

The Woodworker & Woodturner

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January 2018



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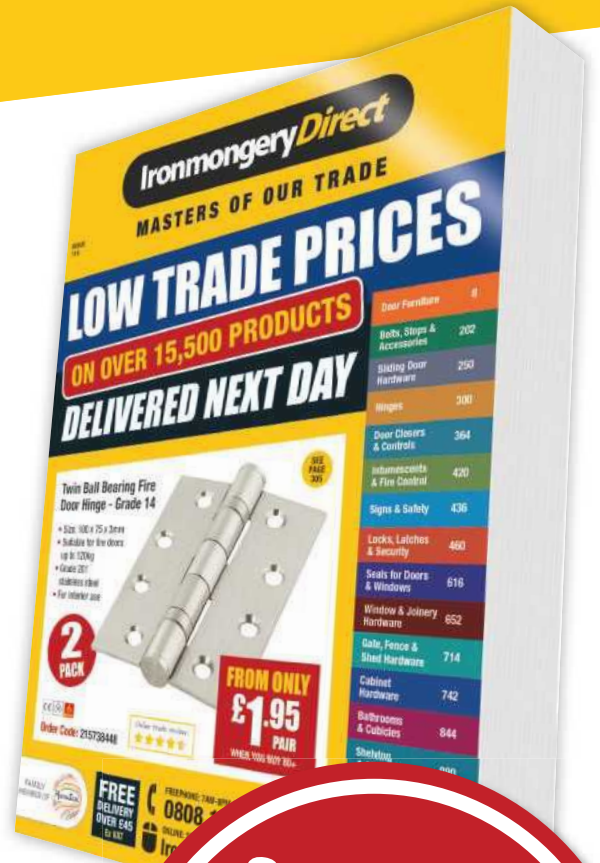


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We endeavour to ensure all techniques shown in *The Woodworker* are safe, but take no responsibility for readers' actions. Take care when woodworking and always use guards, goggles, masks, hold-down devices and ear protection, and above all, plenty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



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Welcome

I'm sure the following is a familiar scenario to most woodworkers:

Scene: A peaceful workshop somewhere in the world, sounds of sawing or planing float gently on the air

Enter friend/neighbour/family member with wood-based artefact

Friend: 'Can you fix my chair/door/cupboard? It'll only take five minutes, it just needs...'

And there you have it, three potential steps to possible trouble and frustration. One, a seemingly simple request; two, an assumption that it's but a tiny job; and three, a helpful suggestion as to what is needed to fix the problem. On the face of it, things could be a lot worse, but the analysis of the job by the non-woodworker friend – and its proposed remedy – is one which is invariably based on removing the symptoms with little thought for the root cause. And this is the trap for the inexperienced or unwary; without realising it, a suggestion for a possible course of action (and there will be many options available) can often be taken fully onboard and steer things wholly in that direction.

Fortunately, the experienced woodworker will barely listen to the 'advice' that's proffered, and instead rely upon all those years of acquired knowledge and



The Editor imparts a bit of wisdom to a recent student (sensibly listening)...

experience (sometimes referred to as wisdom), and make their own analysis of the problem.

Such was the case for me the other day when my neighbour brought in a ledge and brace garden door that 'just needed a bit planed off it'. The reality was that it required a reduction in width of one of the tongue & groove boards that faced it, and a re-cramping to bring it back to its original pre-swollen width. It all ended happily enough with a quick re-hanging visit to site and a spot of lock-plate adjustment, and it also enabled me to log a new entry to my Top 3 worst ever constructed doors to accompany the satisfaction of a job well done.

When it comes to woodworking and job-related matters, we all know it pays to talk, but sometimes (only sometimes!) it pays to not listen, too.

Mark

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

THIS MONTH THE EDITOR HAS BEEN:
Teaching ■ Domino-ing ■ Changing blades ■ Listening (sometimes)

WOODWORK

16 Gibbs surround made new

A nice project for classical architecture fans everywhere, as Niall Yates looks to the high street for inspiration for his elegant mirror frame

24 A box called Ditto – part 2

In part 2 of making a ditty box, Robin Gates deploys the baby Record 043 plough for grooves and rebates, extols the virtues of a 1960s hand drill, and hammers home some boat nails

32 Glue + Block = Strength

Let's hear it for the unsung glue block; a small offcut making a big difference behind the scenes

38 Adding a little colour

Although it's often preferable to leave wood in its natural state, there are times when adding a flourish of colour really brings projects to life, as Ian Wilkie shows here

44 Time stands still

Peter Dunsmore creates a clock design that was made popular in the late 18th century and uses two contrasting timbers to accentuate the free-flowing curves

50 Me & my workshop – Andy Voysey

We learn more about Exmouth-based boatbuilder Andy Voysey, whose workshop is an 84ft Thames Sailing Barge

52 Bone table

Sarah Kay's wonderful table is made using layer upon layer of elm

56 Arts & minds

Sometimes fiendishly tricky to make and initially shunned by tastemakers, Art Nouveau furniture eventually became a world phenomenon, says Phil Whitfeld

66 Bespoke workbench

Brian Barber shows you how to design and build a workbench that is simple, strong, fit for purpose and suits your own needs

70 Inside the Great British Woodshop

Readers may recall his popular TV woodworking show as we have a chat with David Free of the television series *The Great British Woodshop*

72 Smoothing plane of 1948

Alex Porwal takes us through the steps for making a lovely smoothing plane, which he found in the March 1948 edition of *The Woodworker*

90 Carpentry Etymologies

As Anthony Poulton-Smith shows, woodworking techniques and basic skills have changed little over the millennia, and here he examines the origins of some of the most widely used carpentry terms



34 SOAPBOX RACER

Peter Vivian started offering plans for soapbox racers a few years ago, and here he shares the making of his 'Mark 4' version



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Colin Simpson demonstrates a number of different turning techniques in the making of his charming vase, which uses three contrasting timbers

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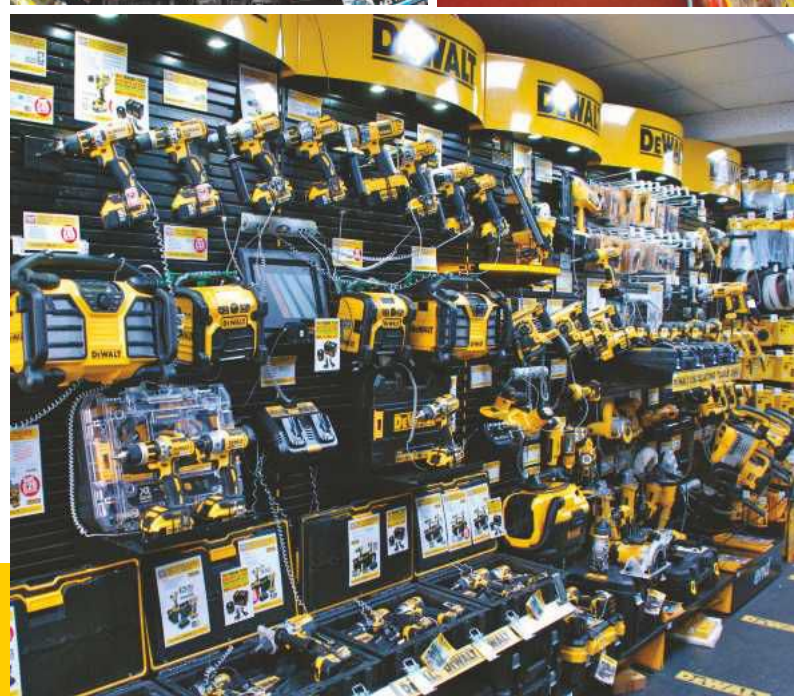
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ANY OTHER BUSINESS

There's no question that, when it comes to tools and kit (and let's face it, pretty much everything else in life), you get what you pay for. It's hard not to be interested in tools when you're a woodworker, and I'm fortunate in my magazine role to be able to sample a goodly number of hand and power tools in the general course of things. While most new stuff is of a very high standard and entirely suited to its purpose, every now and then there is a disappointment.

I recently tried out a couple of handpoint saws – the type you might find in a bargain bin or similar – and, try as I might to be positive about them, could find little worth recommending. Although the teeth were sharp, I found it tricky to guide the saws and both had been coated with some kind of soft varnish layer, which clogged

the cut and generally made things worse. For anyone just starting out on a woodworking path, a first saw encounter of this type may well prove to be off-putting for life. It made me wonder how this sort of kit gets made; does anyone test it and give a bit of feedback? Answers on a postcard, please... Thank goodness that most woodworking kit is of the sort you'd like to keep forever and tell all your friends about. In a funny sort of way, I guess we need the bad stuff around to remind us of how much better the good stuff is. It's also a way to keep us on our toes and to remain vigilant and aware when faced with apparent bargains; if anyone out there has a tale to tell on this subject, we'd love to hear it.

Mark



MAKE THE RIGHT SHARPENING CHOICE

It seems woodworkers are getting a bit of a raw deal when it comes to poor quality sharpening abrasives becoming increasingly available in UK markets. Following feedback from unsuspecting consumers, world renowned toolmaker Robert Sorby discovered some alternative belts for its popular ProEdge sharpener simply aren't up to the job.

Robert Sorby is now advising its customers to be cautious when purchasing replacement belts for the sharpener. Customers complaining of premature wear have been returning belts to suppliers after fewer than 10 sharpening attempts. Other issues included impromptu tearing, poor join quality and abrasive material on the backing material of some belts wearing machine parts.

Clive Brooks, Product Manager for Robert Sorby, said: "We guarantee all our products and would always advise people to buy the recommended accessories we provide for our tools. Unfortunately we can't be responsible for inferior standard alternatives." He added: "We use belts to sharpen our tools in the factory and have 40 years' experience of how these materials perform under the most stringent working conditions. Contrary to some

opinions, these are not typical sanding belts but high-tech materials created for industrial purposes."

"The value of a sharpening surface lies not only in the quality of the material to remove and hone but also in its durability," says Robert Sorby Managing Director, Phil Proctor. "We've found an increasing number of poor quality belts that fail on both counts," he said.

Robert Sorby currently provides four types of abrasive material for its ProEdge belts: **Aluminium Oxide** – standard sharpening material for all carbon woodworking steels – available in three grit sizes – priced at £2.99 each; **Zirconium** – two grit sizes are available for this hardworking HSS value abrasive – priced at £3.40 each; **Ceramic** – a premium choice that offers superb longevity on HSS and available in two grit sizes – priced at £5.16 each; and **Trizact** – an ideal abrasive for finishing and honing, providing excellent life-span and available in three grit sizes – priced at £10.65 each. For more information on belt abrasive materials, see www.robert-sorby.co.uk.

RECORD ATTENDANCE AT 'HARROGATE' SHOW

Over 9,500 people visited this year's 'Harrogate' show, much to the delight of both exhibitors and the show organisers.

A particular highlight of the show, and what made the event particularly special, was the fact the much loved woodturner, Tony Wilson, was able to take part. Tony has been very unwell

recently but there he was demonstrating throughout all three days – as always, covered from head to toe in sawdust. If ever a man was an inspiration to others, he is.

Next year's event will take place from 16–18 November; for further information, visit www.nelton.co.uk.

DIARY – JANUARY

5 Pen making*
10–11 & 15–16 Small engineering lathe
11–12* & 17–18 Woodturning for beginners
15–16 Wood machining
18–19 Introduction to milling
18–19* & 24–25 Routing for beginners
22 Pyrography
23 Turning a pestle & mortar*
24 Leigh RTJ400 introduction*
24 Pen making
29 Bird, bee & bat box
29–2 Engineering course
30 Sharpening*
31 Turning boxes – advanced course
* Course held in Sittingbourne, Kent
Axminster Tools & Machinery
Unit 10 Weycroft Avenue
Axminster, Devon EX13 5PH
Tel: 08009 751 905
Web: www.axminster.co.uk

12–14 Four-legged stool
19–22 Wildlife carving in relief
29 Woodturning – make a small bowl
29–1 Turned bowls, spindles & boxes
West Dean College, West Dean, near Chichester, West Sussex PO18 0QZ
Tel: 01243 811 301
Web: www.westdean.org.uk

13 Tool sharpening and maintenance weekend
19 Beginners' four-day course
Chris Tribe, The Cornmill, Railway Road Ilkley, West Yorkshire LS29 8HT
Tel: 01943 602 836
Web: www.christrifefurniturecourses.com

16 One-day pen turning course with Mick Hanbury
17–18 Two-day woodturning course with Mick Hanbury
24 One-day specialist spiralling course with Mick Hanbury
Turners Retreat, Faraday Close Harworth, Nottinghamshire DN11 8RU
Tel: 01302 744344
Web: www.turners-retreat.co.uk

21 Introduction to green woodworking
26–28 Traditional English longbow
Weald & Downland Living Museum
Singleton, Chichester, West Sussex PO18 0EU
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Web: www.wealddown.co.uk

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Web: www.brodiestimber.co.uk

Brooks Brothers Timber (Essex)
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D Emmerson Timber (Lincolnshire)
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Web: www.earlwoodinteriors.co.uk

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Oxford Wood Recycling (Oxfordshire)
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Web: www.owr.org.uk

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Web: www.sykestimber.co.uk

The Timber Mill (Cornwall)
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Web: www.thetimbermill.com

The Wood Recycling Store (East Sussex)
Tel: 01273 570 500
Web: www.woodrecycling.org.uk

Thorogood Timber Ltd (Essex)
Tel: 01206 233 100
Web: www.thorogood.co.uk

Timberman (Carmarthenshire)
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Web: www.timberman.co.uk

Tree Station (Lancashire)
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Web: www.treestation.co.uk

UK Timber Ltd (Northamptonshire)
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Web: www.uk-timber.co.uk

Waterloo Timber Ltd (Lancashire)
Tel: 01200 423 263
Web: No website

Wenban Smith (West Sussex)
Tel: 01903 230 311
Web: www.wenbans.com

Wentwood Timber Centre (South Wales)
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Web: www.wentwoodtimbercentre.co.uk

W L West & Sons Ltd (Surrey)
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AWARD-WINNING GREENWOOD DAYS

Peter Wood is proud to announce that Greenwood Days, a woodland craft teaching centre which he founded nearly 20 years ago, has been awarded 'Best Woodland Courses' by www.woodlands.co.uk.

The Greenwood Days centre is in Spring Wood, an ancient woodland on the border of Derbyshire and Leicestershire, set in the heart of The National Forest.

Starting in 1998 with just a couple of courses teaching the ancient craft of pole-lathe turning, Peter has slowly built up the centre and it now offers an extensive range of traditional craft courses focusing mainly on woodland wood crafts.

Peter teaches traditional and contemporary Windsor chair-making and associated greenwood skills (steam-bending, pole-lathe turning, sharpening and more) and employs some of the country's leading practitioners to offer courses from willow sculpture to spoon carving, longbow making to basketry. They pass on their skills and enthuse both amateurs and professionals. Students come to increase their knowledge, broaden their skill base, or have been given a course as a great Christmas or birthday present and want to have a fantastic time in the wood.

In 2018 (the centre's 20th anniversary) there will be nearly 40 courses from one-day tasters to seven-day intensive chair-making courses.



The setting is a large purpose-built structure nestling in the woods. Some of the course materials are harvested from this wood with the rest sourced locally – the National Forest is now a great source of timber from hazel to young ash thinnings for Windsor chairs.

Peter is passionate about preserving and passing on these skills. In addition to running public courses at the centre, he also teaches design students from Nottingham Trent University out in the wood and is a guest lecturer and runs drop in sessions on campus. To find out more, see www.greenwooddays.co.uk.

HITACHI'S NEW CORDLESS NAILER COMBINES POWER, EFFICIENCY & PERFORMANCE



The building of loft conversions, timber decking and timber frame roofing has been transformed with the introduction of the new cordless NR1890DBCL/JP framing nailer from Hitachi Power Tools. This cordless battery-powered nailer sinks a 90mm ring shank nail right to the head first time, every time. Unlike traditional framing nailers that use gas fuel cells, the Hitachi NR1890DBCL/JP is powered by a lightweight, rechargeable 5.0Ah Li-ion

battery, banishing the costly replacement of fuel cells. The use of batteries also means the days of keeping gas fuel cells warm in a pocket, or dragging a compressor and hose out for every job are over. This quiet, powerful and efficient nailer matches the performance of a gas nailer, without the fuss.

The NR1890DBCL/JP features a highly efficient brushless motor, driving up to two nails per second and has a capacity to carry 47 nails at a time. It comes with two 5.0Ah Li-ion batteries with a charge time of just 75 minutes per battery. The air/spring drive system means less recoil, better flush driving and easier maintenance, while the highly stable driving power allows the nailer to drive nails up to 90mm into timber with ease.

As always, safety is paramount to Hitachi and the NR1890DBCL/JP is no exception. The nailer has a lock switch and 30-minute automatic shutdown for increased safety and a longer battery life and a dry-fire lockout system prevents the nailer from driving when fasteners are low. Hitachi has also included safety glasses and a stackable case in the package. Subject to terms and conditions, the NR1890DBCL/JP carries a three-year warranty once registered within two weeks of purchase. To find out more, see www.hitachi-powertools.co.uk.

BREATHE EASY WITH TREND

Trend has introduced a new compact and lightweight half mask respirator with full P3 protection, which is suitable for protection from all woodworking nuisance dusts, including MDF as well as other industrial dusts including silica, glass fibre and also agricultural related dusts.

The Air Stealth design incorporates easy to change flat filters that locate behind hinged access grilles, while the large filter area offers less breathing resistance in use to keep comfort levels maintained as you work.

Manufactured from high-grade materials, the mask is odour free and non-allergenic with latex and silicone free Thermoplastic elastomers (TPE) offering a soft, comfortable fit to the face while sealing against inward leakage beyond the standard recommendation for maximum protection. The HEPAC (High Efficiency Particulate Air Composite) filters protect to higher than industry standard requirements, capturing 99.99% of all airborne particles of 0.3 microns and above, including aerosol emissions.

With the flat filter design, the mask offers superb all-round vision as you work, making it ideal for high volume dust generating woodworking applications, such as routing, sanding and woodturning.

The mask can also be used with prescription or safety glasses and is designed with the exhalation vent mounted at the bottom of the mask to prevent fogging and misting as you breathe.

Replacement filters are available including a carbon filter option to deal with nuisance odours and fumes while still offering full P3 protection.

The Air Stealth has an Assigned Protection Factor of 20 and certified to BS EN140 and BS EN143 P3R. There are two sizes: Small/Medium STEALTH/SM, and Medium/Large STEALTH/ML options, which are priced at £26.34 each. Additional filters start from £11.10 and Nuisance Filters from £13.14. To find out more, see www.trend-uk.com.



MAKITA ADDS PIN NAILER, MULTI-CUTTER & FAN TO ITS 10.8V CXT RANGE

Makita has added three new tools to the increasingly popular 10.8V CXT range in which the compact size of these high performance tools is proving valuable for confined space operations.

The new PT354 CXT pin nailer can fire five alternative lengths of 23 gauge (0.6mm) nails. The magazine will hold 100 pieces of either 15, 18, 25, 30 or 35mm long nails. Key features include simple depth adjustment, anti-dry-fire mechanism, high visibility nose tip, low rebound mechanism for easier long pin nailing, trigger lock and LED job light. The PT354 is available as a body only machine.

The new CP100D CXT multi-cutter has an automatic self-sharpening rotary blade that runs up to 300rpm and has a 6mm cutting capacity. Suitable for cutting a range of materials, including carpet, cardboard, vinyl and lino flooring, etc. The slim, ergonomic soft-grip handle gives very accurate machine control and the steel baseplate slides smoothly

over the material. The CP100D is available as body only or comes complete with a 4.0Ah battery, charger and tool bag.

The new CF100D CXT portable 180mm fan has three speed settings, giving a maximum air speed of 180m/min in the highest setting, then 150m/min and 120m/min in the medium and low settings respectively, with corresponding run times when powered by the Makita 4.0Ah 10.8V Li-ion battery of 275 mins, 380 mins and 630 mins. The fan head can be adjusted up and down, and to left and right. This unit has a wall hanging hook, tripod mounting and wall mounting fitting. An AC adaptor is included to enable mains operation. This high performance fan is available as a body only model.

For more news and product information about Makita UK, see the website: www.makitauk.com.



STUDENT INDUSTRIAL TOUR MARCH 2018

We are pleased to announce that The Furniture Makers' Company will once again be running the very popular Student Industrial Tour in spring 2018. The tour will be open to students on a higher education or equivalent furniture make/design or related course. The subsidised cost per student for the tour will be £80, and the booking will be on a first come basis. The Company ask educational centres to nominate two first choice students (one male and one female) and then one or two students on a reserve list.

The itinerary and full details can be found on the website, but please be aware that places go quickly. As in the past, the Company will provide a coach from the London area and transport to the various locations during the week, as well as visiting a number of furnishing and related supply chain companies. This year's feedback has been excellent, with the following quote demonstrating the impact



for the students: "The tour was excellent, and it reflected the hard work that had been put into the organisation, etc. It enabled us to see a number of diverse companies in a short space of time, which was invaluable. The companies were generous in the time they gave us and their enthusiasm about the products made it more interesting. The insight into the manufacturing and the advice given was a one-off opportunity that no one else could have provided."

The itinerary for the tour will be available in early 2018; to find out more, see www.furnituremakers.org.uk/education/student-industrial-tour.

NEW FESTOOL SURVEY SHOWS AWARENESS OF DUST EXTRACTION BENEFITS

According to the latest survey of UK tradespeople conducted by Festool, 49% of respondents believe the main benefit of using dust extraction is healthy lungs.

To highlight World COPD Day, which took place last month, Festool commissioned the survey to find out how people in the trade felt about the benefits of dust extraction.

COPD, or chronic obstructive pulmonary disease, describes a group of lung conditions that make it difficult to empty air out of the lungs because airways have been narrowed. Those living with COPD may find it difficult to breathe, and can also find everyday tasks a real challenge.

Findings from Festool's survey also highlighted that some 20% of respondents believed that cleanliness is the main benefit to using dust extraction, ensuring customers' properties are less impacted by the dust and fewer hours are taken up at the end of the job cleaning up.

The majority of tradespeople that responded – 70% – said they use a dust extractor while working. Up to 20% of the length on any project was spent cleaning up after completion, according to one in five of those that didn't use any form of dust extraction.

Festool's survey concluded that 97% of people would recommend the use of a dust extractor to help with the time efficiency of jobs, together with many health benefits. Nine people out of 10 believe that using a dust extractor can increase the longevity and life-span of tools and 99% of respondents said that using a dust extractor is beneficial to their health. To find out more about Festool's range of safe and robust dust extractors, see www.festool.co.uk.



NEW BENCH & LATHE ALIGNMENT TOOL FROM AXMINSTER

Axminster Workbench

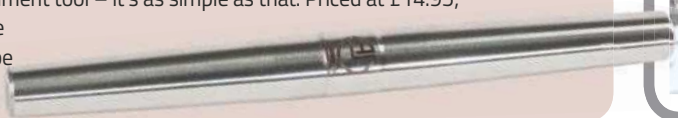
The Axminster 1500 workbench is suitable for professionals, the home workshop or hobby woodworkers. The bench has many attractive features and is manufactured from kiln-dried beech wood, chosen for its toughness and resilience. Its laminated construction ensures the top is stable and rigid and will remain flat throughout all its working life. The bench-top is 30mm-thick with a 90mm deep apron and includes two vices. The vices have 360mm wide jaws opening to a maximum of 130mm. They feature a strong central screw with steel guide bars on each side. The bench-top has a lacquered finish giving maximum protection. Two double rows of bench dog holes, one from each vice, are positioned on the bench-top. Used with the dog holes in the vice, they allow you to hold workpieces with a wide variation in size or shape. The bench includes four bench dogs. Dog holes in the legs allow you to clamp items vertically, and the underframe is solid beech. A full length shelf in the base offers storage for larger tools or materials. Supplied flat-packed with full instructions for assembly and priced at £299.96.



Lathe alignment tool

The new Axminster lathe alignment tool is precision turned from high carbon steel in Axminster's own engineering workshop. You can use this double-ended 1MT taper on any woodturning lathe that has a 1MT in both headstock and tailstock. It is a quick and simple method of ensuring correct re-alignment after bowl turning with the headstock rotated.

Leave the headstock loose and insert the alignment tool into the tailstock. Slide the tailstock along the bed of the lathe until the protruding end of the alignment tool is just inside the headstock Morse taper. Lock the tailstock and then slowly wind the tailstock quill until the Morse taper seats inside the headstock taper. Tighten the bolts or clamping handle on the headstock, then back off the tailstock and remove the alignment tool – it's as simple as that. Priced at £14.95; see www.axminster.co.uk. Please note prices include VAT and may be subject to change without notice.



DRAPER Tools

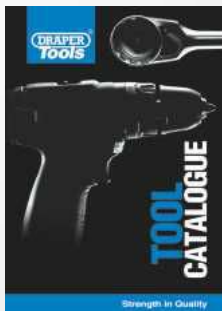
drapertools.com

200mm 250W 230V Two Wheel Bandsaw

STOCK No. 13773



Specification:	
Motor input	... 250w
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Workpiece height max	... 80mm
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Weight	... 15.5kg



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METABO TS 36 LTX BL 254 & TS 26-18 LTX BL 254 BRUSHLESS TABLE SAW

MANUFACTURER: Metabo

D&M GUIDE PRICE: From £849.95
(inc VAT)



This new cordless table saw from Metabo with its powerful brushless motor provides all the power of a mains-powered tool in a lightweight and truly portable cordless package, complete with a trolley function for maximum mobility. Available in two models – the **TS 36-18 LTX** powered by **2 × 18V 7.0Ah LiHD batteries** (supplied with 4 × 18V 7.0Ah LiHD batteries, 2 × Quick Chargers, Metaloc Case and Fixing belt or Body Only version) – or the **TS 36 LTX**, which is powered by **1 × 36V 6.2Ah LiHD battery** (2 × 36V 6.2Ah LiHD batteries, 1 × Quick Charger, Metaloc Case and fixing strap or Body Only version).

Thanks to the integrated, folding stand, quick change between sawing at ground-level or when standing up is possible. Precise saw blade inclination is achieved via gear guide together with a precisely adjustable parallel guide/rip fence with double clamping and quick fastening. There is an extra-large support surface thanks to table width and length extension. Soft start and overload protection means long service life of motor and drive and safety is uppermost thanks to restart protection and motor brake for quick stopping of the saw blade. The splitting wedge can be lowered without tools for hidden cuts and transport, and Metaloc case and attachments can be fixed at the housing for compact transport and storage. It comes with integrated extraction with dust cyclone for low dust working without a separate vacuum unit.



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METABO HO 18 LTX 20-82 18V CORDLESS PLANER

MANUFACTURER: Metabo

D&M GUIDE PRICE: Body only from £154.95
(inc VAT)



Also new from Metabo is this light, compact cordless planer for planing, rebating and chamfering. With an adjustable planer depth of 0-2mm, planing width of 82mm and max. notch depth of 9mm together with an aluminium die cast and milled cut planer base with V-groove for easy chamfering, it comes complete with parallel guide/rip fence for precise guiding of the planer. Extraction is also by means of connecting an all-purpose vacuum cleaner. The angled chip ejection adaptor for controlled ejection of the wood shavings and an easy to empty textile dust bag allows for working without extraction facilities.

Strap on the planer base for stopping the machine and to protect the workpiece. The robust reversible carbide planer blades are easily changed and the soft start and overload protection ensure long service life of the powerful 620W 16,000rpm motor and drive.

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Gibbs Surround

MADE NEW

A nice project for classical architecture fans everywhere, as Niall Yates looks to the high street for inspiration for his elegant mirror frame

I would often walk past a very striking 18th century door surround of a house on my local high street in south east London. It was a remarkable survivor of a period, which I guess was around the 1740s. It was attached, quite incongruously, to a very modest cottage and was one of a pair as the next door cottage had a matching surround, though this was hidden from curious eyes by a large fence. This classical surround mimicked stone blockwork, but was in fact made from timber. As a joiner I had to admire both the design and the skill involved in its execution. It would have been a good project to have made one of these surrounds, but despite my having been involved in repairs and making joinery items from this period, the chances of my

A NAME TO A FAMILIAR FACE

It was only fairly recently I found out that this type of design is often referred to as a 'Gibbs Surround' after the architect James Gibbs (1682–1754) who designed St Martin-in-the-Fields at the corner of Trafalgar Square, which uses variations of this design extensively around the windows and doors of the church. He was the populariser of the design through his books on architecture, rather than the originator, as it was used in one form or another by Italian architects of the Renaissance period and examples go back to the architecture of ancient Rome. There seem to be infinite variations, but the main element – and the one that I find most appealing – is the blockwork that alternates with sections of either pilaster, column or architrave.

The circuitous route by which it had arrived at what then would have been a small wooded village in Kent, can only be guessed at. Gibbs' own published works did influence buildings as far away as Virginia, but more practical publications aimed at builders and tradesmen were compiled by other authors, such as the curiously named Batty Langley. In his *City and Country Workman's Remembrance* there is a fairly similar design to the mirror surround; among other differences, his drawing shows a pediment at the top, rather than a canopy and brackets. It was this selfsame drawing that I used to help me understand some of the design features that were not apparent from my thumb-nail sketch of the original porch, when I came to build my first surround many years ago

ever being asked to make a full surround of this or a similar design were pretty remote. However, making a scale model for myself was a definite possibility, and a model that could be put to some use would be an even more attractive proposition.

An idea is born

It was with this in mind that I decided to use the design for a mirror surround for behind the sink in my bathroom, which I was renovating at the time. This first version I made was about a third the size of the original and worked very successfully. The design is quite versatile and the subsequent versions of the mirror that I have produced, to a slightly smaller scale, seem to be equally at home in most rooms of the house. It is this roughly quarter scale model that is shown in the drawings illustrated, but the design is quite capable of being tweaked up or down in size to suit your needs.

The materials

The original doorway was of painted timber – most probably redwood – and the mirror surrounds that I have chosen to produce have also been painted, mainly in the colours of stone. For the actual frame that fits around the mirror glass I have used MDF as well as for the canopy fitted above. For the mouldings, blocks, keystone and brackets, I have used redwood, although

I have in the past used whitewood, especially when producing larger scale components. Most importantly, the timber has to be well seasoned because the blocks are made from wood that is shorter in its length than its width and the propensity for these to split or crack down their length can be very high. I have found that a good source of stable well seasoned timber is old doors. Yes, they do have to be stripped and you have to be careful of the nails and pins that have inevitably found their way into the wood over the years, especially when planing to size, but it is well worth the effort (photo 1).

If you prefer to go for an all wood solution, then I do not foresee any problems replacing the MDF element with redwood instead. Also, as long as it is carefully and cleanly constructed, I could equally as well see these mirrors made entirely from hardwood, such as maple or black American walnut, and given a lacquered finish.

Starting construction

I planed the stock to size and ran the architrave moulding first. As I did not have a cutter for my spindle moulder of the exact architrave profile, I used two separate cutters to give me the majority of the cut and removed the small blip left over with abrasive paper held around a piece of dowel (photo 2).

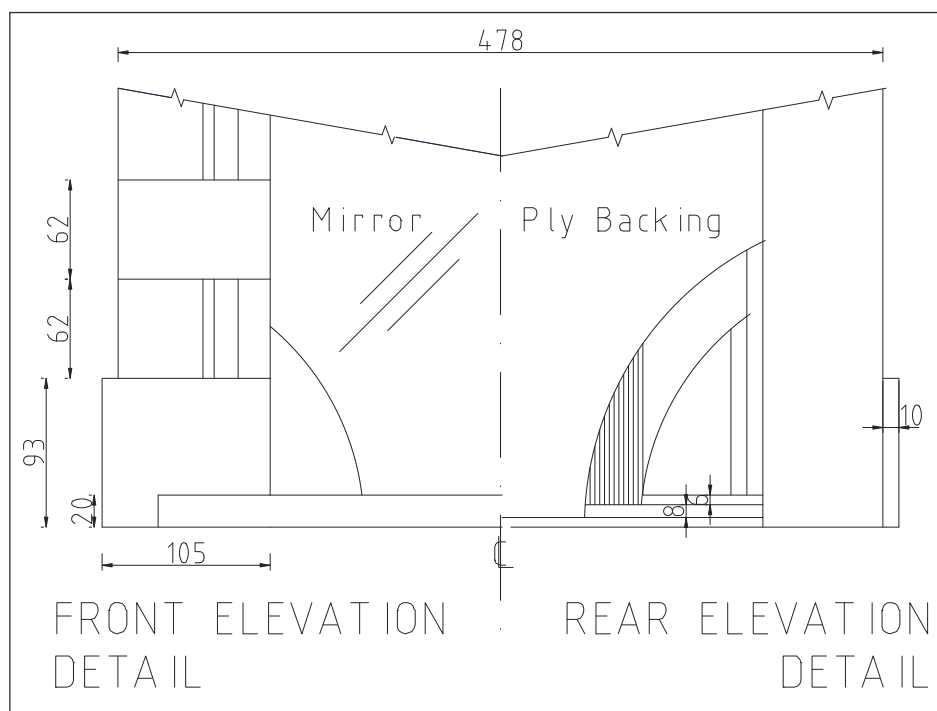
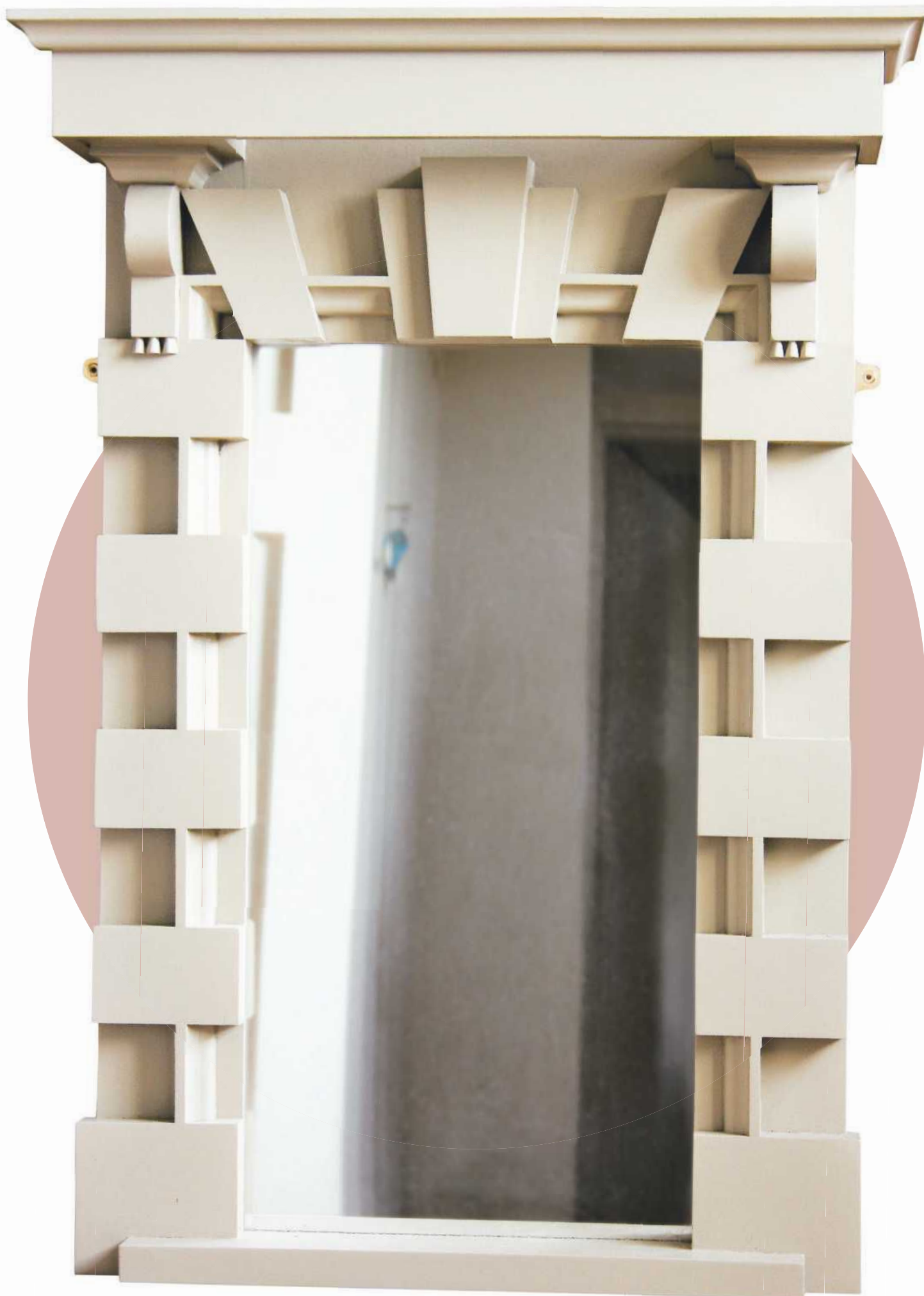


Fig.1 Mirror base detail



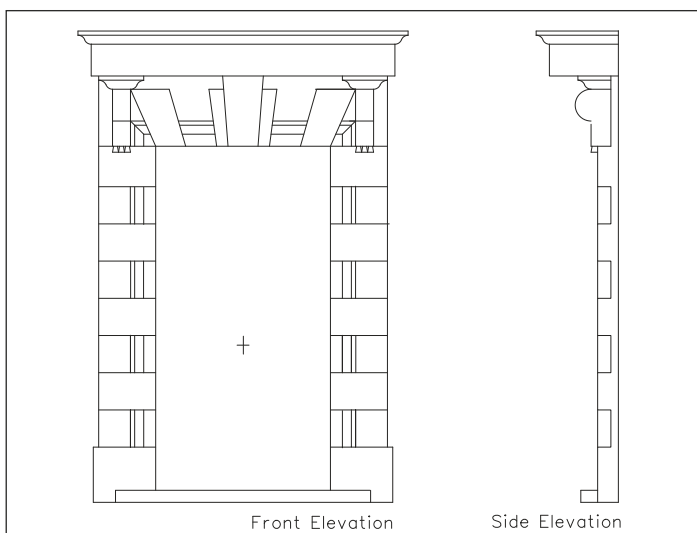


Fig.2 Mirror surround

The 12mm-thick MDF frame is next marked and routed to shape and it is given a double stepped rebate on the inner edge to house the mirror glass and backing board (photo 3). The rounded corners on the rebates left by the router are squared up with a sharp chisel.

Cutting & sticking

I next marked up the MDF surround with the positions of the side blocks and architrave sections. I find this helpful, rather than relying on a series of cut components ending up where they should no matter how accurately they are cut (photo 4). This at least gives you a way of checking if your sizing is drifting off course and allows you to tailor the components to fit. It is important that the top edge of the two top blocks lines up exactly with the top edge of the mirror aperture, otherwise there will be problems where the sloping blocks (voussoirs) abut at the corner.

Since their positioning is critical it makes sense to start with these top blocks first. They are cut from 95mm wide stock and should be lined up exactly with the inner edge of the frame – any slight discrepancy in their width will then present itself at the outer edge where it can easily be removed with a plane or sanding board. Now it is just a matter of cutting and sticking the rest of the blocks and sections of architrave to the sides of the MDF frame, moving down towards the base blocks.

You can make a small gizmo to help line up the architrave sections square and true, which



1 A generous amount of prepared stock reclaimed from a pair of Victorian doors

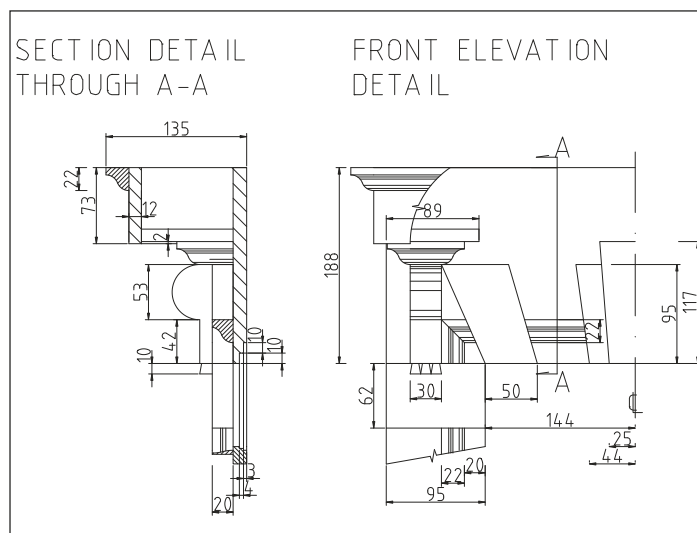
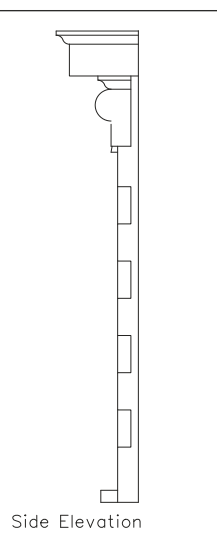


Fig.3 Mirror top detail

greatly speeds up the process (photo 5). For gluing I resorted to using a few small dabs of CA adhesive at the corners of the components to clamp them firmly in place, while PVA adhesive applied to the rest of the component has time to set. In the past I have also fastened screws in from behind, though this can soon add up to a large amount of screw. However, they can be removed when the glue has set and the holes filled in afterwards.

The base blocks are also cut from the same 95mm wide stock but in addition have a 10mm-thick section of timber glued to one edge to form a return that fits around the outer edge of the MDF sides (photo 6).

I now turned my attention to preparing the threshold, which closes the base of the surround. The stepped rebate that needs to be formed on the back of this, to house the mirror and backing board, was easily cut on the saw bench. The base blocks are cut away on their inner edges to accommodate the threshold, whose ends are rebated before being glued in place and screwed from behind (photos 7 & 8).

The brackets

At this stage I decided to make the brackets, as there is some quite intricate work reliant on the correct positioning of these. This work is a lot easier to carry out if the brackets are to hand and can temporarily be fixed in position.

There are various ways to form the semicircular sections for the brackets. I chose to make them on the disc sander, before gluing them both onto

a section of timber of the same thickness, which forms the main body of both the brackets. After applying the moulding they are then ready to be parted and trimmed to size (photo 9).

Voussoirs, keystone & canopy

The sloping sides of the voussoirs and keystone, when extended with a drawn line, end up at a vanishing point, shown in Fig.2. This is our guide to the angles to be cut on each of the sides of these elements. The position of these and the architrave are now drawn on the MDF frame.

Care is needed when cutting the voussoirs and keystones on the chop saw – and indeed, the small sloping architrave sections. It's a lot safer to engineer the cutting of these sloping sided pieces so that they fall away as the offcut from a longer piece of timber. That way your fingers are kept well away from the angled saw blade.

The keystone is built up from three pieces of timber. A wider block is first cut to shape, before the smaller keystone facing is cut from 12mm thick x 115mm wide stock. This is packed out at the top with a square section of timber to form a return around the block beneath (photos 10 & 11).

With the brackets temporarily fastened and each of the voussoirs laid in their correct position, the mitred corners of the architrave can be marked and cut. All three of these elements have to fit together as neatly and closely as possible. When the mitred architrave corners are glued together (photo 12) all the components are laid in position to check for a good fit. After



2 More than enough moulding for two surrounds



3 Stepped rebate and cut-out routed in the MDF baseboard



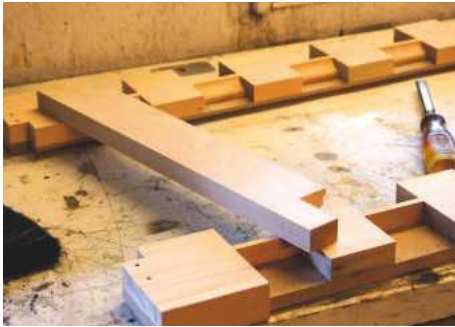
4 Accurately cutting short lengths of architrave on the chop saw



5 Architrave being glued in place with the aid of a spacing 'gizmo'



6 Base block about to be glued in position



7 Threshold jointed and ready for fitting



8 Fitted threshold, tying together the base of the mirror surround



9 Brackets, made as one and ready to be parted, with packer behind for safety

any adjustment, the architrave corners are glued in position (**photo 13**) followed by the voussoirs. When dry, and with the brackets temporarily set aside, the tops of these are sanded flush (**photo 14**).

The remainder of the angled architrave is cut to size and this, along with the keystone assembly, is glued in position, finally followed by the brackets. On top of each bracket is a small square of 12mm MDF, which will tuck up just into the canopy above. These are best tackled as part of the canopy. They are the vestiges of a board that would have stretched across the whole of the inside of the canopy, but for the purpose of this particular design, most of this board has been omitted to allow for the installation of a strip light, if required.

At this stage the elements for the MDF canopy are cut to size and mitred. The mitres are biscuited and glued together and the moulding is also cut and applied. The two short sides of the canopy are left longer than needed so that they can be trimmed flush with the back and sanded after fitting. The two small MDF squares that mate with the tops of the brackets and are

recessed 2mm in from the bottom edge of the canopy are also glued in place (**photo 15**). With the canopy assembled it is now glued to the frame and brackets. The joints to the sides of the canopy are reinforced with pairs or screws pocketed in the frame from the rear. The canopy is also screwed onto the brackets.

The guttae

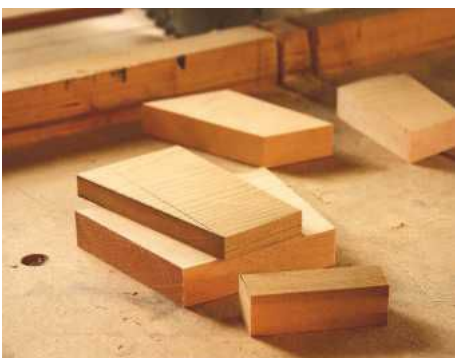
This is the name for those tooth-like bits at the base of the brackets. Surprisingly enough, these can conveniently be made with a dovetail routing jig. I set up two pieces of timber in the jig, as I would normally, and routed the dovetails (**photo 16**). Since I was only interested in the pins, I left the back piece in position in the jig before setting up more sections of timber to the front and routing more pins. I aimed here at giving myself a healthy surplus, so I could choose those that had suffered from the least amount of breakout.

Fortunately, in the past – because of the scale on which I was working – I had been able to use these pins without any modification; however, in this case they did need to be altered. They had to be reduced in width (which after being trimmed

to height would be 10mm) – this was done by marking the amount to be offset on the first dovetail pin (**photo 17**). The machined pins were then placed back in the jig and slid to the right, so that the offset mark aligned with the right-hand edge of the dovetail in the backing board – it was then clamped and re-machined (**photo 18**). Those eagle-eyed among you might just be able to spot the prow-like ridges to the front of the pins in this photo, left by this process. This was blended out by using a fine-toothed file, before moving on to the next stage.

The pins were then carefully trimmed to their required length of 10mm on the radial arm saw, before they were very carefully cut to their correct depth of 9mm overhand in the saw bench (**photo 19**). They were then finish sanded while still attached to their board before being parted off with a fine-toothed saw, though this can be left until they are needed, so that they don't go missing.

I glued them in position using CA adhesive along with an accelerator spray. They might be small but any slight misalignment is really noticeable, so I found everything needed to be



10 Elements of keystone prior to gluing



11 Keystone glued and sanded



12 Mitred corners of architrave



13 Bracket temporarily clamped – while architrave corner is glued in place

carefully marked beforehand. Positioning the middle one first, under each of the brackets, seemed to be key. To keep the surplus glue from spreading where it's not needed, I found it best to apply a thin coat of the CA adhesive to the glazed surface of a ceramic tile and then place the guttae on this to lift off a thin, even coat – the accelerator was applied to the frame (**photo 20**).

Finishing & mirror glass

This is a basic exercise in painting. Firstly, all major holes were filled with two-part filler before the whole was sanded down. As I had carefully selected out all knots from the timber I used, there was no need to apply knotting. Any glue residues were cut away with a sharp chisel, especially where they had lodged in hard-to-reach corners. There are some quite constricted pockets on this piece, so I found it helpful to glue silicon-carbide paper to specially shaped sticks of timber, so that I could easily sand all parts – CA adhesive with an accelerator is ideal for this. The MDF edges also had to be filled and I used fine surface filler for these as well as for any other minor blemishes.

After the preparation was complete, I gave the surround a coat of oil-based primer (**photo 21**). This first coat of paint I applied by brush, using an additional small detail brush to reach into



14 Architrave corner and voussoir sanded flush after gluing

the difficult to access areas. I also made use of a quirk stick – a small piece of timber roughly 6mm square in cross-section, sharpened to a point – to clean away paint that puddled in any of the corners. When the paint had sufficiently dried, the surround was sanded smooth and dusted. I was using oil-based eggshell as the finish coat, so this was used as its own undercoat for the next few coats – again applied by brush. The routine here was to use many thin coats, rather than fewer thick ones. Between coats, I checked for nibs, runs or puddles that had dried, and marred the surface. These were cut away with a sharp chisel where they could not be removed by sanding. The whole was then



16 Set of dovetail pins routed in jig – to be used for the guttae



15 Fabricated canopy with recessed MDF squares

thoroughly sanded and the dust blown away. Once I was satisfied with the quality of the surface, I applied the last two finish coats by spray, having first thinned the paint sufficiently with white spirit. During this last process, I found it helpful to fasten two long screws into the bottom of the surround to hold it proud of my bench. The surrounds illustrated both have standard 4mm mirror glass fitted from behind into the inner rebate of the frame. This is held in place from behind by a rectangular piece of 3mm ply that is located and screwed into the frame's outer rebate; this arrangement ensures that the back is kept flush (**photo 22**). **WW**



17 Pins fresh from jig before modification with offset marked



18 Pins reduced in width – with slight vertical ridge showing to front



19 Finished pins now reduced in height and cut to their final depth on saw bench



21 Surround primed outside the workshop



20 Guttae glued in place – the surround is now ready for painting



22 Two mirrors painted in different stone colours

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- Easy release/locking mechanism for table extensions
- 0-45° tilting blade
- Cutting depth: 72mm at 90° / 65mm at 45°

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

FROM ONLY £129.98 EXC.VAT £155.98 INC.VAT

EVOLUTION FURY5-S TABLE SAW

- 1500W motor
- 0-60° mitre gauge
- Cutting depth: Steel 3mm, Wood 85mm at 90° or 58mm at 45°

3 YEAR WARRANTY

FROM ONLY £149.98 EXC.VAT £179.98 INC.VAT

Clarke WOODWORKING VICES

STANLEY RECORD

MODEL MOUNTING JAW (WIDTH/OPENING /DEPTH)mm EXC.VAT INC.VAT

Clarke Bolted	150/152/61	£14.99	£17.99
Stanley Clamped	72/60/40	£17.99	£21.99
Record TV5B Clamped	75/50/32	£20.99	£25.19
Clarke VW7 Bolted	180/205/78	£29.98	£35.98

Clarke QUALITY CAST IRON STOVES

8kW

OVER 22 QUALITY STYLES ON DISPLAY

FROM ONLY £219.99 EXC.VAT £262.80 INC.VAT

FLUES, COILS & ACCESSORIES IN STOCK

BARREL II

Clarke 6" BELT/ 9" DISC SANDER

- Includes stand
- 1 HP / 230V / 1ph motor
- CS6-9C

FROM ONLY £239.99 EXC.VAT £286.80 INC.VAT

Clarke TURBO FAN GAS HEATERS

Offering low cost, efficient heating

PROPANE GAS FIRED

Little Devil II SPACE HEATER

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

MODEL	MAX OUTPUT KW	EXC. VAT	INC. VAT
Little Devil II	10	£79.98	£95.98
Little Devil SSII*	10.3	£84.99	£101.99
Devil 660 SS*	15	£99.98	£119.98
Devil 700	15	£99.98	£119.98
Devil 900	24.9	£139.98	£167.98
Devil 910 SS*	17.6-24.9	£159.98	£191.98
Devil 1600	36.6	£169.98	£203.98
Devil 2100	49.8	£259.00	£310.80
Devil 4000	70-131	£398.00	£477.60

Clarke ELECTRIC HEATERS

BEST SELLER

DEVIL 6003

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

MODEL	VOLTAGE	HEAT OUTPUT KW	EXC.VAT	INC.VAT
DEVIL 6003	230V	1.5-3	£49.98	£59.98
DEVIL 7003	230V	3	£59.98	£71.88
DEVIL 6005	400V	2.5-5	£74.99	£89.99
DEVIL 7005	400V	5	£84.99	£101.99
DEVIL 6009	400V	4.5-9	£119.00	£142.80
DEVIL 7009	400V	9	£139.98	£167.98
DEVIL 6015	400V	5-10-15	£179.00	£214.80
DEVIL 7015	400V	15	£199.98	£239.98
DEVIL 7025	400V	22	£299.00	£368.80
DEVIL 7030	400V	30	£349.00	£418.80

Clarke STAPLE/ NAIL GUNS

FROM ONLY £22.99 EXC.VAT £27.59 INC.VAT

NEW

CONSN18LIC

SPARE NAILS / STAPLES IN STOCK

ELECTRIC AND CORDLESS MODELS IN STOCK

MODEL	TYPE	STAPLE/ NAIL GAUGE	EXC. VAT	INC. VAT
CCT48	Cordless	4.8V Ni-MH 22/18	£29.98	£35.98
CESN2G	Electric	18/18	£39.98	£47.98
CONSN18LIC	Cordless	18V Lithium-Ion 18/18	£109.98	£131.98

Clarke MULTI FUNCTION TOOL WITH ACCESSORY KIT

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

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

CMFT250

Clarke 1" BELT/ 5" DISC SANDER

- Includes 2 tables that tilt & lock
- Quality induction 300W motor

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

CBS1-5

Clarke DUST EXTRACTOR/ CHIP COLLECTORS

FROM ONLY £139.98 EXC.VAT £167.98 INC.VAT

METABO ALSO AVAILABLE

Powerful 750W motor

56 litre bag capacity

Flow rate of 850M3/h

Clarke POWER PLANERS

BLACK & DECKER

CEP1

FROM ONLY £28.99 EXC.VAT £34.79 INC.VAT

MODEL	DEPTH OF CUT (mm)	EXC.VAT	INC.VAT
Clarke CEP1	650W 2mm	£28.99	£34.79
Einhell TE-PL850 850W	3mm	£52.99	£63.59
B&D KW750K - GB 750W#	2mm	£57.99	£69.59

Clarke BELT SANDERS

Ideal for surface removal, sanding and finishing

ABRASIVE SANDING BELTS IN STOCK

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

BS1

TURBO AIR COMPRESSORS

airmaster

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

- Superb range ideal for DIY, hobby & semi-professional use
- * V Twin Pump

MODEL	MOTOR	CFM	TANK	EXC.VAT	INC.VAT
8/250	2HP	7.5	24ltr	£99.98	£107.98
7/250	2 HP	7	24ltr	£94.99	£113.99
11/250	2.5HP	9.5	24ltr	£109.98	£131.98
8/510	2HP	7.5	50ltr	£119.98	£143.98
11/510	2.5HP	9.5	50ltr	£139.98	£167.98
16/510*	3 HP	14.5	50ltr	£209.00	£250.80
16/1010*	3 HP	14.5	100ltr	£259.98	£311.98

Clarke 4" BELT/ 8" DISC SANDER

- Includes two tables
- 550W 230V motor

FROM ONLY £159.98 EXC.VAT £191.98 INC.VAT

CS4-8

Clarke CORDLESS DRILL/ DRIVERS

CONTRACTOR

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

powered by Li-Ion

CON18LI

MODEL	MOTOR	FLOW RATE	BAG CAP.	EXC.VAT	INC.VAT
CDE35B	750W	450 M3/h	56Ltrs	£139.98	£167.98
CDE7B	750W	850 M3/h	114Ltrs	£159.98	£191.98

Clarke CROSS 350W RANDOM ORBITAL SANDER

- Adjustable front handle improves control
- 7000-14000rpm

INC DUST BAG AND SELECTION OF 125MM DIAMETER SANDING DISCS

Clarke CPF13

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

MODEL	MOTOR	BELT SIZE (mm)	EXC.VAT	INC.VAT
CPF13	400W/230V	13x457	£49.98	£59.98
KAG90E*	350W/230V	13x455	£59.98	£71.98

Clarke CIRCULAR SAWS

Great range of DIY and professional saws

- Ideal for bevel cutting (0-45°)
- CON185

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

Includes laser guide

MODEL	MOTOR	MAX CUT 90/45 (mm)	EXC.VAT	INC.VAT
CCS185B	1200W	65/44	£41.99	£50.39
CCS2	1300W	60/45	£59.98	£71.98
CON185*	1600W	60/40	£62.99	£75.59

Clarke HARDWOOD WORKBENCH

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

FROM ONLY £144.99 EXC.VAT £173.99 INC.VAT

CHB1500

Clarke DISC SANDER (305MM)

- Powerful, bench mounted 900W
- Dust extraction port

FROM ONLY £129.98 EXC.VAT £155.98 INC.VAT

CDS300B

Clarke SHEET SANDERS

- Ergonomic design for optimum comfort

FROM ONLY £16.99 EXC.VAT £20.39 INC.VAT

CON300

MODEL	SHEET SIZE	MOTOR	EXC.VAT	INC.VAT
CON200	190X90mm	150W	£16.99	£20.39
CON300	230X115mm	330W	£34.99	£41.99

Clarke BOLTLESS SHELVE/BENCHES

Simple fast assembly in minutes using only a hammer

SAVE 10%

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

WHEN YOU BUY ANY MIX OF 4 FROM THIS RANGE SAVE AT LEAST £23.99 INC.VAT

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

MODEL DIMS WxDxH (mm) EXC.VAT INC.VAT

150kg	800x300x1500	£29.98	£35.98
350kg	900x400x1800	£49.98	£59.98

ONLY £119.98 EXC.VAT £143.98 INC.VAT

Clarke ELECTRIC POWER FILE

CPF13

- Variable belt speed
- Tilting head
- Black & Decker

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

Clarke CIRCULAR SAWS

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

CON185

VAC KING WET & DRY VACUUM CLEANERS

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

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

MODEL	MOTOR	CAPACITY DRY/ WET	EXC. VAT	INC. VAT
GVAC20P	1250W	16/12ltr	£49.98	£59.98
GVAC20SS*	1400W	16/12ltr	£59.98	£71.98
GVAC20PR2	1400W	16/12ltr	£64.99	£77.99
GVAC25SS*	1400W	19/17ltr	£67.99	£81.99
GVAC30SSR	1400W	24/21ltr	£99.98	£119.98

Clarke PORTABLE THICKNESSER

- Max thickness cap. 125mm and 250mm wide
- Planning depths adjustable from 0-2.5mm
- Powerful 1250W motor

FROM ONLY £219.99 EXC.VAT £262.99 INC.VAT

CPT250

Clarke WHETSTONE SHARPENER (200MM)

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

ONLY £119.98 EXC.VAT £143.98 INC.VAT

Clarke PLANERS & THICKENERS

Ideal for DIY & Hobby use

- Dual purpose, for both finishing & sizing of timber

FROM ONLY £184.99 EXC.VAT £221.99 INC.VAT

MODEL	PLANING WIDTH	MAX THICK. CAPACITY	EXC. VAT	INC. VAT
CPT600	6"	120mm	£184.99	£221.99
CPT800	8"	120mm	£209.98	£251.98
CPT1000	10"	120mm	£289.00	£346.80

Clarke OSCILLATING BOBBIN SANDER

- Provides exceptional finishes for deep & wide work pieces
- front edges & narrow inner curves
- Dust collection port
- Inc. 6 sanding sleeves/ bobbins

FROM ONLY £139.98 EXC.VAT £167.98 INC.VAT

COBS1

Clarke OSCILLATING BELT & BOBBIN SANDER

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

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

COEBS1

FAST, EASY FINANCE ONLINE/INSTORE

NEW BUY NOW SPREAD THE COST

- Over 12, 18 or 24 Months
- Purchases over £300
- 12.9% APR, 10% Deposit*

EASY TO USE WEBSITE

NOW OVER 21,000 PRODUCTS ONLINE!



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Clarke SLIDING COMPOUND MITRE SAW

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

FROM ONLY £139.99 INC.VAT
£167.98 INC.VAT

CMS10S2

MODEL	BLADE DIA/BORE (mm)	MAX CUT DEPTH (mm)	EXC.VAT	INC.VAT
CMS210	210/30	60/120	£59.98	£71.98
CMS10S2	254/30	78/340	£139.98	£167.98

Clarke CONTRACTOR BOSCH JIGSAWS

CON750

• DIY #Professional
• Produces fast, precise mitre & longitudinal cuts in all types of wood

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

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

‡ was £34.79 inc.VAT

Clarke BENCH BANDSAW

• Produces fast, precise mitre & longitudinal cuts in all types of wood

FROM ONLY £129.98 INC.VAT
£155.98 INC.VAT

CBS190B

MODEL	MOTOR	THROAT SIZE	EXC.VAT	INC.VAT
CBS190B	350W	7.5"	£129.98	£155.98

Clarke MAGNIFIED MITRE GUIDE

• QUICK RELEASE FENCE
• DRIVE-BELT TENSIONING

FROM ONLY £399.99 INC.VAT
£478.80 INC.VAT

CBS300

Clarke PROFESSIONAL BANDSAWS

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

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

Clarke BISCUIT JOINER

• 11000rpm Operating Speed
• 860W motor

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

TC-BJ900

Clarke MORTISING MACHINE

• Accurately creates deep square recesses
• Table size 150 x 340mm

FROM ONLY £174.99 INC.VAT
£209.99 INC.VAT

CBM1B

Clarke ROUTER TABLE

• Router not included

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

CRT-1

Clarke SCROLL SAWS

• 50mm max cut thickness
• Air-blower removes dust from cutting area

FROM ONLY £82.99 INC.VAT
£99.99 INC.VAT

CSS400C

Clarke GRINDERS & STANDS

• Stands complete with bolt mountings and feet anchor holes

FROM ONLY £32.99 INC.VAT
£39.99 INC.VAT

MODEL DUTY WHEEL DIA. EXC.VAT INC.VAT

CBG6RP	PRO	150mm	£32.99	£39.99
CBG6RZ	DIY	150mm	£42.99	£51.99
CBG6RSC	HD	150mm	£54.99	£65.99
CBG6SB#	PR	150mm	£54.99	£65.99
CBG6RWC	HD	150mm	£59.98	£71.98
CBG6W* (wet)	HD	150/200mm	£56.99	£68.99

Clarke MITRE SAWS TC-SM2131

• Laser Guide
• Sliding Compound

FROM ONLY £59.98 INC.VAT
£71.98 INC.VAT

TC-SM2131

Clarke STATIC PHASE CONVERTERS

• Run big 3 phase woodworking machines from 1 phase supply

FROM ONLY £229.99 INC.VAT
£274.80 INC.VAT

PC60

Clarke 13" MINI WOOD LATHE

• Ideal for enthusiasts/hobbyists with small workshops

FROM ONLY £149.98 INC.VAT
£179.98 INC.VAT

CWL325V

Clarke ROUTERS

• Powerful heavy duty machines ideal for trade and DIY use

FROM ONLY £46.99 INC.VAT
£56.39 INC.VAT

CR1C

Clarke DRILL PRESSES

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

FROM ONLY £66.99 INC.VAT
£80.99 INC.VAT

CDP152B

Clarke FOLDING MITRESAW STAND

• Suitable for most sizes/makes of saw

ONLY £66.99 INC.VAT
£80.99 INC.VAT

CFMS51

Clarke ROTARY PHASE CONVERTERS ALSO IN STOCK

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

Clarke 12" DOVETAIL JIG

• Simple, easy to set up & use for producing a variety of joints

FROM ONLY £57.99 INC.VAT
£69.99 INC.VAT

CDTJ12

Clarke CLIPPER

• Powerful heavy duty machines ideal for trade and DIY use

FROM ONLY £46.99 INC.VAT
£56.39 INC.VAT

CR1C

Clarke DETAIL SANDERS

• Perfect for smooth and fine finishing along with hard to reach areas or curved surfaces

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

CDS-1V

Clarke DRILL PRESSES

MODEL	MOTOR (W)	SPEEDS	EXC. VAT	INC. VAT
CDP5EB	350/5	5	£66.99	£80.99
CDP102B	350/5	5	£79.99	£95.98
CDP152B	450/12	5	£139.98	£167.98
CDP202B	450/16	5	£185.00	£222.00
CDP10B	370/12	5	£198.99	£238.79
CDP452B	550/16	5	£229.00	£274.80
CDP352F	550/16	5	£229.00	£274.80
CDP502F	1100/12	5	£499.00	£598.80

Clarke SCROLL SAWS

• 50mm max cut thickness
• Air-blower removes dust from cutting area

FROM ONLY £82.99 INC.VAT
£99.99 INC.VAT

CSS400C

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CDP152B

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BRISTOL 1-3 Church Rd, Lawrence Hill, BS5 9JJ	01173 915999	HULL 8-10 Holderness Rd, HU9 1EG	01482 223161	POOLE 137-139 Bourne-mouth Rd, Parkstone	01202 717913
BURTON UPON TRENT 125 Lichfield St, DE14 3QZ	01173 935 1060	ILFORD 746-748 Eastern Ave, IG2 7HU	0208 518 4286	PORTSMOUTH 277-283 Copnor Rd, Copnor	023 9265 4777
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CARDIFF 44-46 City Rd, CF4 2DN	01283 326775	LUTON 227-229 Kirkstall Rd, LS4 2AS	01123 231 0400	SHEFFIELD 453 London Rd, Heeley, S2 4HU	0114 258 0831
CARLISLE 85 London Rd, CA1 3LN	024 7622 4227	LINCOLN 69 Melton Rd, LE4 6PN	0116 261 0688	SIDCUP 131 Blacken Parade, Blackfen Rd.	0208 3045268
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A box called Ditto

In part 2 of making a ditty box, Robin Gates deploys the baby Record 043 plough for grooves and rebates, extols the virtues of a 1960s hand drill, and hammers home some boat nails

My journey towards a box made using only hand tools had taken some unplanned detours, first along a scenic route comparing rebated corner joints made with chisel and saw, then diving down the winding lane of restoring the vintage saw I used to cut the joints.

Now, having cut those rebates in the sides, and found them a good fit for the timber earmarked for ends, I could at last picture this reclaimed oak as the makings of a ditty box based loosely on an antique, one which had belonged to a German sailor.

The next step was to cut the elm base to approximate length and plane its upper surface flat (photo 1), so that I could stand the oak sides on it and check they were vertical. This was an early outing for my new planing stop, which is attached to the bench by a wooden peg, and although the stop has proved as solid as ‘stop’ suggests, I immediately hit a snag in that its cross-piece was too thick for the plane to clear while working this elm. The solution – lifting the piece a fraction with a plywood spacer (photo 2) – dawned on me just as I was contemplating modifications to the stop.

After tidying end-grain with the block plane, using side two of the bench hook as a shooting board (photo 3), I fine-tuned the squareness of the

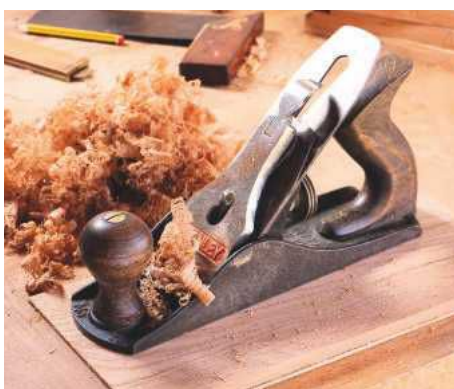
edges of the box sides and planed up the oak for the ends (photo 4). Having sawn the ends to length, the box was then clamped together (photo 5) – sides, ends and base, all square – so that I could plane around the upper edges. Before removing the clamp, I marked the pieces to identify which piece went where (photo 6). All things being equal, I suppose this shouldn’t be necessary, but this reclaimed oak had some old screw holes in some edges, which I wanted to be concealed by the base.

Next: the lid, and its sliding mechanism, which is essentially a rebated edge riding in a groove. Clearly I had to cut the grooves in the sides and one end before putting the box together, and then shape the lid to fit.

Secret weapon

The magic tool for this part of the operation was my Record 043 plough plane – a palm-sized nickel-plated gem I’d bought a decade ago simply because I found the mechanics of it intriguing. It’s so well engineered, and surprisingly ergonomic for a tool with parts sticking out in all directions. I’d last used the 043 to cut grooves for loose-tongue joints, making wide boards from narrow ones, and now it came into its own as the box maker’s secret weapon.

The Record 043 went out of production in



1 Planing reclaimed elm for the base



2 A plywood spacer enables the plane to clear the stop



3 Using side two of the bench hook as a shooting board



4 Edge planing oak for the box ends



the 1970s, but there are plenty of good examples around, typically priced around £30. The 043 was supplied with three tungsten steel cutters at $\frac{1}{8}$, $\frac{3}{16}$ and $\frac{1}{4}$ in; if you need to cut a wider groove or rebate you do it in stages. A useful detail to note about this tool, because it's so dinky, is a recess designed to assist with adjusting the cutter. The recess is in two parts shared between the body of the plane and the lever cap, with the cutter passing between them. Before loosening the lever cap screw, you place your thumb in the recess (**photo 7**), holding lever cap and cutter in place (**photo 8**), otherwise the whole arrangement is prone to fall apart.

Another point, concerning old British tools in general, is that, if they were designed to work in Imperial measurements, I find it easier to do likewise. If a $\frac{1}{8}$ in cutter is approximated to 6mm, for example, and that 6mm is used subsequently as a reference for further work in metric measurements, the discrepancies mount up and precision is compromised from the outset. Besides, I find working with two sets of measurements for the same thing is confusing, and best avoided unless absolutely necessary. To set the depth stop to $\frac{3}{16}$ in, I used the $\frac{3}{16}$ cutter

as a gauge before installing it, then I used the brass terminal of a carpenter's folding rule as a reference for setting the fence $\frac{1}{8}$ in from the corner of the cutter (**photo 9**). In some situations, it's easier to refer to an object with fixed dimensions than to read a scale.

I clamped the work under a crook holdfast, and ploughing could begin (**photo 10**). With a plough you begin planing at the far end of the piece and work back, lengthening and deepening the groove with each pass, meanwhile keeping side pressure on the fence to prevent the plane drifting. Soon the full-length shavings were springing out like bangles.

Since one end of the box had to be lower, to accommodate the lid sliding into its grooves, I saved the offcut to use later as a pull. Now, for the lid itself, I cut the elm slightly over length and cut $\frac{1}{8}$ in rebates (**photo 12**) on either side and the far end using the Record 043 with the fence hard up against the cutter. The oak shavings had reeled out of the plane like bus tickets, but the elm shavings bunched up behind the cutter, and I had to clear it after almost every pass. I suspect the elm's wavy, interlocking grain has something to do with it.

A handy tool for clearing a clogged cutter is a wooden lolly stick (**photo 13**), which can be prodded around without damaging the sharp edge. Before rebating across the grain, at the far end of the lid, I made sure to scribe the line deeply with a cutting gauge because one thing the Record 043 does not have is a nicker to sever cross-grain fibres. A test cut on an elm scrap, without using the cutting gauge, had left a fairly ragged shoulder.

Exciting moment

When the rebates of the lid were riding smoothly in their grooves, I loosely assembled all six pieces and saw, for the first time, the box I was making. It's always an exciting moment when the idle boards, which begin a project, fall into place with a design and a purpose as a working three-dimensional artefact. All I had to do now was fasten everything together. With the base of the original box being nailed, I decided to use nails all round, adding a bead of glue as back up.

Ferrous fastenings don't enjoy a happy long-term relationship with oak, as I was reminded recently when rebuilding an old candle box. The nails had reacted so badly with the oak's



5 Sides, ends and base clamped for planing top edges



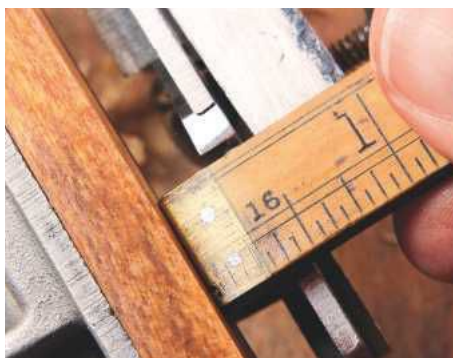
6 Marks used to identify corners



7 The Record 043's lever cap has a recess for the thumb...



8 ... so you can hold onto it while adjusting the blade



9 Setting the fence to $\frac{1}{8}$ in to plough a $\frac{3}{16}$ in groove



10 Ploughing the groove for the sliding lid



11 Sawing elm for the lid using the bench hook



12 Planing a $\frac{1}{8}$ in rebate in the lid to fit its groove



13 Clearing shavings with a lolly stick

tannic acid they had corroded almost to dust, and the box had collapsed like a house of cards.

Copper boat nails are a strong alternative. Although of softer metal, requiring pilot holes, if they're tough enough to hold a sea-going wooden boat together, they're tough enough for a small wooden box, and a good choice for furniture in general. The copper mellows nicely with the timber, and the square shanks grip as well as any square peg hammered into a round hole. For these 25mm 15 gauge nails, I bored tight fitting pilot holes in one piece, and clearance holes in the other (**photo 14**). The wire gauge of boat nails is measured between opposite faces; 15 gauge corresponds to 0.072in or 1.8mm.

The hand drill is a Stanley 5803 (**photo 15**) which, with its black plastic handles, all-enclosing alloy body (**photo 16**) and shiny drive wheel, is a design which seems to have fallen down the gap between the old egg beater type with exposed gears, favoured by collectors, and the super-efficient power drill. But the 5803 is a reliable tool, with its double-pinion mechanism purring like a contented cat long after the grit-worn gear teeth of drills with unprotected cogs have begun to rattle. Generous bearing surfaces between

the drive wheel and its axis reduce play to an absolute minimum. Although this example has endured a knockabout working life, when I dismantled it out of curiosity I found barely a speck of dirt inside, and the original gear grease still working. Using the drill vertically, with the elbow of the holding arm on the bench, creates a stable working triangle.

But aside from the practical considerations, it's another of those stylised tools of the 1960s evocative of carefree childhood days in my Dad's workshop, like the Spear & Jackson tenon saw I brought back to life, and – I admit – there's an element of nostalgia involved.

Since the copper boat nails have countersunk heads, I used a larger drill bit as a countersink (**photo 17**), then hammered the heads home with a nail set so they lay just below the surface (**photo 18**). This allowed for finishing with a plane or scraper, without damaging the blades.

Holding corner joints together while nailing was a tricky operation, juggling with supporting blocks, but once the stable rectangle of sides and ends was fixed it was a doddle to attach the base. With a marking gauge, I scribed a line to place nails at a safe distance from the edge, then stepped

out distances between nails using dividers. I had considered fitting the base as a panel in grooves, but with the lid also being fitted this way I wondered if a 'floating' base would be at the expense of some rigidity, not to mention volume. The all-nailed construction tied the box together solidly.

With the block plane I adjusted the edges of the lid for a progressive friction fit, so that it tightens towards the end of its run, then slots home so as not to open without being pulled.

Last piece

Speaking of which, the last piece to make was the lid pull. Having saved the strip of oak sawn from one end of the box, I cut a rebate for it at the near end of the lid. Even using the Record 043's widest cutter I'd have had to cut this rebate in three stages, so I dusted off a wooden rebate plane, a well-preserved tool from the 1930s made by Steadman & Son of Birmingham.

It's about as basic as a rebate plane gets, with neither fence nor depth stop, just three components – stock, wedge, and blade – but it does a good job if I can keep it on track. Previously, with larger work, I've clamped a batten along the



14 Boring clearance holes for nails in the base



15 The Stanley 5803 with its yellow drive wheel



16 The alloy body encloses a double pinion mechanism



17 Countersinking clearance holes for nails



18 Hammer head centred and in line with the nail



19 A nail head sunk using a tapered set



20 Scribing the lid for the pull's rebate



21 Cutting a shoulder for the rebate plane



22 Keeping the rebate plane up to the shoulder

shoulder line to guide the cut. Once the rebate is established the batten can be removed. But the box lid seemed rather small for this set-up so, having scribed across it with a chisel, using the oak pull as a straightedge, I chiselled up to the line to create a shoulder for the plane to bear against (**photo 21**).

The blade itself is quite sophisticated, with corners protruding minutely beyond the mouth to cut a true right-angle, and sides which are bevelled to minimise drag against the shoulder. Then there's the skew, being 15° off square, which delivers a clean shearing cut and generates lateral pressure keeping the plane against the shoulder. The stock is not as simple as it looks, either, clamping the blade securely at 50°, while its tapering snail-shaped escapement ejects shavings efficiently to one side.

The tradesman of old developed the skill required to use tools like this over a long apprenticeship, with hands that could get on with the job unsupervised by the head, but every time I pick up this plane I'm doing more thinking than working, and discovering the many ways things may go wrong. Apply too little pressure at the beginning or end of the cut, for example, and the rebate rises and falls like a downland track. Lean the plane away from vertical and the rebate slopes like a window sill.

Also, if you're accustomed to adjusting a plane by screw threads and levers, you have to adjust yourself to the procedure of lifting or lowering the blade with a deft blow of the mallet. Although that's just a matter of familiarity, common to many wooden planes, a narrow rebate plane

doesn't give you much to hold onto, and it pays to be wary of the cutting edge when tapping the heel or you risk cutting a rebate in your hand. I've nicked a finger just picking it up, finding one of those razor-sharp corners with a fingertip.

This litany of errors could be leading to a cock-up, but I'm happy to say that on this occasion it all went swimmingly. I glued the pull in place, lightly clamped it, then moved on to trimming away the box's small excesses at corners and edges with the block plane. When the glue had set, I planed the pull down to sit level with the other edges, so that it completed an oak frame around the lid when the box was closed.

After planing the pull's rebate, I'd cut a tiny chamfer to match with chamfers around the rest of the lid, so there would be a continuous shadow between the elm top and its oak surround. That's being a bit finicky, but making things up as you go along is one of the delights of not working to a plan.

Finally, I smoothed away any scuffs and

scratches with a card scraper (**photo 26**), and wiped on a finishing coat of wax-oil made from a 1:4 mixture of beeswax and liquid paraffin (**photo 27**), also containing lemon grass oil, which gives it a refreshing scent.

From reclaimed boards to ditty box

It had been a slow journey from reclaimed boards to ditty box, but it all came together with remarkable ease. When experimenting, I think it helps that hand tools work at a human pace, allowing time to consider the next move. I also find it helpful to trial run a tool or technique on scrap timber, as a guide to how things will turn out. The one process I'd look to improve in future is lining up parts for gluing and nailing. Some joints position themselves, but simple rebated corner joints require support, and a dedicated jig would be a boon for holding things square.

Now, I'm looking forward to making another just the same – and that should come as no surprise for a box called Ditto! **www**



24 ... and the sides and base flush with the ends



23 Planing the base flush with the sides...



25 Finishing the base with a card scraper



26 Using the card scraper



27 Applying the beeswax-and-oil finish



28 The pull completes an oak frame for the elm lid



29 The completed box

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★ STAR LETTER



There's still time to turn something for Christmas

Snowman with a twist

Hi Mark,

I've just read the article on the smoking snowman, and thought I would give it a go – with an extra twist! My snowman is made from three different timbers with the hat made separate so it can go on at a bit of a jaunty angle; the eyes, pipe and buttons are turned from Indian rosewood, while the nose is iroko.

The Christmas trees either side are beech with a quartered feature dark veneer, and oak. The mushrooms are a twig of a hawthorn tree, turned green with a minimum stem thickness of approximately 1mm!

The whole lot is mounted on an air-dried log and sealed with sanding sealer with glitter applied while still wet, then, when all dry, snow spray was applied with a bit more glitter.

Hope you like it!

Kind regards, **Ian M Tolson**

Well that came out nicely didn't it, Ian? The log is a touch of Christmas genius, and the whole thing couldn't be much more festive if it tried! Good work, sir, and I hope your next project comes out just as well.

Mark

Another learning opportunity

Dear Mark,

In the December issue of *The Woodworker* (page 33) you featured a tool case from a 1944 archive issue, suggesting that softwood would have to be substituted for the recommended timber 'deal'. Although red deal was the name for Scots pine, and yellow deal was the timber from Norway spruce, the term 'deal' was a generic name for any prepared softwood at that time. No doubt several other readers have pointed this out!

All the best, **Peter C Barnard**

Hello Peter, well I'm very glad to learn that; for years I've always thought it was a different (and disappeared) species for some reason. It's funny how an idea can become fixed, but it makes a lot of sense to me now. So, that's another learning opportunity gratefully received!

Many thanks, and all the best,

Mark



David Charlesworth demonstrating his efficient sharpening techniques

Sharpening method correction

Dear Mark,

Although I love being referred to as 'world renowned cabinetmaker', I fear there are some grave errors in the first part of the Low-Angle Jack Plane article on page 80 of the November issue.

The ruler trick is a preparation and sharpening technique for plane blades; it has nothing whatsoever to do with raised effective pitch for difficult grain... Although technically it imposes a back bevel on a regular bench plane blade, this is so small ($\frac{1}{2}$ of 1° , approximately 1mm wide) that it has no discernible effect on the effective pitch, or performance, on difficult grain.

A tiny back bevel of 15° will transform performance on complex domestic species like ripple ash. I use a tiny back bevel of 25° when planing dense, interlocked exotics. Both these methods are mimicked by the current fashion for sharpening low-angle plane blades at steeper angles. Veritas supply three blades ground at 25° , 38° and 50° to perform similar functions.

I do hope you will be able to do something to correct the misunderstanding. Best wishes, **David**

Hi David, my sincere apologies for the errors; I failed to notice them during proofing. I hope you'll agree that we've set things straight in this particular issue.

Mark

Workshop insurance

Dear Mark,

I'm sure I'm not alone in finding that my standard house insurance policy does not come close to covering the value of the contents of my workshop, and that the insurer does not offer a suitable policy extension. Frequently I am directed towards policies to cover commercial premises. How have other readers solved this problem? Are there specialist insurers out there who recognise that hobby woodworkers need a higher level of cover than that normally offered in standard house policies?

John Doonan

Hi John,

I'm sure everyone would agree that this is a tricky subject, and anything to do with the insuring of 'portable property' (as Dickens might refer to it) is rarely going to be straightforward. Hopefully there'll be someone out there amongst the readers who will let us all know if they've found any sensible solutions. It might just be a case of double the padlocks and keep your fingers crossed.

All the best, Mark

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Glue + Block = Strength

Let's hear it for the unsung glue block; small offcuts making a big difference behind the scenes

Anyone who has had any dealings with antique or elderly furniture of late will be only too familiar with the humble glue block, that deceptively simple piece of structural reinforcement. Generally found above and below any carcass work, the glue block will make a stronger job of a plinth base, help keep a removable cornice in good shape, and generally fulfil all manner of structural and strengthening jobs. Never a thing of beauty, the glue block is strictly utilitarian and unlikely to make a decorative appearance any time soon – it's a behind the scenes performer.

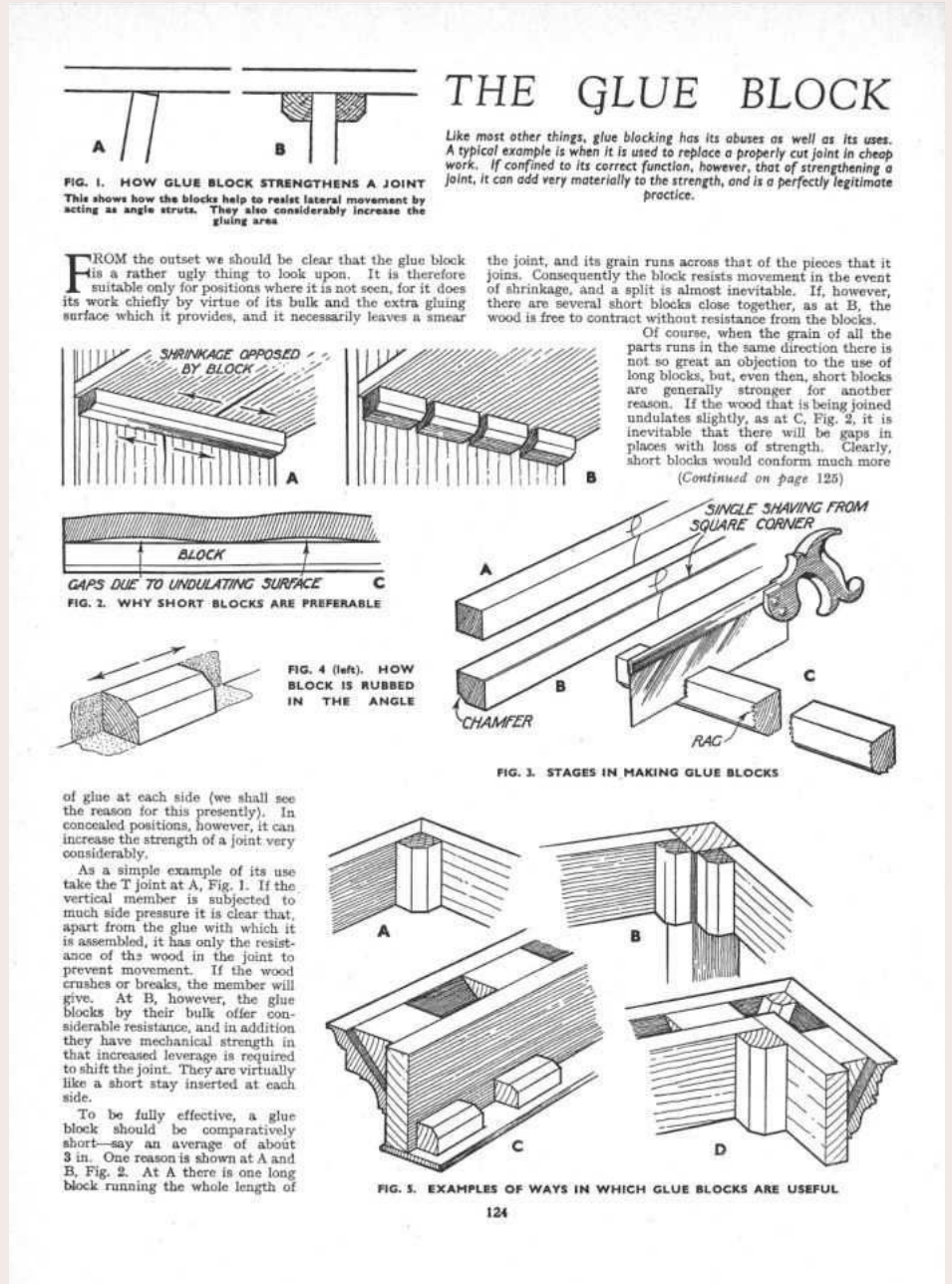
Short glue blocks are best

I came across this definitive guide to glue blocks in *The Woodworker* of September 1932 and to me it all still holds true. Joint strengthening we all know about, and I remember learning early in my career to avoid the use of the long glue block beneath a solid top as it would likely lead to impaired shrinkage movement, thus resulting in splits and cracks. Even with a manufactured board it's still good practice to use a number of short glue blocks, especially if one of the surfaces is less than flat.

Fire up the glue pot

Impressive in terms of maximising efficiency is the single shaving opposing the chamfer; this not only helps make a good fit, but also gives the glue block blank an orientation (the chamfer finishes on the outside corner). So, when it comes to cutting individual blocks to length, as long as they are cut from the 'inside' outwards, the ragged ends won't interfere with the glued surface and thus impair adhesion. Although the modern glue block can be fixed with normal PVA (making sure you keep an eye on them), for the full and satisfying experience, nothing is better than Scotch glue. A genuine highlight of structural carcass work, fitting an array of glue blocks remains one of this woodworker's favourite jobs and well worth firing up the glue pot for.

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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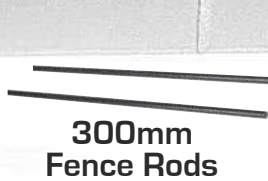
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SOAPBOX RACER

Peter Vivian started offering plans for soapbox racers a few years ago, and here he shares the making of his 'Mark 4' version

Soapboxes, Carts, Carties, Billy Carts – call them what you like but most of us of a certain age remember making something using pram wheels and a couple of wooden planks, all lashed together and steered with a length of rope (or washing line if your mum wasn't looking!).

With a lot of charity events and Soapbox Derbies now becoming popular along with the televised *Redbull Soapbox Derby*, I decided to make a few slightly more sophisticated examples to see if there was a market for them. In the end it seemed a lot of woodworkers wanted to make these themselves, so I started offering plans.

So far I've sold around 150 sets of the original design and have received many requests for the 'Mark 4' featured here.

The starting line

If you intend to enter a specific event you will need to check their entry requirements/rules, etc. as they vary enormously. I was once disqualified for entering a three-wheeler – I think they were only jealous because mine was faster! Normally there are restrictions on overall size, weight and number/position of brakes.

The design

I start the design by chalking out the overall dimensions on the workshop floor bearing in mind obvious limitations such as transportation (more of that later), being able to fit in it and the materials I have to hand. I then make a preliminary sketch based on the style of vehicle I am attempting to emulate. The designs are usually very loosely based on a particular example except for the World War II Willys 'Jeep',

which was a fairly accurate miniature version of the real thing – see www.superiorsoapbox.co.uk.

The overall length of this one is 1.8m from the boat-tail to the front of the 'dumb irons' and the track is around 762mm, which just fits between the wheel boxes of my estate car.

Keeping it on the rails

The chassis rails were made from some reclaimed patio door frames which were 100 x 75mm, but you could use softwood if you intend to paint the finished cart, or you could also laminate smaller sections to achieve the necessary dimensions. These were tapered top to bottom from 100 x 75mm and side to side from 75-50mm. They are parallel at the rear and the curve leading to the radiator surround is achieved by 'pie cutting' a triangular piece out of the chassis rail then planing and sanding the outside face to form a smooth curve. A brace reinstates the strength lost by joining the chassis rails (**photo 1**) and the plywood floor further reinforces the joint.

Next is the radiator surround, which is built up



1 Forming the chassis rails



2 Laminating the radiator surround



3 Finished frame prior to panelling



4 Starting to 'bread and butter'



5 Finished 'boat tail' lamination



6 Wood and metal axle 'sandwich'

from five separate pieces (photo 2). A bare-faced mortise & tenon joint fixes the uprights to the chassis. I then added the two bulkheads (photo 3) made from 18mm plywood: the front one is at the rear of the bonnet and the second at the rear of the cockpit. A rail runs from the top of the radiator surround to the centre of the first bulkhead, and a further two are added one to each side at the point where the bonnet changes from the flat upright panels to the curved bonnet tops.

The upper cockpit side rails are solid timber with a slight sweeping curve to add a bit of style. From the rear bulkhead there is a horizontal panel in 18mm plywood that is shaped to mimic the chassis floor; this forms the base for the boat-tail. This is made from solid timber using a method called 'bread and butter', which is often used when making model boat hulls. Layers of solid timber roughly cut oversize are glued together either horizontally or, in this case, vertically, then carved and sanded to the final shape (photos 4 & 5). A vertical post at the apex of the boat-tail completes the body frame.

Running gear

I chose to make and fit the axles and steering before panelling as I figured if I ran out of time I could still enter it in the Derby. The rear axle is simply a length of 19mm mild steel tube with a 3mm wall thickness drilled out to accept the 14mm axles that are then welded into the enlarged hole. You have to remove the axle from the hub as the heat from welding will melt the grease and leave a big puddle on the workshop floor! The wheels are then rebuilt after the axle is mounted onto the chassis floor; this is achieved by bolting a sandwich of plywood and steel around the tube through the floor (photo 6).

The front 'drop' axle is slightly more involved; I have them made by a local metal fabrication company from 18mm mild steel bar, and the shape means it can be bolted to the underside of the chassis using the tabs welded to the axle.

Wheels

Bicycle wheels aren't ideal for two main reasons: 1) they are not designed to absorb the lateral

loads experienced when cornering, and 2) the axle is normally supported at both ends by the forks, but when using it on a soapbox, it becomes a 'stub' axle, supported only on one end. These problems can, mostly, be alleviated by only using 20in BMX wheels, essentially with a 14mm axle and with a minimum of 40 spokes, ideally 48. These are typically used to withstand the rigours of stunt riding.

Steering

The 'kingpins' or steering pivots are 12mm steel studding welded to the ends of the axle and rod end bearings pivot on these (photo 7). The mechanism itself is made from a retired hand drill (photo 8); these can be picked up cheaply from an online auction site – the photo is self explanatory. The steering column is a length of 10mm steel studding welded to the drill, and the steering rack is made from 8mm steel studding. I like to cover them with aluminium tube to hide the thread where they meet the steering arms; these in turn are fabricated from

5-6mm mild steel (**photo 9**). A bracket drilled to suit supports the column on the underside of the front bulkhead, and if you're really keen you can make a dashboard complete with instruments! As space is a premium, rather than a circular steering wheel, I opted for a 'bowtie' style used on dragsters; this was cut from 12mm plywood with solid wood glued to the outside front and back before it was shaped to a circular cross-section (**photo 10**).

Panelling

The bodywork sides were traced onto 6mm mahogany veneered plywood and cut out slightly oversize; this proved difficult to bend round the boat-tail. In hindsight, 4mm would make life easier. Apply PVA glue to the frame and screw it to the framework using brass raised head screws. The bonnet halves are formed using flexi-ply cut oversize, then held in place and traced for the final shape. These need to be glued and screwed in place. I tried to stain the flexi-ply to match the veneered plywood used elsewhere but it looked awful: very patchy and not even close colour-wise. I elected to veneer the bonnet using iron-on mahogany veneer, which was purchased online. All the joins between the boat-tail, bodywork and bonnet halves were hidden using half-round mahogany; this is difficult to find so moulding your own with a router might be an option.

Exhausted

The exhaust and manifold is simply a length of broom stick with a small wedge cut out to follow the shape of the body; this is held in place with 22mm brass 'Munsen' plumber's pipe clips, which

look very authentic. Using an 18mm Forstner bit, I drilled about 25mm into the end of the broom stick, which made it look as if the exhaust was made from tube, and I'm pleased to say that it fooled quite a few people (**photo 11**).

Braking point

Traditionally soapbox brakes are little more than a lever and block of wood that is applied to one of the tyres. I've tried alternatives with varying degrees of success, but this time I thought I'd try a pair of side pull brake callipers. I drilled a hole on either side of the body through the chassis, then squared them off using a chisel. If I'd planned ahead I could have used my mortiser before assembling the chassis rails. I then passed a length of 18mm mild steel box section through the square holes, drilled a hole in each end and mounted the callipers, one on either side. A cable underneath the floor connects the two and another cable from the lever pulls on the middle,

thus activating both simultaneously, which is much more effective than a block of wood!

Sitting pretty

As I was planning to sell the finished cart after its initial outing, I had the seat professionally trimmed but have achieved almost as good an effect with a bit of foam, vinyl, plywood and a staple gun. The exposed plywood on the top edge of the rear bulkhead looked unsightly, so I wrapped a piece of flexi-ply in matching black vinyl and screwed this in place with brass raised head screws and screw cups.

Chequered flag in sight!

To even out the colour I applied a red 'mahogany' stain over the body/chassis; it achieved the effect but I didn't like the colour very much: it was too red, almost like a Ferrari! A few coats of Danish oil gives a nice soft sheen. The radiator grille is cut from a piece of expanded aluminium mesh with a small bend down the centre to match the shape of the surround. I chose gold anodised to match the brass panel pins and screws. A length of brass tube fitted in a hole top and bottom finishes it off, then I masked out the number and sprayed the mesh satin black to leave the number in gold.

Race day

I always try to race the carts at least once before I sell them, but I had to delegate driving duties to someone else this time as I think I must have eaten too many pies between starting and finishing the build and couldn't quite squeeze myself into the cart! In the end we were narrowly beaten by a specialist downhill racer, but I'll get him next time. **ww**



7 Steering hub assembly



8 Modified hand drill and rod-end bearings



9 Steering arms fabricated from mild steel



10 Completed panelling



11 Steering wheel, exhaust and windscreen



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Adding a little colour

Although it's often preferable to leave wood in its natural state, there are times when adding a flourish of colour really brings projects to life, as **Ian Wilkie** shows here

Woodworkers like, where possible, to show the attractive colour, grain and texture of the timber they are working on. However, there are times when we wish to add some colour. This is particularly the case on bland, featureless

woods and for decorations, models and children's toys. In this article I will give some examples where I think this colouring has been appropriate. I am using paints that are easy to use and safe for children; I am not including airbrushing or staining wood, which are different subjects. **WW**

EXAMPLES OF COLOUR USED ON WOODWORKING PROJECTS



1 Sometimes just a little colour is all that's needed, perhaps highlighting the wheel hubs on a toy, for example. I think this can enhance the surrounding natural wood, which in this example is ash



2 Spraying is effective on larger surfaces. More care will be needed to mask off the areas that are not to receive paint. Several fine coats give the best results with time between to allow the paint to dry





3 I took a considerable amount of time and care spraying this model of a racing car to achieve a high gloss finish



4 Red spray paint in particular always seems to work well



5 Quick-dry enamel paints are excellent for small projects and I use them often. The containers are just the right size and reduce wastage. The Humpty Dumpty character has sat happily on a shelf for many years but did begin to look a bit neglected. I have given him a new coat of paint as a face-lift for this article! I removed the previous paint by hand-sanding and this provided a key for the new paint. Originally, because the wood was turned, I applied the paint while the project was still on the lathe. This is done with the lathe stationery and the spindle moved round by hand to give good control. Once the primer and paint is dry, it is easy to spin the lathe to de-nib ready for subsequent coats



6 This is another example of painting turned wood while it is still on the lathe



7 The finishing details to the military band were added with fine Posca pens



8 To give a crisp line between colours and to remove any overspill of paint, I put the work back on the lathe and make a 'V' cut



9 These characters were turned for a Christmas display depicting Scrooge and show a mixture of painting on and off the lathe



10 Good, bright colours are attractive for children's toys; they do not have to be realistic! The enamel paints give a tough, hard surface, which should withstand play



11 Wherever possible, paint the parts first before final assembly. This is obviously easier with less risk of overspill; take care not to paint areas which are going to take glue



12 Before Christmas I had some fun making decorations for the tree, cutting out the shapes on the scrollsaw and then finishing them. After applying a white primer, which also acted as an undercoat, I added detail using Posca marking pens



13 These pens have been a revelation! They contain a water-based, solvent free, odourless pigment paint. The paint dries very quickly and can be used on wood, paper, ceramics, metal, textiles, plastic and glass and are designed for use by artists, architects and crafters, for example. The photo shows the thicker PC-5M pens, which are described as multi-purpose and the finer PC-3M pens for more detailed lines. The website gives full details of the whole range of pens and there are plenty of colours



14 To use the marker, shake it vigorously with the cap securely on in order to rotate the ball inside the barrel. The ball is designed to mix various components throughout use and gives the paint a homogeneous consistency. On a scrap sheet of paper, press the tip down several times to start the paint flowing



15 Fine grain, light coloured woods such as lime, sycamore, beech and birch plywood all paint well. If the paint is to be applied directly to bare wood, then the surface will need scraping and fine sanding until it is as smooth as possible. This is not easy on woods with a pronounced grain and it is something I would not attempt to do myself. My son painted his design directly on to oak to make a child's name board for a nursery door and used artist's acrylic paints



17 MDF takes paint very well and is often used to cover the bland, uninteresting colour and texture of the material. The surface of MDF is already very smooth and should not be damaged by sanding. A primer is applied, gently de-nibbed and the process repeated before final painting takes place. These teddy bear book ends for a child's room are cut out from thick MDF and painted with artist's acrylic paints



16 In this example, a thin coat of primer was first painted on to the duck carved in lime before the feather detail was added with acrylic paint



18 I find that painting each piece separately has a distinct advantage. Paint build-up on the edges of plywood needs to be cleaned off if parts are going to fit well together

A FEW TIPS

In my experience, preparation is the key to achieve a good result and this needs patience! Time needs to be spent on the wood to produce a smooth surface on which to apply paint. Timber should be well prepared with any cracks and knots filled. In the case of plywood, one side is usually superior to the other. The random-orbital sander works well for flat pieces of wood such as birch plywood but it is not suitable for small, uneven shapes of hardwood and for this I use various sanding drums and sanding bits, but sometimes there is no substitute for hand sanding!

Priming the surface



When the surface is ready it needs to be cleaned with a tack-cloth to remove any residual dust and, in the case of purchased sheet material, the remains of glued-on labels or written on prices (so very annoying). The wood is then ready for priming to fill the grain. A product such

as Rustins' Quick Drying Primer and Undercoat is designed for interior and exterior woodwork. As a primer it can be applied to bare wood and MDF and as an undercoat it can be used on surfaces, which have already been primed or painted. After de-nibbing, water or solvent-based finishing paints can be applied to give a good result. Tins are available in grey or white in various sizes. The product should be stirred well before use and applied quickly and evenly with a synthetic fibre brush, which can be cleaned after use in water. The primer can be thinned: one part water to five parts primer. The primer has a low odour and the surface can be re-coated after two hours. I must confess I have often just used left-over emulsion paint for priming but after using this product I can see the error of my ways!

Cut-out & painted letters



Cut-out letters for children, which spell out their name, are very popular and are fun to paint and decorate. They can stand upright if cut out in thick

enough material, glued to a board, framed, attached with magnets to the fridge and embellished in a myriad of ways. The examples shown are fretted from 12mm birch plywood but MDF would have been equally suitable. These letters are painted with pastel acrylics. Water-based paints will tend to raise the grain, which is why the priming is important.

A touch up in summer



I produced these letters for our house several years ago as a temporary measure; I did not expect them to last very long exposed to the rain and sun. They are cut out from plywood, painted in exterior gloss and dowelled on to oak. To my surprise they have stood up remarkably well to the weather and all I need to do is to touch up the paint in the summer.

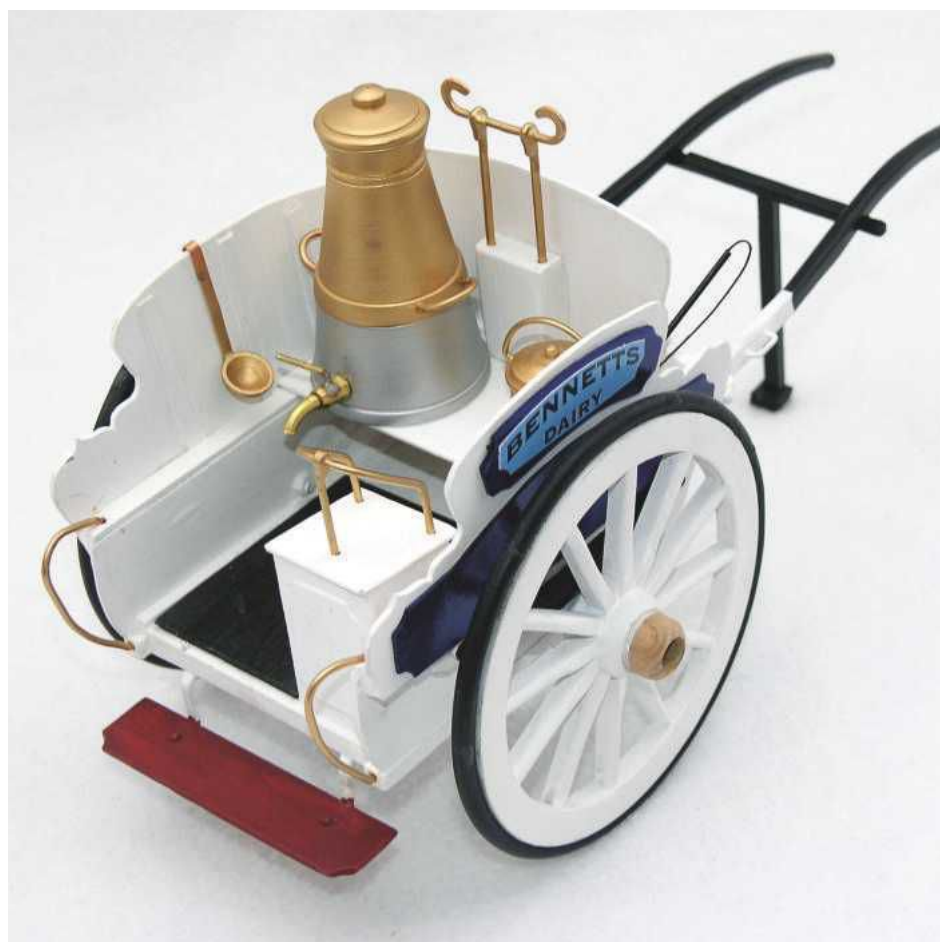


19 There are paints which will give a metallic appearance to your toy

SUPPLIERS

All the products shown in this article are labelled as suitable for use on children's toys.

- DecoArt acrylic paint for crafters
Web: www.hobbycraft.com
- Plastikote – fast-dry enamel – sold in spray cans and jars – available from DIY outlets and model shops
- Posca pens – available from stationers and art shops – various prices according to size
Web: www.posca.com/uk
- Reeves – acrylic paint sold in tubes – available from art shops
- Rustins' primer – DIY outlets – a 250ml tin costs around £5
Web: www.rustins.com/uk
- Valspar fast-dry enamel – sold in spray cans and jars – available from B&Q outlets



20 A mix of acrylic and metallic paint has also been used on this model of a milk cart

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Time stands still

Peter Dunsmore creates a clock design that was made popular in the late 18th century, which uses two contrasting timbers to accentuate the free-flowing curves

The simple, yet elegant, lines of this clock first appeared in the late 18th century and it is thought that they were inspired by the recent invention of the first hot air balloons in France. The construction of such a clock is fairly straightforward using a router fitted to a trammel bar or the Trend N-COMPASS

jig, a selection of suitable cutters and a scrollsaw for the majority of the work. However, a degree of accuracy is required when making the templates as the final outcome depends on the free-flowing curves of this clock case. Another challenging part is in the choosing and fitting of the veneers used to decorate the clock. This is obviously a matter of personal choice, but I would suggest two contrasting timbers: one plain and the other with a more striking figure. For this particular timepiece, I chose crown-cut walnut for the sides, back and cross-banding with some quilted maple burr for the main insert and the top podium. This design features in the following article. A simpler choice and, in my opinion, a much more effective one, is to select a striking burr veneer and to cover all four sides with this. It would look even better if both side pieces were reverse matched. The photos of this finished clock are also featured and show a quilted maple burr veneer complemented with mahogany mouldings finished with button polish to produce a lovely warm glow. The clock is designed to suit a 160mm diameter dial with a Hermle 130 070 front winding mechanical movement. The case is made from nine laminations of 9mm MDF glued together with two 6mm pieces for the front and back.

Making an accurate template

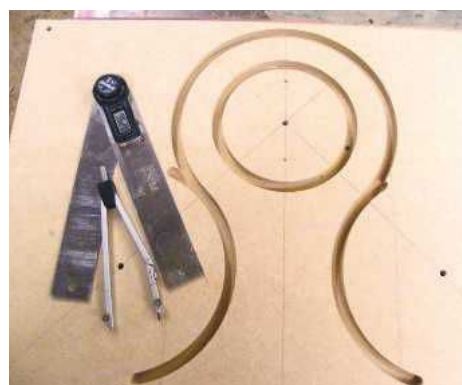
Start by drawing a perpendicular line on a board of 9mm MDF and mark the centre point of the clock face on it. Using this centre point, draw a circle with a diameter of 195mm (photo 1). Draw two lines, each at 45° to the perpendicular and radiating out from the centre of the compass, to a distance of about 250mm. Place the point of the compass, still set to the radius used for the circle, where the straight line crosses the circle, where the straight line crosses the circle.



1 Accurate drawing is required when making the template



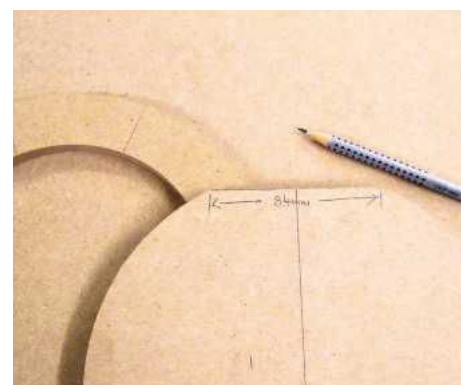
2 Stop cutting when the cutter reaches the radiating lines



3 The centre opening is removed



4 Draw a vertical line through the centre of the clock



5 Cut a flat across the top of one of the templates

Draw an arc to cross the radiating straight lines – this is the centre point to be used to draw the two curves that make the waist of the clock. Draw two further lines, parallel with the vertical centreline, to coincide with the outer circle, drawn down to the base of the clock. These determine the overall width of the template at the base. Use a router with a 10mm straight cutter fitted with either a trammel bar or the Trend N-COMPASS jig. This jig is particularly easy to use and a worthwhile investment. Instead of relying on the point on a trammel bar, a 6mm brass peg acts as the pivot point and this makes the cutting much simpler. Cut the two arcs making the waist of the clock first followed by the upper curves. Take great care when cutting the upper curve and ensure that the cutter stops at the radiating lines and does not break the smooth flowing lines (photo 2). Note that the position of the router on the jig will have to be altered to take into account the diameter of the cutter. I did say this part was a little tricky! Adjust the diameter of the router jig to cut the centre opening to a diameter of 140mm (photo 3). Before cutting the circle, secure both the centre area and the surround to prevent the router slipping as it cuts through the MDF. Now use this completed template to



FURTHER INFORMATION

Suppliers of clock faces –
www.clocksandbarometers.com
Clock movements can be easily
purchased online – please let
us know if you have trouble
sourcing one



6 Cut just outside of the pencil lines



7 If care is taken, two or more pieces can be trimmed at once



8 6mm MDF is used for the front and rear pieces



9 A simple jig ensures accurate marking out

make one more from MDF. This part is easy; just use small pieces of double-sided tape to secure this to some MDF, cut the waste away and then run around the template with a bearing-guided trimmer. This is much easier if you have a small router table as dust extraction is much simpler to use. MDF dust is horrible stuff and a face mask should always be used in addition. Draw a line

vertically through one of the templates (photo 4) and accurately cut a flat across the top so it is 84mm wide (photo 5). You should now have two templates: one with the outline of the clock front and one with a flat across the top with a centre opening for the movement to fit into. Trim the base of the template so it is exactly the same width as that of the upper curves of the clock.

Making the clock base

The depth of the clock case less the front and rear pieces is 84mm, the same as the width of the flat across the top of the template. Nine pieces of 9mm MDF worked well as the extra 3mm accounted for the adhesive used in its construction. Begin by using the template to draw nine outlines on a board of MDF and cut these slightly oversize (photo 6). Secure the template to one of these pieces using a little double-sided tape. Fit a bearing-guided trimmer to a router table and trim the excess around the

perimeter of the clock as well as the internal opening. Remove the template and put aside for future use. Now spread some adhesive evenly over the MDF with a wallpaper seam roller and clamp another outline shape. When the adhesive has dried use the trimmer to trim the excess MDF away. Repeat this process until all nine pieces are clamped together. If care is taken it is possible to clamp two or three pieces together and trim those in one go (photo 7). Use some form of dust extraction to remove as much MDF dust as possible at source. Now cut two pieces of 6mm MDF for the front and back piece. One has a centre opening to house the door and the front piece is just an outline piece on which the face is secured. Clamp these in place (photo 8) and trim in a similar way. When approaching the top of the curves, take care not to flatten the top. This is easily cut to shape by hand after the rest has been trimmed. Use some abrasive paper wrapped around a suitable block and remove any slight ridges that may be present on the case sides.



10 An OLFA circle cutter is a superb tool for this



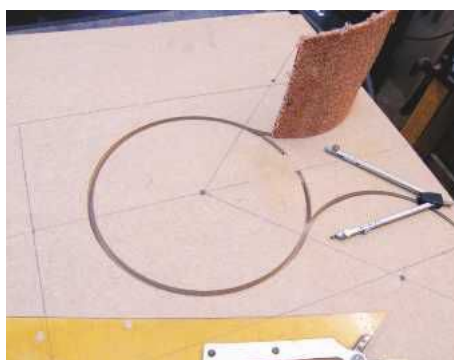
11 Note the stringing that is applied before the veneer



12 Keep the wedges a uniform size, radiating inwards towards the centre of the curve



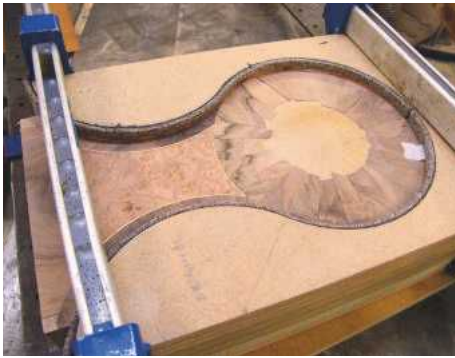
13 The clock face will hide the centre section



14 On this occasion, note how the cutter cuts into the clock part



15 The carpet tiles glued to the moulds



16 The moulds in use, securing the veneer in place



17 Note the smaller bearing, which provides the 1mm rebate



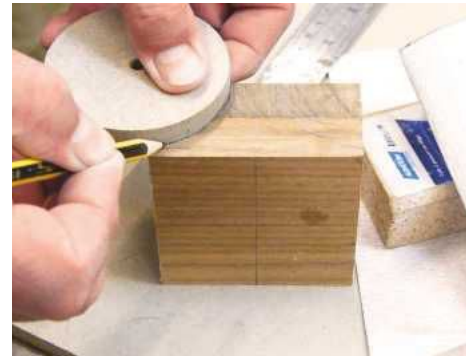
18 The moulding is made in two parts

Beginning the veneering

Before fitting any veneer in place it pays to make a simple jig to help lay out the various shapes accurately. As can be seen in **photo 9**, this is a piece of board onto which are glued two blocks of scrap – these need to be cut to a height of 96mm. Position these so that a compass can be used in order to draw the appropriate arcs on the clock case front. The critical point is that the compass point is located at the centre point used for the lower curves. Obviously the case needs to be located relative to the blocks and once positioned, draw around the case onto the base board for accurate relocation.

Begin by gluing an oversize piece of veneer on the waist of the clock. A method I find very useful is to use a piece of carpet tile between some chipboard and the veneer and to clamp this in place. The carpet tile is firm enough to exert an even pressure over the veneer without damaging it and can also follow any contours. The curves can then be cut using an OLFA circle

cutter (**photo 10**) and the waste veneer removed. I find it easier if this is cut and removed before the glue has set hard. The contrasting veneer used for the cross-banding can now be applied (**photo 11**) after some 1mm boxwood stringing has been glued in place around the burr centre piece. This should be held in place with small pins until the adhesive has dried. Now for the tricky part! Small wedges need to be cut to fit around the perimeter of the lower waist using a ruler radiating from the blocks on the jig to determine the angles. Try and keep the wedges visually balanced on each side, which will allow for a better effect to be achieved. Trim each wedge to size using a very sharp chisel with the blade held vertically and sand the inner curve to shape with abrasive paper glued to a piece of scrap (**photo 12**). Veneering the face of the clock is carried out in a similar way after accurately dividing the circle into equal segments (**photo 13**). There is no need to veneer to the middle as the clock face will hide this part.



19 Accurately mark out the curves on the podium

Time for more template work

Although this part could be left if some kind of contact adhesive was used to secure the veneers to the side curves this makes for a far simpler and better project, particularly if you anticipate making more than one clock. This template, or mould, is made in a similar way to the clock templates only this time the outside



20 Replace the cut pieces with double-sided tape and waste veneer



21 Strong rubber bands are useful



22 Note the false floor on the router table, which gives maximum support to the workpiece



23 Note the use of the lead on timber to prevent the cutter kicking back



24 Cut the openings with a fret saw



25 The main components that make up the clock



MDF is used and the corresponding radius needs to be adjusted by 10mm to take into account the thickness of a standard carpet tile (often found in a skip or sample box from a DIY store). Care should be taken this time not to cut into the outside template (**photo 14**). These moulds are made up in the same way as for the clock face. If the carpet tiles are cut to size and then gently warmed, you'll find they are very flexible. A spray on adhesive can then be used to secure the tile in place on the MDF (**photo 15**).

Veneering the case sides

The veneering on the side of the clock is much easier to achieve if one side is covered at a time. Join sufficient veneers together using veneer tape to make a rectangle that will cover the case side. The veneer is much more flexible if the grain runs from front to back. Evenly spread some adhesive onto the case sides and allow this to dry as the edge of MDF is very absorbent. When this has dried, spread adhesive onto the back of the veneer and allow this to soak in for a moment or two before fitting to the case side and clamping in place with the moulds using sash clamps to spread the pressure evenly (**photo 16**). When this has dried, repeat for the other side of the clock. The rear of the clock can simply be clamped in place using a piece of carpet tile and an offcut of chipboard.

Applying the stringing

When the adhesive has dried remove the moulds and sand any overhang level with the front and rear of the case. To protect the edges of the case and to complement the stringing on the clock face, it is necessary to fit stringing around the perimeter of both the front and rear of the case. A quick and easy method is to use a bearing-guided trimmer but to replace the bearing with that of a suitably smaller diameter (**photo 17**). Adjust the depth of cut on the router so the

resulting rebate is the size of the stringing. In this case, I had some 1mm square stringing to hand. Test the cutter set-up and depth of cut on some scrap before committing to the clock. It is always easier to take wood off than to replace it! With the clock held secure, run the router around the perimeter of the clock face and rear. Contrary to what is written in the router guides, I find the following method works well for me although it is not recommended for larger cutters. Usually the router would be pushed in an anti-clockwise direction. In this case I find it better to run the router clockwise when cutting the rebate as there is much less tendency for the veneer to chip. Obviously the router has to be held securely and confidently as the natural tendency is for the cutter to dig in and kick back at you, but a little practice on some scrap will show that the result is a clean rebate requiring just a little cleaning up with abrasive paper before gluing the stringing in place. Use pieces of masking tape to hold everything together until the glue dries. After this has all dried, use finer grades of abrasive paper to obtain a satisfactory finish on the clock case.

Fitting the moulding

The moulding around the base of the clock case is made in two parts. The lower part is simply made from some timber with a cove cutter to cut the moulding and the top ridge piece is made from some timber with the front edge rounded over with a small plane and finished with abrasive paper (**photo 18**). A small disc sander carefully set up makes the trimming of the mitres accurate. The case sits on a wooden base that is veneered to match the case, and into this are screwed the four brass ball feet that support the clock.

Making the podium

The podium sitting on top of the clock is the main feature as the burr veneer flows through the clock front and up into the podium, all visually

balanced with the curves; however, this part is not particularly easy to make. Make a cube of timber 40mm high and use a sharp pencil and a suitable disc (cut using the N-COMPASS jig again) to mark out the podium profile (**photo 19**). Cutting out can either be achieved using a small bandsaw (very carefully) or a hand-held fretsaw. Either way, replace the waste piece just cut with an offcut of veneer and double-sided tape (**photo 20**) as this will rebuild the cube and provide extra support as the parts are cut. The result is a rough cut podium that should be finished with abrasive paper wrapped around a suitable curved shape. I keep old mouldings and bits of old pianos as they are an endless source of shapes. Use double-sided tape to hold the paper in place. When the shaping has been completed use carpet tile, moulded timber scrap and some rubber bands, to hold the veneer in place. Work on two opposite sides first, sand the excess away and then veneer the remaining two faces (**photo 21**).

When the veneering has been completed, cut a small rebate along the underside to make the fitting of a timber moulding around the perimeter easier. This requires careful work and to this end I made an additional support piece from some plywood to fit onto the router table. A smaller opening for the cutter gives the podium much more support (**photo 22**). The podium sits on top of a block of timber that has the perimeter veneered and is a snug fit into the clock top.

The rear door & completion

The rear door is made from either 6mm plywood or solid timber veneered on both faces to prevent the door from bowing in future. Using the N-COMPASS jig or a trammel bar, cut the door so it is 10mm wider than the clock case opening. Now change the bearing on a trimmer to give a 5mm rebate (**photo 23**) and cut a rebate around the door perimeter. This makes a door that should be a good fit into the opening with an overhang that acts as a natural door stop. When cutting the rebate it is important to use the lead on piece supplied with the router table to prevent the timber kicking back. Cut a decorative pattern into the rear door as a means of letting the sound of the bells ring out – this should be cut using a fret saw after the pattern has been drawn using a compass to scribe the lines (**photo 24**). With this part completed, you should end up with a set of individual components ready for polishing prior to assembly (**photo 25**).

Finishing is a matter of personal choice. For a project such as this I think it is hard to beat a pale polish applied with a polishing rubber. The clear finish enhances rather than hides the beautiful quilted maple burr and stringing. When the polish has hardened, apply a soft wax and buff to a finish. Hang the rear door using a small hinge fitted to a small flat filed to the edge of the door and the inside curve. A door knob can be fitted to the door with a small turnbuckle to keep the door shut and a piece of cotton glued inside the door face helps prevent small insects from creeping in. Fit the movement following the manufacturer's instructions and the final step is to pin the face in place. **www**

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ME AND MY WORKSHOP

This month we learn more about Exmouth-based boatbuilder **Andy Voysey**, whose workshop is an 84ft Thames Sailing Barge

Andy Voysey

1. What is it – and where is it?

Vigilant – an 84ft Thames Sailing Barge, built in 1904, lying alongside Topsham Quay, in Topsham, Devon.

2. What's the best thing about it?

The location.

3. And what's the worst?

The location.

4. How important is it to you?

Very. Boatbuilding is my livelihood.

5. What do you make in it?

I've laid a new deck for this boat, and double planked the hull in oak and larch on grown oak frames. Later she'll need a new coachroof and transom. It's almost never-ending; at least a five-year project.

6. What is your favourite workshop tip?

In the early days it was 'watch your step'; I was always putting my boots through the rotten decks.

7. What's your best piece of kit?

My kettle.

8. If your workshop caught fire, what one thing would you rescue?

If I could grab it in time, it'd be the ship's wheel – a beautiful thing.

9. What's your biggest workshop mistake?

The gangplank broke, the tide was out, and I fell into 3ft of mud.

10. What's the nicest thing you've ever made?

Easily the 50 oak frames for *Vigilant*. I'd go across the river into Powderham Woods, choose a tree, fell it and cut the frames out, then haul them back to the boat and fit each one individually. A mammoth job, but incredibly satisfying.

11. And what's the worst?

The gangplank.



Andy on board his floating workshop

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

Avoid boats, but when an opportunity like this comes along, grab it.

12. If you won the lottery, what would you buy for your workshop?

Hmmm, I'd like to think about that for a good long while. **www**

NEXT MONTH

In the next issue, we step inside the workshop of Guernsey-based woodworker Norman Dewey. We'd love to hear about your workshops too, so do send in a photo of your beloved workspace and feel free to share a few words – we look forward to hearing from you

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BONE TABLE

This wonderful table by Sarah Kay is layer upon layer of elm

“I chose to make this table in elm because the grain creates patterns so reminiscent of contour lines and I felt that this would emphasise the organic shape I wanted to sculpt. The piece is built up like a wedding cake. By plotting a side, front and plan elevation, I could determine the shape of each layer and also cut out the centre of several layers in order to reduce weight.

I glued the legs up individually before attaching them to the body of the table. I couldn't shape them before gluing them on, though, as I needed to keep the stepped layers in order to place the clamps and blocks. I carved first with an Arbortech and then used sanding discs on the angle grinder, finishing off with a spokeshave to get rid of lumps and sanding by hand. I used tung oil to finish.” **WW**

Sarah Kay





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Glenn Lucas demonstrates his master woodturning skills during visit to Tormek

Professional woodturner Glenn Lucas, famous for his bowls turned from native Irish wood, recently visited Tormek's sharpening studio and delivered a day of inspiration.

The demonstration was open to anyone with an interest in woodturning and keen to watch Glenn in action. Visitors came from all parts of Sweden and, in front of an enthusiastic audience, Glenn demonstrated how he turns his classic bowls; the same bowls that have become his trademark in galleries and exhibitions across the globe. During the day, he also shared his most valuable tips in woodturning and the sharpening of different tools.

About his visit, Glenn said: "I very much enjoyed my visit to Tormek in Sweden. Having worked with a Tormek for many years, I was delighted to get a tour of the headquarters and witness firsthand the quality control and close attention to detail. I think what impressed me most was the pride in workmanship and the strong team spirit among the staff. My all-day demonstration to a full house took place in their bright, well-equipped sharpening studio; I made a Viking bowl, a platter, and discussed my use of Tormek systems personally in my production of bowls and in my own busy classroom in Ireland. With my passion for quality tools, I was delighted to be invited to visit Tormek. The Swedish audience at the demo were very enthusiastic and left me with an appetite to return."

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From left to right: Pontus Gyllby, Wolfgang Hess, Glenn Lucas, Stig Reitan and Sébastien Ehnevid

ARTS & MINDS



Sometimes fiendishly tricky to make and initially shunned by tastemakers, Art Nouveau furniture eventually became a world phenomenon, says Phil Whitfeld

As the end of the 19th century approached, designers throughout Europe were attempting to break away from the historicism that was so prevalent in the canon of Victorian design. Classicism and the Gothic had fought for supremacy as the dominant design style while the Victorians' love of decoration was thought by some to be florid and vulgar.

The likes of William Morris and the Arts and Crafts Movement sought change, but this was resisted by the furniture-making industry because its market was well established, profitable and easily and cheaply supplied.

While reformers in Britain were struggling to establish a new aesthetic and improve methods of production, their counterparts across Europe were enjoying more success. Few design ideas crossed the Channel, however, and those that did were adapted to appear

to a more conservative and conventional British taste.

Around the turn of the century one of the most radical, stylistic developments in European design came to be known as Art Nouveau. This was centred on France and named after German art dealer Siegfried 'Samuel' Bing's popular Parisian gallery the *Maison de l'Art Nouveau*, which, as its name suggests, featured all the latest 'new art'. With many vernacular variations in virtually every European country, this was to become a worldwide phenomenon.

There are similarities between the philosophies of Arts and Crafts and Art Nouveau, if not in terms of style then certainly in respect of craft traditions coupled with a desire to break from historic aesthetic precedents. We can certainly suggest that Art Nouveau grew out of Europe's engagement with Arts and Crafts and while both can be seen as being transitional between Historicism and Modernism – and this is their major significance – on the continent they were not seen as being in opposition to a sense of modernity.

Outrageous style

Both styles respected craft, traditional materials and construction methods but were very different in form. If the transition from Historicism to Modernism for Arts and Crafts was sensible, sober and conservative, it was also retrogressive

as it referenced medieval forms. Where clean lines and 'truth to materials' were at the heart of Arts and Crafts and Modernism, Art Nouveau was always flamboyant and sometimes outrageous.

Where Arts and Crafts furniture was rectilinear, Art Nouveau pieces were curvilinear, designed in an aesthetic that was far too radical for most British commentators and consumers to accept. Even the work of Charles Rennie Mackintosh was restricted to Scotland.

A display in 1900 of Art Nouveau objects at the Victoria and Albert Museum prompted three architects from the Norman Shaw School to write in protest to the *Times* in 1901... 'wrong in principal and lacking in regard for the materials employed', and Lewis F Day in the October edition of *The Art Journal*, 1905, likened it to a 'disease' as later did Walter Crane who shockingly referred to 'that strange decorative disease known as L'Art Nouveau.'

Alien forms

Disease or not, some retailers sensed a demand and a review in *The Gentlewoman* in 1903, having described the previous 100 years as 'the most artless in English history,' went on to recommend the buying of Art Nouveau at Harrods, notwithstanding the fact that its catalogue for the year featured only one Art Nouveau piece. The assumption has to be that in the face of a proliferation of reproduction furniture,



Guimard's eponymous Paris Metro entrance signs and décor are beloved by visitors and natives alike



The delicacy and soaring curves of Guimard's cabinet design demanded near miracles to be worked by his cabinetmakers



Majorelle's Ensemble aux Nénuphars (waterlilies), main picture (page 56), shows lines inspired by nature... as can be seen from the leaf-like legs of this side table

Art Nouveau was not popular. What it lacked was a sense of tradition and Englishness, something that the dominant period forms referenced. For the British consumer Art Nouveau had no meaning, there was no grounding in Historicism – which of course was its point – and the references it made to nature and organic forms were too alien for English sensibilities.

The outbreak of war in 1914 halted Art Nouveau in its tracks and by the end of hostilities it was considered far too frivolous for the social, cultural and political changes that the war had brought about. So its history may have been brief, but in many ways its impact resonates today and there several revivals can be noted throughout the last century.

Variations in style

Because the style was international it contained many variations, from the more formal, linear and symmetrical work of the Germans and the Austrians to the fanciful, asymmetrical and sometimes outrageous pieces of the French and Belgians, and it is these latter pieces that I would like to look at as they presented more of a challenge to the makers.

Those furniture craftsmen working in wood faced a far more difficult task than others, like jewellers, ceramicists and glassmakers, working with other mediums. The working properties of metal or glass and even ceramics are perfect for such flowing and intricate curves and lines and can be manipulated through their own particular processes to the required look, but wood is not so forgiving and achieving the aesthetic using this medium was far more complex.

The Musée d'Orsay in Paris and the Musée de l'École de Nancy, eastern France, have fantastic collections of Art Nouveau furniture housed in reassembled period interiors and on inspection it is easy to see the problems artisans encountered and how those problems continue to dog the work even to this day. There are many



While the Ensemble de chambre à coucher, from the Villa Majorelle in Nancy, looks almost futuristic...

examples of tensions produced by shrinkage resulting in gaps in joints and between faces. The French and Belgians and Spain's Gaudí, produced forms that were organically curvilinear with sweeping lines, spindly sections and complex and compound curves.

Achieving the look

To achieve this look with standard skills was difficult. Processes such as steam-bending and laminating were known of course and had been utilised by the Thonet family for many years. They were geared for more simple objects, still basic and very much in their infancy, tending more towards industrial production rather than hand crafting. The complexity of many of these forms certainly did not easily lend themselves to industrial production.

Manufacture could be very wasteful because sections often had to be produced out of pieces joined together to achieve the desired effect. The exhibition at the d'Orsay can be seen to have suffered from these effects and it can clearly be noted where joints have opened up and stresses and strains have split the material.

We can look at examples of the tensions and problems between the hand crafting of the work and attempts at a more mechanised process through the work of two celebrated designers at either end of the art/utility scale: Louis Majorelle, whose design work came from a solid grounding in craft and cabinetmaking, and Hector Guimard, who veered far more towards abstraction.

At the age of 19 Majorelle inherited his father's cabinetmaking business after studying at the École des Beaux-Arts. During the 1880s he oversaw the company turning out pastiches of Louis XV furniture styles, which he exhibited in 1894 at the Exposition d'Art Décoratif et Industriel in Nancy, but the influence of the glass worker and furniture-maker Emile Gallé (1846–1904), who was also exhibiting there, inspired him to take his production in new directions.

Inspired by nature

At the start of the 1890s his work began to display decorative motifs in the form of inlay and marquetry that took their inspiration from nature, something that was to become a recurrent



Guimard's complex curves would have given his makers some definite challenges



... his Cabinet de salon Meuble Les Algues shows Rennie Mackintosh influences...

theme and a personification of Art Nouveau: stems of plants, waterlily leaves, tendrils and dragonflies. In 1900 he added a metalworking atelier to the workshops in order to produce applied decorative elements in keeping with



... and his Bureau des étudiant is almost stark and functional

the fluid lines of his woodwork. His studio was also responsible for the ironwork of balconies, staircase railings and exterior details on many buildings in Nancy at the turn of the 20th century.

His work was firmly grounded in superlative craftsmanship and cabinetmaking technique and had function and utility at its core. As his engagement with Art Nouveau deepened, his furniture began to diminish its reliance on the decorative elements and developed a much more sinuous and organic form. So popular did the work become that in 1908 the workshops were industrialised in an attempt to produce a large range of more affordable, lower-quality work, but sadly this also necessitated a reduction in the general quality of the designs because the forms and the styling did not lend themselves to a more industrialised form of manufacture.

Harmony & continuity

If Majorelle is at the more accessible end of the Art Nouveau spectrum, then architect Hector Guimard's organic and flowing forms possibly suggests the 'disease' that the English commentators took issue with. His work on the Castel Béranger, one of his first major commissions in the new style, made him famous and he soon had many commissions. His view of Art Nouveau was one of an ideal of harmony and continuity, which caused him to design the interior decoration of his buildings as well as unique pieces of furniture, which he considered integral parts of the building.

The curious, inventive Guimard was also a precursor of industrial standardisation, insofar as he wished to expand the new art to a larger audience. His greatest success here was those famous ornamental entrances to the Paris Metro, but these of course were cast metal, which lends itself far more easily to the flowing and almost freeform lines of the design.

Much of his furniture has a dream-like ethereal quality about it although some would argue

that nightmarish would be a more accurate description. The sections of timber of much of the furniture had to be carved into complex compound curves to achieve the forms he required and his favourite material was pear wood, which, while expensive, has excellent carving qualities. The skill for the craftsman in much of Guimard's work is the accuracy of marking out the flowing lines to ensure that the separate elements of the same section matched and could therefore be joined successfully.

Some of the work, the cabinets and multi-functional pieces, were often on a large scale so the size of the sections necessitated this sectional approach to cut down on waste and to try and establish some stability in the structure. Some pieces look so frail that one questions how they hold together under their own weight. The whole operation was labour intensive and certainly economically out of the reach of most ordinary people, and the majority of pieces did not lend themselves to industrial production, one of the reasons why he favoured metalwork for these particular processes.

It would be easy to see Art Nouveau as just a fanciful and fashionable styling and on the surface that may be how it appears. It was, however, a serious and concerted attempt to break with tradition, reclaim and celebrate the skills of the craftsman that had become neglected through modernisation and industrialisation.

It shone bright for 20 years at the most, through the 1890s and into the new century, but the outset of war sounded its death knell. All was not lost, however, and by the 1920s, when society was looking to rebuild after the war, many of these ideas would develop and help inform what we have come to know as Art Deco. This was a rational attempt to celebrate the new world order through industry and manufacturing while at the same time allowing room for probably what was the last of the great cabinetmaking eras. **WW**



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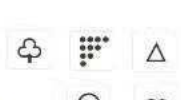
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Jumping through hoops

Colin Simpson demonstrates a number of different turning techniques in the making of this charming vase, which uses three contrasting timbers

This month's project encompasses a mixture of spindle and faceplate turning as well as hollowing end-grain. The turning is relatively simple but it includes an unusual chucking method. Any wood can be used and I think contrasting pieces really help to make this project stand out. I have used olive ash for the conical vase, mahogany for the ring, and bog oak for the feet and top of the vase.

The ring

Let's start with the ring. Mount a suitably sized blank – mine was 190mm diameter – on a screw chuck and face off the bottom (**photo 1**) using a pull cut with a swept-back bowl gouge. True up the edge of the blank with a bevel supported push cut (**photo 2**), then sand and polish these two faces. I used sanding sealer and wax.

Remove the blank from the lathe and mount a scrap of 18mm ply on a faceplate. The ply should be a little larger than the diameter of the blank. True up the edge of the ply and then hold the bowl blank against it. Use the tailstock centre in the original hole – used for the screw chuck – to centre the blank on the plywood. Hot-melt glue the blank to the ply around the circumference of the blank (**photo 3**), and use a pull cut to flatten the bottom edge.



1 Use a pull cut to flatten the bottom...



2 ... and a push cut to true up the edge



3 Centre the blank on the ply and hot-melt glue in place



4 You then need to replace the screws in the faceplate with longer ones



5 Use a parting tool to cut the ring...



6 ... then clean up the inside surface of the vase with a skew chisel



7 Plane the feet to a cylinder with a skew...



8 ... mark the length of the feet...



9 ... and use the skew to clean up the ends of the feet



10 Rough the vase to a cylinder and start the taper

You need to cut off a ring right the way through the blank. The hot-melt glue will stop the ring from flying off, but there is nothing holding the centre of the blank. To stop this from coming loose as you part through, it is safer to remove the blank and plywood from the lathe and replace the screws holding the faceplate to the ply with longer ones that screw through the ply and into the blank (**photo 4**). You can then remount the workpiece and use a parting tool to start cutting a groove approximately 12mm from the edge of the piece (**photo 5**). Widen this groove slightly to prevent the walls of the groove rubbing on the sides of the parting tool, then deepen the groove, keeping it a little wider than the parting tool until you have cut all the way through to the plywood.

Remove the blank and ply from the lathe again and replace the longer screws in the faceplate with shorter ones so the centre part of the blank can be removed. Remount the work on the lathe.

Clean up the parting tool cut on the inside of the ring using the long point of a skew chisel on its side (**photo 6**), then sand and polish this surface. Break the hot-melt glue joint and clean up any residual glue by hand, then put the partly completed ring to one side.

The feet

I used 4,500-year-old bog oak to turn the two feet. Mount a 20mm square between centres and turn down to a cylinder (**photo 7**). Use dividers to mark the length of the feet – this should be the same as the depth of the ring (**photo 8**) – and make a slicing cut with the skew chisel to clean up the ends (**photo 9**). Sand and polish before finally parting them off the lathe.

The conical vase

Mount the wood for the vase body between centres and rough down to a cylinder using a spindle roughing gouge. Start to make the taper on the vase, but do not go too thin at this stage (**photo 10**). Cut a chucking point to fit your chuck at the headstock end of the vase, then replace the drive centre with the chuck and mount the vase on the chucking point. Drill a hole at the tailstock end; this can be done by either using a drill bit in a Jacobs chuck in the tailstock or by using a spindle gouge (**photo 11**). The hole can now be widened using the 10mm spindle gouge. Start the cut with the tool in the hole and the flute pointing towards 10 o'clock and then swing the handle away from you (**photo 12**). Continue hollowing in this way until you get to the bottom



11 Drill a hole down the centre...



12 ... and hollow with a spindle gouge



13 Cut a step at the entrance of the hole...



14 ... then complete the outside taper with the skew



15 Cut a spigot on the lid to fit the step in the vase



16 Keep offering it up until it fits

of the hole. Try to visualise the outside taper and cut a corresponding taper on the inside. Use a skew chisel on its side to cut a parallel sided step at the top of the hole (**photo 13**). This step is for the spigot on the lid of the vase. Next, complete the outside of the vase. Use a skew chisel to plane a smooth, conical shape (**photo 14**), then sand and polish as before.

Vase lid

I used bog oak again for the lid and mounted it on a screw chuck. True up the face and edge and then cut a spigot that matches the size of the step of the vase (**photo 15**). Keep offering up the vase to ensure a tight fit (**photo 16**). Remove the lid from the screw chuck and mount it in your scroll chuck, using the spigot you've just cut. Now shape the top of the lid using a spindle gouge. I turned mine to a gentle ogee shape (**photo 17**). Finally, sand and polish.

Return to the ring

You need to cut a tapered hole in the ring for the conical vase to sit in, and you also need to attach the two feet to the ring. In order to locate these positions accurately, use some graph paper to help with the layout. Mark a



17 Turn the lid round and shape the front with a spindle gouge



18 Mark the positions for the feet..



19 ... and the tapered hole



20 Mount the part-built cradle on the lathe and put the ring in place

centreline on the graph paper and place the ring on top. Place the feet an equal distance from the centreline and make a temporary mark on the edge of the ring where the feet will be located (**photo 18**). At the top of the ring use a try square on the centreline to mark the location of the centre of the tapered hole (**photo 19**).

Next, build a cradle to hold the ring securely on the lathe while turning the tapered hole. You will need three pieces of ply to build a three-sided cradle. The first piece is a rectangle and needs to be exactly the same width as the ring and about 20mm longer than the ring's circumference. Locate the centre of the rectangle and screw a faceplate to it, then mount this on the lathe. Cut the other two pieces of ply to the same length as the first one and just a little shorter than the circumference of the ring. Screw one piece to the edge of the ply on the edge of the first rectangle. Place a non-slip mat on the inside of this piece and place the ring on this (**photo 20**). Use the revolving centre in the tailstock to centre the ring on the mark you made at **step 19**. Place another piece of non-slip mat on top of the ring and then screw the third piece of ply to the edge of the first piece, effectively sandwiching the ring. Now drill a couple of holes right the way through the 'sandwich', taking care to miss the ring (**photo 21**). Put a couple of bolts through these holes, add washers and nuts then tighten them, clamping the ring in place. All of this is to allow safe and secure access to the top of the ring in order to drill a hole. Replace the revolving centre in the tailstock with a Jacobs chuck and drill bit and drill a hole through the ring (**photo 22**). Widen the hole and cut the taper using a skew chisel on its side (**photo 23**). Keep offering up the conical vase until you have a good fit, then sand and polish the hole.



25 Insert dowel centres and locate on the ring



26 Drill the mating holes in the ring

Fitting the feet

I used dowels to attach the feet to the ring and I turned these to 5mm diameter and 12mm long from beech. Hold the feet securely in a drill press vice and drill two 5mm diameter holes, 7mm deep in each foot (**photo 24**). Place dowel centres in the two holes and align it with the temporary marks made on the ring at **step 18**. Press the dowel centres into the ring (**photo 25**)



21 Drill holes for two bolts right through the cradle, insert bolts, then tighten

– the dimples left by the dowel centres show you where to drill the mating dowel hole in the ring. Drill these holes, insert the dowels, and dry fit the feet. If all is well, glue the feet permanently in place.

Finally, place the vase in the tapered hole and fit the lid to the vase. I didn't glue either of these in place. You can then stand back and admire your latest creation. **WW**



22 Drill a small hole through the ring...



23 ... and widen it to a taper using a skew



24 Drill two 5mm holes in each foot



27 The completed ring vase should look something like this

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Bespoke workbench

Brian Barber shows you how to design and build a workbench that is simple, strong, fit for purpose and suits your own needs

My old and faithful workbench was gradually coming to the end of its useful life. I had managed for a long time with a quickly constructed bench that was adequate but not exactly fit for purpose. Yes, it was strong, practical and had served me well for many years, but it did not have some of the features I desired, so there it was – the time had come to acquire a new workbench.

First I did a survey of available benches to buy. There are some wonderful benches out there, for example the magnificent Maguires, the Sjöberg range, Record Power and even Lie-Nielsen to name but a few. Some of these are very expensive, but none seemed to fit exactly what I wanted.

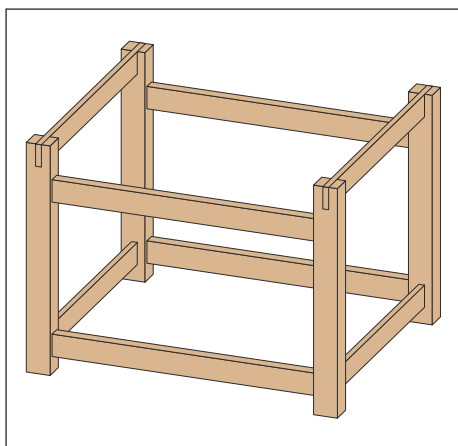


Fig.1 A simple carcass means that shelves, cupboards or drawers can be added

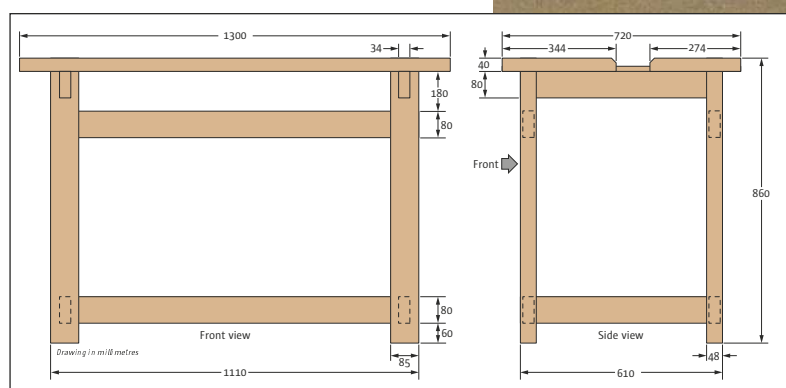
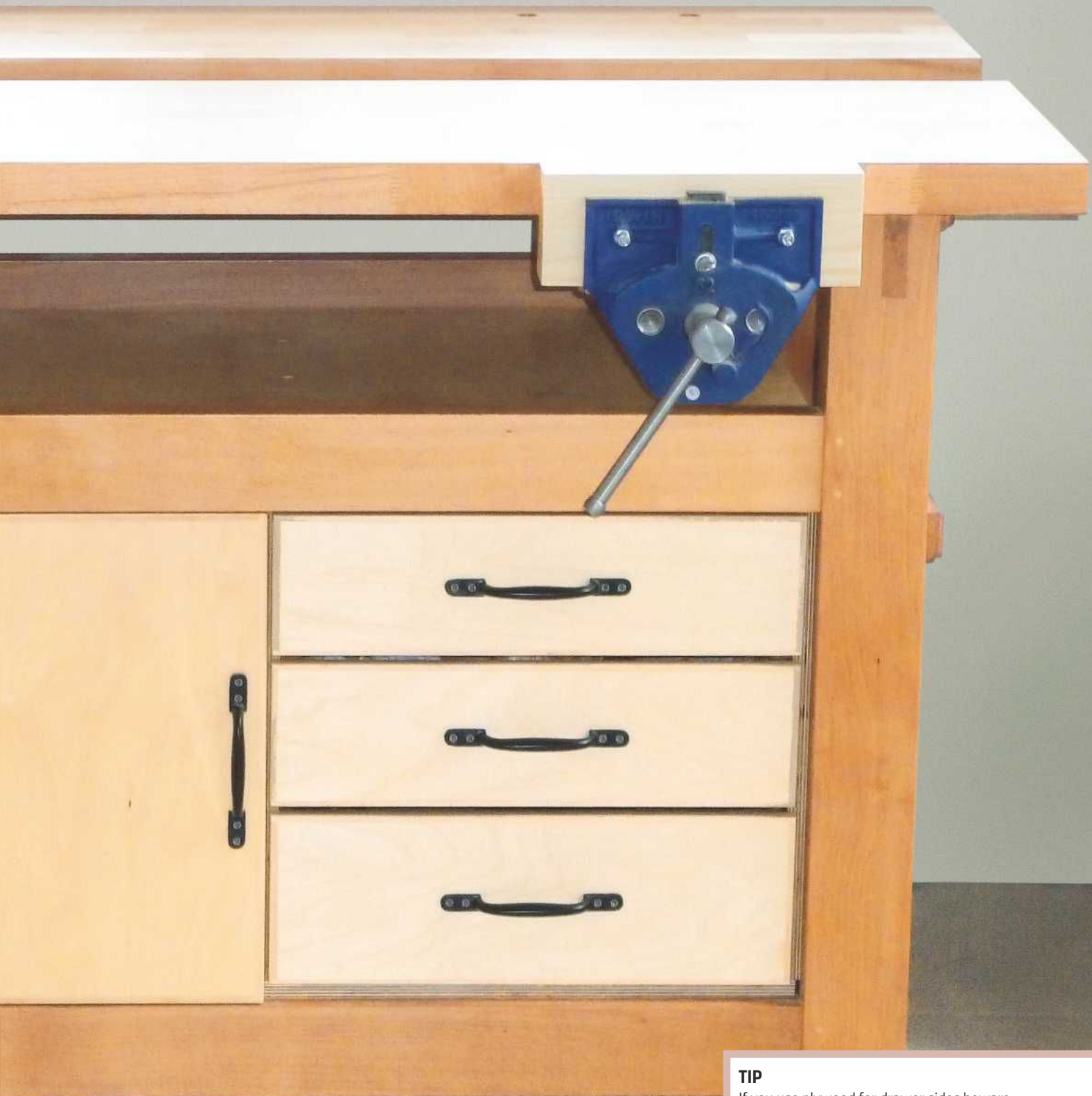


Fig.2 I wanted to incorporate a narrow tool well



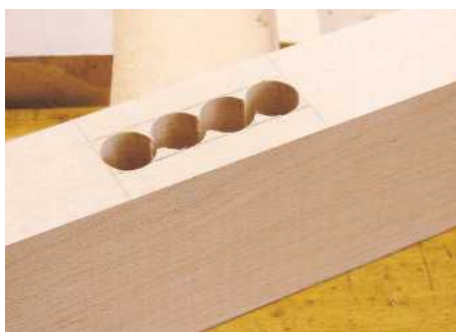


TIP

If you use plywood for drawer sides beware of using a dovetail jig because the plywood just tends to rip apart. In any case, hand-cut dovetails are nearly always best



1 The mortises for the leg joints were cut using a Forstner bit...



2 ... and then cleaned up with a chisel



3 The tenons were dealt with on the sliding mitre saw, using a depth stop



4 The completed rails...



5 ... and legs ready for assembly in the bench framework



6 The simple storage unit construction can be seen here

First there was the problem of available space. It's no use buying a bench if it is just even slightly too large for your workshop or whatever you have available: garage, outhouse, spare room or even, dare I say it, kitchen. Then there are the considerations of design: shop-bought benches, even with all their nice and elegant features, do not necessarily give you what you want; some are even flimsy.

So rather than buy I decided to build a workbench to fit my own workshop, with my own requirements built into the bench. It is not too large but it is certainly fit for purpose. My design, of course, will not suit everyone, but the point is to build a bench to suit your needs, even if it has three bells and a whistle; if that's what you want, then go for it.

Timber choice

I would say that the most important feature of any bench is rigidity; it must not move under any circumstances and therefore, unless it is bolted to the floor, it needs to be heavy.

A tough, hefty construction is therefore required and this is best served by using a dense hardwood. Traditional benches use beech since this is fairly heavy, extremely tough, close-grained and will take a lot of knocking around. This does not mean that other woods, such as birch, maple and oak, cannot be used, but there is something nice about keeping to traditions because they rarely let you down. Beech was therefore the timber of choice for my new bench.

Vices & clamps

I had three main requirements: it had to fit into the space available, be fitted with two vices at the front and allow space for ease of clamping

all round. Having two vices at the front gives you the ability to hold long and especially slender lengths of timber really firmly for hand planing, etc. I really did not have space for end vices and am not too keen on them anyway.

The ability to clamp all round means that often bench dogs can be done away with – they can sometimes be a nuisance anyway. To this end the top needs to have free space all around the edges with plenty of overhang to allow G-clamps, etc. to be used. I have no time for front aprons or any kind of aprons around the periphery of the bench top as they just get in the way.

Space beneath the top is also essential to allow clamps to be used and is also useful for storage. Bearing more storage space in mind, I also decided to fit a cupboard and drawers beneath the bench.

Size matters

To fit my workshop I decided to make the bench top 1,300mm long and 720mm wide and to fit my stature a height of 860mm seemed ideal. It really is important to get the height that you are comfortable with; this can often be a problem with shop-bought benches, which generally have a fixed height.

Finally, the well in the middle of the bench: you don't really need one but it is handy to stop tools rolling off. Often commercial benches have too large a tool well, which just spoils the usefulness of a nice flat top, so I decided a small narrow well about 100mm wide would be quite sufficient for my purposes.

The build begins

As anyone who has read any of my previous articles will know, I am somewhat

unconventional when building projects since I do not use plans and just build and, to some extent, design as I go. So having decided on the overall sizes for the bench it was time to start building it.

The legs and basic framework were designed to allow incorporation of a cupboard and drawers into the bench. These can easily be left out and simple shelves could be used if an open bench is required (see **Figs.1 & 2**).

The legs are 85 × 48mm and rails 80 × 34mm in cross-section. Mortise & tenon joints were used in the construction and since fairly hefty joints were required, the mortises were first cut out using a Forstner bit (**photo 1**) and then cleaned up by chisel (**photo 2**).

I cut the tenons on my sliding mitre saw with a depth stop (**photo 3**). The completed rails are shown in **photo 4** and the legs and rails ready for assembly into the bench frame are seen in **photo 5**. My favourite urea-formaldehyde resin glue was used for all of the joints, this never having let me down yet. For complete security I also added a few dowels into the sides of each of the joints.

Storage units

I decided to make the cupboard and drawer unit an integral part of the bench and not a separate cabinet, which is then fitted in, as is the case in some of the commercially available benches. For this I used 12mm birch plywood and a very simple method of construction.

First a sheet was simply screwed to the bottom rails to give a level base. Sides were then attached to each end of the bench framework, again using screws. A top was then prepared to



7 The drawer components were dovetailed together



8 The bench top in a dry assembly with the bench framework



9 M10 bolts are the linch pins of the top-to-rails construction



10 The vice grips are of sacrificial softwood



11 The completed bench and its fittings...



12 ... including 19mm dog holes for clamping work

rest on battens fastened on the top of each of the side panels. A mid section was then attached to the top and bottom plywood panels.

All of these panels were simply cut to size to fit the space available. The middle section and right-hand side panel had drawer runners attached in readiness for the drawers, which were yet to be constructed (photo 6).

A gap between the plywood top and top of the bench provides storage and access space beneath the bench top. Finally, a 6mm plywood back was attached to result in a very rigid structure with little or no chance of movement during use.

Drawer construction

Drawers were then made, again using 12mm birch plywood, to fit between the drawer runners, which were already in place (photo 7).

Traditional hand-cut dovetails were used in the construction and strips of sycamore were glued to the edges of the drawer fronts to hide the end-grain. Finally, I made a door for the cupboard space and attached a handle to match the drawers.

Now for the top

The next step was to make a substantial top out of beech. I had intended to bond together strips of beech of approximately 40mm to 50mm square cross-section, rather than attempt to use two single boards.

This would have avoided the inevitable warping and give a stable top. However, I soon discovered that beech kitchen worktops use exactly this type of construction so I purchased from Worktop Express (www.worktop-express.co.uk) a piece 2,000mm long by 620mm wide and 40mm thick. This was perfectly flat and

ideal for my bench top. I cut this lengthways into two pieces measuring 1,300mm long. One piece for the front of the bench was 344mm wide and the other 274mm for the rear. This saved me an awful lot of making time and in particular ensured that the top was perfectly flat. I can certainly recommend using solid wood kitchen tops for a workbench; they are just perfect. If required they could easily be bonded together to give a really thick 80mm top.

Immediately after cutting I applied plenty – at least six coats – of a suitable finish (see 'Finishing touches' opposite) to each surface of the bench top to reduce any chance of warping.

Rebates were then cut with a router along one edge of each of the two pieces to allow for the formation of the central well by using a length of birch plywood (photo 8).

The top was then secured to battens fixed to the top of each of the side rails using M10 bolts (photo 9). This gave a really secure fixing and allows the top to be removed at a later date if required. The heads of each bolt were covered by beech plugs into the top of the bench.

Vice fitting

Two Record 52ED vices were fitted to the front of the bench. Recesses were first cut in the bench top (photo 8) to allow the inner face of the vices to be flush with the edge of the bench and the top edges of the metal vice to be about 15mm lower than the bench top.

This allowed sacrificial softwood vice grips to be attached (photo 10). The vice grips protrude from the edges of the bench, which I prefer to having them flush with the edges, although this is a personal choice. I won't go into any more details since the method of fitting vices to any bench differs with the type of vice used and it

is simply a matter of working out the best way to attach the appropriate vice to the bench top.

Finishing touches

Once completed, I gave the complete bench, including the top, four or five coats of a matt polyurethane varnish, the first few coats applied dilute to allow the finish to sink into the grain. Alternatively, an oil finish could be applied.

I considered this option but decided that I preferred polyurethane, which I had used for my previous bench, having found this finish to be very durable and easy to clean when glue, for example, hits the bench top. In any case it is usually only the top that requires a refinish now and then and it is relatively easy to sand down and apply a few coats of polyurethane.

I have now put the bench (photo 11) into practice for a few new projects and am really pleased with its performance; it is as solid as a rock. The two vices at the front are superb and are amazingly good at work holding.

A few 19mm dog holes were also drilled into the bench top and in addition some purpose-made end stops were produced from birch plywood, with captive bolts and wing nuts to fit into the dog holes (photo 12). I think these perform better when clamping work against them since they do not dig into the edges of the wood as bench dogs tend to do. So it's out with the old bench and in with the new and back to some further interesting projects. **WW**

TIP

An oil finish is usually recommended when you buy a commercial bench. This is for ease of repair when the finish becomes damaged during use



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Inside the GREAT BRITISH WOODSHOP

Readers may recall his popular TV woodworking show as we have a chat with **David Free** of the television series **The Great British Woodshop**

FURTHER INFORMATION

To find out more about David's courses, see www.greatbritishwoodshop.co.uk



Close-up shot of routing jig



Some episodes were filmed on site where necessary

Q. It's been quite some time since we've seen you on TV, can you tell us what you've been up to over the past 10 years?

A. I can't believe it's been that long; it doesn't feel like it! Still very busy designing and building furniture and venturing into a few new activities.

Q. We've all seen our favourite TV woodworking shows disappear from the screens, why didn't you do any further series?

A. It's a real shame that Discovery decided to stop producing woodworking shows. *New Yankee* finished as did *GBW* and the rest. We were actually signed up for a second series and I had already planned and built the first episode project of the second series, which was going to be 'The Bird Restaurant'. It was a fairly extravagant gazebo with a cedar shingled roof down-sized as a bird house – more like a bird feeding table, really – but the channel changed their mind when new management took over, so we were disappointed not to have done more.

Q. Why do you think they removed all the woodworking shows?

A. I think they saw the potential of YouTube and figured anyone that wants to learn how to do woodworking will go online, but it really isn't the same. Shows like *Yankee* and *GBW* offered entertainment as well as instruction. It's nice to watch a story unfold whether it's a visit to a stately home or making something to help a homeowner, not just watching someone make a dovetail on the internet. I think that's what is lost by relying on YouTube. It's for the most part an amateur video, often poor quality, of someone showing a specific task, not 30 minutes of entertainment for woodworkers.

Q. You mention the *New Yankee Workshop* – both your show and *New Yankee* were similar, was that your intention?

A. Yes and no. I watched *Yankee* for many years and was a big fan of the show. I personally felt that Norm's show set the standard for programmes in that genre. I wanted to create a high quality woodworking programme for UK audiences, but I didn't want to make a replica of a piece I saw at an antique store. I wanted to use the concept of the original design and put my own design twist on it, sometimes making something that looked nothing like the original inspiration.

Q. Had you ever worked in TV before?

A. Never. Prior to doing the TV series I worked in the Telecoms industry but had been making furniture as a hobby since school. In corporate life I was a presenter and I love to teach, so I really started the idea from combining my presenting skills and my love of teaching to communicate with audiences on a grand scale, and it all sprung from there.

Q. How did you know where to begin to make a TV show?

A. Well, it was really a case of not trying to eat the whole elephant at once and just move forward one mouthful at a time, as well as a bit of luck. My brother and I grabbed a camera and went to the Stoke Poges golf club and did a short tour of the club; we explained what we were doing and asked for permission to film there. This was a location made famous in James Bond's *Goldfinger*. I found a piece of furniture I liked and then we went back to the workshop and I built it. My brother Mike and I lit the workshop, shot it, edited it, and created a pilot. He had been to film school so that helped.

After that it was learning how to pitch a TV pilot to the channels. Most channels don't produce shows themselves; they have series or 'one-off' programmes produced for them by independent production companies, which by definition we had become. During this process I happened to get a call from a friend of mine in the US who asked me what I was up to. I told him I quit the IT industry and was making a TV show about woodworking and he told me his brother-in-law worked on the *New Yankee Workshop*.

That's the luck part and I knew at that point I was definitely on the right track. After a few phone calls I was on a plane to Boston and had a meeting with John, our Director, and he got on board. So with an experienced Director who just happened to work on *Yankee* and our pilot, I was able to pitch it to Discovery and they loved it.

Q. Do you think that having someone like John on the project made a big impact?

A. Huge. At first when I went for the pitch meeting with Discovery they didn't want me to use a new crew – they said they wanted the guys who did the pilot. I said you can't have them because my brother and I did it ourselves, which came as a shock to the 12 people sitting around the table, so we must have done OK with the pilot episode. They wanted to keep the cost of

production down but people like John don't come cheap for a reason, and I knew I needed as much experience on the production as possible.

Q. What would you say made your show different to other UK woodworking programmes out there?

A. A successful show needs a good presenter, good material, good crew, but even with all that I think it would still fail if it didn't have a good Director. I chose a US Director for two reasons: one, the experience John had on *Yankee* was irreplaceable, but on top of that, it's the pace. American shows have a different pace to British shows. If you get this right then what you see on screen doesn't look like you are making it up as you go along. Everything you say has a purpose with no waffle added and I'll tell you this: it's hard to get everything you want to say when building a three-day project into 23 minutes.

Q. So what have you been doing since the show ended?

A. After the show, I designed and patented a fully working fireplace that hides a TV inside it and have been developing furniture that conceals TVs when not in use. We put them in steamer trunks, fireplaces, cabinets and even a fish tank that we took onto ITV's *This Morning*.

Q. So what's the plan for the future?

A. We've just patented the world's first pop up tennis net. It's a family product for the back garden called 'Twisternet' and it folds flat for storage and is easily transportable because it's so light; you can set it up in 20 seconds anywhere for some tennis fun. That took a couple of years to develop and patent.

Q. So are you getting out of the woodworking business?

A. No, never, as I love it too much. Woodworking for me has always been a passion – in fact I'm pleased to say we have just opened the *Great British Woodshop* for courses. People can come to where we shot the TV series and learn woodworking skills and use the tools. We have courses for beginners to advanced project classes, and cover everything from hand tools to spray finishing. **WW**



On a three-day project build there was no shortage of filming opportunities

John the Director plans the next scene to ensure all the important details are included



Smoothing plane of 1948

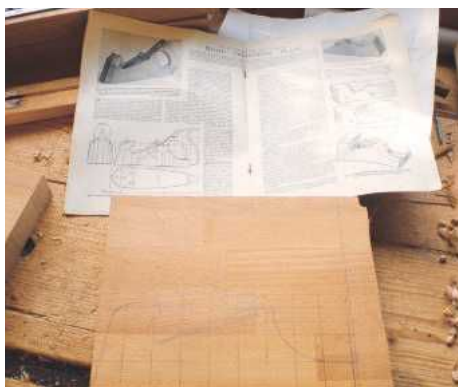
Answering our request to share projects made from old editions of *The Woodworker*, Alex Porwal takes us through the steps for making a smart smoothing plane, which he found in the March 1948 edition

The winter months are a good time to look through books for projects, and having a number of volumes of *The Woodworker* on my shelves, I was flicking through the 1948 volume and the smoothing plane in the March issue took my fancy. Having never before made a tool for woodworking (apart from the odd jig for electric routing), I decided to have a try and make it – partly for the intriguing design, and partly for training myself to be more accurate (and patient!) in using hand tools, although I did rely on my bandsaw a lot. The fact that post-war woodworkers had to make do with anything to hand was a further inspiration. I had some laminated beech offcuts from my kitchen worktop, which had been sitting in my shed for a few years, so I dug them out, sized them up, and decided they would do.

Body & escapement

I drew directly onto the wood (**photo 1**), marking out a grid in square inches as per the original instructions, for both the body and the handle. The body was in two halves, which were to be joined by two dowels and glue (**photo 2**). I marked the dowels, drilled the holes, but did not glue them together, as the escapement for the iron still had to be chiselled out. As it happened, I would be putting and taking the two halves apart quite a few times...

The sloping shape at the top of the escapement was drilled with a 22mm bit on my drill press, and then onto the bandsaw to cut away the waste to get to the rough shape (**photo 3**). So far, so good! The next stage was to cut the curve for the handle housing. I reverted back to using my bandsaw, due to the accuracy needed. I marked out a series of straight cuts to



1 The original article and body traced onto the wood



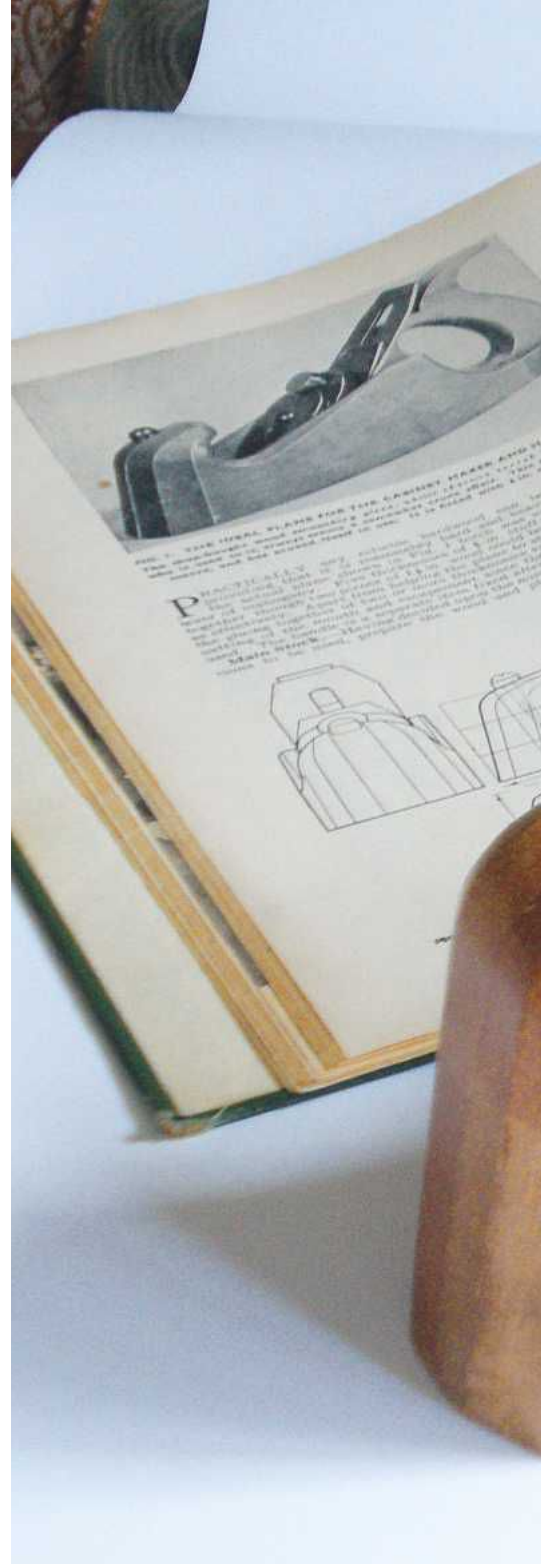
2 Setting the two body halves for dowelling



3 Cutting out the waste on the bandsaw



4 Chopping out the waste



make it easier for steering the work later to complete the curve at the rear. For a bit of light relief, I began to draw the handle, doing my best to achieve the required shape.

Back to the body, and taking apart the two halves, I used a tenon saw to cut the escapement, taking care not 'to foul the hooked portion, which forms the front handle'. I then chiselled out the rest of the waste in both halves and was then ready to bandsaw the waste from the body. Well, so far my efforts looked exactly like the drawings in the original issue (**photo 5**).

Housing for the handle

The next stage was to work on the housing for the handle (**photo 6**), and this, for me, was the tricky part. On the curved section, I drilled a series of holes, then chiselled the waste away. Paring and smoothing with a few chisels helped



to get the handle housing right. The two halves were now glued together, then I worked on the handle, drilling holes, and used a coping saw to cut out the inner waste (**photo 7**). Of course, the bandsaw was again used to shape the outside. Then it was using chisels, rasps and abrasives to fashion the handle for a comfortable fit. One thing I didn't exactly copy in this respect was the inside curve of the handle facing the body, which, on the original, exactly matches the curved recess for the handle. It seemed too big a hole, and my version was just right for my hand.

Shaping the body

Next, shaping the body. I marked out the shape of the sole (**photo 8**), made an error – but then corrected it – and placed it on a simple carrier or 'cradle' to be cut on the bandsaw. The original instructions suggest that you

'trim away afterwards with plane'. Well, my method was to sand it on a belt sander and use a scraper. The shaping of the facets at the front are supposed to taper towards the top, and mine

do also – but not quite so much! After some time using chisels, rasps and abrasives, I got near enough for the front handle shape to again, feel comfortable.



5 Cuts completed – as per the diagram!



6 Fashioning the handle housing



7 Ready for sawing out with the coping saw



8 Sole marked out for shaping



9 All cuts completed

Trial fit

Putting both handle and body together for a trial fit, it proved to be an easily held tool (photo 10). The back iron, cap iron and lever cap – eBay, of course – had arrived. The ironwork used in the original is a configuration I've not seen, as there seems to be at least four bits of metal. The recess for the cap iron locking screw had to be accurately ascertained with the correctly sized Forstner bit – I thought I'd got it right, but I had set it too low by about an eighth of an inch! After a little steam had been let off, I set it higher, and drilled again. In fact this worked to my advantage, because the blade and cap iron can be easily adjusted, with a few gentle taps of a hammer. For the lever cap screw, I was lucky to find the perfect round-headed screw in my odds and ends box, and proceeded to mark then drill a pilot hole for it. Also, I didn't bother adding the strike button on the front handle as my blade iron configuration doesn't seem to warrant it, as adjusting is quite quick and easy without it.

The plane in action

Even though I hadn't refined the look of the plane (which, incidentally, my wife remarked reminded her of the steam locomotive Mallard) until later, I had to have a go with the blade, and tried a few tentative strokes on a piece of pine. I got a little curled shaving (photo 12)... Having since smoothed and sanded the plane, and tidied up the mouth (which was a bit uneven), I have

tweaked the blade, fettled the cap iron, and set it with a cat's whisker of the blade, with shavings now curling ceilingwards. I am currently using it on a project – a coffee table for my son and his wife.

So, even though it's not exactly the same, it's pretty close, and I cannot help but admire the craftsman who designed and made the original, but all done by him using only hand tools! **WW**



10 First contact between parts



11 More shaping, screw recess and locking screw



12 The first shaving!



13 In use on oak



14 The finished plane

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Ian Wilkie, with the help of his visiting grandson, sets about restoring a lovely Ercol dining table and chairs to how they first looked in their heyday



CHILDHOOD ROCKING HORSE

Robin Gates recalls the rocking horse his father made from a plan published in *The Woodworker*, and a childhood filled with the scents and sounds of things being made



SHINY SHAKERS

Inspired by an unusual source, Niall Yates decides to make his own set of salt and pepper shakers, which feature a plastic coating to give a really high shine

PLUS ■ The 'Harrogate' show – a demonstrator's view ■ Cold frame
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Specification

Impact energy: 2.4J
 Max in concrete (TCT bit): 26mm
 Max in concrete (diamond core): 80mm
 Max in wood: 32mm
 Max in steel: 13mm
 Impacts per minute: 0-4,600ipm
 Input wattage: 800W
 No load speed: 0-1,200rpm
 Vibration – chiselling: 9.5m/sec²
 Hammer drilling: 1 2.5m/sec²
 Noise sound pressure: 91dB(A)
 Noise K factor: 3dB(A)
 Noise sound power: 102dB(A)
 Vibration – drilling into metal: 2.5m/sec²
 Weight: 4.1kg
 Cable: Rubber insulated – 4m

Price: **£261.60** (inc VAT)
 Web: www.makita.com

PROS

- Very efficient
- Comfortable in use
- Onboard extraction

CONS

- I found the depth gauge a fiddle to set

RATING: 4.5 out of 5

Makita HR2650/2 230V 26mm SDS plus rotary hammer

Equipped with HEPA filter, dust collecting port and variable-speed trigger, this efficient rotary hammer is a terrific example of its class

For the majority of us woodworkers, when it comes to making furniture, the free-standing variety offers the most complete job. Made almost exclusively in the workshop, it's self-contained and can just be carried to its destination, given a final buff-up, and then simply sat on the floor. A lot of jobs, however, need more than just a bit of space in a room, but actually require fixing to walls and similar structural elements in either a domestic or commercial environment. This generally means screws and plugged holes, and it's the drilling of those holes which can cause problems.

Notwithstanding the ever present fear of going through a pipe or drilling into an electricity cable, actually achieving a set of tidy and accurate holes can often be demanding for the average craftsman. For ease of working and the confidence to tackle any substrate – from engineering bricks to reinforced concrete – the only drill to use is an SDS.

In use

I had the pleasure of using this latest example from power tool giants Makita the other day in a friend's flat where every wall was poured concrete and had previously defied all but the stubbornest assault with hammer drills and similar. The SDS made very light work of my grid pattern of 7mm holes, and each was bored to the same depth courtesy of the twist handle stop rod or depth gauge. This particular drill has a very nice action, and, from setting the drill bit in (pull down collar and insert) to squeezing the trigger at the end of the well-balanced body, everything about it had a reassuring feel and sound to it.

Many cheaper SDS drills have only two settings: the static hammer (for cold chisel work) and the rotary hammer for hole forming. The Makita version also has the regular, hammer-free action rotation and this increases its usefulness. Also of interest here is the under-mounted dust extraction system; a hollow telescopic foot can be brought to bear on the target wall area through which the drill can do its work, and dust and spoil is whisked off the scene courtesy of a vacuum induced by the spinning motor in the drill body. It all clips on and off with certainty and is easy to empty when required. I found this a welcome addition and, while not 100% perfect, it made a big difference to customer satisfaction as well as easing the ensuing clean up at the end of the job.

All-round performer

The controls are intuitive; there's the usual trigger lock button to facilitate continuous working (for chisel and demolition work), and the drill direction switch is readily available with each hand, making this tool truly democratic when it comes to left-handed working. Heavy enough to imbue confidence, the drill is nevertheless a realistic working weight, but by no means a monster – neither in handling nor erratic performance like some. An all-round performer and one which will give you the confidence to take on any job at all.

In summary

A terrific example of its class, this SDS plus rotary hammer from Makita is definitely worthy of serious consideration. **MC**



The SDS, with side handle and depth rod fitted



Left-handed working is no different to right-



The extraction unit locks onto the underside of the drill body



The telescopic extraction take-off is easily adjusted



Draper Expert levels

Incorporating many added features, there's sure to be something to suit everyone in Draper Tools' range of expert spirit levels

A spirit level should really be one of the first items of kit to pack when setting off on any carpentry job, and I'd be surprised if there are many readers out there who don't own one or two already. The ones we've looked at here are from long established tool suppliers Draper and encompass some new features in this field.

Mirrors & reflections

Although eminently visible from front and back, the bubble vial for vertical or plumb measurements on these new levels can now be sighted from the narrow side, thanks to an arrangement of mirrors within the body of the level. This means no more awkward squinting while you're simultaneously holding the level (and possibly a constructional component) in place and also preparing to drive a screw or something. I was mildly worried that, with mirrors and reflections involved, there would be difficulty with direction of movement and opposites, but things were entirely clear – bordering on intuitive – when it came to adjustments. Full speed ahead for the side view vial, I say.

Box level

Constructed of rigid box section aluminium, this level features solid acrylic vials (UV resistant) and rubber shock-absorbing end caps to increase robustness, while the finely milled base contributes to overall accuracy. The Expert-rated box levels are available in lengths up to 1.8m, but I've found the 600mm and 1,200mm to be the most useful when it comes to general woodworking and construction.



The Draper Expert box level – 600mm

Torpedo level

This one is solid ABS plastic with vials set horizontal, vertical and at 45°, and also features the side view vial like its box level cousin. Unlike the box level, however, the torpedo has a 'V' section magnetic base – handy for scaffolders and something I found very useful for setting engineered drawer runners into a carcass.

Mini level

Pocket size, this 100mm mini level is about as small as you want to go, but sufficiently accurate to make a difference on things like electrical fittings and in fact any job where you're pressed for space. No magnets here nor side views either, but still a useful level which does the basics required.

In summary

All in all, a good mid-range kit, now with added features. **MC**



The new side view vial enables awkward working



It's all done with mirrors; a peek into the side view vial

Specification

75115 600mm box level
Coating: electrostatic epoxy powder
Accuracy: 0.5mm per 1m = 0.029° (1,800mm 1mm per 1m = 0.057°) in standard position

250mm Expert torpedo level
Fitted with three vials: horizontal, 45° & vertical
Accuracy: 1.75mm per 1m = 0.1° in standard position

100mm mini level
 ABS plastic level with two vials and 0-90° angle finder in body
Accuracy: 1.75mm per 1m = 0.1° in standard position

Prices: 75115 600mm box level – **£30.53**; 250mm Expert torpedo level – **£19.44**; 100mm mini level – **£3.79**
Web: www.draperools.com

PROS

- Lightweight, accurate and side view vials

CONS

- None

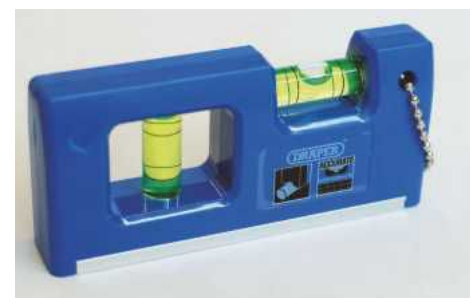
RATING: 4.5 out of 5



The finely milled base aids increased accuracy



The torpedo level also features the side view vials



The mini level does the basics



Specification

Strop materials: Beech and premium treated leather

Diamond stone: Monocrystalline
Grit: 300 & 600

Prices: Field sharpening kit – £48; 200 × 75mm double-sided strop – £28

Web: www.beaverbushcraft.co.uk

PROS

- Quality hard leather strop on stable beech core
- Great all-in-one kit for knives

CONS

- Could perhaps have a slightly finer grit on one side of the diamond stone
- No paste supplied with the bigger strop

RATING: 5 out of 5

Razor Shark Deluxe Field Sharpening Kit & strop

Sharpening is a bug-bear for all woodworkers, but this handy kit and double-sided strop could help to ease the pain a little

Sharpening: the one subject guaranteed to cause consternation among many a woodworker but those who are familiar with my sharpening regime will know I only use minimal kit: a double-sided Trend Diamond Plate and occasionally a strop, so this field sharpening kit is right up my street!

Tip top condition

It comprises of a 125 × 25mm high-quality double-sided monocrystalline diamond stone, lapping fluid, a tube of Tormek honing paste and a premium treated leather strop bonded to a solid beech backing block, which serves to keep any knives or small edge tools in good shape, and to keep things in one place, it also comes in its own heavy-duty oiled canvas bag.

The diamond stone, supplied by James Barry Sharpening Solutions, is rated at 300 and 600 grits with the paste at around 8,000 grit – many will see this as a quantum leap from the stone to the strop. I am a firm believer in letting the edge do the talking and not to get entwined in moving from grit to grit in the same way we have to when sanding. With this particular kit aimed at the knife honers in particular (it will of course work well with other small tools), it's very

quick to either grab the strop or the stone to quickly re-polish an edge to refresh its sharpness, or to raise a new wire edge to start afresh.

Ultra keen edge

As with all diamond stones, I found the initial bite to be quite aggressive but it soon settles into a uniform, finer cut. This is still enough to reconstitute an edge that has minor nicks using the coarse side with only a few licks needed on the finer side to begin to raise the edge.

For a more aggressive cut with a knife this can often be enough, but for a truly sharp slicing cut, the merest dab of honing paste on the strop raises it to a whole new level, not only giving an ultra keen edge but also polishing the edge to a mirror finish.

Once the strop is charged, it remains for ages so you can simply strop the edge as it dulls, only going to the stone after a really heavy dulling.

I've found this kit particularly useful for tickling my turning tools, allowing me to get a bit more from them before having to resort to a more aggressive re-hone, and it's ideal for keeping in the pocket for such occasions.



The diamond hone is easy to use on the bench...



... or in the hand



Once stropped on the leather, the edge achieved is incredibly keen



Double-sided strop

Moving across to the bigger 200 × 75mm strop, this follows the same high quality of the smaller kit version. The core is quality beech-faced with two thick premium leather strops so you can keep one charged with paste and the other as a bare strop.

For the bench or out and about, this particular one works alongside your preferred honing set-up for your planes, chisels and so forth, allowing you to gain that premium edge.

It's hard enough leather so as not to dub the edge over on the flat side of any blade, and if you are a lover of the mirror-backed chisels or plane irons, working your tools on here with a fine paste does just that.

In summary

I have to say that I'm very impressed by the quality of these bits of kit. Depending on where you want to do your ultimate edge work, there's a choice of the bigger bench strop for the planes and chisels or the honing kit for the knives and smaller stuff, although both do a perfect job of gaining or keeping the ultimate edge. Definitely worth checking out if you're serious about sharpening. **AK**



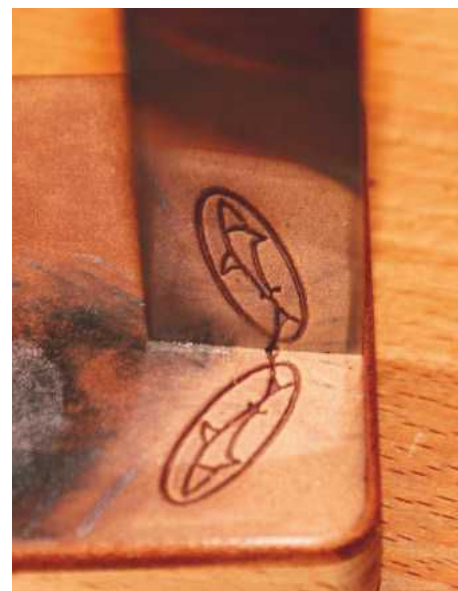
This chisel has been honed on a diamond stone and leaves a dull finish



Both the strop and the hone are useful for touching up turning tools



The blackening of strop charged with a honing paste shows that it is removing steel



The resulting finish reveals a mirror shine and an ultimate cutting edge

Specification

- **Restor-A-Finish:**

Available in Neutral, Maple, Pine, Golden Oak, Cherry, Walnut, Mahogany, Dark Walnut, Dark Oak & Ebony

- **Clean 'n Shine Wood Cleaner:**

Made using orange oil for finished wood surfaces. Removes grease and grime and accumulated dirt. Easily cleans oily cooking residue from kitchen cabinets

- **Clean-A-Finish Wood Soap:**

Effectively cleans all wooden surfaces using a traditional blend of gentle, yet powerful natural soaps

Typical prices: Restor-A-Finish – **£13.99** for a 473ml tin; Clean-A-Finish Wood Soap – **£7.49** for a 473ml bottle; Clean 'n Shine Wood Cleaner – **£6.99** for a 236ml bottle
Web: www.justpuddingbasins.co.uk

PROS

- Easy application
- Quick
- Excellent results

CONS

- None on the areas I tried it on!

RATING: 5 out of 5

Howard wood finishes range

If you're looking to rejuvenate pieces of furniture back to their former glory, then take a look at this extensive range of wood finishes from Howard

Having kids and letting them loose near furniture is always a recipe for some sort of damage, and if they're anything like my kids, trying to find out who was the culprit when they were younger was like living with Bart Simpson with the stock line of "I didn't do it" as the reply!

An extensive range

In some instances you get to the stage where you live with it, but now the kids are all grown up it's worth trying to rejuvenate some of those areas of damage, and having recently come across the Howard wood finishes range, I was keen to try out a few to see if they did what they said on the tins and bottles.

Alongside my test products of Clean-A-Finish Wood Soap and Restor-A-Finish, Howard have a complete range of products to protect and enhance your furniture from lemon and orange oils for keeping surfaces nourished and protected without building up a heavy wax coating, or if you prefer a waxed finish, high quality waxes in various shades to match your furniture.

Alongside these are specialist products including SunShield, a penetrating beeswax and orange formula that protects external furniture from harmful UV rays to keep them from drying out and cracking, as well as retaining their natural colour. Then there are the food-safe formulas of Butcher Block

Conditioner and Cutting Board Oil, which are ideal for protecting wooden bowls and utensils and perfect for any turned work designed for food and kitchen use.

Clean-A-Finish Wood Soap

So let's get down to it and see how things go! My dining table bears most of the brunt of my kids' endeavours: marks from crayons and felt pens from doing homework along with an array of white rings and marks from placing cups and mugs over the years. What was once a very nice table now looks pretty dishevelled and in need of an overhaul.

I have considered stripping and sanding the top back, but the Howard products include a Wood Soap that claims to clean off stubborn marks so that was a great test for the general grime, crayon and pen marks.

The citrus scented Wood Soap is biodegradable, contains no ammonia or bleach, can be sprayed onto a cloth or directly onto the blemished surface, and can also be used on a whole host of other surfaces, including painted work, plastics, and upholstery. Using it on my table, I found it worked superbly; a couple of squirts and working in with a soft cloth was enough to cut through and lift the marks with only a few rubs, and without damaging the original finish of the table below to restore the original look.



Used regularly, these products help to keep butcher blocks and cutting boards in tip-top condition



Add shine, condition, polish and protect your furniture from cracking with these products



One of the many crayon and pen marks on my dining table



To start, a quick rub over with Clean-A-Finish using a soft cloth...



... and all the pen marks disappear. Now I'm ready to work on the other blemishes



These white ring stains have proved tricky to deal with over the years



I used the Restor-A-Finish and some '0000' steel wool to deal with them



Apply a small amount of the finish onto a pad of steel wool...



... rub well into the blemish, working with the grain of the wood...



... and the ring marks quickly disappear; a coat across the entire area ensures uniform colour



A variety of waxes are available to protect surfaces, whether restored or not!

Restor-A-Finish

So far so good, but the unsightly white marks left from hot cups have been a blight for quite some time, so I was keen to see how the Restor-A-Finish would fare as they are certainly well ingrained. First off you need to pick a colour that is close to your own piece of furniture in need of work. There are nine available ranging from Neutral through to Ebony, with Golden Oak being the one closest to my own table. Depending on how badly the rings are ingrained, you can work the product in with a soft cloth or '0000' steel wool; in my case the latter!

You apply to the applicator, not directly to the surface, and using wire wool, rub in the direction of the grain. It requires a bit of elbow grease to get it to work its magic, but magic it certainly does, taking only a minute or so to remove some very well established marks.

I was amazed at just how well it worked; I can no longer see any sign of the rings but as it has a pigment within it, I gave the entire area a light wipe over with the Restor-A-Finish to ensure I didn't leave a different patch of colour where I had worked, although I have to say the match was really good without this. A wipe over with a soft cloth to buff it and the transformation from an unsightly, damaged table top back to a nice piece of furniture was complete, save for continued protection from further damage.

This particular product can't be used if you plan to apply a top coat of polyurethane, but of course, there's a wide range

of options from Howard to protect your newly restored surface. Now that my table has been returned back close to its former glory, I intend to keep it protected with continued polish and protection, and although my kids are now adults, perhaps a lock on the dining room door to keep them out would be a good idea – just in case any bad habits return! **AK**



Bad Axe hand saws



Specification

Handle design: Pistol or closed grip options

Handle timber: Available in a variety of species

Back: Folded in a variety of finishes

Tooth style: Can be filed to suit your preference

Spine: Hot blued steel

Typical price: £224-£275

Web: www.workshopheaven.com

PROS

- Superbly constructed
- Sharp and perfectly set
- Can be built to your own specifications

CONS

- You might need to wait for one as demand is increasing!

RATING: 4.5 out of 5

Superbly constructed, sharp and perfectly set, these saws can be built to your own personal specifications

It's always a joy to pick up a saw that feels right, and the old boys who plied their trade decades ago had that as a given; attention to detail was a way of life when the trade was dominated by hand tools. You can follow the timeline of the cost cutting dumbing down of hand tools, and hand saws especially, where the beautiful, elegant handles gave way to more and more clunky slabs and while some of the flourishes on handles are not really necessary, the actual grip is, if you are to enjoy using a saw on a daily basis.

Premium saws

So the renaissance of premium saws is a welcome return to the days of old, which leads me on to introducing Bad Axe Toolworks. The name comes from the Bad Axe river where they are based in Wisconsin and each saw medallion bears the date 2009, so they are new to the tool arena, but that's long enough to turn out a belter of a saw, and if attention to detail makes for a good product, then these win hands down.

There's also an option to order a saw to your own requirements, which allows you to choose the timber for the handle, the size to suit your own hand, the material for the back and also the colour of the split nuts to complement the back. You can also opt for a rip file, a crosscut or hybrid filed tooth configuration, the hybrid being a cross between rip and crosscut whereby the pitch of the teeth is steep – similar to a rip pattern but eased back by a few degrees. It is also filed in a crosscut style where the fleam is kept to a tighter angle than standard crosscut fleam, so you can rip well and also crosscut cleanly. Whatever your choice, the same parameters are adhered to; most importantly for me being the folded back or spine, which gives two advantages: the first being weight to aid sawing,

but more importantly, the chance to do remedial work if the blade should go out of whack and gain a bend or kink, allowing the back to be tapped to coax the blade back to true.

In use

Having had a chance to try out three saws in the Bad Axe range, the hybrid filed tooth pattern is a great compromise – I always kept my first tenon saw filed in a similar fashion to allow me to get the best of both worlds from it. The Bad Axe versions work beautifully in either stock orientation and are not 'grabby' when starting the cut; they track cleanly as the cut progresses. They are also hand-filed and sharp as a tack and there's always a chance of a high tooth to upset the appletart and jar the saw as it cuts, but not a sign of this across all three saws I tried; these are filed superbly well.

Outside of my general test cutting I bashed out a quick and dirty set of through dovetails and it's in such areas of fine joint cutting where the comfort of a saw handle becomes more evident, as you can concentrate on the joint rather than how the saw handle feels. However, despite all the options to stylise the saw if you so wish, it looks like Bad Axe are sticking with a couple of handle designs in the closed and open or pistol styles with no talk of handle 'hang', which is probably no bad thing!

There's often talk of the 'hang' of the handle in saw discussions whereby the angle of the handle in relation to the spine is altered during manufacture to give a slightly different action as you work. While a range of saws set side by side would perhaps give you an indication of what the hang achieves when used against one another, for me I'm more of a believer in the actual sharpness and correct setting of the saw as an essential. I don't think I could really tell one hang to another on an individual basis if my life depended on it, but I could certainly tell if a saw was in need of a bit of file work or the set was too excessive or not enough, and you quickly adapt to a saw that is of good quality in the handle department, which these certainly are.

In summary

Bad Axe are making top-end saws to traditional standards and that can only be a good thing! If there's a downside, they are a small company and demand is increasing so there may be a waiting period, especially if you opt for your own specification. Alongside this there's a price difference accordingly, but that's to be expected. **AK**



Two basic handle designs are available and you can choose the timber if you wish



Attention to detail includes soldiered saw nuts for the handles



The medallion bears the Bad Axe legend fitted to the beautifully finished handle



The superbly set and sharpened teeth can be altered to suit your requirements



Each saw cuts and tracks perfectly; these are very sweet saws to use!

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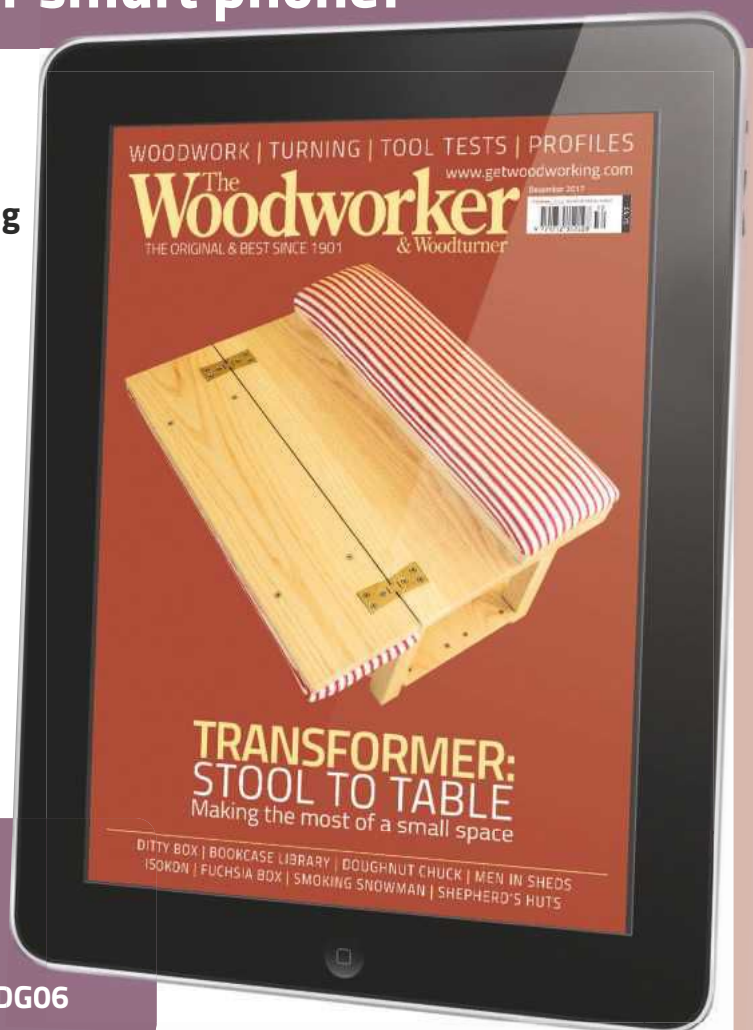
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CARPENTRY ETYMOLOGIES

As Anthony Poulton-Smith shows, woodworking techniques and basic skills have changed little over the millennia, and here he examines the origins of some of the most widely used carpentry terms

It can be no exaggeration to suggest carpentry must have been one of the earliest of skills to be developed. Unlike stone or iron it has no 'age' named for it, yet many of the terms with which we are so familiar will have been among the first words ever used by man.

For example, 'wood' must have been described both as a fuel and even as a material in tool-making many millennia before it was worked to a degree where it could be considered true carpentry. While the word must have been coined very early on, the earliest we can find 'wood' is in *widhu* from Old Norse. Here the 'wood' referred to the material and also as a generic term for a 'tree'.

Other early terms must have included the trade. When it comes to 'carpenter', it is a comparatively late term and began in Late Latin *carpentarius* and referred initially to a 'maker of wagons'. Joiner is even later, originally seen as a surname in the 12th century, 200 years before the first known reference as a tradesman. Earlier these craftsmen were simply referred to as 'woodworkers'.

Depending upon the result, methods of working with the wood differ markedly. At its simplest the tree or timber needs to be cut. Yet despite the brevity and simplicity of this three-letter word, the term is surprisingly recent and only dates from the 13th century. It comes from the Germanic *kut* and originally referred to 'a knife'.



A depiction of Roman woodworking tools in use



A wooden brace and other carpentry tools found on board the *Mary Rose*

Tools & aids

When it comes to tools and aids, one of the most commonly overlooked is the template. The current spelling only came into usage in the middle of the 19th century, prior to that we see this as 'templet' and shows why this alternative pronunciation is still in use, albeit with decreasing frequency. This word is first seen in 1670 as *templet* when it referred to 'a horizontal piece under a girder or beam'. It seems to have come to English from French *templet* where it referred to 'the weaver's stretcher' on the loom.

The traditional tools include the square, which is ultimately from the Latin *exquadrare* meaning 'to square'. Interestingly this had nothing to do with the geometric figure; this meant 'a right angle' and preceded the use of 'square' as a four-sided figure with four equal internal angles by at least a century. When it comes to the try square – ignore the recent tendency to write this as 'tri-square' – the first element is as 'trying', i.e. 'to check, or 'test' the angle. Some tools were used for measuring, others were utilised for shaping or modifying the wood. The plane came to English from the French *plane* and Latin *plana*, both from *planare* 'make level' and *planus* 'flat'. The coarse file known as rasp is also of Old French derivation from *rasper*. This is related to Old Scandinavian *hreppa* 'to get', Old Swedish *rafs* 'rubbish', and Old High German *raspon* 'to scrape together'. All are ultimately from Proto-Indo-European *khra-* or 'to pluck out, snatch off'.

The awl also has an interesting history, although it must have been among the simplest and earliest of tools. In Old English *ael* we see a

word which meant 'piercer', with other Germanic forms being equally simplistic. However, usage in earlier times did not refer to a woodworking tool specifically but, most often, in the Middle Ages to that used by makers of shoes and in the earliest references to piercing ears. In the brace we see an element also found in medieval armour, the brace being that which protected the arm. It comes from Old French *bras* and originally meant 'arm power', an excellent description of the tool.

Created terminology

When it comes to created terminology, such as joints and similar features, we would suppose these would be of more recent origins. Perhaps the best-known joint, even to the non-woodworker, is the dovetail – clearly known as such from its distinctive shape – however, mortise and tenon have much older origins. A mortise came to English from Old French *mortaise* and is itself derived from Arabic *murtazz* or 'fastened'. The mating part is the tenon, again perfectly named as this is from Old French *tenir* 'to hold' and also the origin of 'tenacity'. Hence despite the age of the trade many of the terms are far more recent. However, an indication of the age is given by the number of languages involved: Old English, Old French, ancient German tongues, Latin, Greek, Arabic, and the original Proto-Indo-European tongue, the ancestor of many others.

Woodworking techniques and basic skills have changed little over the millennia. It hardly requires a wild imagination to picture the Neolithic woodworker clad in furs and skins working to *khra-* (shape) and *werp-* (turn) the *widhu* (wood) in front of him. **www**



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