength develops with loss of moisture through the wooden interfaces or directly to the atmosphere. Variations in joint strength can occur dependent upon the nature and species of timber used. Nevertheless, in the limited variation of humidity and temperature that a piece of furniture might normally experience, animal glue has value. Here, the bond's moisture content fluctuates with ambient temperature and humidity in a similar way to that of the wood. Consequently, there is a uniform moisture content equilibrium across the entire glued joint. This may result in lower stress than in the case of an impermeable glue line given by, for example, a cured PVA bond at nil moisture content. While remaining susceptible to excess moisture this aspect of animal glue becomes an advantage to the violin repairer or woodworker, inasmuch as a joint can be re-opened if needs be by application of moisture and heat. For most applications, the main requirement of any joint is that the adhesive should not give way, but in areas of repair and restoration where a joint can thus be re-worked, this characteristic is of immense value. One can imagine the chaos caused if a violin maker were to use irreversible PVA!

Qualities

Of the other valuable properties of animal glue, one is the way the joint sets up. The glue has a three-stage action. Hold two pieces of wood together bonded by animal glue and it will be found that they will easily rub together within the first few seconds, followed quickly by a considerable holding. This is very desirable in a wood-bonding glue. Of course, such an early bond is of no great strength but this is often sufficient and useful in a difficult gluing-up operation. The third stage achieves final bond strength, usually by overnight drying involving the loss of moisture either into the timber or atmosphere, depending on the nature of the work.

Adhesion is a property of glue by virtue of the intermolecular forces already described within the glue (cohesion), which attract and cling to (adhesion) the wood. For greatest bonding the



8 After an hour or so of heating the glue is ready

glue must penetrate the cellular structure. Because of the hydrogen bonding capacity of water and related capillarity and wetting properties, the hot glue when first applied hopefully reaches the cellular levels of the wood. The cohesion within the glue itself does the remainder of the job. Of course, animal glue will fail if these cellular levels already contain an incompatible residue of earlier PVA or other adhesive (polyurethane etc.), but a further advantage of animal glue is that it will bond to itself; another reason why it is so favoured by restorers.

In keeping with present day trends the manufacture of glue from animal waste is an environmentally-friendly process. Allowing that some heat is used in the various processes and there may be a small negative aspect from waste filtrates, the process overall self-contains the original carbon content of the animal waste. There can be valuable by-products, for example, in grease for the soap industry and certain animal feeds and fertilisers. Sadly all UK production of animal glue has now ceased, although imported glue as powder or pearls remains available.

Various advantages of animal glue over other



9 Consistency – not too thick, but not so thin that it runs in drops

modern formulations have been mentioned. In each instance, chemistry is involved and this is particularly highlighted in what is probably the unique property of animal glue in offering a reversible process to allow disassembly. It remains an age-old product that now enjoys modern technologies of production, and chemist control and understanding. Animal, or Scotch glue as it is sometimes called, is no longer the empirical concoction of the 17th century. **WW**

REFERENCES

1. H. B. Sweatt, J. of Chem Education (1946), 23 (4), p.192
2. Methods of sampling and testing (ISO 9665:1998, 2000)
3. Schofield, M. 'How Strong is your Glue?' (*Fine Woodworking* magazine, v. 192, 36-40. 2007)

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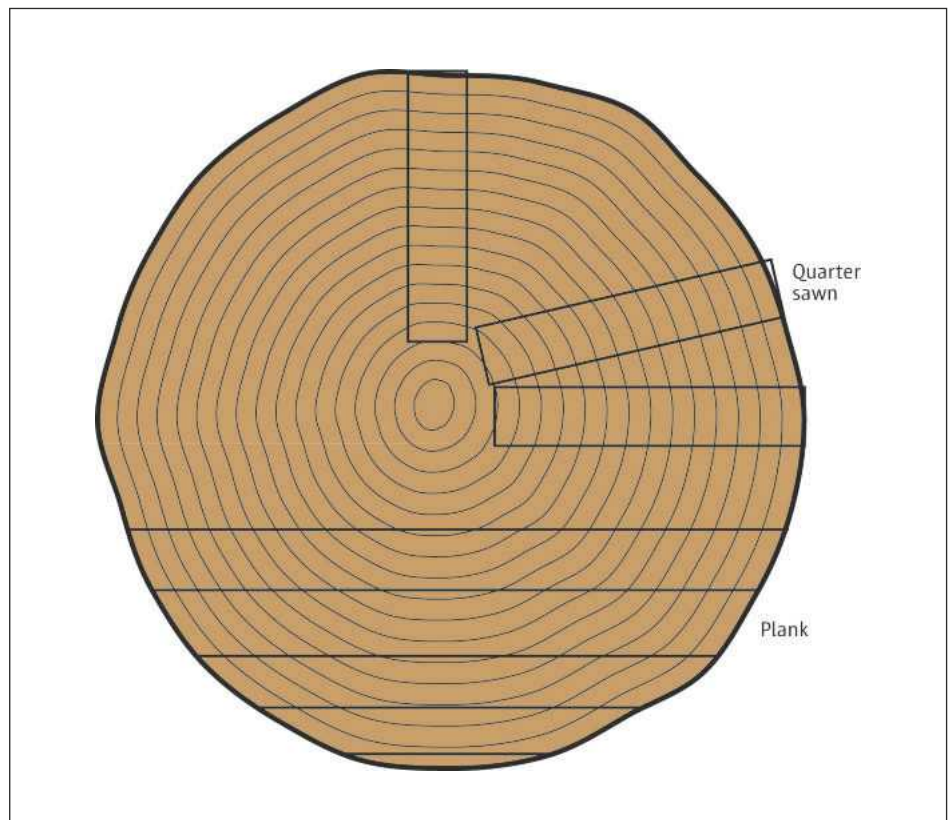
"I say, darling – the table has moved!"
Michael Forster explores the idea that timber has a life of its own

As a professional therapist, I find woodworking exciting because, like people, wood is alive and open to change. Of course, this can be a delight and a frustration. But in both therapy and woodworking, if we treat the subject with respect, we may hope to enjoy a beautiful, creative relationship.

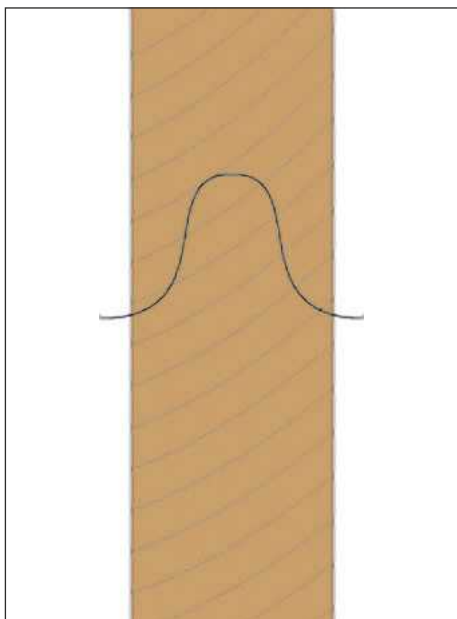
It's imperative when working with timber that we remember its impulse to move, and make our design and construction decisions accordingly. If at every stage – timber selection, preparation, and construction – we bear this in mind, the wood will work with us, not against us.

Natural selection

Some species are more stable than others – chestnut, for example, is more likely to move than oak. If stability is a particularly big consideration in a project, then I'd factor this in; but it should be said that the differences are relatively small. Of far greater importance is how the timber is cut and seasoned.

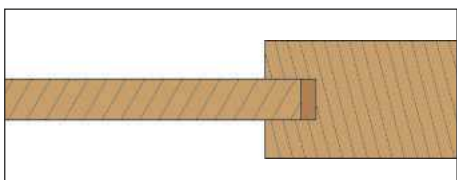


1 As the annular rings try to straighten out, quarter-sawn timber (top) will be more stable. Plain-sawn or through-and-through timber (bottom) will tend to cup as it dries, and movement will vary according to which part of the tree is used

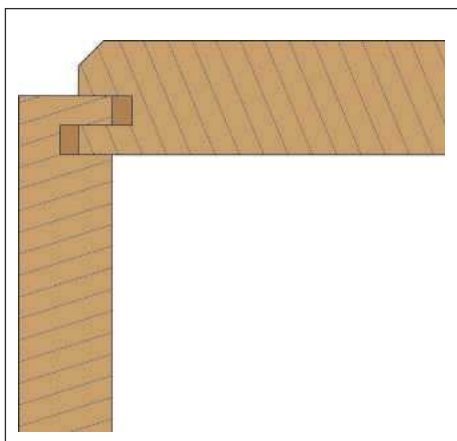


2 Moisture content could be depicted as a curve, something like this. Resawing this board to half its thickness will expose the wetter inner fibres to the air and the board will warp as they acclimatise

In very simple terms, timber will generally be either plain or quarter-sawn (**photo 1**), according to how the sawing relates to the annular rings. Quarter-sawn will be consistent, with the annular rings effectively perpendicular to the surface, while plain-sawn will vary according to where it is cut from the log. Cupping in boards is caused generally by the annular rings trying to straighten out, so it's not hard to see that quarter-sawn will be much more stable than plain-sawn. Sadly, it's also more wasteful, and therefore expensive.



4 A door panel set in grooves. Cutting the grooves slightly deeper than required leaves voids where the panel can expand without stressing the frame



5 A section through a box: the unglued lid panel is free to expand and contract laterally while a central spot of glue at each end keeps it nicely aligned with the box sides



3 This board is obviously experiencing some stress release, the pieces spreading apart as it passes through the bandsaw. It will now be left to acclimatise before final dimensioning

The other big issue is seasoning and moisture content (MC). Air-dried timber is obviously good for outdoor projects since its MC will be similar to the atmosphere; but for indoors, in heated modern houses, kiln-dried timber is really a must.

The proper preparation

The plan here is to allow the wood time to react to cutting, and to settle down. The MC of a board – especially a thick one – is not constant throughout, and ripping will expose moisture

internal fibres to the air, which will then shrink as they acclimatise. By way of further complication, cutting may release internal stresses within the fibres, unbalancing the board and enabling distortion (**photo 3**).

The answer to both of these 'problems' is a two-stage preparation process. The timber is cut oversize and left for a couple of weeks in an environment similar to the intended destination to reacclimatise before final truing and dimensioning. This is easy if you're making the piece for your own home, but a tad more difficult if it's a commission or present for someone far away, in which case we just have to try to approximate the conditions.

These issues readily justify the cost of a basic powered saw (I like a bandsaw for its versatility) and planer/thicknesser in allowing you to do the prep yourself. Asking the timber yard to dimension the timber will almost certainly mean the boards will move during or soon after delivery, because the preparation itself has destabilised them – and this can ruin a project before it begins.

Design & construction

With timber selected and seasoned to minimise movement, the project needs to be designed to allow it the freedom to move; it'll still want to move, you see. This involves some understanding of movement itself. In simple terms, widthwise movement exceeds lengthwise by anything up to 50 times, so try to avoid cross-grain gluing. In narrow timbers used for things such as frame components, the movement will be small and shouldn't trouble you, but in wide boards it will become an issue. This, incidentally, is why mitres in wide boards always open up – because the widthwise shrinkage pulls the inner corners apart.



6 A crude and unsympathetic way to fix a tabletop. The battens across the grain are bound to cause movement issues. Buttons would have been much better

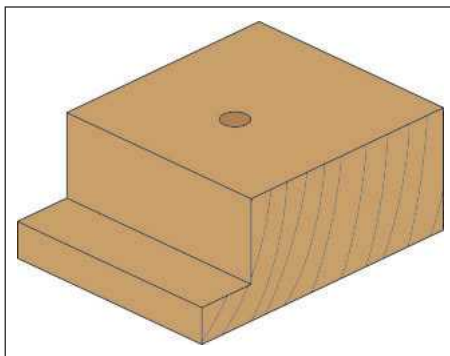
A simple example of the issue is demonstrated by a door panel, whose widthwise movement will conflict with the lengthwise stability of the rails. If a wide panel is glued in place, something will have to give – and with modern glues, it will probably be the timber. The simple, traditional answer to this is to let the panel ‘float’ in a groove so that it can expand and contract freely. If alignment of the panel is cosmetically important, a small dab of glue in the centre of each end will keep it centralised while allowing the board to move either side.

Tabletops are another obvious example, where there are two issues: lateral expansion/contraction conflicting with the long-grain stability of the rail, and the cupping of the wide top as the annular rings start to straighten out. The first is traditionally dealt with by using either buttons or shrinkage plates. The buttons move with the top, sliding in a groove in the rail, while the shrinkage plates are slotted to allow the mounting screw to slide. In both cases, the friction will be enough to hold the top steady in normal use while allowing the powerful forces of timber movement some degree of latitude.

Cupping crises

The cupping issue is a serious one, especially in a wide tabletop where it could be very noticeable. Good moisture content and, where possible, acclimatisation, will help, but the best option, if affordable and obtainable, will be to use quarter-sawn timber.

If, as is highly likely, plain-sawn timber has

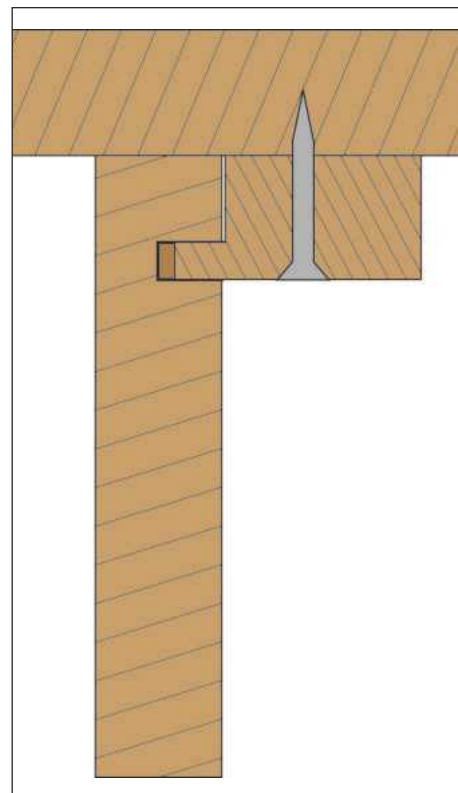


7 A wooden ‘button’ for securing a tabletop. The tongue engages in a groove in the rail and a screw through the central hole secures the top

to be used, then cupping is going to be a serious issue, and all we can really do beyond good seasoning and preparation is to minimise its effects by making the top from a number of edge-jointed boards and alternating the annular rings. This will mean that instead of one deep cup across the surface we shall have a series of more subtle undulations that may be unnoticeable to most eyes and will certainly make the top more usable. Obviously, the narrower the individual boards, the less pronounced the undulations will be, so it’s a question of how much work we’re prepared to do in jointing them up.

Creative relationship

There’s more that can be said of course on this subject. Essentially, though, handling timber movement is about showing understanding and



8 The button in place, screwed to the underside of the tabletop and able to slide in the grooved rail

respect for the timber – allowing it freedom and, in effect, developing a creative relationship with it. Which, interestingly, is exactly what I’m always saying about people, too... **WW**



9 Alternating the grain will have implications for the finish-planing – but more about that another time

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PACKAGE 1

An elegant Roman leg

Photographs courtesy of Wikipedia Commons



Various examples of Roman legs on a couch, shown in a room which is a reconstruction at The Bavarian State Archaeological Collection...

Taking influence from a traditional leg used on an ancient Roman couch, **Niall Yates** sets about turning a replica and experiments with using casting materials

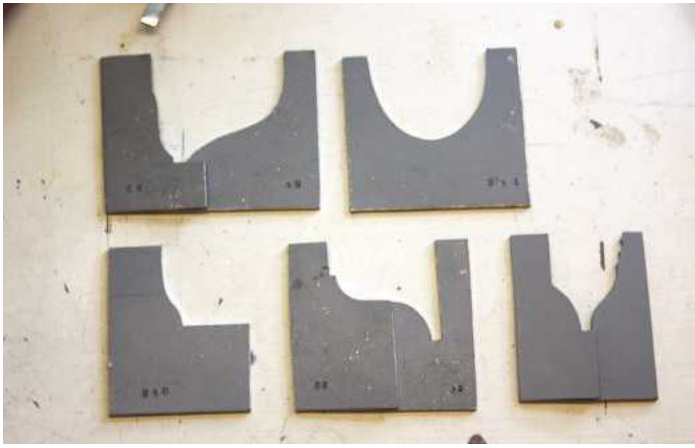
I suppose we are all familiar with the frescos of Herculaneum and Pompeii and of seeing those rich images from the ancient Roman world. In the frescos we often catch a tantalising glimpse of the furniture: the chairs, tables, stools and couches of the period. In the intervening millennia the human form hasn't changed and neither have the basic furniture shapes. However, as someone who makes furniture, one of the things that did seem improbable to me were the turnings that formed the legs of the tables and couches. Setting aside artistic license and the fact that some of the furniture was made of metal, the forms of these legs did seem implausible.

Serendipity

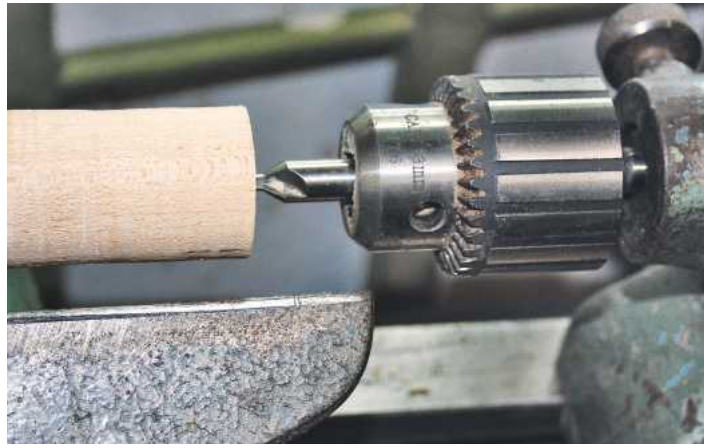
This thought was something I had filed at the back of my mind until, by chance, I happened to be reading an archaeological publication on – what else but – a Roman couch. And there it was: the answer to my idle thoughts. The legs were made with a central iron rod and the turned elements were threaded onto this, much like beads onto a stiff wire.



... and as depicted in a fresco on the Metropolitan wall painting reception hall (Roman 1C BC 10)



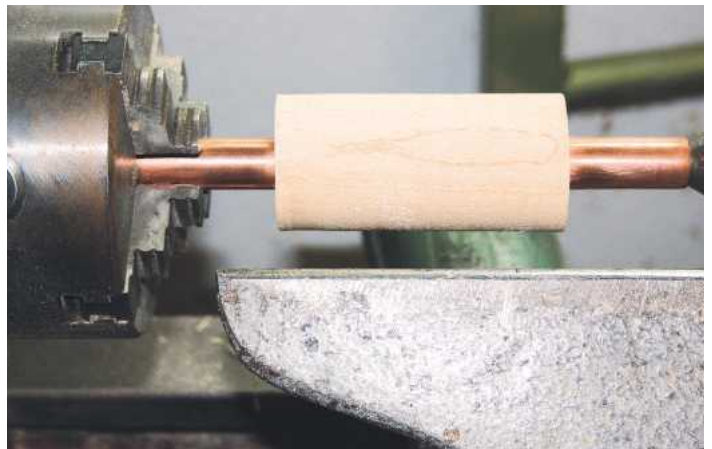
1 Templates for the Roman leg



2 Drilling with the centre bit



3 Starting the pilot hole by hand



4 Small cylinder fitted with tube back on the lathe

Of course, there were added refinements: there was a foot at the base that stopped the turnings falling off and each of the turnings was tenoned into the one above to give the outer leg further strength and rigidity. The rod was then passed through a hole in the seat framework and peened over at the top, thus capturing the whole assembly. This squashed metal was disguised with a turned cap that was hollowed out and seated over the top of the rod. So there you have it: a very elegant turned Roman leg.

Musings on Roman couches

Since my chance discovery, it had occurred to me that it would be fun, if a little daunting, to make a facsimile copy of a Roman couch. I realised, upon further reading, that it would take a phenomenal

amount of man hours to complete the task, which did dampen my initial enthusiasm. The basic structure of the couch is of wood with iron rods reinforcing the legs. The seat frame is veneered with bone and sunken panels to the sides contain a fretted relief pattern with panel moulding to the edge of the panels. This is also of bone.

The legs are as has been indicated, but their wooden cores are covered with faceted segments of bone, which are turned and carved. This segmented work has to be very accurate, as any inaccuracies in the joints would reveal themselves upon turning.

Further elements of the design include a three-dimensional carving of a goddess to each leg and eight relief carvings of Apollo to the seat frame. There is also a woven seat with an upholstered and carved rest to either end. I calculated that there were about 150 pieces of bone to each leg, and upwards of 1,000 to the whole couch. I realised that this was one of those projects that would grow like 'topsy' and might never be finished. Of course, as well as finding this amount of the right sort of bone and getting to grips with working it, there are also considerations of health and safety...

What could we do for the Roman couch makers?

Well, apart from offering health and safety, we could also offer polyester resin, coloured to look like bone or ivory. And then there is 12mm

threaded studding – so readily available to us now – which would be ideal for holding the various elements of the leg together. This might seem a compromise too far, but you have to ask yourself what self-respecting Roman couch maker would not have embraced safer working conditions and such wonderful labour saving technology. Besides, this way there was a good chance of getting this project off the ground.

The way forward

I had decided that the best way to check the feasibility of this future project was to make a test leg. I would use a faux-ivory resin cast around a wooden core. This would give me blanks that I could turn to their final shape. This wooden core would also go a long way towards keeping the weight down, which could present a problem with the completed piece.

To aid me with the accuracy needed, I decided to line the central holes through each component with 15mm copper tube. This would give me a mandrel on which I could easily turn the component parts, and it could be trimmed to length later when cutting the circular mortises & tenons. Also, 12mm threaded rod fits nicely into this tube, allowing for easy stacking of the turned components to form the finished leg.

Starting out

The first thing to do was to extrapolate, from the drawings I had, the true size of each of the components, and to make a set of hard templates.



5 Two of the cylinders with their tubes trimmed to length



6 The first section being parted off



7 The bell shape after initial turning



8 The completed cap blank



9 Casting blanks taped and primed



10 Torus profile being routed on the melamine board

For these I used aluminium, which I had conveniently to hand (**photo 1**). I would have to make moulds of the parts for turning and these I decided to make 10mm fatter than the templates. This I calculated would give me sufficient stock for turning without being too wasteful of polyester resin. As a further refinement, I smoothed out some of the intricacies of the profiles, which would allow for easier casting. This called for another set of templates – this time in cardboard.

Turning the small blanks for casting

Some of the components are too narrow to justify the extra work needed to supply them with a wooden core, so would be cast directly around the copper tube: there are four of these. One is the tapered foot at the base of the leg; the other three are spacing pieces that lie between the fatter sections that form the remainder of the leg.

The narrow components are mostly simple cylinders so do not require any templates. I turned these over their finished size from pieces of maple I had in my scrap box. This was accomplished with a spindle roughing gouge. With the timber held on the lathe between chuck and centre, extra stock was allowed in the length, giving me the chance to trim to size at a later stage.

Drilling & further turning

I set each of the cylinders back on the lathe, checking that they located properly against the live centre, before firmly tightening the chuck. With the work held, I slid the tailstock away and replaced the live centre with a Jacobs chuck holding an 8mm centre bit. I then slid this assembly back into position (**photo 2**) before turning the lathe on and drilling into the end of the cylinder just deeper than the chamfer on the shoulder of the bit. I next changed to a 12mm engineer's bit to drill a fat pilot hole. There can be quite a lot of play on a long fully extended bit when starting to drill in this manner, so I find it easier to start the hole off by first advancing the tailstock a little. Then, holding the Jacobs chuck in my right hand, I rotate the chuck with my left. In this way I drill about 12mm into the end of the stock (**photo 3**). I can then turn the lathe on and drill the rest of the hole as per usual without any messy misalignment. Of course, from a safety point of view, I also checked that when the drill passed through the cylinder that there was enough of a hollow in the chuck to accommodate the drill tip.

I now changed to a 15mm bit (with a reduced shank so as to fit in my Jacobs chuck) adopting

the same course of action as before when starting the cut. After removing the turning from the lathe and checking for a fit, I glued a section of 15mm copper plumbing tube in place with epoxy resin, allowing about 40mm to protrude from each end.

After the glue had set the turning was placed back on the lathe. The copper tube was gripped in an engineer's chuck and the live centre was brought up to locate in the end of the tube (**photo 4**). Any misalignment that had crept in while drilling the hole was corrected as the cylinder was turned down to its finished size of 35mm, which on these simpler shapes would allow me 5mm of polyester resin to turn off the cast turning blank to reach the final size of the finished size of the leg.

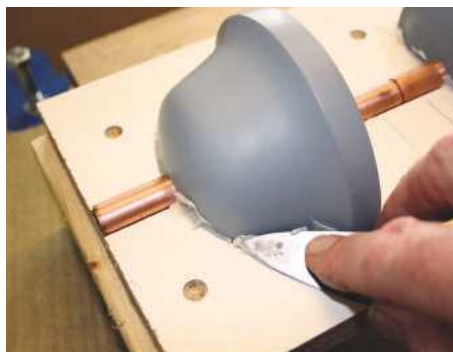
After sanding, the turning was again removed and the copper tube was trimmed with a pipe cutter leaving a spigot of 20mm at each end (**photo 5**). It was now just a matter of tackling the other pieces until the narrow sections were complete.

Larger architectural forms

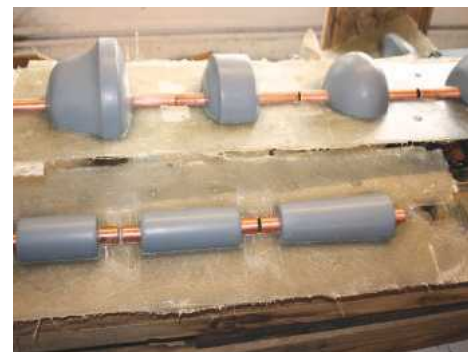
I was fortunate enough to have a dried log of sycamore with which to make these bigger elements. I turned this between centres before



11 Primed blanks fitted on the baffle board



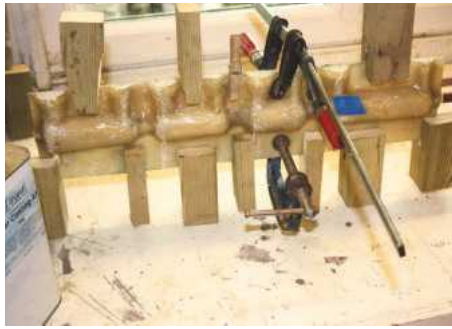
12 Filling around the bell blank



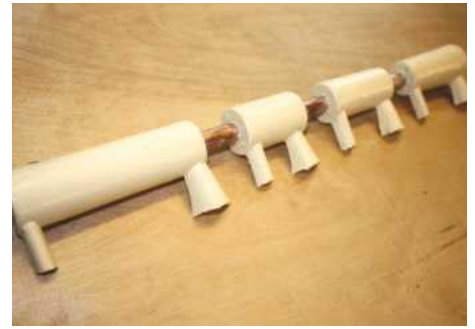
13 Moulds with the baffle boards removed



14 Trimmed moulds with wax rods and cones fitted



15 The small moulds after filling



16 Cast released from the mould



17 Separated cast sections



18 Small casting being turned with a scraper

forming a shallow spigot to locate in my bowl chuck and parted each piece off separately (**photo 6**). The first to be made was the bell piece that sits above the tapered foot; this was turned roughly to shape with a gouge (**photo 7**) before being drilled out with a centralised 15mm hole as before. After being fitted with its copper tube it was returned to the lathe for final shaping and sanding. The other forms, including the torus, the drum and the cornice, were treated in much the same way using a mixture of gouges and scrapers to achieve a satisfactory result. Only the cap that sits at the top of the leg had to be treated in a different way. In this case, as it does not have a centralised hole, I could not use a copper tube as a mandrel. The solution was to turn a large spigot to one end so it could be gripped in the engineer's chuck for turning – this would be left on after finishing and be cast as part of the mould. If I formed a similar spigot, on the wooden core around which I was casting, then this would help me to locate the core centrally within the mould for the polyester turning blank (**photo 8**).

Preparing for moulding

In perusing our turning projects we often have to pick up other associated skills, and casting

resins is certainly one of these. The process is fairly straightforward and there is plenty of information out there on the internet. So in my new role, I set about making the moulds for casting the polyester and wood blanks.

The first thing to be done was to prepare the completed turnings so that a mould could be made from them. With the imperfections filled and the copper tubes masked with tape, they were given several coats of primer, being sanded on the lathe between coats to give a smooth, blemish-free surface (**photo 9**). I then coated them liberally with a mould release wax and buffed the surface to ensure they would come away from the mould without sticking. To make the two-part moulds I first routed a 15mm wide groove 7.5mm deep on two pieces of 18mm melamine-coated chipboard and then routed a profiled cut-out of each of the components along the boards (**photo 10**). These boards form a baffle against which the first half of the mould is cast, along with its accompanying flange. Along the length of the boards I routed a series of small dome-shaped depressions. When the glass fibre mould was laid up these would form protruding nibs that would help to locate the two separate halves of the mould accurately

against each other. Next, I pushed each of the prepared turnings into their allocated positions on the boards, making sure that the copper tube seated fully into the groove (**photo 11**). I filled all gaps around the profiles and between the tubes with soft modelling wax (**photo 12**). I then gave the boards a coating of mould release wax, before further coating the boards and the turnings with a special PVA mould release agent. I was now ready to lay up the glass fibre.

Making the moulds

I laid up the glass fibre as per the supplier's instructions, firstly with a gel coat, then with three successive coats of lay up resin and glass fibre mat. This was left overnight to fully set, before the melamine baffle boards were carefully prised away (**photo 13**). The edges of the moulds were then trimmed square with a cutting disc in a small angle grinder. Where I needed access for filling each successive part of the mould and for allowing air to escape, I formed flattened cone shapes and 'D' shaped rods with wax. These were fixed in place with clipped escutcheon pins fastened through holes drilled in the mould flange. Any undercuts resulting from this were filled with modelling wax (**photo 14**).



19 Finished small components



20 Timber for the wooden cores



21 Cores assembled on their tubes

After coating with PVA release agent and allowing it to dry fully, the second halves of the moulds were laid up as before and allowed to set. The moulds were again trimmed square before being carefully separated using a surprisingly useful putty knife. After cleaning and checking over the moulds for imperfections, any making good was done with epoxy putty.

Casting

After a bit of experimentation, I finally hit upon an acceptable recipe for a faux ivory/bone polyester resin. Having decided to tackle the smaller turnings first, I coated the mould with release agent and allowed it to dry, before firmly clamping it together around a length of 15mm copper tube, the surface of which I had roughened with abrasive paper to provide a key.

The mix for the resin comprised white and ivory pigments along with clear casting resin and onyx filler. This was mixed in a plastic cup stood in hot water to try and minimise air bubbles. With the mould carefully poured, it was left overnight to set (photo 15). Once set, the mould was opened

to release the castings. The tube was then cut, separating the components prior to turning (photos 16 & 17).

Finish turning at last

Having finally reached the stage where I was turning finished components, I now had to get to grips with the vagaries of the type of plastic I had produced. With the sprues removed with a coping saw and file, I mounted my first component on the lathe. After some experimentation, I discovered that it was most successfully worked with sharp scrapers, my trusty bedan and a small coving tool made from an obliquely cut round bar (photo 18). I worked on three of the small turnings, which happily turned out to my satisfaction. The fourth (a long cylinder around which a carving of a goddess would eventually fit) I was unable to work on until I had cast a replacement, as a spiral casting crack had formed in it. These components were sanded wet with 240 through to 1,200 grit wet-and-dry abrasives to give a convincing dull lustre finish (photo 19).

Wooden cores

The cores for the larger turned elements I decided to fabricate from discs cut from 25 x 125mm PAR redwood (photo 20). After being cut and sanded to size on the disc sander they were drilled out with a 15mm Forstner bit on the pillar drill. The different sized discs were then glued in twos and threes around 15mm copper tube using polyurethane glue to form the blanks from which the cores would be turned (photo 21). Again, the top cap had to be treated differently and had a turned wooden cylinder, of a diameter that fitted into the corresponding hole in the mould, tenoned into a pair of discs.

The shapes for the cores were determined by reference to the hard templates. An amount was subtracted from the finished profiles to give a reasonable thickness of resin, and the inner shapes were given a simpler, more angular form. Turning was mainly accomplished with a bowl gouge and scrapers were used to finish the profiles. Some sanding was carried out, but an immaculate surface is obviously not required here (photo 22).

Casting & turning the larger forms

Casting these forms was much the same as before. It was quite tricky calculating the amount of resin required. The easiest method was to fill half the individual moulds with water and estimate that this quantity would fill the moulds around the wooden cores. With this in mind it was best casting from the individual moulds, one or two at a time only, carefully noting actual quantities used for future reference.

After the castings had set and were parted from their moulds (photos 23 & 24), the sprues were cut away and the blanks were mounted on the lathe. The speed was set at 790rpm and they were turned with the same selection of tools as before. It is important to bear in mind where the inner core is inside the blank. When reducing to



22 Wooden cores positioned in the mould



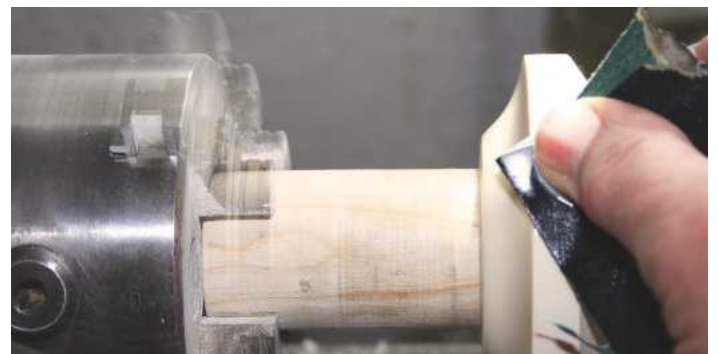
23 Cap and cornice fresh from the mould



24 The torus casting



25 Cap being turned



26 Rear of cap being finished before the face is turned

size, an equal amount of stock has to be removed from both ends, so that the inner wooden core is not offset, causing it to appear through the resin when the finished profile has been turned.

Some of the detail on these turnings is incredibly delicate, especially the thin outer rims that feature on the cap, the cornice and the bell. This comprises a narrow fillet with a flute formed on its outer edge, which would probably be more at home on a small chess piece, rather than a furniture leg.

The cap, predictably, is treated differently. It is held in the chuck on its wooden mandrel for turning (**photo 25**), and after finishing, is parted off. Its base is then drilled out with a 40mm Forstner bit to accommodate the lock nut at the top of the studding. Again, the turnings were finished wet on the lathe with wet-and-dry abrasives (**photo 26**).

Counterboring the mortises

The fatter turnings are counterbored with a 25mm diameter cutter mounted on a 13mm shaft; this slips easily into the 15mm copper tube used for the mandrels. The mandrel on each of the turnings is gripped at one end in the machine chuck on the lathe and the other end is cut away with a hacksaw. The counterbore, which is fastened in the Jacobs chuck, is now introduced into the end of the turning and the mortise is drilled to a depth of 12mm (**photo 27**).

Drilling the mortise at the other end of the turning presents a problem as there is now no mandrel to grip in the chuck. This was easily overcome by adapting a M8 Rawlbolt. With a bit of filing this fitted easily into the 15mm tube and could be expanded to form a firm grip. The threaded bolt section could in turn be held in the machine chuck.

The smaller of the turnings, notably the torus and the drum, are too shallow to have their second mortise drilled on the lathe in this manner.



27 Torus being counterbored



30 Lock nut and dowels ready to receive cap

The solution to this is to set the counterbore up on the pillar drill, and with the remaining mandrel cut away, to drill out the mortise (**photo 28**).

Additional processes

The base of the foot on the original couch is an enlarged section of the iron rod where the metal has been upset and forged to form a chubby flower pot profile. This in turn has been covered with a copper sheath to give a more pleasing appearance. Since I was using threaded studding it seemed expedient to make this as a copper nut with a slightly elongated flower pot shape.

To stand in for the frame of the couch, so that I could assemble my finished leg, I machined up a block of lime to the appropriate size. This was drilled out with a 1/2in hole, which being slightly larger, more easily accommodates the 12mm studding. After tackling these last elements, I was now ready to put the leg together (**photo 29**).

Assembly, results & reflections

Assembling the parts of the leg was fairly straightforward. Some of the tenons had to be adjusted for fit, with some of the shoulders having to be undercut to better match the curved profiles of the adjoining turnings. The lock nut at the top of the leg was tightened firmly onto a washer before the 12mm studding was trimmed to length. The cap was then centrally located over the top of this using a couple of small dowels to hold it in place (**photo 30**).

Surprisingly, the result is quite a convincing Roman leg despite it being incomplete (**photos 31, 32 & 33**). There should be a relief carving of palmettes and rosettes on the sides of the bell, longitudinal ribs on the torus and an egg and dart carving on the moulding running around the



28 Torus counterbored from the other end



31 The finished leg



32 Close up of leg base

REFERENCES & FURTHER READING

A Roman Couch in Cambridge – Nicholls, R Archae. 106, 1979

More Bone Couches (Roman) – Nicholls, R Antiq. Journ. 71, 1991

Carving as Craft – Palatine East and the Greco-Roman Bone and Ivory Carving Tradition – Archer St. Clair. The Johns Hopkins University Press, 2003. ISBN 0-8018-7261-8

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cornice. Also, conspicuous by her absence is the carved goddess, with accompanying cherub, that should fit over the tall, thin shaft at the top of the leg.

With regard to building a complete couch, such a project is definitely feasible, despite there still being a few problems to iron out, especially regarding air bubbles in the castings. I have found this experiment to be both enjoyable and endlessly fascinating. Although I have used modern materials, the design is unchanged, and there were times when I did seem to be sharing something with those workers who built the original couch over 2,000 years ago. **WW**



29 Components before assembly



33 Cap at the top of the leg



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Reproducing Regency

David Oldfield believes that you can learn a huge amount in trying to emulate a classic piece like this bookcase

I have to admit that I was struggling to find a title for this article until I remembered a saying which can be quite helpful at times: "Never do the obvious unless the obvious is the thing to do." With some amusement I realised that there is an ambiguity to my title. Apparently the Prince Regent was rather good at 'reproducing'! But enough of that...

It's not often that you receive a phone call from the BBC. "Are you the chap who no-one has ever heard of?" they asked. I concurred, but as a reply, said: "Whatever it is you want, you'll have to make it snappy; I'm very busy doing precious little, and *The Archers* will be on in a minute."

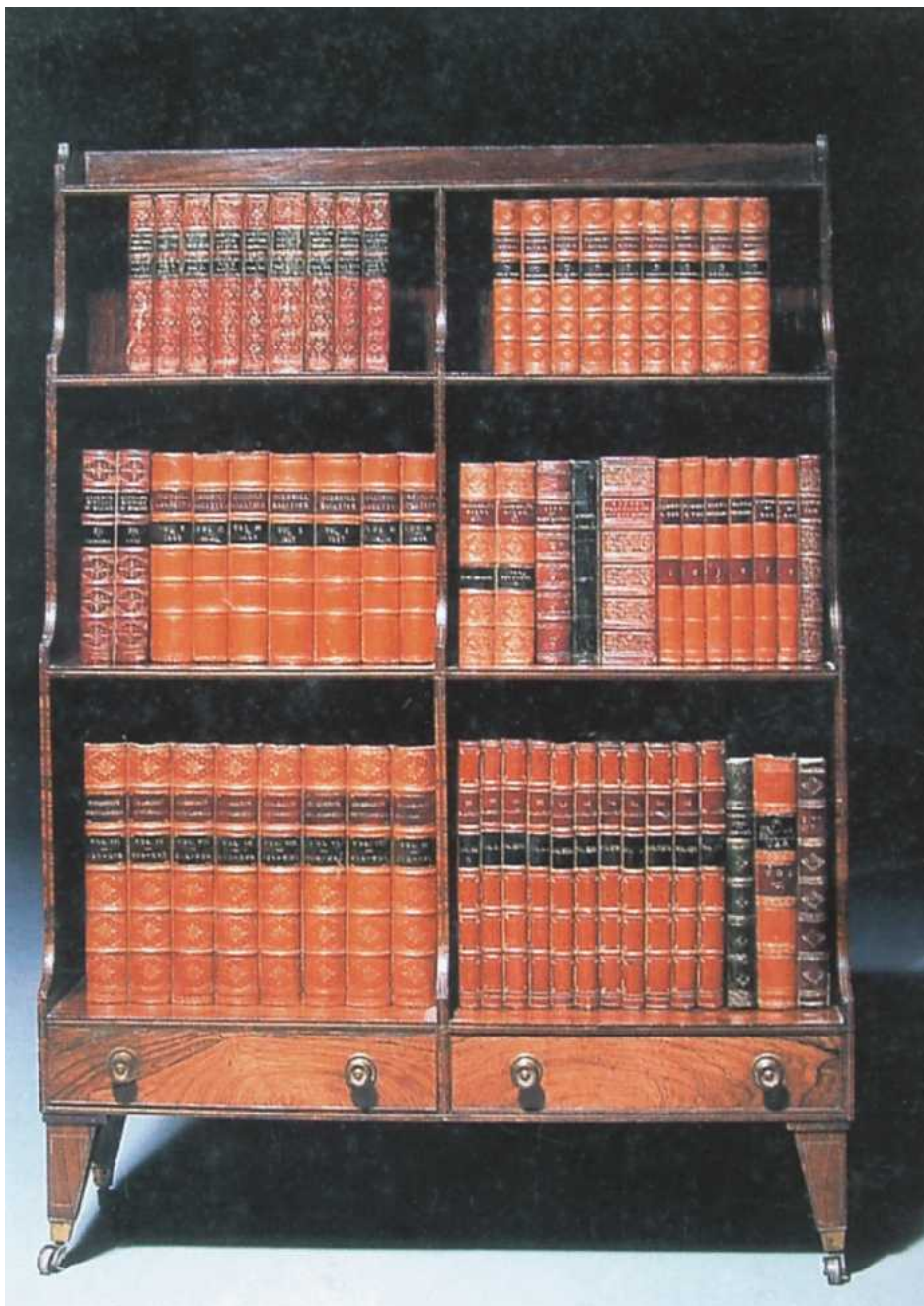
There was a short pause followed by an explanation that they (the BBC) would be doing three one-hour programmes on the Regency period. They had heard that I was so old that I

might know something about the subject. Such presumption! "Listen," I said, "why don't you pop round for a chat?"

Some time later a very attractive lady producer appeared. I seated her next to my stove and was about to bore her to tears when she said: "We are going to cover the whole gamut of the Regency period: art, literature, furniture, architecture, etc. Even the Prince Regent himself" – ghastly man that he was – "Question: what could you contribute to the furniture aspect, if anything?"

I bristled with indignation because I'm no stranger to Regent's Park, and have always been an admirer of furniture maker John Nash and his contemporary Sir John Soane. But despite my experience of working in these grand houses, I had in truth only one example of a Regency piece, which I had copied from the original. It was a bookcase based on an original, which so personified the period that I agreed to reproduce it to the letter, and had fun doing so.

What, then, is involved with reproducing a piece of Regency furniture? The visit from the BBC had reminded me of my own endeavour to understand what typified this period, and what was entailed in attempting to recreate a piece from it.



1 I was asked to copy the Regency-style bookcase shown here

The materials

All I had to go on was the photo you see above, which was waved under my nose by the client. I perceived brass inlay work on rosewood. The budget didn't stretch to rosewood so I chose American walnut (it should have been English, but there you are) and off I went to look for some. Ever bought it? Beware! Timber yards will say that they have it but sometimes their stock is poor (lots of sap!). Sydenhams in Wiltshire is an excellent supplier; handily, the staff allow you to go through the boards for close inspection.

So that was the timber sorted, but brass inlay – where do you get that? Smiths, the non-ferrous metal people (based in Clerkenwell and Bristol) can supply almost any size of square or rectangular brass bar and are enormously helpful. Also, Avery Knight and Bowler in Bath can supply cut lengths if needed.

Scurrying back to my workshop with these goodies, I realised that for the first time in my

life I was going to copy someone else's work. My general feeling was that I didn't mind one bit. The original was so 'pukka' that my admiration swept away any attitude of 'I only do my own thing, you know', which is in essence a kind of inverted snobbery. Howls of rage from the reader, no doubt. You are a plagiarist, sir! Paring chisels at dawn! I think a little humility helps, though, sometimes. To entertain the line, form and craftsmanship of earlier furniture is a good thing to do – they were equal, if not better, at producing quality work, and their legacy has prevailed down through the ages.

Setting out

I have a 2,400 × 1,200mm layout bench, and use white-faced 4mm MDF as draining boards, which allows me to draw full-size part-section elevations of the work I am going to undertake. It also gives me an idea of what type of construction is best. In this case, dovetailed housings were the

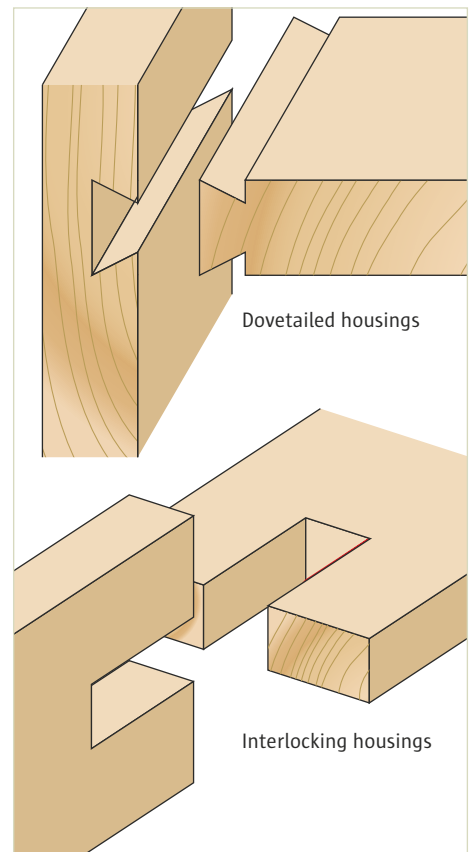


Fig.1 Dovetailed and interlocking housings

obvious answer because that way, when assembled, the bookcase would become a rigid structure, and wouldn't see-saw – which can happen with conventional housings.

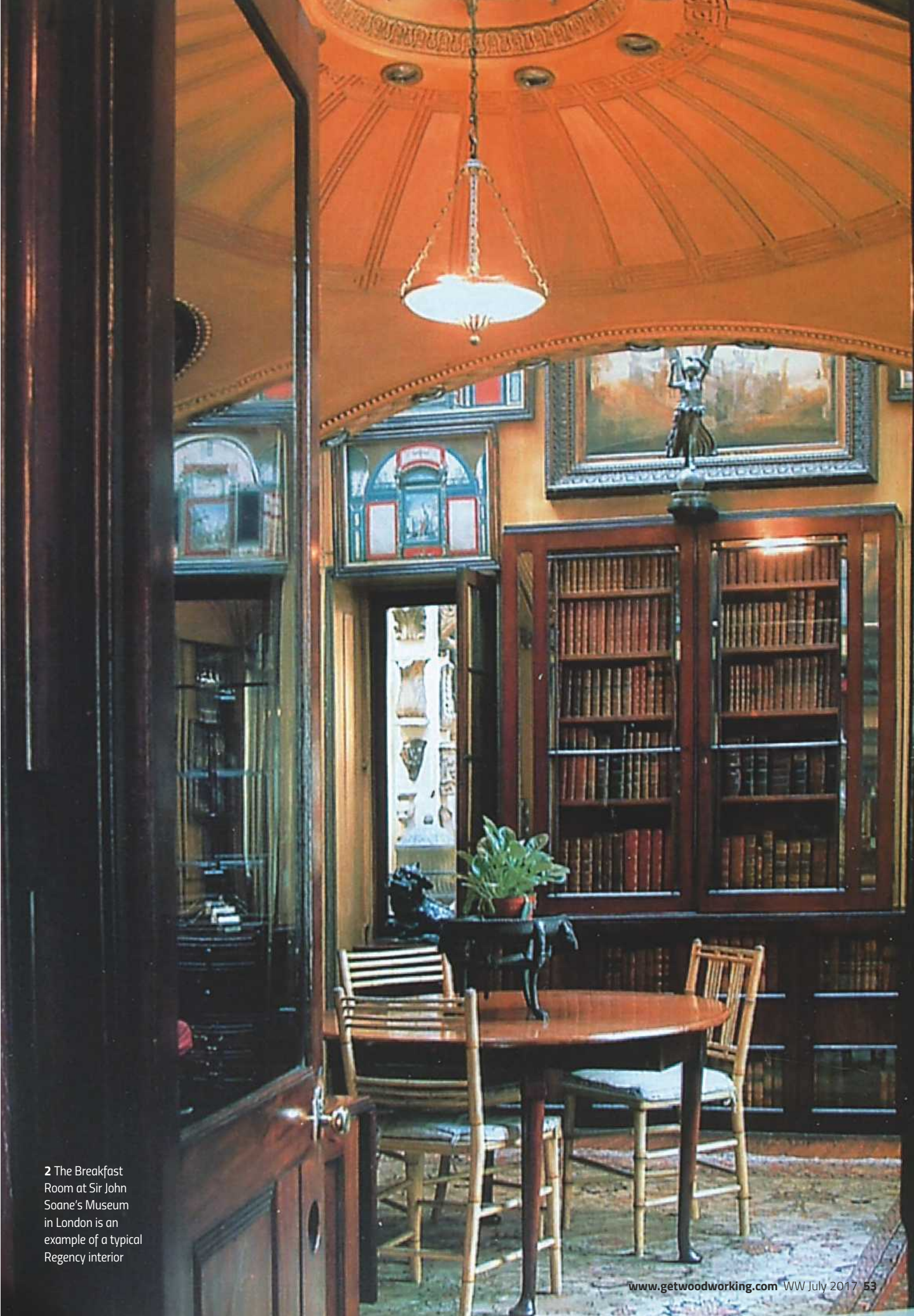
With only a photo to work from, I needed to establish the height, width, and depth of the bookcase. To do this, I simply measured a lot of books until I was confident that my work – comprising three tiers – would successfully accommodate all manner of tomes.

Function over form...

... never forget it. Investigate the function and the form will follow. For me this has always been true. Bookcases, of which I have made quite a few, do require considerable thinking to make them properly useful. My bookcases (I made a pair) were going to be longer than the original, at the client's request, so consideration regarding overall weight of books had to be thought about because of any sagging that might occur. With only four legs to stand on and drawers in the lower section, how did I overcome that? Simply by using a thicker board for the bottom; problem solved, although the leading edge had to be reduced to match. Finally, having also established the sweeping inwards-reducing curves at each tier of the upright dividers, I produced a working drawing that was credible and from which I could begin the work.

Working in the solid

So you've selected a number of boards. What next? Skim them on the planer to look at the grain; this gives you the opportunity to decide what goes where, and which boards can be cut to length before continuing the machining.



2 The Breakfast Room at Sir John Soane's Museum in London is an example of a typical Regency interior

Re-plane these boards until they are flat and then straighten your selected leading edge on each board, making sure that you have marked up the best direction for laying the grain. Then put this stock to one side, 'filleting' between each board, and find something heavy to lay on the top. As well you know, all timber moves, especially after machining. Leave it for a day or so and think of something else to do, of which there is invariably a lot. In my case drawers, brass inlay, etc...

I needed to experiment with the trenching for the brass inlay. This required a 4mm slitter on an arbour with a corresponding roller bearing to give the correct depth. Material for the drawers had to be sorted, too, and the match lining for the backing had to be made. Next, de-mount your partly planed stock and with good sharp knives in the planer/thicknesser, inspect each board for movement – re-flatten before thicknessing everything down to a given size. Do this carefully. It's always best to make two or three passes when bringing the stock down.

Jointing & shaping

As mentioned, the joints at each end are dovetailed housings, while the centre uprights have interlocking housings, so for convenience and prudence the boards should be kept parallel. Once done, the curves of the dividers can be cut and cleaned up on a router pattern. "Experiment! Experiment!" I sound like a Dalek from *Doctor Who*, but I'm not joking. Dovetailed and interlocking housings are not easy to get right; they must fit easily but snugly – too tight and they will jam when gluing up, so choose your size of dovetail cutter carefully. Wealden Tool Company can provide what you need along with some good advice. Router patterns will have to be made (6mm MDF) so that each component matches exactly. Don't try putting this assembly together until you're utterly sure that you have it right! And you thought it was a simple bookcase, did you? To be honest, so did I until I realised what I had to do.

Inlay work

You'll need a brass bar 4mm square and a trenching cutter for the inlay. The trenching,



3 Marble Arch in London typifies the grandeur of the Regency style

quite obviously, has to be done before assembly, though some needs to be done after to achieve a perfect marriage between lateral and upright components. As you can see from the photos, in many cases the bar has to be mitred. Dress the bar into the trench using a little piece of very hard timber with softened edges. The glue should be a polyurethane type.

Cleaning the inlay up is a heck of a job. You'll need a good quality fine bastard file with a rounded back, and it's going to take you ages. Finish the work with 240 grit wet-and-dry glasspaper – all I can say is: good luck!

The Regency style

To learn more about the Regency period, go to your library and take out books on the architects John Nash and John Soane. Their style – both architecture and furniture – is very strict and possesses a grandeur that I personally admire.

This type of classicism has been heavily borrowed from the original Egyptian, which the Greeks and Romans made their own.

Also, get hold of a Miller's antique guide and look at all the marvellous furniture that was made during this period. History tells us that all of Europe looked to us (the British) with some admiration before the Victorians started to put curly lumps on everything.

Although my description of how to make this bookcase has gone off on a few tangents, my real purpose has been to throw light on the Regency style, from which you might find inspiration or aspiration. Even so, I'm sure you want to know what transpired with the BBC. Well, after I explained this build at length – to many a nod and "ah, I see" – the producer disappeared and I never heard from her again! Not every story can have a happy ending, though, I'm afraid... **WW**



4 Detail shot



METALLIC RESIN INLAY

An alternative to inlaying with brass bar would be to use a metallic resin like InLace, which is supplied by Turners Retreat – www.turners-retreat.co.uk. You simply cut a groove in the timber using a trammel-mounted router to a depth of about 3mm, mix up the InLace in a little cup – 100ml is about right – pour it into the groove according to the instructions, and away you go. Don't let too much excess build up as you'll need to sand this back flush without sanding down the timber too much, which could be tricky. You should leave the resin to set for 12 hours before sanding. The effect won't be as impressive as a real metal inlay – and may not be suitable for a classy Regency-style piece – but it's a handy option that might come in useful for a project that demands inlay

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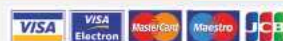


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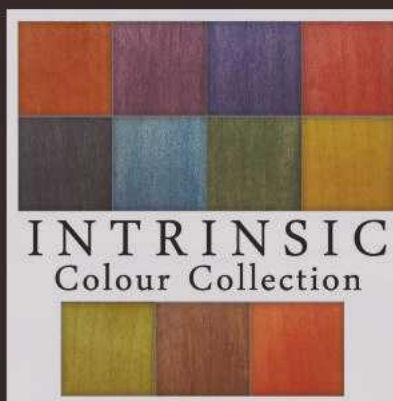
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A door for Tinkerbell

Tony 'Bodger' Scott fashions a magical opening

Ever since *Gulliver's Travels* and *Alice in Wonderland*, children have been fascinated by the very small. Here's a door to allow them access to their own imagination. It can be made out of any offcuts you have – mine uses a scrap of oak flooring, and the left-over end of a plank of meranti.

Making the door

I began by painting on a scrap of thin plywood a staircase curving up and away from the viewer. A marker pen accentuated the lines. Button varnish poured over the dried paint served to darken the scene and add an air of mystery. A bandsaw cut away the excess plywood.

A scrollsaw made it easy to cut from the meranti an appropriately Gothic hole to frame the picture (though on reflection I should have had the grain running vertically, not horizontally, to match the door surround and limit the risk of moisture splitting the glue joints later). I made the

hole slightly smaller than the picture, then traced round the picture on the back of the meranti, and routed a rebate deep enough to set the picture flush. The outside edges of the frame were sanded into gentle curves to echo the home of Bilbo Baggins in *The Hobbit*.

Offcuts from the meranti were bandsawed into strips to make a porch roof, a door-sill and an L-shaped notch for a door-latch. Waterproof PVA glue holds it all together, and the whole thing stands a faerie's wing over 150mm tall.

The oak flooring already had shallow grooves routed along the back, so I darkened the grooves with a felt-tip pen and used the back of the flooring as the front of my door. Two thin strips of the same oak made a couple of reinforcing cross-struts on the door. They're held on with dabs of glue and 2mm square pieces of oak tapped gently into 2mm holes drilled through the struts and door.

The latch I made from a turned knob and



1 Steps apparently leading up inside whatever tree the door-frame is attached to should fire the imagination of any child who peeps inside



2 A scrollsaw makes short work of cutting a hole a little smaller than both the picture and the door

spindle, sized to match a convenient drill bit. The spindle is glued to a shaped latch-bar, slipped through a hole in the door, and held in place with a glued washer on the inside. To make sure the latch mechanism works, fit the door on its hinge before you drill the hole through the door or try to shape the latch-bar. It is, by the way, much easier to drill the holes for the latch-bar and washer in large thin slices of wood first, then shape and sand the slices round the holes.

Final steps

With the latch fitted, glue on a hat of leaves to act as roof shingles and to mask any gaps between the back of the frame and the tree the door is fitted to. Finally, drill a couple of holes through the frame for mounting screws.

Three wiped-on coats of teak oil give the door some protection from the weather and should stop the ivy leaves drying out. But, with a little luck and a couple of years of outdoor living, moss and rain should make it even more natural-looking and mysterious. By then it'll be just right to tickle the imagination of Winnie, my third grand-daughter. **WW**



3 Meranti offcuts form the surround for the door – including a latch on one side, a sill and a porch roof. Varnish darkens the painting



4 Bracing struts add character to the door. They're glued on and pegged with matchstick-sized pieces of oak tapped into drilled holes



5 A 35mm-long turned spindle of wenge fits through three holes: one in the door, the others in a glued-on latch-bar and washer

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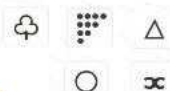
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Let there be (tea) light

Colin Simpson's attractive tea light holder requires a number of techniques to create a piece that is both elegant and a test of technical turning skill

This month's project involves very simple turning but care is needed to cut the ribs without breaking them. I have used walnut for my tea light holder and have coloured the top part, but you can, of course, leave yours natural. I have also inserted a glass tea light holder in the top. These can be bought very cheaply online (**photo 1**) – I bought 72 of them for £29.99 – and I think it gives tea light holders a more professional look, and using one of these is also a good idea for safety purposes – putting a barrier between wood and a naked flame is definitely advised.

Squaring off

Start with a 65mm square piece of stock 220mm long. Find the centres of both ends, mount it between centres and turn it to a cylinder using a spindle roughing gouge (**photo 2**). Square off both ends and cut a chucking spigot on one end with a skew chisel held flat on the toolrest (**photo 3**). I am holding the skew chisel with one hand and the callipers in the other. When I use this technique, I hold the tool further down the handle with the rest of the handle under my forearm.



2 Use a spindle roughing gouge to turn down to a cylinder...



1 These tea light holders can be purchased quite cheaply and they are also preferable to use from a safety point of view

Making tapers

Next, measure the length of the cylinder and mark the halfway point (**photo 4**). Use a narrow parting tool and cut a groove in the middle about 18mm deep (**photo 5**). Now taper both ends towards the middle. I used a planing cut with a skew chisel to do this (**photo 6**). Keep the cut

in the bottom half of the cutting edge and you should aim to be getting fine, spiral shavings (**photo 7**). If you prefer you can use a spindle roughing gouge rolled over on its side (**photo 8**). Whichever method you use, you should be aiming to make both tapers straight and have a small step in the middle (**photo 9**).



3 ... and a skew chisel to cut a spigot



4 Measure and mark the middle of the length...



5 ... and use a narrow parting tool to cut in about 18mm deep



6 Taper both ends to the middle with a skew chisel



7 A planing cut should give you spiral shavings like these



8 If you prefer, use a spindle roughing gouge to create the tapers



9 It should look like this when the tapers reach the bottom of the groove



10 Grind a parting tool at an angle, like a skew....

Cutting grooves

The next step is to cut a series of grooves with a parting tool. I wanted the bottom of each groove to be at the same angle as the taper, so I needed to modify the cutting edge of my parting tool.

Photo 10 shows me sharpening it so that the cutting edge is ground to a skew shape. This will enable me to use the parting tool at 90° to the workpiece and have the bottom of the cut follow the line of the taper (**photo 11**). Continue to cut grooves along the top taper, going a little deeper each time (**photo 12**). I cut four grooves before deciding that the wood remaining at the bottom of the deepest groove was getting too small in diameter to support the workpiece when I needed

to work on the top, so I removed the piece from the lathe, turned it end to end and mounted it in my chuck using the chucking point cut at step 2.

Drilling for the inserts

The glass inserts I use have an outside diameter of 50mm, so I loaded a 50mm sawtooth drill bit in the tailstock and drilled a hole in the top of the workpiece 15mm deep (**photo 13**). In hindsight, it would have been better to do this step before starting to cut the grooves, but, fortunately, there was just enough strength in the wood to allow me to drill the hole, so disaster was averted!

I could then continue to cut tapered bottomed grooves with the parting tool (**photo 14**) until I got

within about 35mm of the top of the tea light. For the top 35mm I wanted the bottom of the grooves to make a goblet-type shape, so this meant changing the angle of the cutting edge of the parting tool for every cut.

Scorching, painting & texture

When the grooves were finished I lightly scorched this part of the piece with a blowtorch (**photo 15**), before brushing away the carbon deposits with a soft brush. This scorching burnt off any wispy bits of wood at the side of the grooves and gave the area a very light texture. Next, I painted the scorched area with Liberon ebony palette wood dye (**photo 16**). While I like Chestnut's ebonising



11 ... and use it to create grooves with an angled bottom



12 Each groove should be deeper than the previous one, so it appears that one taper follows through into the other



13 Reverse the piece onto a chuck and drill a 50mm hole 15mm deep in the top



14 Cut the last three or four grooves so that their bottoms form a goblet shape



15 Lightly scorch this area with a blowtorch...



16 then paint on some ebony dye



17 I use poppy red dye and acrylic varnish for the textured effect



18 It looks better if it is painted on unevenly



19 Before the mixture dries, using a heat gun, heat the surface until it blisters



20 When dry it should look something like this



21 Sand the bare walnut and apply a coat of acrylic varnish to the whole piece

lacquer and use it quite a lot, it doesn't work with this technique, so don't be tempted to use it here. Let the ebony dye dry thoroughly – I left mine overnight – before moving on to the next step.

Photo 17 shows the Liberon Poppy Red coloured wood dye together with an acrylic varnish. I used Polyvine, but any clear acrylic varnish will work. Mix these two together in a ratio of two-parts wood dye to one-part varnish and stir thoroughly. Paint this mixture onto the dyed area of the tea light quite thickly but don't try to be too neat with it. Leave some areas thick and others thin (**photo 18**). Before this red varnish has a chance to dry naturally, give it a fierce blast with a hot air gun (**photo 19**). The heat from the air gun needs to be hot enough to make the varnish blister a little in places, but not too hot to burn the varnish. I have tried using a blow torch in the past, but I found the heat too severe. You may wish to practise this technique on a scrap piece of wood before trying it on your latest masterpiece. The blistering gives the top of the tea light holder a nice textured effect (**photo 20**).

Sanding & finishing

The hot air gun may not have dried all of the varnish before you reach the effect that you

want, so let the piece dry properly before moving on. The final stage is to sand the bare wood to 400 grit and apply a finish. I used the acrylic varnish on the whole piece. This protects the textured area and gives a nice finish to the bare walnut (**photo 21**). Finally, reverse chuck the work onto a mushroom-shaped dolly and turn away the chucking spigot (**photo 22**).

Of course, you don't need to make this shape a tea light holder – it could just as easily be a standard candlestick or a vase for a few dried grasses. This effect can also look good on the outside of a high-sided bowl. **WW**



22 Reverse chuck the piece to turn away the chucking spigot





An architectural detail from the Imperial Palace in Kyoto, Japan

Flexible joints

It might look different to our eyes, but **Stephen Simmons** shows there's an inherent logic to Japanese joinery

Articles on Japanese woodworking tend to focus on tools and wet stones, but there are also as many as 400 joints in common use. Many of these were developed, or evolved, to withstand the shock of the earthquakes to which Japan has always been prone, lying as it does on the junction of two major tectonic plates.

Back in the early 1980s, I remember attending an exhibition of Japanese furniture in Sheffield. All the joints reminded me of sailors' knots, but although they looked very complicated, once analysed they were very logical, and designed to resist different stresses and strains; pull them one way and they tighten, pull them in another and they unravel in an instant. I was particularly impressed by the glueless joints connecting the legs of one table, which seemed wobbly, but locked solid as soon as any downward pressure was applied to the top.

Although intrigued, I can't say that I went on to become an expert in the subject. Like most woodworkers in the West I know that Japanese saws and planes cut on the backstroke, and that

timber is seasoned vertically rather than horizontally. While these facts are of interest, they're still relatively superficial. It's the difference in jointing that really sets Japanese woodwork apart.

In the last year or so I've become more serious about Japanese joinery and, as I've investigated the matter, grown increasingly fascinated. I've also found myself wondering why more isn't known about it in the West; we're ignoring a veritable treasure trove of practical creativity!

A historic love affair

Japan shares dozens of joints with the West – the mortise & tenon, wedged tenons, bevelled shoulder mortise & tenons, dovetails, lap joints, etc. But many others are specific to Japan, often involving a degree of complexity that challenges even master carpenters there. To understand these real differences it's necessary to go back a millennium and more, and into the geology and climate of the area.

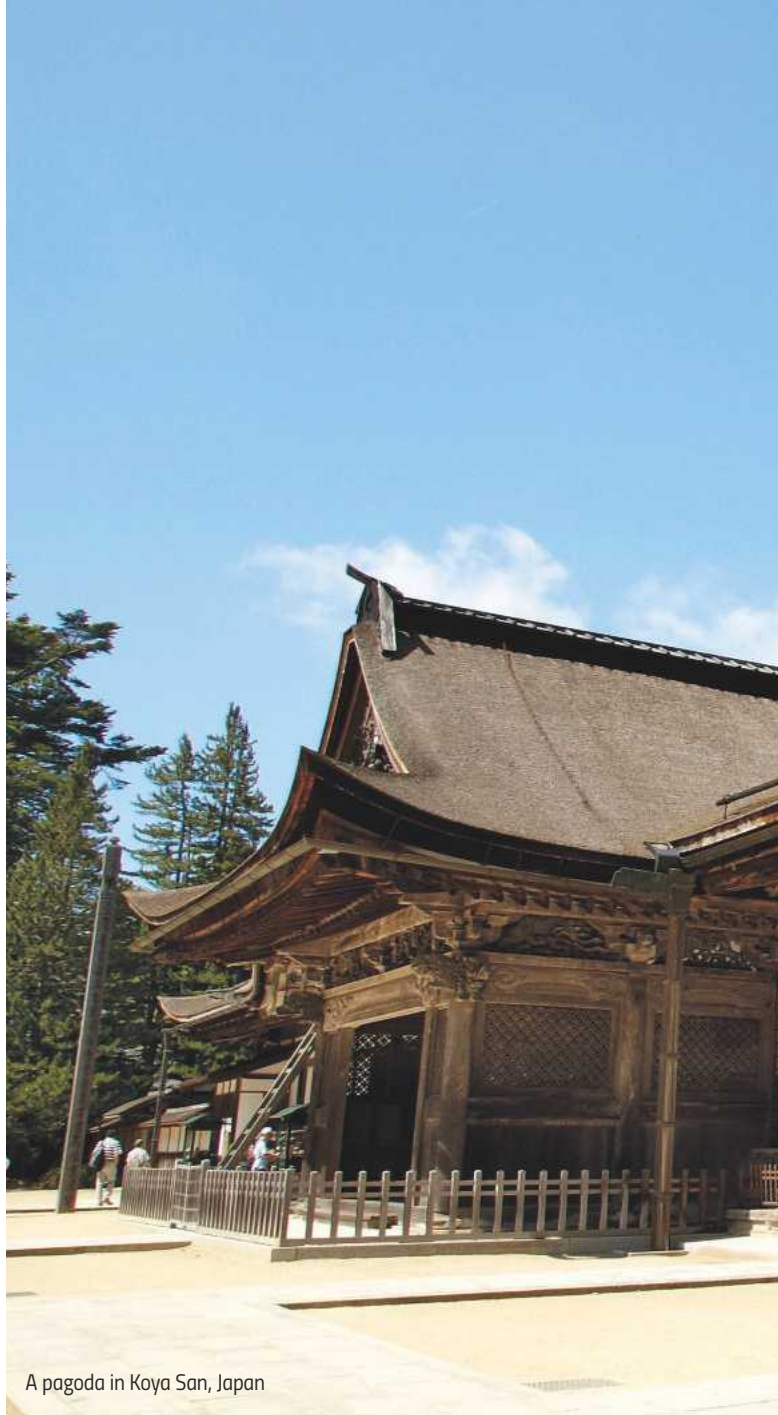
Geologically the area is volcanic and generally lacks the range of stone for masonry and clays

for brickmaking enjoyed in much of Europe. On the other hand, the volcanic soils and the climate favour profuse tree growth. Most native timber is coniferous: pine, cedar, and Japanese cypress all grow well in the temperate climate.

The abundant rainfall and a very warm growing season are ideal for rapid summer growth, producing the strong straight-grained timber essential for construction. Broad-leafed woods such as ebony, Indian ironwood, lauan, sandalwood, and teak have been imported for centuries, and enjoyed special status as karaki and tōhembuko – 'precious foreign wood' and 'precious unusual foreign wood'.

Native timber, meanwhile, has a natural resistance to infestation by bacteria, fungi and insects, and native termites are far less voracious than in southern France, say. Above all, long-standing and far-sighted reforestation projects – most recently in the Edo period between 1603 and 1868 – have ensured a continuing supply of timber.

The long use of wood as a building material has resulted in what one Japanese commentator



A pagoda in Koya San, Japan



has called an almost religious reverence for trees in his country. Appreciation of kodama – the spirit of a tree – is widespread.

Evolving amidst uncertainty

The development of Japanese joinery is also tied up with the introduction of Buddhism from China and the influence of immigrant temple builders possessing new, and often complex, techniques in the 6th century. There was also the evolution of a strict guild system, which was organised on a regional basis, as well as for different types of construction, and became instrumental in establishing design standards well before 900. Even in the mid-20th century Japanese carpenters were still specialising in either Shinto shrines, Buddhist temples or domestic buildings, each with their particular structural demands – and range of joints. Surprisingly few joints are used in all three types of building, while some are reserved for one alone.

The relative availability of basic raw materials meant that while medieval European builders were grappling with vaulting and flying buttresses, and using stone and brick to go ever higher with a very

stable geology, the Japanese were experimenting with and refining wooden post and lintel construction techniques that could withstand the regular earthquakes that were a normal feature of everyday life. As early as the 7th century there was already an extremely high degree of sophistication.

The science behind it relates to vibration frequencies and resonance, but in a nutshell, splicing and connecting joints will absorb much of the energy of an earthquake through deflection and friction. Whole structures may sway, and the joints will make a lot of noise, but they should survive. In theory, the more joints a wooden structure has, the safer it is. Consequently Japanese joinery has a different – and much older – tradition than European joinery. In the 17th century high-end joiners became known as cabinetmakers in England and *ébénistes* in France based on design possibilities offered by the dovetail joint, and the use of a ‘new’ exotic wood respectively (ebony). Their equivalent in Japan has always been more akin to an architect and engineer, but never without a feel for the aesthetic.

Although most joints are developed for

building construction, many are used for everyday cabinetwork, furniture, small boxes, and picture framing. There’s only space to tempt you with a few examples here, but they range from the simple to the very complex.

Bird’s mouth to lapped goose-neck

I’ll stick to translations of the Japanese names. Elegantly simple is the bird’s mouth joint (**Fig.1**) which was devised to eliminate the supposed unsightliness of the interlocking faces of the halved rabbeted oblique scarf joint (**Fig.2**). It is what the Japanese call a cosmetic joint – more decorative than functional – and virtually useless structurally. I have, however, used it to repair the slim leg of an Edwardian side table where the simple compression forces of the table’s own weight made it quite suitable.

Next comes the lapped goose-neck mortise & tenon with stub tenons (**Fig.3**); it takes its name from the shape of the male joint, and was devised specifically to resist tension forces. Originally the head was square but became more refined and firmer with improved tools. A variation of this joint ►

WORD ASSOCIATION

It's interesting that the Japanese word for carpenter, daiku, translates as chief artisan; the English word architect, from the Greek archos and tektōn, originally meant chief carpenter. For the Japanese carpenter, the formalised system of prescribed design techniques is crucial; kiwari jitsu is the art of determining proportions between individual structural members of a building to achieve beauty

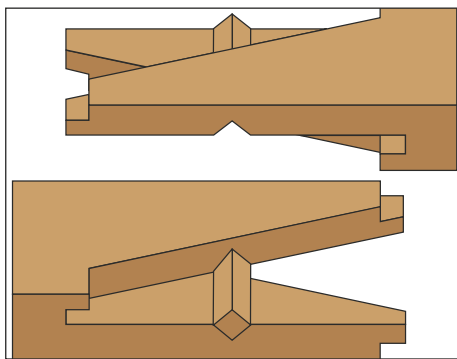


Fig. 2 ... on the halved rabbeted oblique scarf joint, with its unsightly interlocking faces

is to use a separate tenon (**Fig. 4**) with the neck and head of the male joint replicated at each end and hammered into the female joint, which is cut in the normal way. When this tenon is made of hardwood it increases the joint's resistance to sheering forces, making it stronger overall.

When a joint can only be made by dropping the male joint into the female from above, complex joints that depend on an end-on union are useless. In this case the lapped rod (pegged) mortise comes into its own. But the rabbeted oblique scarf joint is my favourite (**Fig. 5**); it appeals to my sense of symmetry, elegance, and utility, in equal measure. The male and female halves are identical and the joint is designed to resist tension and bending stress.

Beautiful paradox

All these are quite easy to illustrate, unlike my final example – a deceptively simple-looking pole plate joint – used when a post, capital, and crossbeam meet. It looks like a form of lap joint but internally it's truly complex and virtually impossible to illustrate by either isometric or exploded diagrams with any clarity. And therein lies a paradox. Although the hōgyōzukuti-nokigeta-shiguchi is much admired in Japan for its beauty of composition, and its demands on precision of execution, it's also recognised as an unreliable joint for major construction. It's an example of virtuosity for its own sake.

The same has been said about some Western joints too: why go to the trouble of labouring over a secret mitred dovetail when it can't be seen and something far more straightforward will do the job? Given the depth and breadth of tradition of Japanese joinery it would be surprising if this were not the case with some of those 400 joints. And besides, what's wrong with a bit of virtuosity? The traditional Japanese carpenter knows that

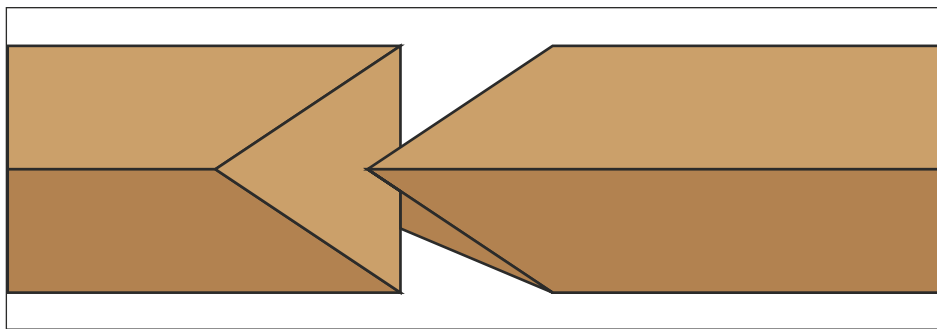


Fig. 1 The 'simplicity' of the bird's mouth joint was designed as an aesthetic improvement...

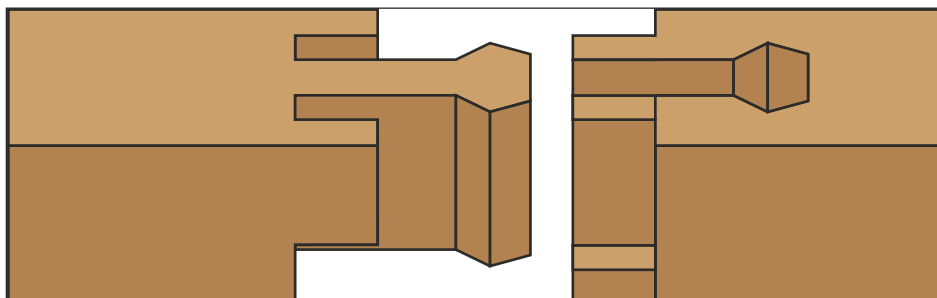


Fig. 3 The lapped goose-neck mortise & tenon with stub tenons was devised to resist tension forces

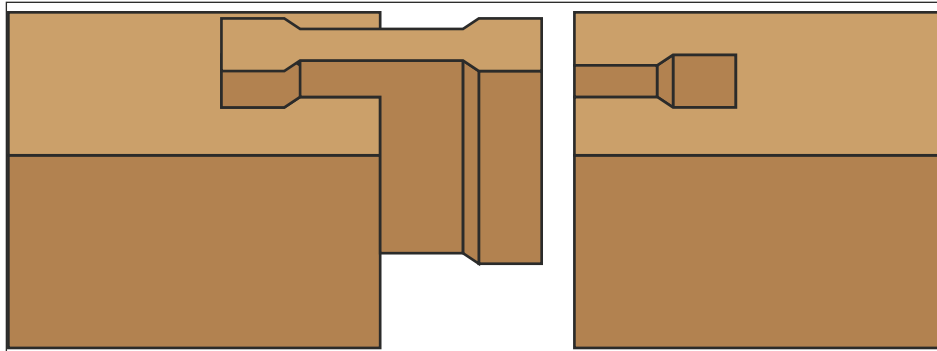


Fig. 4 This is a variation of the Fig. 3 joint with the neck and head of the male joint replicated at each end

virtuosity has its limits, and that practicality must ultimately take precedence.

Broad horizons

There's obviously much more to Japanese joinery than what I've presented here; you'll discover as much if you start digging around yourself. The

main thing to remember is that, while Japanese traditions and practices are largely very different from those in the West, there is so much to be gained from them, both in terms of inspiration and functionality. After all, one of the best ways to learn is by stretching yourself and broadening your horizons. **WW**

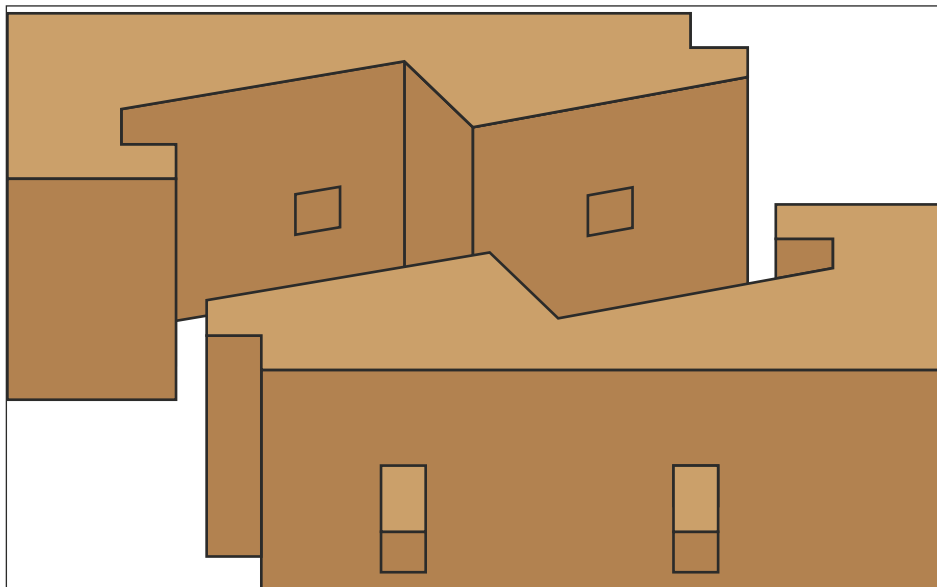


Fig. 5 The rabbeted oblique scarf joint appeals to my sense of symmetry, elegance, and utility



The joints of the Todai-ji temple in Nara, Japan, are designed to withstand earthquakes



Breakfast's ready!

Avoid burnt fingers and soggy toast with **Peter Whittle's** rack and scissors

While the wooden implements that are sold for fishing toast out of toasters are functional, I've never found them particularly attractive. I've often thought that the scissor design of a traditional salad server is more convenient – the linked spoon and fork only need one hand to operate – and it's also more elegant. My toast extractor, then, is an attempt to combine function and attractive form.

Though the drawing shown here is taken from my template and is therefore accurate, I always try to build self-correcting features into my designs that will compensate for the inaccuracies of my cutting. In this case, the larger eye of the handle was cut slightly over-size and glued into the straight blade whose slot has enough flexibility to accommodate being made either

too wide or too narrow. Also, the bird's mouth cut in the curved section of the other blade may be trimmed when the parts are assembled to ensure that tongs come together evenly when the scissors are closed.

Bringing it to life

I used 9mm pine throughout except for the pivot, where I've previously used a bamboo kebab stick, but in this case used copper pins made from cut-down nails originally intended for cedar shingles.

I sanded all four pieces down before assembly – I really enjoy rounding the eyes to a buttery smoothness and bringing the 'blades' down to a suitable thickness. It's best to do the large-eyed flat blade first. In assembling the curved element and the shorter tong, be sure that the two parts

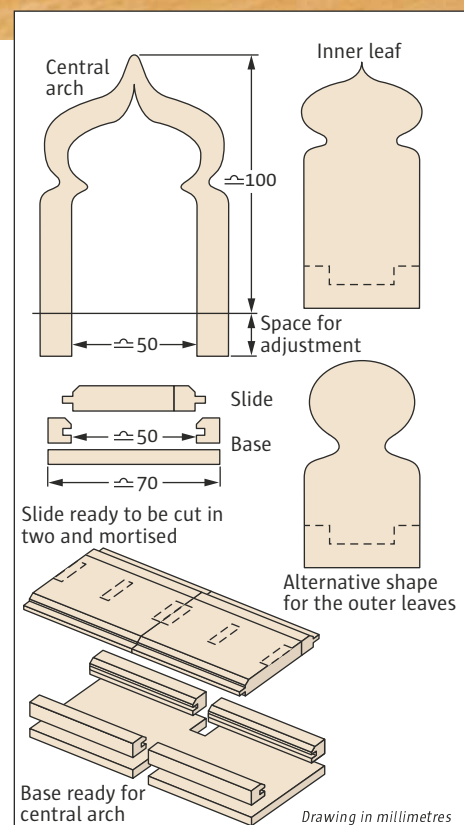


Fig.1 Toast rack

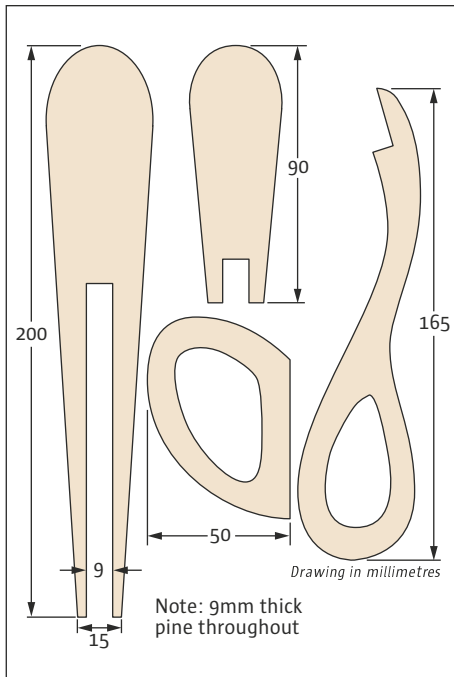


Fig.2 'Scissors'

fit closely, and allow both blades to close fully before gluing.

Drilling for the pin is easier if you clamp the two finished pieces together and pencil in a vertical to show where the pilot hole is to go. Drill three-quarters of the depth of the pin and tap it home to slightly below the surface if it is a metal pin. If you use bamboo, of course, you need to drill to full depth and glue the far end of the pin.

Toast rack

As for the toast rack, we'd always had a very basic two-slice wooden one – until, that is, I worked out how I could use tongue-and-grooved pine matching to make a four-slice rack that would turn into a five- or even a six-slicer!

My rack uses the tongues and grooves sliced off 9mm match-board to make a sliding mechanism upon which to build the toast-holding slats. The other, more obvious, design feature is the central arch that provides a handle and a housing into which the inner leaves slide. For sentimental reasons, I modelled its oriental shape on Brighton Pavilion, the Prince Regent's Summer palace.

Tongues & grooves

I again used 9mm pine, matching and graduating to hardwood to achieve the neo-Victorian effect. For the pins that hold the slides in place, I used bamboo kebab stick.

The first thing to do is to cut out the central arch. The internal measurement of the foot of this arch determines the width of the toast rack, and in particular, the width of the slide. Using 9mm pine matching, the 85mm-wide face allows an internal width of 50mm. Leave the legs of the arch about 5mm too long to allow for fine adjustment later. Cut two 150mm-long lengths of groove and one length of tongue from a piece of matching, making the groove strip 12mm wide, and the tongue lengths 10mm wide. These widths give enough strength to



the material – a toast rack is not subjected to much physical force.

To make the base, cut the tongues and grooves off another piece of wood 150mm long, leaving the central part as wide as possible. Glue the two groove strips (grooves facing inward) onto the face of this piece, spacing them so that they correspondingly align with the inside edges of the arch.

The slide is made from another piece of matching: you remove the groove, replacing it with the slice of tongue that you prepared earlier. This double-tongued slide should be sized so that it runs easily in the grooves of the base.

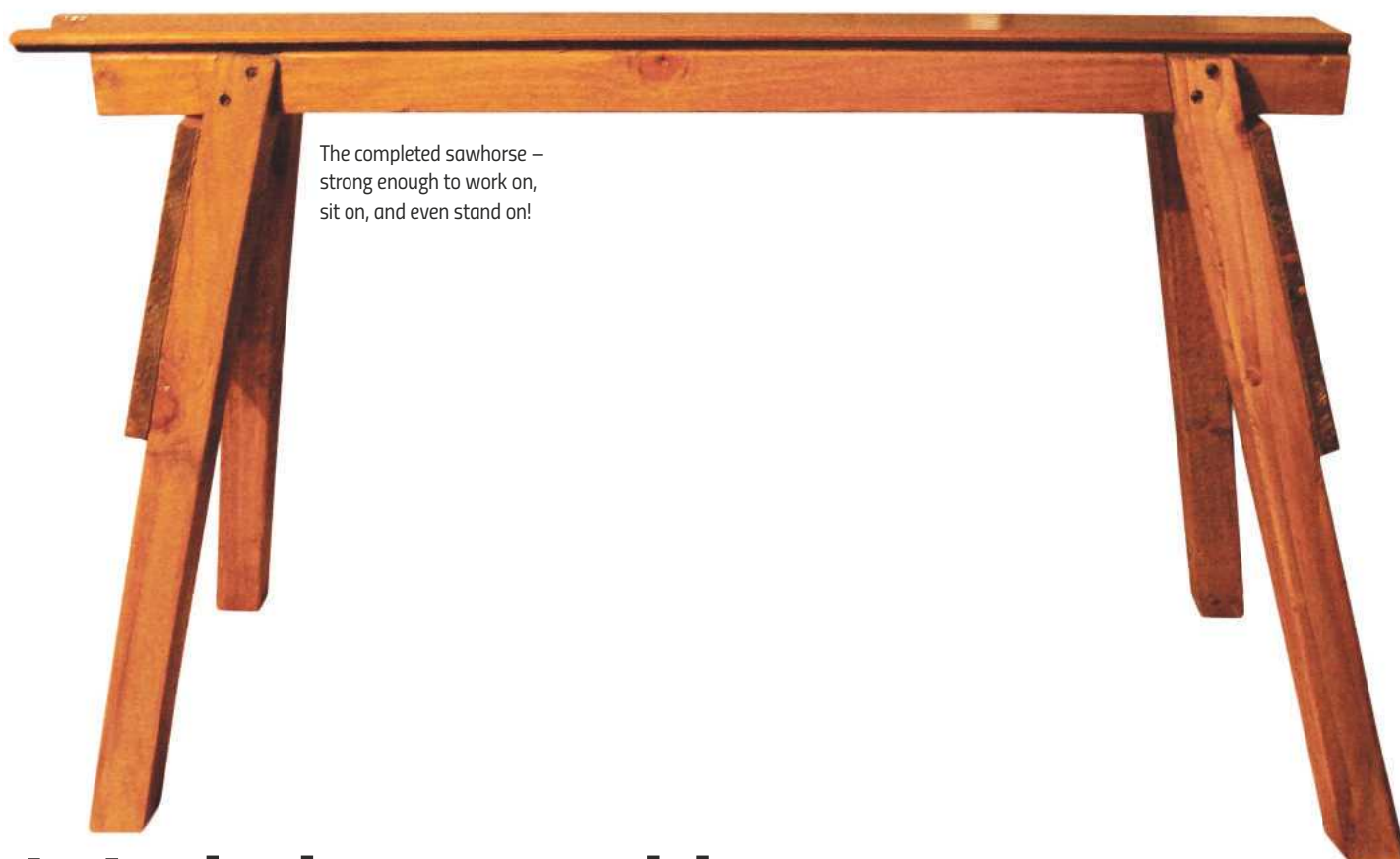
Next, cut the slide in half. I've found it useful to mark these left and right, and to do the same with the six leaves to ensure that, when jointing, the pieces find their way into the correct joints!

In making and fitting the upright leaves, I begin with the largest, inner leaf, and use the piece cut

out of the arch as a template. The centre and outer leaves can echo the shape of the inner leaf, or be fashioned in complementary designs. I use a simple open tenon for the inner and outer leaves, and a mortise for the middle leaves. Again, toast racks aren't usually subjected to much physical violence, but good glue and snug joints will make it all the more robust.

Final touches

It's important to sand all the parts before cutting the joints, and to finish with varnish (I use water-based acrylic) before fitting the slides to ensure that they don't get gummed up. The last things to fit, then, are the small pegs that go up through the base from below to engage in slots in the bottom surface of the two slides. These pins prevent the slides from falling out on big breakfast days when the toast rack is expanded from being a four-slicer to a five- or six-slicer! **WW**



The completed sawhorse – strong enough to work on, sit on, and even stand on!

Workshop workhorse

Every woodworker needs a sawhorse or two, says **Stuart Gooda**. Here he shares his guide to building one quickly and easily

The sawhorse – everyone should have at least one. They make excellent benches, inside or out. All you need is a piece of 4 × 2, 900mm long, four pieces of 2 × 2, approximately 630mm long, and an offcut of ply for the end gussets.

The only thing you need to know is that the sawhorse depends on one bevel – the 1 in 4. Nothing else is required, just careful marking out to get the splayed legs and their seemingly difficult compound angles, which look more difficult to set out than they actually are.

Bevel action

Take the 4 × 2, cut squarely to length, and mark a line 90mm in from each end and square across the timber. Now set the 1 in 4 bevel and mark back at each end of the timber.

Place one of the 2 × 2 leg pieces, hold it on the previously marked ends, and mark to leave a second line. Mark this leg 'A'; also mark the top 'A'. Take each leg and mark all around, lettering each of the four as you go. Now, on the very top of the sawhorse top, mark in where one leg is to be 20mm, and carry this mark onto the other legs.

On the underneath, mark a 10mm line. This will give enough angle to splay the legs when they sit in their cut-out housings. Make three saw cuts in joint 'A' and chisel out the waste down to the line, leaving a clean housing. Repeat on each joint.

That's clever

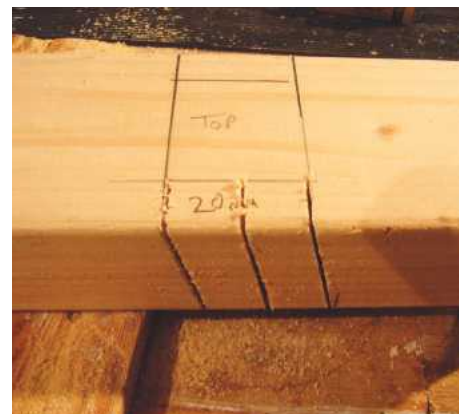
Now for the clever part: lay leg 'A' into its housing 'A' – it should be a tight and firm fit – and draw around it. Remove leg 'A' and continue the lines around until they meet. You will have the splayed cut marked on top of the legs. Cut to the line and



1 To make your bevel board, mark out on a scrap of timber. Set the bevel to be your guideout



2 All marked out and ready to cut the first housing. Remember to label clearly



3 Cut to the line, including a central cut to make waste removal easier; clean up with a chisel



4 Housings cut ready to receive a leg. Clean up with a chisel if necessary



5 Lay the leg into the housing to achieve a tight fit, then draw around it



6 Check with a bevel that your cuts are true. Practice makes perfect!



7 Apply glue then pre-drill and countersink to allow for 75mm screws



8 Check with the bevel and squeeze, if necessary, before starting to screw the leg to the ply cleat



9 A good test – perfect for a tea break before the final staining stage

clean up with a chisel. Now leg 'A' should be a perfect fit for housing 'A'.

Continue this process for the other three legs. Temporarily fit all legs into their housings and you should see a very wonky-looking sawhorse badly in need of some glue and screws. Pre-drill/countersink all the legs to take a 75mm screw, squirt a little PVA into the housings and secure each leg. Don't worry if it looks slightly lame and lopsided; the job's not done yet.

Ply cleats

Cut ply cleats to the 1 in 4 bevel on one side, then glue and screw them into one leg and mark from the underneath of the top with a 1 in 4 bevel. Now try and get the leg splayed as near as you can to the line. Remember, the more you push, the more likely you are to open up the top joint, so be mindful while doing this. Locate as near as possible to the line, repeat for the other end and fix with glue and 38mm screws. Trim the ply and plane flush. Don't worry if you can't achieve the exact bevel for the legs.

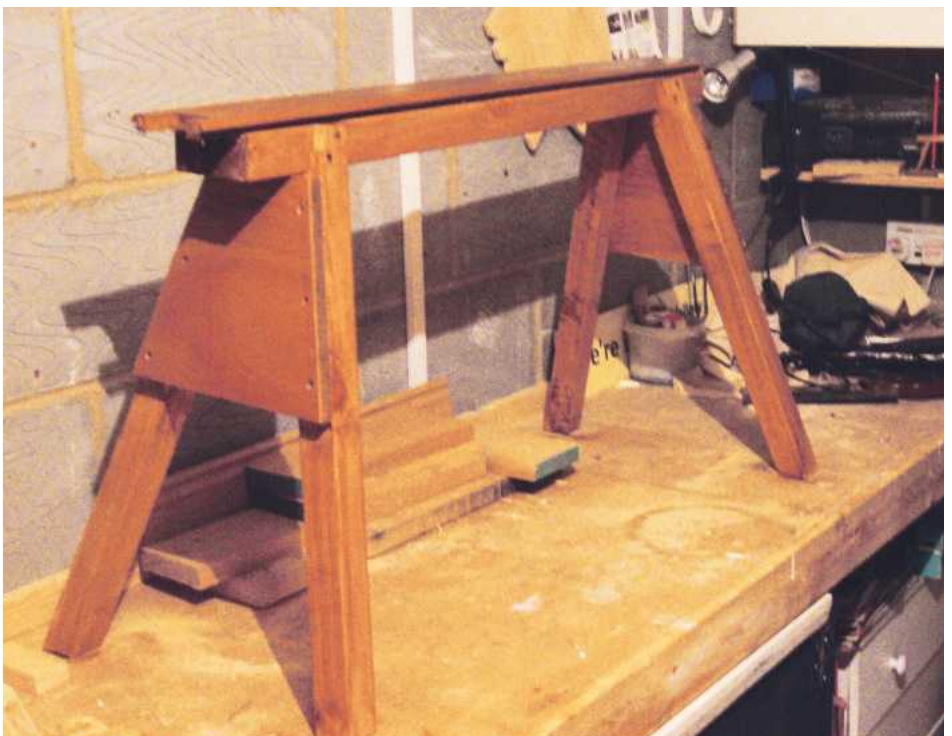
Cut off the leg protrusions above the sawhorse top and plane flush if needed; any minor gaps will be covered by a sacrificial top. Stand the sawhorse somewhere flat and place a level on the top, blocking up the legs if necessary. Take an offcut of timber 38mm thick and draw around the bottom of each leg, leaving the correct angle to cut off. When all four are cut the sawhorse should stand level, although it might require a bit of planing.

Sacrificial top

Lastly, fix a sacrificial top of around 950mm long, 20mm plus thick to protect the sawhorse, screwed 100mm in from each end, well sunk below the surface of the top.

Apply a coat of paint, stain, or whatever takes

your fancy. Job done – and it's a fine sawhorse to work on, stand on, or even sit on to have a cuppa during your working day. What's more, if you make two, the second should turn out even better than the first. Add an old door and you have a bench! **WW**



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HC4122M	3/8"	3/8"	1-1/4"	3"
HC5122	1/2"	1/2"	1-1/4"	3"
HC5122M	1/2"	1/2"	1-1/4"	3"

* Monitor Style (Short up-cut flute for shallow dado cuts)

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FL4122M	3/8"	3/8"	1-1/4"	3"
FL5122	1/2"	1/2"	1-1/4"	3"
FL5122M	1/2"	1/2"	1-1/4"	3"

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RU1601A	RU1601A	1/8"	1/8"	1/8"	2-1/2"		
RU1701A	-	5/32"	5/32"	5/32"	2-1/2"		
RU1801A	-	3/16"	3/16"	3/16"	2-1/2"		
RU2074A	RU2074A	1/4"	1/4"	1/4"	2-1/2"		
RU2075A	RU2075A	1/4"	1/4"	1/4"	2-1/2"		
RU2111A	-	1/2"	1/2"	1/2"	3"		
RU4111A	RU4111A	3/8"	3/8"	3/8"	3"		
RU5121A	-	1/2"	1/2"	1-1/4"	3"		
RU5161A	-	1/2"	1/2"	1-5/8"	3-1/2"		
RU5201A	-	1/2"	1/2"	2"	4"		

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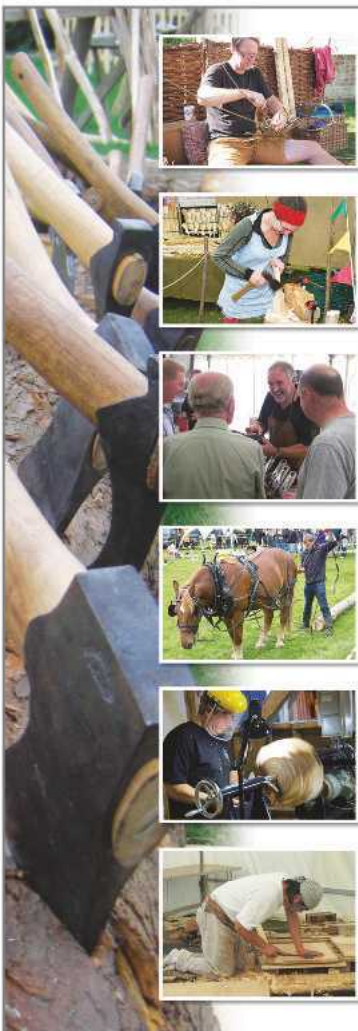
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WoodRiver No.92 medium shoulder plane

You'll be hard-pushed to find anything wrong with this medium shoulder

The advent and subsequent lower cost of machinery and power tools kicked a lot of hand tools into touch, particularly specialised hand planes. Take the shoulder plane for instance: when I was young it was an essential item but has been superseded by other methods; it's still a very viable tool, though, and in furniture and cabinetmaking especially, ensures the crispest and cleanest of joints.

Good-sized plane

WoodRiver's medium is based on the very desirable Preston model. It's a good-sized plane to own if you are on the hunt for one as it covers most bases from cabinetry through to bigger joinery and is easy to control, unlike some of the more unwieldy large shoulder planes out there.

Build quality is top drawer; the body is ductile steel so will withstand a fall and is machined to a fine finish. Squareness of sole to the sides is an essential factor on these planes as they need to register from both faces to do the full range of their work and it doesn't disappoint here, registering smack on when I put my engineer's square to them.

The iron

The iron is Mn65 steel hardened to Rockwell 60-64Rc, although I have to say that the composition of such steels is lost on me. All I know is that it feels hard on the stone

and takes a great edge that is durable, slicing end-grain to leave a polished finish.

The iron has bevelled sides to aid the cut when working into a corner such as a shoulder line, tenon or rebate, and is marginally wider than the sole of the plane to ensure the corners are cleaned crisply.

Advancing the iron is pretty standard, a fine adjuster at the rear altering the cut, but as with most shoulder planes there's no lateral adjustment and the tolerances between the iron and the side of the body are tight, so it's essential you hone as squarely as you can to keep things on track, especially as the 12° bedding angle accentuates any discrepancy.

Where this plane stands out against the original Preston design is the inclusion of an adjustable mouth that sets the mouth as tight as possible to minimise tear-out on fine fitting work while also allowing a wider opening for quicker removal of stock if the job needs it.

In summary

I found the plane very comfortable in standard planing work, such as easing tongues and rebates, as well as on its flat for trimming shoulder lines; the sculpted lever cap along with the polished eased edges of the body give a great feel in the hand. At around £70 cheaper than its nearest premium brand rival, and boasting better features, it should be high on your list. **AK**

Specification

Overall length: 225mm

Width: 19mm

Blade bedding angle: 15°

Price: £129.95

Web: www.woodworkersworkshop.co.uk

PROS

- Adjustable mouth
- Superb quality
- Holds a great edge

CONS

- No/minimal lateral adjustment

RATING: 5 out of 5



The lever cap is easy to remove to allow access to the iron



Slots in the rear of the iron engage the advance adjuster



Adjustments to the mouth are made with a slotted screwdriver



You can open up the mouth quite widely



Using the plane in a conventional manner on long-grain work is comfortable



The plane excels at end-grain work; fine controlled cuts are easy



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Specification

Max jaw capacity: 127mm
Jaw width: 89mm
Jaw height: 57mm
Weight: 7.5kg

Price: £42.98

Web: www.axminster.co.uk

PROS

- Neat dual position for holding
- Swivels to best position

CONS

- Cast-iron anvil not ideal for striking

RATING: 4.5 out of 5

Axminster Trade Vices Universal Vice

This clever vice swivels through 360° in both the vertical and horizontal positions and features a carefully machined cast-iron construction

In its vertical mode this vice resembles a lightweight swivelling engineering vice, but it can be lifted off its swivel post and used in a horizontal axis for great all-round access. It would be particularly useful for carving and for those who need to shape into an area to which access in normal holding mode would be awkward.

Double function

In either vertical or horizontal plane it can be rotated 360° around the post and slid off it to reposition without the work having to be removed from the jaws; a neat function secures it tightly to the post when you're working.

Tightening up the jaws against the work and then applying a little more pressure has the double function of also nipping the vice to the post to hold it firmly so you can swivel to the best working position before fully locking off.

Backing off the pressure slightly still holds the work in the jaws but slackens the pressure on the post so that it can be rotated again or be taken off the post and reset to its secondary vertical or horizontal position.

Quality castings

The centre post is fitted to a three-toed foot with bolting holes through each so it can be secured directly to the bench top, or, if you need your top free of obstruction, to a mounting block that can be held in a standard bench vice or clamped to the top. Ideally, getting the vice close to the corner of the bench allows longer or more intricate work to be swivelled over the edge.

Further holes in the jaws are useful for fitting flat or shaped timber jaw facings to help secure work without leaving

pressure marks. This limits the overall holding capacity of 127mm between the jaws, but is worthwhile if you are working on a more delicate piece.

The quality of the castings appears very good, while the Acme-threaded vice screw, although looking a little more 'budget', operates pretty freely and easily.

In summary

It's certainly a great vice, for working shaped stuff especially, and proved ideal when making yet another boomerang for my dog to chase – they do come back but he loses track of them and then chews them up when he spots them! My only concern is the cast grey iron construction alongside the small anvil area behind the jaws as I fear this could crack over time. **AK**



The easily secured vice slips onto the post and self locks once tightened against the work



It simply slides off the post for repositioning in the horizontal mode



Shaping work with a spokeshave on the pull or push stroke



Set horizontally it allows you to work at the best position



Matsumura chisels & hammer

We look at a range of Matsumura Japanese tools, which are available in the UK from Niwaki and are real five-star performers

Matsumura chisels

Japanese woodworking tools have been available in Britain for decades, although the Niwaki name is a relative newcomer. The business was conceived by topiary consultant and writer Jake Hobson, who spent several years working in a traditional Japanese tree nursery. An appreciation of oriental cutting and pruning tools and techniques led to the introduction to these shores of a rather unique Tripod Ladder, the first in a growing range of garden products. Renowned for the quality of their steel, Japanese kitchen knives, axes and steps soon arrived, followed more recently by a line of woodworking tools. At present this includes saws, planes and 10 hand-forged bench chisels (from 3-42mm).

In summary

I tested a narrow 6mm chisel and a fairly wide 30mm tool, both of which come in splendid decorative cardboard boxes. Polished blades have a single bevel (a tad over 25°) and are incredibly sharp; in fact, they're ready to use with no honing necessary, which is an added bonus. Blades are from white paper steel (harder) laminated to low carbon jigane steel (softer) for durability. All have distinctive hollow backs, a characteristic of Japanese edge tools. The unfinished white oak handles are tight-grained and silky smooth, creating a lovely grip. There are two handle diameters depending on blade width. Each chisel is fitted with a steel hoop and designed to be struck with a hammer. At £45 for the narrowest chisel, these are not cheap and the widest (42mm) will set you back closer to £80, but that's still less than a 25mm Veritas chisel... and if you've never used Japanese tools before, then you're in for a treat!

Matsumura hammer

This hammer is perfect for use with Japanese chisels or any task in the workshop where a conventional claw or cross-pein hammer would be too heavy. Weighing less than 130g, it has an overall length of 360mm. Again fitted with a slender, unfinished white oak shaft, this is wedged into the lacquered steel head in the traditional way. Octagonal in section, one striking face is flat while the other is slightly convex. An indent underneath helps identify which face is which, though this is not easy to see when in use.

In summary

The extra long shaft means the tool balances nicely, though it could take some getting used to depending on the task. Whether it's adjusting the cutting depth on a Japanese plane, striking a chisel or simply driving home small nails, this is another simple but delightful tool from Niwaki. **PD**



The white oak shaft is wedged into the lacquered steel head as you'd expect

Specification

Prices: Chisels – £45 (6mm); £69 (30mm); hammer – £34

Web: www.niwaki.com

PROS

- Chisels are ready to use straight from the box
- Great handle grip
- Simple but delightful tools

CONS

- Long hammer shaft could take some getting used to
- Not cheap, but worth every penny!

RATING: 5 out of 5



The single bevel is incredibly sharp



The hollow backs are typical of Japanese edge tools



The two handle diameters depend on blade width

Specification

Chuck cap\type:

3-16mm keyless

Chuck travel: 80mm

Diameter of column:

70mm

Drilling capacity: 16mm

Morse taper: 2MT

Weight: 63kg

Overall L x W x H: 640

x 370 x 1,000mm

Power: 550W

Rating: Trade

Speed range: (12)

210-2,580rpm

Spindle taper: 2MT

Throat: 165mm

Price: £464.95

Web: www.axminster.co.uk**PROS**

- Easy to operate
- Good performer

CONS

- One or two rough edges

RATING: 4.5 out of 5

Axminster Trade Series ATDP16B bench pillar drill

Accurate and steady in use, this solidly built bench pillar drill from Axminster is an overall good performer

Few people that I know have had the chance to set up a complete workshop from scratch; for most of us it's a gradual business, with kit and tools being slowly acquired on a basis of need. When it comes to machines, a drill press is often seen as something of a luxury, and can generally be found way down the list of necessary items, sometimes not featuring on it at all. I've long been in this category, and for quite a while now I've been making do with Roy the landlord's pillar drill, an oily upright veteran that lives in a dark corner of his poorly-lit garage. Imagine my delight, then, to be the (albeit temporary) owner of a brand-new bench-top version – one of Axminster's finest. My first reaction on taking delivery of the sizeable package was one of surprise – it was very heavy indeed, and surely a hopeful sign of a nice solid machine. What with flat-packs and similar these days, most readers will be familiar with the principle of self-assembly, and unless you're buying second-hand stuff, you're always going to have to do a lot of the work yourself.

Assembly

Working at a steady pace, my assembly session took a little over an hour. Everything went together in a straightforward

manner, helped to a large degree by the lavishly photographed instruction manual. The base and column are the first pieces to fit together, followed by the drill table mounting arm and the rise and fall worm gear and drive. This I found a little coarse but once greased up it seemed OK. The drill table is easy enough to fit, and once there, can be tilted via its arm to set it at an angle. Sensibly enough this is secured by a hefty 24mm bolt, but you will need a ring spanner to tighten it as nothing else will fit. I checked and adjusted my table to dead zero, and that is where I plan to leave it.

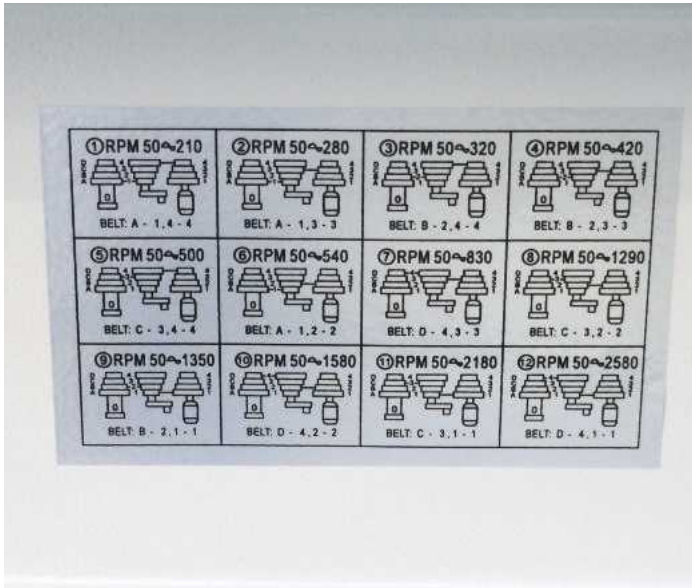
Both the drill table and the base are grooved to enable work supports or similar to be bolted down securely, and the work table has a similar arrangement machined into its generous surface. The heaviest part of the machine is easily the drill head, and positioning it onto the top of the column on your own is virtually impossible, so don't even think about it – just get someone else to give you a hand.



The safety cut-out switch – source of my puzzlement



Pulleys and belts are easy enough to set a speed



The available speeds, clearly displayed



The drill table support arm – note rotation scale, shrouded bolt and 90° locking pin

The only part of the job that had me slightly puzzled was the fitting of the safety cut-out micro switch and its associated cable and bracket; fortunately I got it the right way round and everything was fine, it may not have worked otherwise. The chuck guard and rail themselves could probably do with being a bit more robust, but I think there's a part of me that's stuck in the past with its over-engineered Victorian values. Pretty much the last job was fitting the chuck to the quill. This was a very satisfying experience, the Morse taper arbor fitting snugly and just as planned. All that remained was to check the belt tensions and we were ready for the off.

Time to start work

While keyless chucks are the norm for hand-held power tools, I've not encountered one on a bench-top machine before and I have to say I approve. Certainly the world will be a lot safer with the risk of flying chuck-keys removed from the workshop, and this is just another example of improved design and manufacture for the benefit of all. Once you've got your drill bit chucked in, and the guard in position, it's time to start work. The induction motor keeps the sound down during use, and the three pulleys and two belts on top enable any one from a range

of 12 speeds to be selected. Drill depth control is nicely taken care of, all is clear and easy to set, and the switchable LED worklight ensures you won't be working in the dark.

Good additions

Having used a variety of drill presses over the years, the key thing for me is that the downward action is plumb vertical and square to the table, and the centre of the drill chuck is a steady pinpoint. I was greatly pleased therefore to observe that both of these vital characteristics were present and correct on this, the smaller of the Axminster pillar drills range. Another plus point for my own preferences (and I suspect a lot of other users) are the rounded soft rubber grips on the downfeed handle. These enable the user to span two grips with ease on those occasions where you've misjudged the depth and the travel of one handle alone just won't do it.

In summary

Overall, the ATDP16B Trade Series bench pillar drill is a good solid machine, pretty well engineered and manufactured by today's standards. Accurate and steady in use, it gets the thumbs up from me. **MC**



The drill guard in place – note switch for LED worklamp



Drill table rise and fall, rack and pinion control



The depth stop is clear and easy to set



Work in progress – very satisfying



Specification

Dimensions: 580
× 300 × 290mm
Weight: 2.8kg

Price: £30

(approximately)

Web: Search online
for the best deal

PROS

- Sturdy construction
- Won't rust
- Plenty of space for a variety of tools

CONS

- Divider walls in tray could be deeper

RATING: 4 out of 5

Mano MG22 trade quality toolbox

Benefitting from deep compartments, a sturdy tough plastic construction and excellent storage potential, this toolbox from Turkish brand Mano is definitely worth a look

Remember those steel barn and cantilever toolboxes that were popular several decades ago? Heavy and prone to rust, there wasn't much else available at the time if you wanted to carry your toolkit around easily. They were great for mechanics, but far from ideal for woodwork tools. Thankfully, these days products are more user-friendly. New to the market is Turkish brand Mano, which offers a huge range of toolboxes and storage bins. From stashing a few screws to a comprehensive toolkit, you'll probably find just the box to suit your needs.

Decent size

This particular MG22 box is a decent size, measuring 575mm long overall, with depth and height both 300mm. Constructed from high-density plastic, it's pretty substantial, certainly strong enough to stand on without it collapsing. The handle retracts so it's flush with the lid – a simple but neat idea if you're stacking equipment in the workshop or space is tight in the back of a van.

Sturdy toggle clips

A pair of sturdy steel toggle clips keeps the lid securely closed, while you can also fit a small padlock to keep out the kids. Open the lid and there's a lift-out tray for smaller items such as measuring and marking tools, screwdrivers and suchlike. If anything, the divider walls in this tray could be deeper to prevent tools spilling over, but that's a small detail. Beneath this, the main box has enough space for larger tools, such as bench planes and chisel rolls. You can fit in a tenon saw, though don't expect to squeeze in a regular handplane.

At either end of the lid is a hinged flap, revealing extra storage for smaller tools, screws or nails. These close up tightly, so there's little chance of items spilling out if the box is tipped up.

In summary

All in all, an excellent toolbox that should last a good many years. And it won't rust... **PD**



The handle retracts flush with the lid



Steel toggle clips hold the lid firmly closed



The lift-out tray is ideal for smaller gadgets



Quick access end compartment for small bits or fixings

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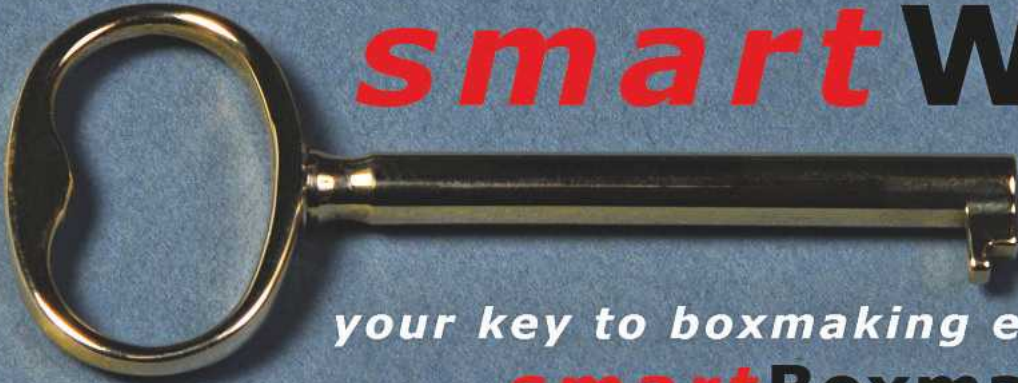


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FOR SALE

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01604 411 568 (Northampton)

Mafell LNF20 biscuit joiner

– includes instruction booklet and a quantity of various biscuits; £100 plus postage
01724 733 170 (North Lincs)



Stanley No.66 hand beading plane

– in good condition, but no blades included; £20
01612 208 511

Kity best combi doweller/thicknesser, planer/spindle moulder

– in good condition; £25 ONO – buyer collects
01858 545 429 (Leics)

Coronet Home Cabinetmaker Lathe;

£100 – buyer collects
01296 713 281 (Bucks)

Jet 10-20 drum sander

– ideal for segmented work; £350. Also, Axminster 300mm disc sander; £55
01747 871 402 (Wilts)

Woodworker annual from 1954 & *Woodworker* magazine from July 1948; £6
01617 895 147 (Salford)

Astra lathe – ¾hp – good starter lathe, with swivel head, 850mm between centres, bed swing 250mm, bowl swing 430mm, including Peter Child chuck and extras; £200 – buyer to collect
01554 821 003 (Carmarthenshire)



Stanley 05 jack plane in box; £35. Stanley 06 fore plane; £45. Stanley 04 ½ smoothing plane; £35. All in very good condition
0208 641 4138

Nova 3000 and Hobbymat lathes with chucks,

tools and timber, etc; £250 & £125, respectively
01902 701 929 (S. Staffs)

Mortise & tenon jig for sale with cutters.

Never used, Trend model; £120
01273 611 839 (East Sussex)

Scrollsaw – MS-2 – little used, heavy cast-iron, well made; £35 – buyer collects
01732 843 286 (Kent)

Luna W59 combination machine

& Startrite 301 bandsaw – both used only for hobby work; £950 for the two – buyer to collect
01684 772 020 (Gloucestershire)

Australian Symtec woodturning lathe

– in good condition, complete with turning tools
01454 260 395 (Gloucestershire)

Pax 150mm razor saw – still in original packaging, and used only once; £10 plus P+P. Also, Black & Decker DN339 variable-speed bandsaw with adjustable mitre fence and two spare blades (one brand-new). Cuts 105mm high x 330mm wide. Will cut most wood/metal/plastic materials. Ideal for model making; £38 + carriage
07724 135 606 (Leicestershire)

1934 edition of *The Woodworker* –

in excellent condition. Selling for £25 ONO
01248 600 325 (North Wales)

Selling due to retirement: all hand and electrical tools including lathe, dovetailing, spiral work machines and timber stock for disposal.

Dozens of woodturning and carving tools, bowl blanks and miscellaneous timber of varying lengths and sizes including yew, pitch pine, ash, etc., plus fittings & items for turners, all at bargain prices. Too many items to list; can send photos to interested persons. Preferably buyers to collect

01254 830 592 (Lancs)

Contact numbers for suppliers of bandings, strings, brass findings and similar. Also hour glasses and leather skivers
01771 624 471 (Peterhead)

Arcoy dovetailer & 2 cutters; £25. Rexon variable-speed scrollsaw with 16in throat; £60. Erbauer ERB210C 2,100W router, little used; £55
01492 545 433 (Conwy)

Kity planer/thicknesser

– never used; £175 ONO – collection only
07962 078 408 (Leicester)

1 pair of 42in Record sash cramps – in good condition; £25. Also, 4 x 8in G clamps; £25
01268 777 070 (Essex)

Trend T11EK & T4 routers – both come with additional extras. Also selling Trend combination router base and a selection of 65 x ½in router cutters. All items are only four months old and have never been used; £450
01233 638 039 (Kent)

Hegner fretsaw Multicut 2S – variable-speed. As new with clamp and blades; £200
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A visit to the factory from
Louis H Lebus in 1959

Harris Lebus Ltd – the Ford of the Furniture World

In the final part of this series, **Peter Baker** reflects back on his association with Harris Lebus Ltd – the biggest furniture manufacturer in the world



During the preceding articles detailing my association with the Lebus factory, I have attempted to explain the magnitude of the enterprise. It was not in jest that I likened Lebus to the Ford Motor Company, for the analogy at the time was that Lebus was the Ford of the Furniture World. Henry Ford did create the first moving production line while Lebus created the first moving polishing line. I can speak with some authority having worked in both establishments, albeit Ford Tractor Plant.

Family admiration

My admiration for this Lebus Family was engendered by my contact with and respect for Sir Herman Lebus. He was made a Knight of the Realm for his services to this country during World War II. A little history: Sir Herman's ancestor, Louis Lebus, landed in Hull, with his tools, in 1854 and set up in business making furniture. He was successful enough to bring his family to Britain and, because they were enabled to do this without any hindrance by authority, the family converted to Christianity and anglicised the name. They moved the business to London's East End and, success following success, had enough acumen and foresight to purchase the site at Tottenham Hale, in around 1900. They then created the terrific factory through which I have just walked you. All this development taking place without bringing in outside money, for they traded as a

family partnership until 1946, when they 'went public'. They earned every penny for expansion themselves.

The factory closes

Sir Herman died while I was 'on assignment' to Sprite Caravans at Newmarket and I was not aware until after his funeral. I would have attended in order to 'pay my respects' to such a great man and one with whom I had conversed so often in the factory. Sadly his sons split the business with Oliver retaining the upholstery business in Reading and succeeding, while Anthony took control of the cabinet factory at Tottenham. I was installing a bonus scheme to B. & I. Nathan Ltd, fairly nearby in Edmonton in 1966, when there was an onslaught of tradesmen from Lebus seeking work – because the factory was closing down. What a tragedy.

Set up for life

14 years later, while putting in a bonus scheme for Bluestone Furniture Ltd in Walthamstow, I discovered that a member of their accounts staff was also a 'Lebus boy'. Discussing the sorrowful demise of our alma mater he informed me that, within weeks of inheriting the factory, Anthony had hired a retired civil servant as Managing Director and the paper work trebled. As I told the Manager of Industrial Engineering at Ford Tractor on one occasion: "In the furniture industry, if you

see an improvement you get it installed with 'chewing gum and sealing wax' if necessary, because the design may change within six months." Decisions have to be made quickly, of which a civil service mentality is incapable.

My few years at Lebus really 'set me up' for life. I now realise how important the meeting was when I met my first immediate 'boss', Mr. Zac, in the main corridor one day and he advised me to study for my City & Guilds. That really changed my life and I wish I could now personally thank him for that advice. I subsequently realised that I was being 'fast tracked' during my early employment.

Always a Lebus boy

In the early '50s, I was caught in the third redundancy at Lebus. Arriving at Tottenham Labour Exchange, I discovered that there were already over 1,000 cabinetmakers 'signing on', as well as all the other trades. Listening to those around me I realised that this was a normal situation, so I went into another office where they dealt with clerical positions and found that J. Summers & Sons (more furniture) sought a person to introduce production control. I interviewed and got the job.

This was all due to Lebus training in that 'fast track' period. Now you can understand my admiration for Harris Lebus Ltd, and my pride in stating that, "I am a Lebus boy." **WW**

NEXT MONTH

Join us next month as we enter the world of traditional ladder making, and join Stan Clarke as he leaves school and sets out on his woodworking career in the 1950s



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