FREE! 20 EINHELL DRILLS & MULTI-TOOL KITS

The Woodworker

September 2013

www.getwoodworking.com

At your service

Butler's tray

- New designers
- Softwood bench
- Workshop sheet rack
- Front porch installation

SPICE UP YOUR TURNING

SHARP PRACTICE

GETTING UP STEAM

PLUS: ROUTING ON THE LATHE ■ MORE KIT

09

9 771752 352181

£3.75

ONLINE ORDERING IS EASY AND THE NEXT DAY DELIVERY NEVER LETS ME DOWN.

...Within building maintenance, time is at a premium, so it's good to know that the goods will arrive when you need them.

Tony Duffy

Trustscore for Ironmongery*Direct* is 9.3 of 10, based on over 2000 customer reviews.

UK'S BIGGEST RANGE
NEXT DAY DELIVERY
MINIMUM 5 YEAR GUARANTEE
FREE 'NO QUIBBLE' RETURNS

CALL TODAY FOR YOUR FREE CATALOGUE

0808 168 28 28

IronmongeryDirect.com

DOWNLOAD OUR FREE APP FROM YOUR APP STORE

OR TEXT RBA23 to 62244 FREE!
With name, address and email.

IronmongeryDirect

MASTERS OF OUR TRADE

DOOR FURNITURE • WINDOW & JOINERY HARDWARE • SLIDING DOOR HARDWARE • HINGES • DOOR CLOSERS • FIRE CONTROL • SIGNS
LOCKS, LATCHES & SECURITY • CABINET FURNITURE • SHELVING & STORAGE • BOLTS & STOPS • SEALANTS & ADHESIVES • SCREWS & FIXINGS

welcome

A communication from a reader the other day made me realise just how dependent we are on suppliers of ironmongery, hardware and all manner of sundry necessities for the successful completion of nearly all of our woodworking jobs and projects.

While it's not that long ago that every town had its own fully stocked hardware shop or specialist supplier, the extra effort and inconvenience of having to head over to the nearest DIY super-shed is the least of our problems. For me, and I suspect more than a few other readers, the trickiest part of woodworking in 2013 is often just sourcing the actual hinges, catches and so on themselves.

Fork handles

Where once were either groaning shelves and racks of assorted self-service stock, or the assurances of a brown-coated shopkeeper (think Ronnie Corbett) that 'there's plenty more in stock, Sir, and in any size you require', now it's more common to be met by a blank stare or an empty hook on the carousel spinner. Amongst a number of variations on the theme of 'We can't get those any more, they don't make them I'm afraid, it's a discontinued line…' the most dispiriting reply – and one which is becoming increasingly common – is the sad declaration of faultless ignorance: 'What's that?'

It's a depressing fact, but after years of industrial decline (both light and heavy), we have to face up to the realisation that very often, at least in the field of high street shopping for cabinet fittings and the like, we're often going to have to settle for second best. Never mind though: it's best to view this as a challenge, and look at the alternatives.

A time for plan B

As with most searches these days, the internet is the place to start and, as long as you veer towards the established specialist ironmongery outlets and away from the chancier environs of online auction houses, you should be OK. My own experiences in this area have been very encouraging, with a wide selection of hardware available at good prices and with very speedy delivery. Only the brown coat and the smell of paraffin were missing!

No such thing as a free…

Another recent, more pertinent communication, reminded me that my shortcomings as a journalist (I'm a woodworker first and foremost) had caused a slightly awkward moment in someone else's life. In the last issue I mistakenly gave the impression that Felder (a top-end manufacturer of woodworking machinery) would supply an installation engineer free of charge. How could I, forever the optimist, have been so foolish (answers on a postcard, please)? My apologies to all concerned.

Read and write

So, what's in store for us all in this issue of the magazine? Plenty of projects to get your teeth into, tips and information to help improve your sharpening, more kit on test, plus a look into the future at some recent graduates' work, some of which we'll be examining in closer detail in the near future.

Finally, and despite my recent experiences with reader emails, I'd like to remind everyone that my electronic inbox is always open for enquiries, information or just chat, and a sincere *Woodworker* welcome awaits all who enter there. You can reach me at mark.cass@mytimemedia.com

Happy and safe woodworking to us all!

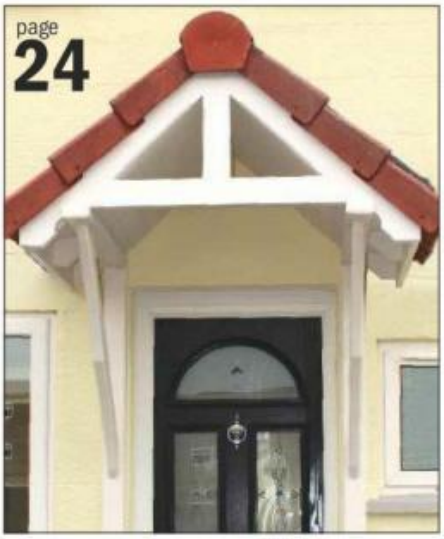
mark

CONTENTS

What's in store for you this month

NEXT ISSUE

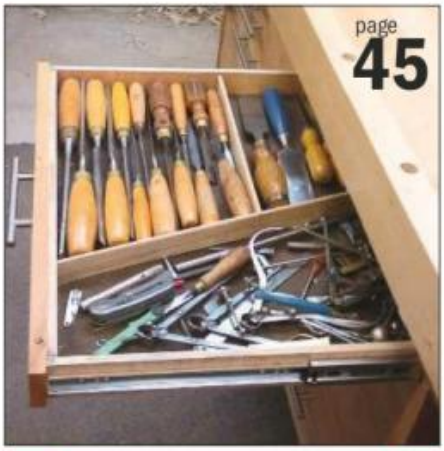
THE OCTOBER ISSUE IS OUT ON SEPTEMBER 20TH



FREE!

EINHELL DRILLS & MULTI-TOOLS

SEE PAGE 43 FOR DETAILS



REGULARS

WOODWORK

TURNING

ON TEST

The Woodworker & Woodturner

September 2013

Published by **MyTime Media Ltd**
Hadlow House, 9 High Street,
Green Street Green, Orpington, Kent BR6 6BG

Tel: 0844 412 2262
From outside UK: +44 (0)1689 869840
www.getwoodworking.com

SUBSCRIPTIONS
UK - New, Renewals & Enquiries
Tel: 08456 777 807
Email: mytimemedia@subscription.co.uk
USA & CANADA - New, Renewals & Enquiries
Tel: (001) 877 363 1310
Email: expressmag@expressmag.com
REST OF WORLD - New, Renewals & Enquiries
Tel: +44 (0)1689 869896

BACK ISSUES & BINDERS
Tel: 0844 848 8822
From outside UK: +44 (0)2476 322234
Email: customer.services@myhobbystore.com
Website: www.myhobbystore.co.uk

EDITORIAL
Editor: Mark Cass
Email: mark.cass@mytimemedia.com
Production editor: Mike Lawrence
Email: mike.lawrence@mytimemedia.com

PRODUCTION
Design Manager: Siobhan Nolan
Designer: Malcolm Parker
Illustrator: Michael Lindley
Retouching Manager: Brian Vickers
Ad Production: Robin Gray

ADVERTISING
Business Development Manager: David Holden
Email: david.holden@mytimemedia.com
Tel: 01993 709545

Online Sales: David Holden
Email: david.holden@mytimemedia.com
Tel: 01993 709545

MARKETING & SUBSCRIPTIONS
Sarah Pradhan & Kate Scott

MANAGEMENT
Head of Design & Production: Julie Miller
Group Sales Manager: Duncan Armstrong
Chief Executive: Owen Davies
Chairman: Peter Harkness

mytimemedia
print & digital media publishers

The Woodworker & Woodturner, ISSN 1752-3524, is published 13 times per year by MyTime Media Ltd. c/o USACAN Media Dist. Srv. Corp. at 26 Power Dam Way Suite S1-S3, Plattsburgh, NY 12901. Periodicals postage paid at Plattsburgh, NY. POSTMASTER: Send address changes to The Woodworker & Woodturner c/o Express Mag, P.O. Box 2769, Plattsburgh, NY 12901-0239.

THE UK's PREMIER BRANDED HAND, POWER TOOLS & MACHINERY EVENT

D&M TOOLS

'THE' TOOL SHOW '13

WWW.THETOOLSHOW.COM

NOW IN OUR 13th YEAR!

VISIT STANDS STAFFED BY THE MAJOR BRANDS INCLUDING:

armeg · Arrow · Bahco · Bench Dog Tools · Bessey · Bosch · Bostitch
BriMarc · Council of York · DeWalt · Dickies · DMT · Draper · Dremel
Empire · Estwing · Faithfull Tools · Fein · Festool · freud · Irwin
Kreg · Laserliner Innovation in Tools · Leica Geosystems · mafell · Makita · Marshalltown · metabo work. don't play.
Nilfisk ALTO · Jobman Workwear · Panasonic ideas for life · Protimeter · Record Power Established 1909 · Roughneck · Scan
Scheppach · Sjöbergs of Sweden · Snickers Workwear · Stabila Levels · Stanley · Toolbank · Tormek sharpening innovation Made in Sweden
trend · triton · veritas · Vitrex The professional way to do it yourself · Wera Tools. From Ideas. · Woodstar powered by scheppach · + MORE!

4th-6th OCTOBER 2013

FRI-SAT 10am – 5pm • SUN 10am – 4pm

KEMPTON PARK RACECOURSE • SUNBURY-ON-THAMES • TW16 5AQ

D&M TOOLS, TWICKENHAM • 020 8892 3813 • WWW.DM-TOOLS.CO.UK

FREE ENTRY
FREE PARKING
FREE SHOW GUIDE

TRADE & DIY WELCOME

You're invited to join D&M Tools at **'THE' TOOL SHOW '13** at the prestigious Kempton Park Racecourse in Sunbury-on-Thames between Friday 4th to Sunday 6th October 2013. This year's show will continue to build on its success as the largest display of branded tools at a UK exhibition.

BIG BRANDS, BIG STANDS, LATEST PRODUCTS

All the leading brands are represented, many with huge stands displaying the widest range of products, making this the premier showcase for power tools, hand tools, woodworking machinery, accessories and workwear. Several brands including Festool, Makita and Metabo will be using this opportunity to debute new products from their Autumn 2013 range for the first time at a UK exhibition.

LIVE DEMONSTRATIONS & FREE MASTERCLASSES

Plenty of live demonstrations and masterclasses each day of the show make this a unique opportunity to see the products in action before you buy. Talk direct to the manufacturers and compare makes and models under one roof.

EXCLUSIVE SHOW SAVINGS

You can also expect great savings across the show, including our exclusive **TOP 30 'DOWN & DIRTY' DEALS** only available to show visitors, PLUS enter our popular **FREE PRIZE DRAW with prizes worth £2500**.

RELAX & MAKE A DAY OF IT

Visitors to the show have access to the spectacular Panoramic Restaurant & Bar where you can relax and enjoy an excellent value hot meal whilst admiring spectacular views across the racecourse. Alternately grab a quick snack or drink from the catering vans outside or the Costa Coffee bar on the ground floor.

For latest details visit our dedicated show website:

WWW.THETOOLSHOW.COM

or call D&M Tools on 020 8892 3813

Follow us on Twitter @DM_Tools

Like us on Facebook facebook.com/DandMTools

In brief...

Folding chisel

Stanley's innovative folding chisel has a 25mm blade and a butterfly-action handle that encloses the blade so it stays sharp and can be pocketed safely when it's not in use. It has a tough composite case with a steel striking cap on the end, and is priced at £14.99.
www.stanleytools.eu

Heavy metal

Somerset-based EPS Services and Tooling has launched a range of high-speed circular saws and narrow bandsaws for cutting metal. The saw blades can be used on all sawing machines to cut open and solid sections up to 200mm thick. The bandsaw blades are made from high-speed steel strip with the teeth milled into the strip for longer life.
www.eps-services.co.uk

Mini sculptor

Following the successful launch last year of the TurboPlane, Arbortech has produced a smaller version called the Mini-Turbo. It promises a revolution in small-scale wood sculpting, and can be used either directly on the Mini-grinder or fitted to an angle grinder using the supplied extension shaft. The complete kit costs £106.45.
www.axminster.co.uk

Getting a grip

Trend's range of cramping products now includes one-handed bar cramps and spreaders in four sizes from 150 to 900mm. They all have an 80mm deep throat, and the fixed jaw is reversible for use in spreading operations. Prices start at £21.83.
www.trend-uk.com

STOP PRESS

- **UK Wood Awards** A shortlist of 30 projects has been selected from over 300 entrants for this premier awards scheme. They'll be on show in London and Birmingham later in September, and the winners will be announced in November.
  www.woodawards.com
- **Paslode** has just announced four additions to their nailgun range, all featuring a quick-charge long-life Li-ion battery for the first time as an alternative to gas power.
  www.itwcp.co.uk
- **Trend** now offers buyers the chance to extend their new-tool warranty to three years on the T20 biscuit jointer, the T30 vacuum and three selected routers.
  www.trend-uk.com

New look for old favourite

Axminster has completely revamped its existing website to reflect a more contemporary style and to present many new features designed to help the user. They include an improved search facility, larger product images and videos, wish lists, blogs and registration-free guest checkout. It's sure to give a major boost to the company's web sales, which are currently up 9 per cent on last year.
www.axminster.co.uk

DIARY

AUGUST

Westonbirt Treefest
24-26 Westonbirt Arboretum, Tetbury, Gloucestershire GL8 8QS
01666 880220
www.forestry.gov.uk/westonbirt

SEPTEMBER

Axminster Skill Centre Courses
2-3 & 5-6 Beginners woodturning
12-13 Decorative bowls
13 Woodcarving*
14 Penmaking
16-17 Beginners routing
19 Introduction to Leigh jigs
(*Course held in Sittingbourne, Kent)
Unit 10 Weycroft Avenue, Axminster EX13 5PH
0800 975 1905
www.axminsterskillcentre.co.uk

Bentley Woodfair
20-22 Bentley Country Park, Halland, West Sussex BN8 5AF
01825 840573
www.bentley.org.uk

European Woodworking Show
21-22 Cressing Temple Barns, Braintree, Essex CM77 8PD
01473 785946
www.europeanwoodworkingshow.eu

John Boddy's courses
5-6 Woodturning: Simon Whitehead
12-13 French polishing: Ted Vickerman
26-27 Woodcarving: Peter Berry
01423 322370 ext 257
www.john-boddys-fwts.co.uk

John Boddy's demonstrations
7 Woodturning: Simon Whitehead
14 French polishing: Ted Vickerman
28 Woodcarving: Peter Berry
Details as above

Orchard Woodturners
14 Paul Nesbitt
Village Hall, Milstead, Kent ME9 0SD
01622 726532

Robert Sorby demonstrations
See website for venue details
www.robert-sorby.co.uk

Yandles Woodworking Show
6-7 Hurst Works, Martock Somerset TA12 6JU
01935 822207
www.yandles.co.uk

NEW FROM TOOLTEC

CLICK 'N CARVE

FROM 2D IMAGE TO 3D MODEL IN MINUTES

- Works with Wood, ABS, Foam, Modeling Wax, Styrenefoam, Epoxy Tooling Board
- Easy to use software
- Ideal for the commercial, professional, enthusiast and educational sectors.

£1599.00 *plus VAT*

All you need to do is CLICK-CONVERT-COMMAND-AND-CARVE...

Call 01494 523991 **sales@tooltec.co.uk**
Fax 01494 524293 **www.clickNcarve.co.uk**

What's new from D&M TOOLS

'THE' TOOL SPECIALISTS • WWW.DM-TOOLS.CO.UK • 020 8892 3813

DCF680G2 7.2V GYROSCOPIC SCREWDRIVER

MANUFACTURER: DeWalt
D&M PRICE: £119.95

This innovative new DCF680G2 motion-activated screwdriver responds to your wrist action, so there's no more fiddling with forward and reverse switches. You simply twist the tool to the right and the motor starts to drive the screw; then twist it to the left to undo it. It has a two-position handle offering the best ergonomic solution to suit your requirements. It delivers a maximum torque of 4Nm and a variable speed of 0-430rpm, and comes complete with two 7.2V 1.5Ah Li-ion batteries, charger and case.

NEW MINI & MIDI CTL DUST EXTRACTORS

MANUFACTURER: Festool
D&M PRICE: Mini (FES 584153) £279.95
Midi (FES 584162) £299.95

Festool have updated their popular Mini and Midi mobile dust extractors. Both now feature a compact high-performance turbine, new conical suction hoses for impressive extract power, and simple storage of hose and cable in an enlarged hose 'garage'.

SYSTAINERS can be attached to the top of either extractor in seconds via the Sys-Dock (now with T-LOC function), allowing the tools you're using to be close at hand. They both use tear-resistant SELFCLEAN filter bags with a self-cleaning function for constant suction power. The Mini has a 10 litre container and a 7.5 litre filter bag, and the Midi a 15 litre container and a 12.5 litre bag.

D&M 'THE' TOOL SHOW '13

WWW.THETOOLSHOW.COM

FRIDAY 4TH - SUNDAY 6TH OCTOBER 2013

'THE' TOOL SHOW '13 takes place at Kempton Park Racecourse in Sunbury-on-Thames, Middlesex, at the beginning of October. All the leading hand tools, power tools and woodworking machinery brands will be represented, plus workwear and accessories. Don't miss this annual opportunity to meet the manufacturers and see the latest tools and equipment demonstrated. Several new products will be exhibited in the UK for the first time. You can also pick up exclusive show deals and special offers, including our popular **'Top 30 Down 'n' Dirty Deals'. Parking** and **admission** are **FREE** for visitors. Visit www.thetoolshow.com for more details.

FESTOOL

PLEASE CHECK OUR WEBSITE WWW.DM-TOOLS.CO.UK FOR THE LATEST PRICES AND DEALS

BY PETER BISHOP

Room service

This is an interesting little project to get the thought buds going. Although I've gone for a simple design, there are various options open to you if you decide to have a crack at one yourself. I'll try to highlight some of these as we go along

The first thing is to choose your wood. Why I went for walnut I'm not sure, but I like the contrasting colours that can be found in the grain. The easy option would have been to go for American black walnut (*Juglans nigra*) which is available from most timber merchants. However, I thought I'd be patriotic and use our native species (*Juglans regia*). On reflection it caused me a lot more work!

I popped up to my local sawmill and had a chat with the proprietor. He'd only got a few scrag ends of dry walnut, but we sorted some out and came to a compromise on price. I went home with my selection, ready to start work on them the next day.

Getting the shakes

Having worked out what the nominal sizes were, I struggled to cut any good stuff out from around the splits and shakes, but eventually had a pile I thought I could use.

As the tray base was to be made from four pieces and would take the longest time to make, I had a go at this first. I started by cutting out the defects, **photo 1**, and then deep-cut a couple of pieces from the thicker stock, **photo 2**. I tried to book-match them, as you'll see in the photos, so the base would look good when finished. Then I planed one face and edge on each of the four pieces and, after checking that I'd got the grain aligned ready for the next session of planing, I mixed up some Cascamite, applied it and then rubbed it into the adjoining edges of each pair, **photo 3**. Cramping them while keeping them flat wasn't too difficult, and I set them aside to go off.

Flat and true

The following morning I cleaned off the worst of the excess glue and square-planed the meeting edges of the two pieces, ready for final jointing. It was time for more Cascamite and rubbed joints, **photo 4**; then the fun began! Trying to clamp up these wide, thin panels required some thought. The sash cramps had to be lifted clear of the worktop so the ones on the other side could fit flush against the assembled panel. My first attempt resulted in the two pieces bowing up and coming apart, but with a bit more patience the job was done. I left the panel to cure, **photo 5**, and then cleaned it ready to be cut to size later.

Looking tray bon!

The tray sides were relatively simple to prepare, being square-planed, grooved on the router table for the base, **photo 6**, and then mitred to length, **photo 7**. A dry assembly revealed the required size of the base, which I then cut to fit. Two pairs of box cramps and some more Cascamite then brought everything together neatly, **photo 8**. I took care not to get any glue on the tray base, which I left loose so it could move in the grooves if it needed to. When the glue had gone off, I cleaned the tray up and set it aside for finishing. My completed tray measured 585 x 432mm overall.

Design options

Butler's trays have been popular since Georgian times (and possible earlier, although I've never seen any), and they've embodied all sorts of design variations;

Cut out all the defects; the saw guard has been removed here for photographic clarity

Deep-saw the stock to thickness; the wedge in the foreground stops the blade from jamming

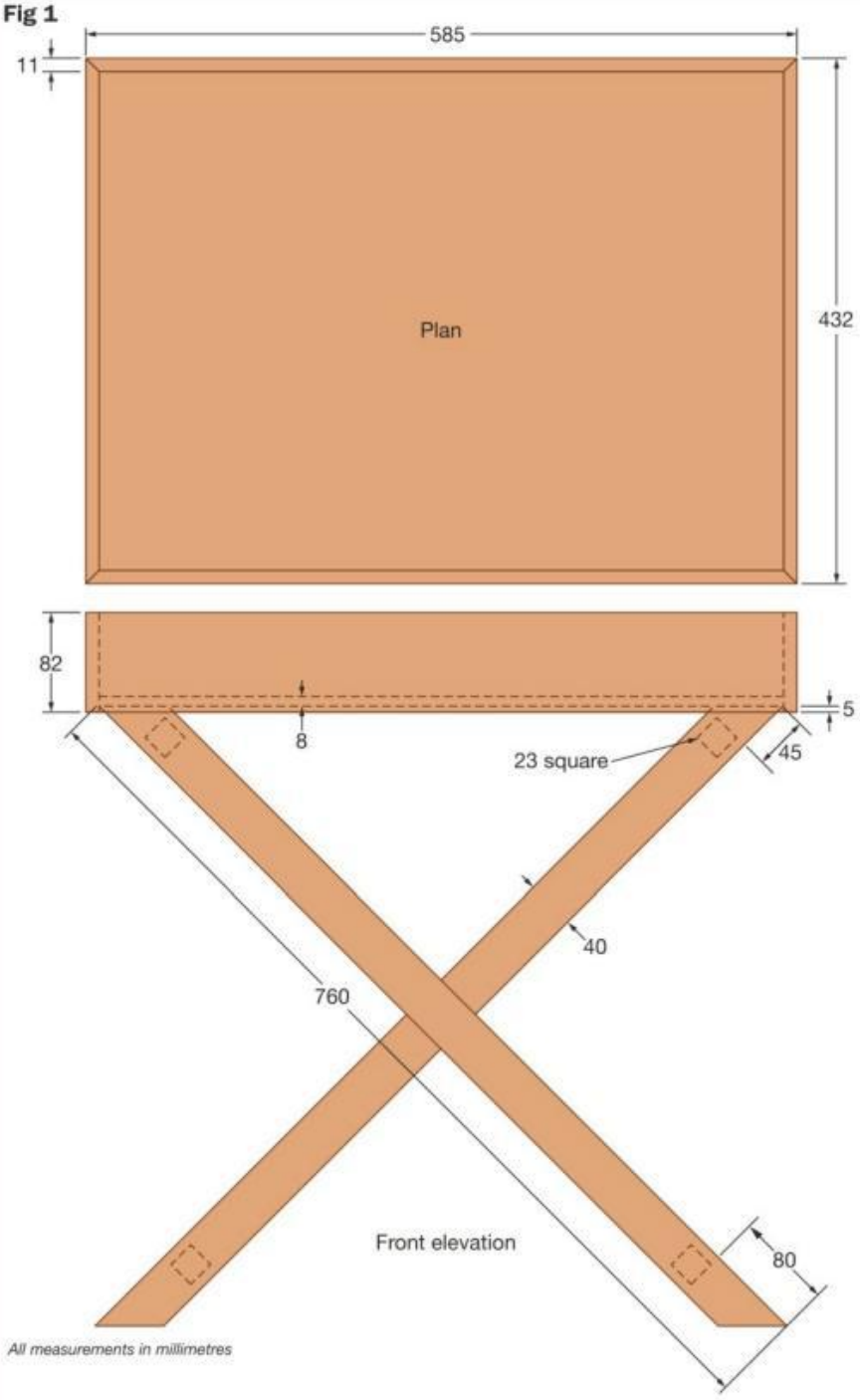
Glue and rub-joint the first two pieces of the tray's base panel together

Repeat the process to join the second pair of boards to the first pair

Cramp the panel between protective battens and put it aside to dry

Cut the grooves in the tray sides for the base panel on the router table

Fig 1



All measurements in millimetres

BUTLER'S TRAY CUTTING LIST

All dimensions are in millimetres

Part	Qty	L	W	T
TRAY				
Long side	2	600*	82	11
Short side	2	460*	82	11
Base	1	600	460	8
STAND				
Leg	4	760	40	26
Long rail	2	460	23	23
Short rail	2	380	23	23

* measurements include an allowance for cutting mitres

You'll also need some webbing or thin leather for the straps, some 10mm threaded or round steel rod and two 10mm steel washers.

Google 'butler's tray' and you'll see what I mean. For example, you could use dovetail joints for the corners, give the sides ornamental top edges and make some hand holes in the ends, but I decided you don't need these. The tray is easy enough to pick up and place on the stand without them. Keep it simple: that's my motto! Moving swiftly on…

Sizing the stand

With the tray made, I now knew how big the top of the stand needed to be for it to fit. A full-size drawing – a rod – is the best way to work out the dimensions and angles required, **photo 9**.

I started by square-planing all the wood to its finished sizes. The drawing allowed plenty of room for the tray to fit over the tops of the legs, and the angles and joint positions were taken directly from it onto the four legs. Make sure that the sloping cuts on the ends of the legs are all made at the same angle, **photo 10**.

The length of the rails is dictated by the thickness of two legs, two spacer washers (one each side) and the width of the recess on the underside of the tray. The upper rail needs to be fairly close to the top of the legs so any droop in the straps won't show too much. The bottom rails are set higher and further in from the ends, as you'd normally expect to see them. **Fig 1** gives the relevant dimensions. Simple square mortises and tenons join the components of each frame together; mark the joint positions on all four legs at once for accuracy, **photo 11**.

Creating the pivot

I made the cunning concealed pivots by boring a stopped hole centrally in each meeting leg face, **photo 12**. You have to make sure they're drilled in the correct faces. On the smaller inner frame the pivot hole is on the outside of the legs, while on the larger outer frame it's on the inside. This joint won't be seen when the leg frames are finally assembled. I used a couple of chopped-off lengths of 10mm diameter steel rod and two steel washers for this job, **photo 13**. I then sanded all the wooden parts ready for finishing, and dry-assembled everything to check the fit.

Choosing supports

The straps that stretch between the two top rails can be nailed on afterwards, especially if you use upholstery webbing. However, I decided to use some leather I had available to create two straps with a

loop on each end to go round the rails. I cut two strips about 75mm wide and created the loops on the ends with a couple of punched-together clothing poppers. The lengths of the straps had to be identical, and the loops had to be big enough to slip over the top rails. Once these were ready, I was all set to start the final assembly process… almost.

Getting the right oil

I'd decided I was going to apply oil as the finish, in the hope that this would really bring out the grain of the walnut. I often use tung oil for jobs like this but, to be honest, I don't like its 'chip-shop' smell. I'm not keen on linseed oil either, so I looked in my local DIY shop for an alternative. I found a clear, water-resistant Ronseal product called Worktop Oil that featured 'Silver Guard anti-bacterial technology' and seemed to fit the bill. With this in hand I oiled the tray and the individual parts of the stand, taking care not to get any on the tenons or in the mortises. Then I wiped off the excess and left it to dry for 24 hours.

Coming together

Now I could start to assemble the stand. I started with the narrower inner frame, looping the two straps over the top rail first before applying glue to all the joints. I then cramped the frame assembly up square, **photo 14**, and left it overnight. In the morning I removed the small amount of excess glue and moved on to the next stage. It's quite tricky!

Start by applying glue to the various joints. Then place one outside leg on the bench and fit the concealed pivot bar and one washer. Then insert the outer frame's top and bottom rails in their leg mortises, and slip the free strap loops over the outer frame's top rail as you lower the inner frame onto the pivot bar. Position the second pivot bar and its washer in the hole in the upper side of the inner frame and fit the second leg, **photo 15** – not that easy with only one pair of hands! Check that the inner frame moves freely inside the outer one; then cramp up the outer frame and leave it overnight, **photo 16**.

The next morning I cleaned off the excess glue and opened the stand up to check the fit of the tray. It was perfect. After a couple more sessions with the oil on the tray and some light touches on the legs, the whole thing was finished and ready for dispatch. I'm sure the butler will be delighted!

Mitre the four tray sides to length, using a mitre saw if you have one

Assemble the sides round the base panel and check that it's square

A full-size drawing – a rod – is the best way to mark out the dimensions and angles

Make sure that the sloping cuts on the four legs are all at the same angle

Mark out the mortise positions on all four legs at once for accuracy

Bore a stopped hole for the pivot in each of the meeting leg faces

Use a hacksaw to cut the two pivots from 10mm diameter steel rod

Assemble the inner frame first, after looping the straps over the top rail

Fit the outer frame components round the inner frame one by one

Check that the outer frame is square as you fit the cramps round it

BY DUNCAN ROSE

Rack or ruin?

To stop surplus wood sheets and offcuts from getting their edges bashed and their corners crushed, I made myself a dedicated storage rack. The time was well spent; I wish I'd built it years ago!

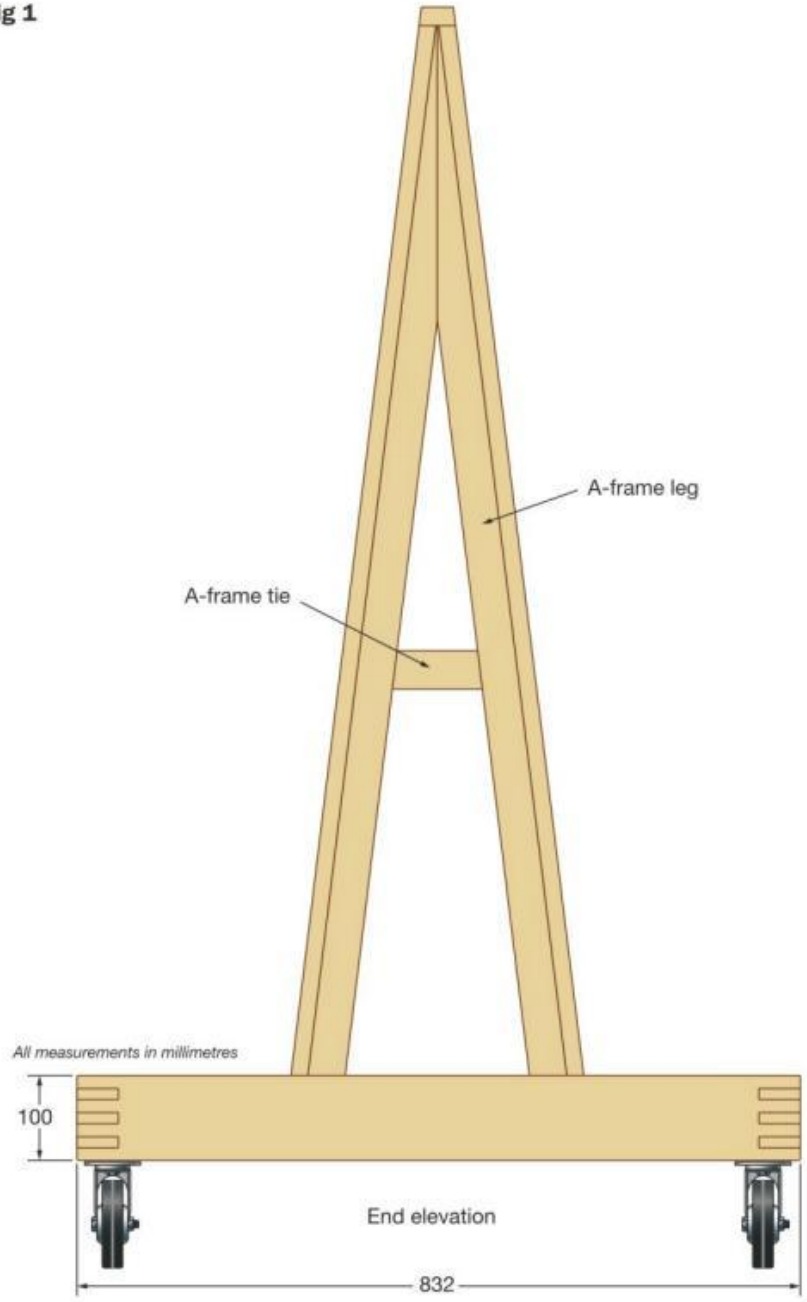
Over time I've accumulated a mighty collection of surplus wood. Spare sheets and offcuts are piled up on the floor of an outbuilding. I now have three huge stacks, and moving around the building is difficult. Inevitably the piece of wood I want always seems to be at the bottom of the pile! Now I know that the effort spent in making the workshop run safely and efficiently is worthwhile, so I decided to make a proper storage rack to keep everything tidy and accessible.

Rack your brains

There are many ways to store wood on a rack. I wanted mine to have the following features:

- to support the sheets flat and so prevent any warping;

Fig 1



- to store them upright for easy loading and selection;
- to be larger than standard 8 x 4ft sheets, so their edges wouldn't get damaged;
- to have a footprint smaller than the area occupied by stacking the sheets flat on the floor;
- to have a double-sided design that would halve the number of sheets to sort through, and also help to maintain the rack's centre of gravity;
- to include additional storage space for narrower offcuts;
- to be mobile.

Providing all these features in one design is like solving a logic puzzle. The solution is to make an A-frame-style rack on wheels.

Basic elements

The rack is made using a sturdy timber skeleton that's clad with plywood. It has a base section with six A-frame supports attached to it. These are clad with 12mm thick plywood to withstand the rigours of loading heavy sheets.

The framework is made using kiln-dried softwood. This is readily available from DIY outlets in various lengths up to 3.6 metres. It's a sawn timber, but the finish is surprisingly good. The larger offcuts are used to make the smaller parts of the rack, so there's very little waste.

Six swivel wheels give the rack good manoeuvrability, as well as providing all-round support to the base frame. The design uses joints that gave me plenty of practice with my chisel! I finished the rack with a generous coat of varnish to give it added moisture resistance when it's parked in my outbuilding.

Fingers crossed

The base frame rails are joined together with finger joints. The large contact area of the glued fingers ensures a very strong joint. Start by checking that the frame rail timber is flat; if necessary, give it a quick pass through the thicknesser. Then cross-cut the rails to length. The frame dimensions will allow the plywood base panel to sit in a rebate about 10mm wide.

Next, mark the rails with the finger positions, **photo 1**. I divided the rail width into equally spaced fingers about 14mm wide. Then cut away the waste from between the fingers. This is easily done using a tenon saw or bandsaw to cut along the finger lengths before chiselling out the waste, **photo 2**. Test all the joints for fit.

SHEET RACK CUTTING LIST

All dimensions are in millimetres

Part	Qty	L	W	T
Base frame front/back rail	2	2514	100	47
Base frame end rail	2	832	100	47
Base frame intermediate rail	4	748	75	47
A-frame leg	12	1303	50	47
A-frame tie	6	185	44	19
Wheel block	6	150	88	47
Base panel (plywood)	1	2440	758	12
Side panel (plywood)	2	2440	1220	12
Side trim	4	1228	25	17
Top trim	1	2470	36	19

You will also need six 100mm diameter swivel wheels and 24 50mm M8 coach screws.

It's also a good time to sort out the cramps you'll need during the glue-up.

Now glue the frame rails together. I used polyurethane glue as this foams on activation, filling any voids in the joint and improving its strength. Cramp the joints tightly, then check that the frame is square before setting it aside to dry, **photo 3**.

Later on, you can remove any dried squeeze-out with a chisel. Then flatten the joints using a plane or by sanding, **photo 4**.

Frame details

I decided to rebate the frame so the base panel would fit flush. Cut the rebate along the internal top edge of the frame, 12mm deep and 10mm wide. I used a hand router fitted with a bearing-guided rebate cutter, **photo 5**, taking several passes and gradually increasing the cutter depth. I then squared up the corners with a chisel.

This is a good time to round over all the external edges on the frame – a simple job that removes the risks of picking up a splinter when handling it. I did this with a 6mm radius bearing-guided roundover bit in the router, **photo 6**.

Adding the rails

Next, prepare the four cross-rails that fit between the long frame rails. These provide additional support to the base panel and are used for attaching the A-frames. I fixed these rails to the frame using stopped lap joints held tight with screws. These will give some additional downward strength when the rack is loaded.

Start by marking the housings for the lap joints on the long frame rails. When setting out, ensure that the top of the cross-rails will be flush with the frame rebate you cut previously. Cut the eight housings 5mm deep and 37mm high, **photo 7**.

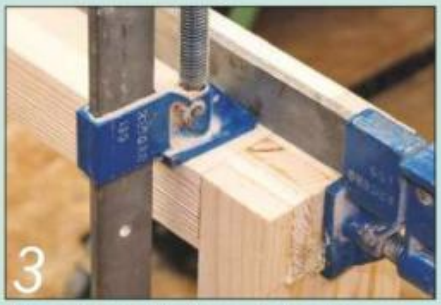
Cut the cross-rails to length and form shoulders on their ends to match the housings. I marked the shoulder outlines with the rails temporarily inserted in the housings, **photo 8**, and cut them using the bandsaw. Then assemble the cross-rails into the frame and pull each joint tight using a pair of long countersunk screws, **photo 9**.

Fitting wheel blocks

The six swivel wheels are attached to the frame using 8mm diameter coach screws. However, the wheel mounting plate I used was wider than the frame, so I widened the frame at the wheel locations using blocks. I made the blocks from offcuts and glued

Mark all the 14mm wide finger joint positions on the base frame rails

Cut away the waste using a tenon saw or bandsaw and a sharp chisel



Glue and cramp the frame rails together and check that they're square

Chisel off any glue squeeze-out and plane or sand the joints smooth

Cut a rebate in the internal top edge of the frame to take the base panel

Round over all the external edges of the frame with a 6mm radius bit

Mark and cut the shallow housings for the intermediate rails in the base frame

Hold the rails in their housings so you can mark the shoulder lines accurately

Cut the shoulders and fix the rails to the base frame with two screws per joint

Add blocks to the inner corners of the base frame to take the wheel baseplate fixings

Mark the positions of the A-frames on the underside of the base panel

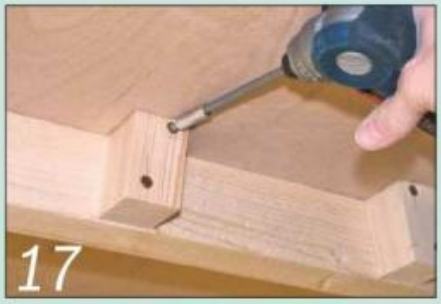
Unscrew the base panel and cut out the marked holes using a jigsaw

Put the base panel back in its rebate and fix it to the rails with countersunk screws

Cut 7° chamfers on the A-frame uprights using a simple bandsaw jig

Join each pair of chamfered faces together with four screws – two from each side

Cramp an offcut across each A-frame to keep it at the required level



Use two screws to secure each A-frame leg to the base frame rails

Stiffen all the A-frames by adding a mid-level tie between each leg pair

Seal all the parts assembled so far with a generous coat of clear varnish

With the rack is on its side, now is a good time to attach the six wheels

and screwed them in position, **photo 10**. Leave fitting the wheels until later; otherwise the rack will become mobile too soon!

Adding the base

Now cut the base panel to size and place it in position. Using the dimensions given, this should require just a single cut along the board length to get the required width. The panel surface should be a flush fit with the frame when it's positioned in the rebate. Temporarily attach the panel in position using a few screws so the assembly can be turned upside down.

Square legs in round holes

Mark the positions of the A-frame legs on the underside of the base panel next to the frame cross-rails, **photo 11**. Add a few millimetres to the width of each hole to allow for the legs being slightly angled and to ease their alignment. My holes were 52mm square, with the plywood span remaining between the holes of about 212mm.

Next, remove the panel from the base frame and cut out the marked squares. I used a jigsaw for this, inserting the blade through holes drilled within the waste areas, **photo 12**. Now you can fit the base panel permanently to the frame. I used self-countersinking screws, **photo 13**, though glue and nails would also work well.

Making the A-frames

Next, make the six A-frames that will support the two sloping plywood side panels. These are a simple construction consisting of two legs splayed open by 14°. They're joined together at the top where their chamfered faces meet.

Start by cutting the legs to length. Then mark and cut a chamfer along the top of each leg at a 7° angle, positioned to leave a square tip 6mm wide. The waste piece to be removed is easily marked on the legs as a right-angled triangle, with side lengths in my case of 41mm and 334mm.

I cut the chamfers quickly using a simple jig on the bandsaw. This aligns and holds the leg at the required angle while it's guided along the bandsaw mitre fence, **photo 14**. An alternative would be to mark out the leg chamfer and cut it freehand.

Join the leg pairs together where their chamfered faces meet using four offset screws driven in from opposite sides, **photo 15**. Also drill a pair of countersunk holes in each leg (visible in photo 17); these will be used later to fix it to the base frame.

Fitting the frames

Now attach the six A-frames to the two short end frame rails and the four intermediate rails. Start by checking that the base is flat and without any diagonal twist; otherwise the A-frames will align skewed when the frame is levelled.

At this stage the A-frame legs can be squeezed together slightly before being passed through the square holes in the base panel. Position the legs so their outer faces are exposed by 1220mm from base panel to tip, and check that their tops are aligned straight.

To help keep each A-frame in the required position, I temporarily cramped an off-cut to the legs, **photo 16**. Then you can secure the legs to the frame below the base panel using pairs of screws, **photo 17**. As a final step I stiffened the A-frames by attaching a mid-level tie between each pair of legs, **photo 18**.

Seal the assembly so far with a coat of varnish, **photo 19**. With the assembly resting is on its side, this is also a good time to attach the wheels. I used 50mm M8 coach screws, **photo 20**.

Adding the side panels

Rest the two sloping side panels in place against the A-frames so you can measure up for the trims to cover the panel ends. I cut a rebate 12mm deep along the trim using the table router, **photo 21**, before fitting it with glue and pins, **photo 22**. The rebate increases the glued surface area, giving a stronger joint and an attractive finished appearance.

Now give the two side panels a coat of varnish. When this is dry, attach them to the A-frames. Again I used self-countersinking screws, spaced about every 150mm.

Finishing touches

Fit a softwood trim along the top of the two side panels. I secured this using a long screw into the top of each A-frame, **photo 23**. Use a hand plane to flush the top and side trims, **photo 24**. Then round over the external edges on the trims using sandpaper to make them comfortable to handle. The last stage is to give the trims a coat of varnish.

With the rack finished I couldn't wait to fill it up. I was pleasantly surprised at the ease of loading and at the quantity of sheet material it held. My design seems to have come good in every department… and it's dead easy to push around too!

Cut a 12mm deep rebate in each length of side trim on the table router

Fit the sloping side panels to the A-frames and attach the rebated side trims

Add a softwood trim to protect the top edges of the two sloping panels

Use a hand plane to finish the top and side trims flush with the surface of the panels

NEW STORES
IPSWICH NOW OPEN
CATFORD NOW OPEN
CAMBRIDGE OPENS DEC

Machine Mart®

NOW 61 SUPERSTORES NATIONWIDE

WHERE QUALITY COSTS LESS

Clarke 4" BELT/ 6" DISC SANDER

CS4-6D

£84.99 EX VAT
£101.99 INC VAT

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

Clarke 6" BELT/ 9" DISC SANDER

- Includes stand
- 1 Hp/ 230v/ 1ph motor

CS6-9C

£219.00 EX VAT
£262.80 INC VAT

Clarke TABLE SAWS

CTS10D

LEG STANDS AVAILABLE FOR CTS11 - £21.99 EX VAT £26.39 INC VAT
CTS10D - £21.99 EX VAT £26.39 INC VAT

FROM ONLY £69.58 EX VAT £83.98 INC VAT

INCLUDES LEFT & RIGHT TABLE EXTENSION

*Moulded base

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

Clarke 1" BELT & 5" DISC SANDER

CBS1-5

- 5" dia. circular sanding disc runs at 2,800rpm
- 1" x 30" sanding belt operates at 13.5 metres/sec.

£59.98 EX VAT £71.98 INC VAT

Clarke CONTRACTOR RANDOM ORBITAL SANDERS

INC 6 DISCS

CROS2

£49.98 EX VAT £59.98 INC VAT

- For fast removal of paint or for fine swirl free finishing
- 6 x 150mm diameter sanding discs
- 4000-7000 rpm

evolution 255mm MULTIPURPOSE TABLE SAW

RAGE5

£274.99 EX VAT £329.99 INC VAT

- Powerful 1800w/ 230v motor
- Max depth of cut (45°/90°) 55/79mm
- Includes TCT blade, mitre fence, wheel kit, folding stand, push stick, steel extensions
- Available in 110v & 230v

Clarke CIRCULAR SAWS

GREAT RANGE IN-STORE

FROM ONLY £54.99 EX VAT £65.99 INC VAT

CCS-2

MODEL	MOTOR	MAX CUT 90°/45°	BLADE BORE DIA.	EX VAT	INC VAT
FURY	1200w	54/35mm	185/20	£54.99	£65.99
Clarke CCS-2	1300w	60/45mm	185/20	£64.99	£77.99
Makita 5704RK	1200w	66/46mm	190/30	£99.98	£119.98
Rage	1050w	54/35mm	185/20	£89.98	£107.98

Clarke SHEET SANDERS

FROM ONLY £14.99 EX VAT £17.99 INC VAT

CON300

MODEL	SHEET SIZE	MOTOR	EX VAT	INC VAT
COS200	190X90mm	150w	£14.99	£17.99
CON300	230X115mm	330w	£29.98	£35.98
Makita BO455	112X102mm	200w	£54.99	£65.99

Clarke RANDOM ORBITAL SANDERS

CROS1

£26.99 EX VAT £32.39 INC VAT

- For sanding & polishing
- 125mm diameter sanding discs
- 4000-11000 opm

INC 5 DISCS

Clarke CONTRACTOR RECIPROCATING SAW

INCLUDES 3 WOOD & 3 METAL BLADES

- Multipurpose saw for cutting wood, board, metal pipes etc.
- Max. Depth of cut 210mm
- 850w motor

CON850

£47.99 EX VAT £57.59 INC VAT

Clarke POWER PLANERS

Makita

- 82mm cutting width

FROM ONLY £24.99 EX VAT £29.99 INC VAT

CON1020

MODEL	INPUT POWER	DEPTH OF CUT	EX VAT	INC VAT
Clarke CEP1	650w	2mm	£24.99	£29.99
Clarke CON1020	1020w	3mm	£36.99	£44.39
Bosch PH020-82	680w	2mm	£64.99	£77.99
Bosch GH026-82	710w	2.6mm	£109.98	£131.98

Clarke ROUTERS

RYOBI trend

FROM ONLY £39.98 EX VAT £47.98 INC VAT

* DIY # PRO

MODEL	MOTOR (W)	PLUNGE (mm)	EX VAT	INC VAT
CR1C*	1200	0-50	£39.98	£47.98
Ryobi ERT1400RV#	1400	0-55	£87.99	£105.59
Trend T5# ‡	1000	0-50	£159.98	£191.98
DeWalt DW622K-GB# †	1400	0-55	£219.98	£263.98

PRICE CUTS! ‡ was £203.98 inc.VAT † was £275.98 inc.VAT

Clarke DOVETAIL JIGS

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

Router not included

CDTJ24

PRICE CUT NOW FROM £44.99 EX VAT £58.99 INC VAT (WAS £59.98 INC VAT)

MODEL	SIZE	EX VAT	WAS INC VAT	NOW INC VAT
CDTJ12	300mm	£44.99	£59.98	£53.99
CDTJ24	600mm	£84.99	£107.98	£101.99

RECORD POWER LATHES

CL3-CAM

- Cast Iron construction
- 36" Max between centres

LEG STAND FOR DML36SH £49.98 EX VAT £59.98 INC VAT

PRICE CUT NOW FROM £239.00 EX VAT £286.80 INC VAT (WAS £299.98 inc VAT)

PRICE CUTS! * was £299.98 inc.VAT # was £514.80 inc.VAT SAVE £72!

MODEL	MOTOR (HP)	NO. SPEEDS	TURNING CAP OVER BED /OUTBOUND	EX VAT	INC VAT
DML36SH*	1/3	4	9"/12"	£239.00	£286.80
CL3-CAM#	3/4	5	12"/30"	£369.00	£442.80

Clarke ROTARY TOOL KIT

CRT40

£26.99 EX VAT £32.39 INC VAT

Kit includes:
- Height adjustable stand with clamp
- Rotary tool
- 1m flexible drive
- 40x accessories/consumables

Clarke CONTRACTOR CR2 ROUTER

£109.98 EX VAT £131.98 INC VAT

INCLUDES 15 PIECE ROUTER BIT SET WORTH OVER £20 INC VAT

- Powerful heavy duty machine ideal for trade use
- Variable speed control from 7,400-21,600 rpm
- 2100w motor
- 0-60mm plunge depth 1800w

CR3 Router with 15 Piece Bit Set also available only £89.98 £107.98

Clarke WORKBENCH

£79.98 EX VAT £95.98 INC VAT

CWB1250B

- Robust steel workbench
- Extra thick, reversible plywood faced worktop
- Large lockable cabinet with storage shelves
- Tough steel drawer

Clarke 13" MINI WOOD LATHE

£119.98 EX VAT £143.98 INC VAT

CWL325V

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

Clarke NEW MULTI FUNCTION TOOL WITH ACCESSORY KIT

- Great for sawing, cutting, sanding, polishing, chiselling & much more
- 230-240v, 250w motor
- Variable speed 15,000 – 21,000 strokes/min

£36.99 EX VAT £44.39 INC VAT

CMFT250

Clarke ROUTER TABLE

Router not included

CRT-1

£54.98 EX VAT £65.98 INC VAT

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

RYOBI ROUTER & TABLE KIT

INCLUDES ROUTER

ERT1400G Router
- 1400w power input
- 14,000-31,500rpm
- 1/4" & 3/8" collet capacity

ART03HG Router Table
- Table dims with extensions 355mm x 1010mm
- Mitre gauge
- Adjustable blade guard

£159.98 EX VAT £191.98 INC VAT

Clarke HARDWOOD WORKBENCH

- Includes guide holes and bench dogs
- 2 heavy duty vices
- Large drawer for tool storage
- Dims: LxWxH 1520x620x855mm

CHB1500

£129.98 EX VAT £155.98 INC VAT

Clarke STATIC PHASE CONVERTERS

- For use with bigger woodworking machines inc. saws, planers etc.
- Variable output power to match HP of motor to be run

ROTARY PHASE CONVERTERS ALSO AVAILABLE

CONVERT 230V 1PH TO 400V 3PH

PC60

FROM ONLY £229.00 EX VAT £274.80 INC VAT

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

Clarke BISCUIT JOINTERS

- 10,000rpm no load speed
- 600w motor
- 16mm max cutting depth
- 100mm cutting dia.

BJ600

£49.98 EX VAT £59.98 INC VAT

Clarke JIGSAWS

Makita BOSCH Power tools

CJS380

FROM ONLY £14.99 EX VAT £17.99 INC VAT

*DIY #Professional

MODEL	POWER (W)	DEPTH OF CUT (WOOD/STEEL)	EX VAT	INC VAT
Clarke CJS380*	420w	55/6mm	£14.99	£17.99
Clarke CON750#	750w	80/10mm	£29.98	£35.98
B & D KS600*	450w	60/5mm	£33.99	£40.79
Bosch PST700*	500w	70/4mm	£45.99	£55.19
Makita 4329#	450w	65/6mm	£64.99	£77.99

Clarke CLAMPS

LIGHTWEIGHT ALUMINIUM

FROM ONLY £6.99 EX VAT £8.39 INC VAT

QUICK RELEASE ALUMINIUM SASH CRAMPS

MODEL	SIZE	EX. VAT	INC. VAT
CHT374	600mm	£6.99	£8.39
CHT375	900mm	£7.99	£9.59
CHT376	1200mm	£9.69	£11.63

TACWISE NAILERS & STAPLERS

A range of professional Nailers from Tac-Wise

500EL

FROM ONLY £39.98 EX VAT £47.98 INC VAT

MODEL	TYPE	NAIL SIZE	EX VAT	INC VAT
181EL	Nail	10-35mm	£39.98	£47.98
191EL	Nail/Staple	10-35mm	£44.99	£53.99
400EL	Nail	15-40mm	£69.98	£83.98
500EL	Nail	20-50mm	£79.98	£95.98

Clarke BOLTLESS SHELVING BENCHES

- Simple fast assembly in minutes using only a hammer

FROM ONLY £29.98 EX VAT £35.98 INC VAT

ALSO EXTRA WIDE INDUSTRIAL UNITS AVAILABLE

QUANTITY DISCOUNTS
SAVE 10% WHEN YOU BUY ANY 5 PRODUCTS FROM THIS RANGE*

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

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

350 kg PER SHELF (evenly distributed) Strong 12 mm fibreboard shelves

MODEL	SHELF DIMS WxDxH(mm)	EX VAT	INC VAT
150Kg	800x400x1500	£29.98	£35.98
350Kg	900x400x1800	£49.98	£59.98

Clarke PLANERS & THICKNESSERS

CPT600

- Ideal for DIY & Hobby use
- Dual purpose, for both finishing & sizing of timber

*Max planing width 152mm

FROM ONLY £129.98 EX VAT £155.98 INC VAT

MODEL	MOTOR	MAX THICK. CAPACITY	EX VAT	INC VAT
CP-6	1100w	*	£129.98	£155.98
CPT600	1250w	120mm	£179.98	£215.98
CPT800	1250w	120mm	£199.98	£239.98

Clarke WOODWORKING LATHES

CWL1000

3 PCE CHISEL SET INCLUDED WITH CWL1000

SEE CATALOGUE FOR ACCESSORIES

MODEL	CENTRE TO CENTRE (mm)	TURNING CAP.	TURNING SPEEDS	EX VAT	INC VAT
CWL1000	1016	350mm	4	£106.99	£128.39
CWL12D	940	305mm	5	£199.98	£239.98

FROM ONLY £106.99 EX VAT £128.39 INC VAT

19805

Clarke MORTISING MACHINE

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

- Accurately creates deep square recesses
- Table size 150 x 340mm
- Maximum chisel cap.76mm

CBM1B

CHISELS AVAILABLE FROM £6.99 EX VAT £8.39 INC VAT

MODEL	DEPTH OF CUT	EX. VAT	INC. VAT
Clarke CBM1B	95mm	£139.98	£167.98
Record RPM75	76mm	£179.98	£215.98
Record BM16 *	120mm	£249.00	£298.80

PRICE CUTS! ‡ was £263.98 inc.VAT
* was £311.98 inc.VAT

ORDER ONLINE NOW OVER 13,000 PRODUCTS INCLUDING NEW Xtra

SPECIALIST PRODUCTS

LASER | BRITOOL | FACOM

www.machinemart.co.uk

FREE CATALOGUE

Over 700 PRICE CUTS & NEW PRODUCTS

GET YOUR FREE COPY NOW!

- INSTORE
- ONLINE
- PHONE

0844 880 1265

Clarke DRILL PRESSES

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

B=Bench mounted
F=Floor standing

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

MODEL	WATTS/ SPEEDS	EX VAT	INC VAT
CDP5DD	250/5	£64.99	£77.99
CDP101B	245/5	£74.99	£89.99
CDP151B	300/5	£106.99	£128.39
CDP-10B	370/12	£159.98	£191.96
CDP301B	510/12	£199.98	£239.96
CDP451F	510/16	£239.98	£287.98
CDP501F	980/12	£429.00	£514.80

Clarke SCROLL SAWS

CSS16V

FROM ONLY £62.99 EX.VAT £75.59 INC.VAT

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

MODEL	MOTOR	SPEED RPM	EX VAT	INC VAT
CSS400B	85w	1450	£62.99	£75.59
CSS16V	120w	400-1700	£84.99	£101.99

Clarke DUST EXTRACTOR/ CHIP COLLECTORS

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

METABO ALSO AVAILABLE

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

MODEL	MOTOR	FLOW RATE	BAG CAP.	EX VAT	INC VAT
CDE35B	750w	850 M3/h	56Ltrs	£129.98	£155.98
CDE7B	750w	850 M3/h	114Ltrs	£139.98	£167.98

Clarke DUST EXTRACTOR CDE1000

- 50 litre tank capacity
- 183 m³/h flow rate
- 1100W input wattage

£99.98 EX.VAT £119.98 INC.VAT

OTHER MODELS AVAILABLE

Clarke BELT SANDERS

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

BOSCH Power tools

BS1

MODEL	WATT	M/MIN	EX VAT	INC VAT
Clarke BS1	900w	380	£29.98	£35.98
Bosch PBS7A	600w	250	£74.99	£89.99
Clarke CBS2	1200w	480	£69.98	£83.98
Makita 9911	650w	75-270	£92.99	£111.59

Clarke CORDLESS DRILL/DRIVERS

BOSCH Power tools PSR18

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

MODEL	VOLTS	BATTS	EX VAT	INC VAT
CCD180	18v	1	£36.99	£44.39
CCD240	24v	1	£46.99	£56.39
Bosch PSR18	18v	1	£68.99	£82.79

Clarke 12" CONTRACTORS SAW

INDUCTION MOTOR

CCS12

£239.00 EX.VAT £286.80 INC.VAT

- 1600w motor
- 315/30mm blade / bore diameter
- 90mm max cut depth at 90°

Clarke 16" VARIABLE SPEED SCROLL SAW WITH FLEXI DRIVE AND WORKLAMP

CSS400C

INCLUDES 64 PIECE KIT

- Parallel action arm design produces quick, accurate cuts in wood and plastic
- 50mm cutting depth • Flexible drive kit for additional grinding, polishing & sanding

£99.98 EX.VAT £119.98 INC.VAT

Clarke BANDSAWS

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

HUGE RANGE IN CATALOGUE & ONLINE

INCLUDES STAND

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

Clarke SPREADER CLAMPS

- Dual action spreader or compression clamp by simple head reversal • Quick release trigger for fast adjustment

CHT651

FROM ONLY £3.99 EX.VAT £4.79 INC.VAT

MODEL	CLAMP SIZE	EX. VAT	INC. VAT
CHT651	6"	£3.99	£4.79
CHT652	12"	£4.99	£5.99
CHT653	18"	£5.99	£7.19
CHT660	24"	£7.99	£9.59

airmaster TURBO AIR COMPRESSORS

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

BIG 2HP 7.8CFM

CLARKE 8MM AIR HOSE FROM ONLY £5.99 EX VAT £7.19 INC VAT

8/44

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

STAPLE & NAIL GUN KITS HUGE RANGE IN CATALOGUE & ONLINE

MODEL	MOTOR	CFM	TANK	EX VAT	INC VAT
BT-AC200	1.5 Hp	6.2	24ltr	£79.98	£95.98
Tiger 8/44	2 Hp	7.8	24ltr	£114.99	£137.99
Tiger 8/64	2 Hp	7.8	50ltr	£164.99	£197.99
Tiger 9/24	2.5 Hp	8.7	24ltr	£149.98	£179.98
HUNTER 55	2.5 Hp	8.7	50ltr	£179.98	£215.98
Tiger 9/60	2.5 Hp	8.7	50ltr	£189.98	£227.98
AM17EC150	3Hp	14	150ltr	£419.00	£502.80

Clarke MITRE SAW STAND - CUTS1

£76.99 EX.VAT £92.39 INC.VAT

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

eVOLUTION MITRE SAWS

Makita

RAGE3

- Quality range, ideal for cross, bevel & mitre cutting
- 45° tilting blade & table • Dust extraction system

FROM ONLY £119.98 EX.VAT £143.98 INC.VAT

MODEL	BLADE DIA.	BORE	MAX CUT DEPTH/CROSS	EX VAT	INC. VAT
Fury 3	210/25.4mm		60/200mm	£119.98	£143.98
Evolution	255/25.4mm		75/300mm	£169.98	£203.98
Rage 3					
Makita LS1040	260/30mm		95/130mm	£199.98	£239.98

Clarke 10" SLIDING MITRE SAW

- For fast, accurate cross, bevel & mitre cutting in most hard & soft woods
- 1800w motor
- 6000rpm

£129.98 EX.VAT £155.98 INC.VAT

CMS10S2

Clarke BENCH GRINDERS & STANDS

STAND AVAILABLE FROM ONLY £41.99 EX.VAT £50.39 INC.VAT

- Stands come complete with bolt mountings and feet anchor holes

6" & 8" AVAILABLE WITH LIGHT

FROM ONLY £27.99 EX.VAT £33.59 INC.VAT

CBG8W features 8" whetstone & 6"drystone. # With sanding belt

MODEL	DUTY	WHEEL DIA.	EX VAT	INC VAT
CBG6RP	DIY	150mm	£27.99	£33.59
CBG6RZ	PRO	150mm	£37.99	£45.59
CBG6SB#	PRO	150mm	£49.98	£59.98
CBG6RWC	HD	150mm	£54.99	£65.99
CBG8RSC	HD	200mm	£59.98	£71.98
CBG8W (wet)	HD	150/200mm	£55.99	£67.19

10" SLIDING MITRE SAW ON BASE

- For easy, precise and smooth cutting of wood parts • Carbide tipped saw blade
- Rotating table for precise angle cuts ranging between -52° and +60°

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

RT-SM430U

*Includes laser guide

MODEL	BLADE DIA./BORE	MAX. DEPTH OF CUT	EX VAT	INC VAT
RT-XM305U	250/30mm	75mm	£249.98	£299.98
RT-SM305L *	210/30mm	65mm	£159.98	£191.98
RT-SM430U *	250/30mm	75mm	£249.98	£299.98

BLACK & DECKER POWERFILE

£54.99 EX.VAT £65.99 INC.VAT

KA900E

- Great for hard to reach areas
- 13mm wide belt, 120mm long arm • 350w motor

Clarke WOODWORKING VICES

FROM ONLY £13.49 EX.VAT £16.19 INC.VAT

Record WV7

MODEL	MOUNTING	JAW (WIDTH/OPENING*/DEPTH)mm	EX VAT	INC VAT
Clarke CHT152	Bolted	150/152/61	£13.49	£16.19
Stanley Multi Angle	Clamped	72/60/40	£16.99	£20.39
Record V75B	Clamped	75/50/32	£18.99	£22.79
Clarke WV7	Bolted	180/205/78	£24.99	£29.99
Clarke WV7QR	Bolted	180/205/80	£39.98	£47.98

VAC KING Earlex WET & DRY VACUUM CLEANERS

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

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

SS = Stainless Steel

MODEL	MOTOR	CAPACITY WET/DRY	EX. VAT	INC. VAT
CVAC20P	1250W	16/12ltr	£46.99	£56.39
WD1000	1000W	13.5/12ltr	£49.98	£59.98
CVAC20SS*	1400W	16/12ltr	£57.99	£69.59
CVAC25SS*	1400W	19/17ltr	£64.99	£77.99
CVAC30SS*	1400W	24/21ltr	£84.99	£101.99

Clarke PORTABLE THICKNESSER

- Max thickness capacity 130mm
- Planing depths adjustable from 0-2.5mm
- Powerful 1250w motor
- 8000rpm no-load speed

£179.98 EX.VAT £215.98 INC.VAT

CPT250

Clarke WHETSTONE SHARPENER

- Produces accurate razor sharp cutting edges on chisels, scissors, tools etc
- 120w motor
- Grinding disc dims: 200mm dia x 40mm x 12mm bore
- Wet bath

£99.98 EX.VAT £119.98 INC.VAT

CWS200

Clarke 6" BENCH GRINDER WITH SANDING BELT

- For sanding/shaping wood, plastic & metal
- Supplied with coarse grinding wheel & sanding belt
- Complete with tool rest, eye shield & wheel guard

£49.98 EX.VAT £59.98 INC.VAT

CBG6SB

Clarke CARVING CHISEL SET

£39.98 EX.VAT £47.98 INC.VAT

- Polished spring alloy steel chisel blades • Supplied in wooden storage case with handle

CHT400

QUALITY BEECH HANDLES

12 PIECE SET

VISIT YOUR LOCAL SUPERSTORE

OPEN MON-FRI 8.30-6.00, SAT 8.30-5.30, SUN 10.00-4.00

*NEW STORES

BARNSLEY Pontefract Rd, Barnsley, S71 1EZ	01226 732297	**GATESHEAD** 50 Lobley Hill Rd. NE8 4XA	0191 493 2520
B'HAM GREAT BARR 4 Birmingham Rd.	0121 358 7977	**GLASGOW** 280 Gt Western Rd. G4 9EJ	0141 332 9231
B'HAM HAY MILLS 1152 Coventry Rd, Hay Mills	0121 7713433	**GLOUCESTER** 221A Barton St. GL1 4HY	01452 417 948
BOLTON 1 Thynne St. BL3 6BD	01204 365799	**GRIMSBY ELLIS WAY,** DN32 9BD	01472 354435
BRADFORD 105-107 Manningham Lane. BD1 3BN	01274 390962	**HULL** 8-10 Holderness Rd. HU9 1EG	01482 223161
BRIGHTON 123 Lewes Rd, BN2 3QB	01273 915999	**ILFORD** 746-748 Eastern Ave. IG2 7HU	0208 518 4286
BRISTOL 1-3 Church Rd, Lawrence Hill. BS5 9JJ	0117 935 1060	**IPSWICH*** Unit 1 Ipswich Trade Centre, Commercial Road	01473 221253
BURTON UPON TRENT 12a Lichfield St. DE14 3QZ	01283 564 708	**LEEDS** 227-229 Kirkstall Rd. LS4 2AS	0113 231 0400
CAMBRIDGE* 181-183 Histon Road, Cambridge, CB4 3HL	01223 322675	**LEICESTER** 69 Melton Rd. LE4 6PN	0116 261 0688
CARDIFF 44-46 City Rd. CF24 3DN	029 2046 5424	**LINCOLN** Unit 5, The Pelham Centre, LN5 8HG	01522 543 036
CARLISLE 85 London Rd. CA1 2LG	01228 591666	**LIVERPOOL** 80-88 London Rd. L3 5NF	0151 709 4484
CHESTER 43-45 St. James Street. CH1 3EY	01244 311258	**LONDON CATFORD*** 289/291 Southend Lane SE6 3RS	0208 695 5684
COLCHESTER 4 North Station Rd. CO1 1RE	01206 762831	**LONDON** 6 Kendal Parade, Edmonton N18	020 8803 0861
COVENTRY Bishop St. CV1 1HT	024 7622 4227	**LONDON** 503-507 Lea Bridge Rd. Leyton, E10	020 8558 8284
CROYDON 423-427 Brighton Rd, Sth Croydon	020 8763 0640	**LONDON** 100 The Highway, Docklands	020 7488 2129
DARLINGTON 214 Northgate. DL1 1RB	01325 380 841	**MAIDSTONE** 57 Upper Stone St. ME15 6HE	01622 769 572
DEAL (KENT) 182-186 High St. CT14 6BQ	01304 373 434	**MANCHESTER ALTRINCHAM** 71 Manchester Rd. Altrincham	0161 9412 666
DERBY Derwent St. DE1 2ED	01332 290 931	**MANCHESTER OPENSHAW*** Unit 5, Tower Mill, Ashton Old Rd	0161 223 8376
DONCASTER Wheatley Hall Road	01302 245 999	**MANSFIELD** 169 Chesterfield Rd. South	01623 622160
DUNDEE 24-26 Trades Lane. DD1 3ET	01382 225 140	**MIDDLESBROUGH** Mandale Triangle, Thornaby	01642 677881
EDINBURGH 163-171 Piersfield Terrace	0131 659 5919	**NORWICH** 282a Heigham St. NR2 4LZ	01603 766402
		NOTTINGHAM 211 Lower Parliament St.	0115 956 1811
		PETERBOROUGH 417 Lincoln Rd. Millfield	01733 311770
		PLYMOUTH 58-64 Embankment Rd. PL4 9HY	01752 254050
		POOLE 137-139 Bournemouth Rd. Parkstone	01202 717913
		PORTSMOUTH 277-283 Copnor Rd. Copnor	023 9265 4777
		PRESTON 53 Blackpool Rd. PR2 6BU	01772 703263
		SHEFFIELD 453 London Rd. Heeley. S2 4HJ	0114 258 0831
		SIDCUP 13 Blackfen Parade, Blackfen Rd	0208 3042069
		SOUTHAMPTON 516-518 Portswood Rd.	023 8055 7788
		SOUTHEND 1139-1141 London Rd. Leigh on Sea	01702 483 742
		STOKE-ON-TRENT 382-396 Waterloo Rd, Hanley	01782 287321
		SUNDERLAND 13-15 Ryhope Rd. Grangetown	0191 510 8773
		SWANSEA 7 Samlet Rd. Llansamlet. SA7 9AG	01792 792969
		SWINDON 21 Victoria Rd. SN1 3AW	01793 491717
		TWICKENHAM 83-85 Heath Rd.TW1 4AW	020 8892 9117
		WARRINGTON Unit 3, Hawley's Trade Pk.	01925 630 937
		WIGAN 2 Harrison Street. WN5 9AU	01942 323 785
		WOLVERHAMPTON Parkfield Rd. Bilston	01902 494186
		WORCESTER 48a Upper Tything. WR1 1JZ	01905 723451

OPEN 7 DAYS

3 EASY WAYS TO BUY...

IN-STORE
61 SUPERSTORES

ONLINE
www.machinemart.co.uk

MAIL ORDER
0115 956 5555

BY ANDY KING

Raising the roof

Last month I assembled the porch roof structure in the workshop and made up the gallows brackets to support it. Now it's time to load up the van and head for the site, ready to start the build for real

The accuracy and quality of the work you carried out in the workshop should make the installation run smoothly. The first thing to do is to establish a datum mark for the top of one gallows bracket. You can then fit the first bracket plumb to this line, ensuring that its outer edge is in the right position as originally determined at the measuring-up stage.

The right fixings

You need some decent fixings to hold the brackets and support the not insubstantial weight of the tiled roof. As I was fixing into

Drill counterbores and clearance holes in the two gallows brackets

Offer up one bracket, mark the wall fixing positions and drill the holes in the wall

Mark up the birdsmouth position on one rafter and use it as a pattern for the others

When you've cut the rafters to size, drill clearance holes for their fixing screws

solid brickwork, I chose standard masonry bolts. Apparently they're called shield anchors nowadays, but everyone I know calls them Rawlbolts! You need the M10 size, with a 115mm long bolt, to fix 50mm thick brackets, and I used two bolts for each bracket.

I wanted to recess the bolt heads so I could hide them with wooden plugs for a neat finish, so I drilled the counterbores first using a matched Forstner bit and plug-cutter set, **photo 1**. Then I drilled clearance holes for the bolts through the centres of the counterbored holes.

Fitting the first bracket

Offer the first bracket up to the datum line and check that it's vertical; it helps to have another pair of hands on the job at this stage! Then mark the positions of the fixings on the wall through the clearance holes – I used a long screw and a hammer drill, **photo 2** – and drill holes of the correct diameter in the wall to take the anchor shields. Then insert the shields in the holes, pass the bolts through the bracket and tighten them in place with a box spanner.

Fitting the second bracket

Transfer a level line from the first bracket to the other side of the door frame to position the second bracket. To check that the positioning is accurate, use the truss gable as a template, dropping the birdsmouth onto the fixed bracket and then levelling it across so you can mark the precise position for the second. This is another job for that spare pair of hands! Check that the second bracket is plumb and repeat the fixing process to secure it to the wall.

I found that the house walls were slightly awry to each other across the door opening, and had to shim one bracket slightly to adjust this. You could cater for this at the bracket-making stage, but that can look wrong when you sight across the brackets. I usually find it's best to stick with identical brackets and use shims as required.

Raising the roof

The front gable is a decorative piece, with the rafters and the ridge board sitting behind it. Because of the overhang of the cloak tiles at the front of the roof, these rafters have to sit higher than the gable itself. Around 25mm higher is about right, so that with the tile battens added the tile line is raised by about 50mm. This will prevent the cloak tiles from dropping too far over the gable end and masking it. You can generally work this sort of thing out by trial and error beforehand until it looks right.

Set out the rafter positions on one bracket and transfer them to the ridge board

Fit the two front rafters to the gallows brackets with a single screw through each one

Fit the rear rafters, slot the ridge board in place and screw the sloping rafter ends to it

Lift the front gable onto the brackets and secure it with a screw at each side

Use a fascia board offcut to mark the angled cuts needed on the gable rafters

Lift the gable down, make these cuts and replace it on the brackets

Cutting the rafters

The rafters are cut from standard pressure-treated CLS studding – the thicker 88mm stuff. As the pitch, the birdsmouth positions and so forth have already been established with the gable, the easiest way to mark up the rafters is to pencil in the 25mm margin to position the rafter above the gable line, and then to offer up the gable to this line so you can mark the birdsmouth position as well as the centre of the gable at the ridge point.

From here, subtract half the thickness of the ridge, which in my case is a piece of 120 x38mm PSE timber, so the ridge end of the rafter is marked 19mm shorter.

Cut the rafter to this line, and then make the two cuts at its lower end where the fascia board will fit. Mark this rafter up as a pattern and use it to mark out and cut the remaining rafters, **photo 3**. My roof has six in total.

It's a good idea at this stage to pre-drill clearance holes in the rafters for the fixing screws, **photo 4**. It'll save time later.

Positioning the rafters

I used the top surface of one of the gallows brackets to set out the rafter positions. With this particular roof, the top of the gallows bracket projects forward beyond the front gable by 50mm. I therefore marked the position of the gable's front face 50mm back from the outer end of the bracket.

The front rafters sit immediately behind the gable, so I marked their positions a further 50mm back from the gable's rear face. The rear rafters fit against the house wall, so it was a simple matter to work out the positions of the centre rafters. I then transferred the rafter positions onto the ridge board, **photo 5**, and used this to mark them on the other gallows bracket.

The top edge of the rafters will meet the ridge board about 25mm below its top edge. Pencil in this line on both sides of the ridge board so you have a clear fixing position to work to.

Fitting the rafters

You can now fit the first pair of rafters against the house wall. Each one is fixed to the wall with two shield anchors to help support the weight of the roof, so make these fixings first. Remember to position a 38mm thick spacer between their upper ends to leave a gap for the ridge board. Then drive a screw down through the lower end of each rafter to secure the birdsmouth to the gallows bracket.

Next, fit the front rafters in place to the gallows brackets, **photo 6**. I've used screws for the rafter fixings as nailing could cause the wall bracket fixings to work loose.

Slide the ridge board into position between these two pairs of rafters and align their top ends with the pencil line you marked on the board earlier. Check that the ridge board is level, position the centre pair of rafters and drive in all the remaining fixing screws, **photo 7**.

Trimming the gable

Lift the front gable into place on the gallows brackets and secure it with a screw driven up through the bracket at each side, **photo 8**. As the fascia boards will fit behind the gable, hold an offcut of the fascia board timber (I used the same stock as the ridge board) in the angle between the gable and the front rafters, **photo 9**, and mark the vertical and horizontal cuts needed on the gable.

Lift the gable down and make these cuts, **photo 10**. Then replace it on the brackets, and fix it securely with screws driven up from below as before. Finally, screw the front pair of rafters to the rear face of the gable.

Position the tile battens to give an even tile overlap and screw them on

Position the fascia so its top edge will 'kick up' the bottom row of tiles

Add triangular tilting fillets to the gable to match the level of the fascias

Position the tiles by hooking their rear lugs over the tiling battens

Line the underside of the porch roof with matchboarding, nailed to the rafters

Finish off the eaves by pinning short board lengths between the rafters

You can now mark out and cut the two fascia boards to length. Note that they're not fitted yet, as they will guide a tilting fillet below the lowest row of roof tiles.

Battening the roof

Position the tile battens to give a uniform lap down the rafters, allowing a small overhang at the fascia. I screwed the battens in place rather than nailing them on to keep vibration down, **photo 11**.

Next, place one vertical row of tiles on the battens and push the fascia up underneath the lowest tile so you can determine the correct height for it to 'kick up' the bottom row correctly. Repeat this at the other side of the roof. Then screw the fascias to the rafter ends, **photo 12**, and add triangular tilting fillets to the gable to match the level of the fascias, **photo 13**.

Before you go any further, now is the time to prime and paint any woodwork such as the fascia boards and rafter ends that will be exposed when the porch is finished.

Placing the tiles

Tiling a roof of this size is a piece of cake. Place the bottom row first by hooking the rear lugs over the tile batten. Allow a small overhang at the fascias, and position the cloak tile at the front. Then add the second and third rows, **photo 14**. There's no need to fix the tiles to the battens on a small roof like this; their weight, plus the cloak tiles at the front and the lead flashing at the rear, will keep them in place.

Fitting the matchboarding

I've matchboarded the underside of the porch using standard off-the-shelf exterior-grade timber. As the rafters act as fixing grounds, it's just a matter of cutting pieces to length and pinning them in position, **photo 15**, working up from the gallows brackets to the ridge. I added a quadrant bead to close the ridge line.

The rafters beyond the gallows are exposed as a feature detail, so the matchboarding there is nailed between them to cover in the underside of the tiles, **photo 16**.

Tackling the flashing

This is one job you may prefer to leave to a professional, but it's not difficult to do yourself. You'll need a small roll of code 3 or 4 lead flashing about 240mm wide (a 3m roll will cost you about £90) and a pair of large tin snips to cut it.

Edge flashing like this consists of two components. The wall flashing strip has its top edge tucked into a narrow chase cut in the masonry above the roof line, and is secured there with small folded lead wedges before the chase is sealed with lead mastic or filled with mortar. Its bottom edge is cut to finish just above the tile line.

Small pieces of lead called soakers rest over each tile, with one edge tucked up under the wall flashing and the other shaped to lie closely on the tile surface and make the joint watertight. Each soaker is about 150mm wide and as long as a tile.

Finishing touches

As this is such a small porch and there's no suitable area to disperse the rainwater, it doesn't have any gutters; the rain simply runs off at each side.

The last job is to mix up some stiff mortar and use it to bed the ridge tiles in place, taking care not to let it mark the tiles below. Job done… apart from removing the white uPVC door and replacing it with a new black one as my friend's wife didn't like the old one!

Massive Discounts on Planer Blades

Tersa M42+

Sizes and prices
310mm £8.12 each
350mm £8.99 each
410mm £10.20 each

Hand held Makita

£3.85 per pair

Tersa HSS

Sizes and prices
310mm £7.65 each
350mm £8.42 each
410mm £9.20 each

Woodstar

Prices per pair
Model PT 106 £19.95
Model PT 85 £16.95

German Tersa M42

Sizes and prices
310mm £7.25 each
350mm £8.10 each
410mm £8.61 each

Charnwood

Prices per pair
Model W575/1 £14.99
Model W588/1 £17.99
Model W585/1 £16.99
Model W570/1 £14.99

Felder

Sizes and prices per pack of 6
260 £31.80 inc vat
310 £37.80 inc vat
410 £41.90 inc vat
510 £47.40 inc vat

SIP

Prices per pair
Model 01335 £19.99
Model 01552 £13.99
Model 01543 £19.99

Hammer

Sizes and prices per pack of 3
260mm £24.99
310mm £29.99
410mm £35.99

FOX

Model 22-564 8"
£16.99

Dewalt/ Bosch

Sizes and prices per pair
85mm x 5.5mm x 1.1mm
80mm x 5.5mm x 1.1mm
75mm x 5.5mm x 1.1mm
Dewalt Model £3.99
Bosch Model £3.99

Woodford WOODWORKING MACHINERY & TOOLING LTD

Many more sizes and makes available. Please contact us at:
0161 439 5683
www.woodfordtooling.com

calibur

BY MARK CASS

Making their mark

The editor takes a day out from a busy schedule to visit this year's batch of college graduates who are impatient to show the world what they can do. Some are calling it a vintage year. Read on and see what you think...

This very stylish cabinet has a strong bird motif; even the cab itself suggests flight. Called *Linnulend (Flight of a Bird)*, it's by Mari-Liis Riives from Estonia and is inspired by children's imaginations taking flight while reading. Metal birds are both decorative and practical

Called *The Shard*, these faceted stainless steel panels are polished so highly that they really look like mirrored glass. This staggeringly impressive unit in fumed oak is by Jessica Fairley from Williams and Cleal in Somerset; rock star customers queue here please!

Waiting patiently at the reception desk while the girl on duty searched for my entry ticket, it struck me that there was a slight but noticeable tension in the air of the lobby at the Business Design Centre. This listed north London building, formerly the Royal Agricultural Hall and dating from 1862, had just opened its doors for the second part of the annual New Designers show – the part featuring furniture and product design. It was a country mile away from the livestock and farm equipment once exhibited there in earlier times.

Doing business

Entering the main hall, I was confronted by an almost tangible din created by a vast number of eager students demonstrating their gleaming models, artefacts and working devices to a similarly sized audience of interested – and in some cases very interested – parties. It soon became clear that many of these aforementioned interested parties were looking for products – and designers of products – that they could take to market and begin the circle of capital life together.

It's not often you see a boat at a furniture show, so I had to include Xenia Moseley's *Journeywoman's Boat*. It's loosely based on the historical coracle, made mostly of willow, and sports a whole cow hide (including tail) as its outer layer. It's entirely sea-worthy, although you may want mill-pond conditions for preference

A very nice combination of turned timber and plastics, these desk lamps are completely contemporary. Made by Matthew Parrish from Plymouth, they're batch-producible; I expect to see them in a stylish shop any day soon

I don't know: you wait around for boats at shows, then two arrive together. The only thing is, this one's a bath, but it draws on local shipbuilding traditions for inspiration and constructional techniques. Completely watertight, it's by Ollie Smith from Plymouth Universtiy.

The Dollshouse coffee table by Joanna Bicz is made in walnut and painted mdf. Under a glass top there's a layout of rooms for the kids to play with as a way of linking the generations

Talent spotting

There was a great deal to be gained for much of the crowd, and this added in no small way to the feelings of excitement experienced by nearly everyone there… including me! Part of my mission, as well as seeing at first hand the latest work from the nation's brightest woodworking students, was to spot any emerging trends in woodwork and hopefully to see a new variation or two on some existing or traditional themes. It's always good to see new work, and to feel the enthusiasm of a new generation.

Transport of delight

It wasn't long before I once again experienced the feeling of stumbling into some kind of Willy Wonka sweetshop, surrounded by bright colours and fantastic shapes, and wanting to sample everything all at once. Fortunately, my near hysteria went unnoticed in the general exhilaration, and the excitement I felt was more likely attributed to sharing the consensual buzz that seemed to fizz and crackle in the air.

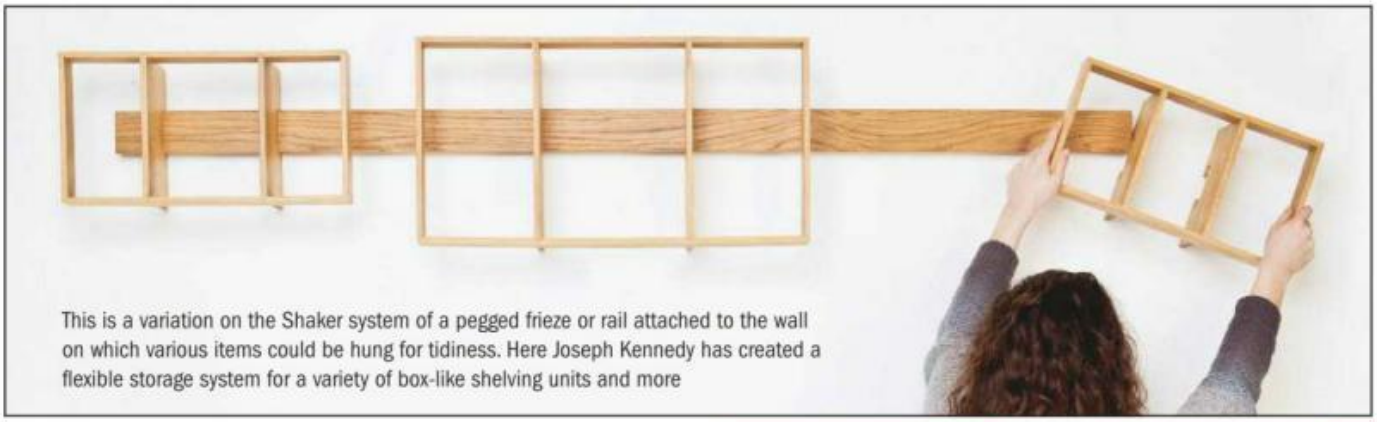
Here then, are just a few samples of some of the work that was on show. I hope they'll give you an idea of the sort of thing that young woodworkers are producing these days. It was good to see that, though many of the designs are clearly 'of the moment', traditional making skills were still present in a satisfying number. Many of the students had managed to create a very pleasing mix of a novel design with top-class technical ability to show exactly what they were capable of. All in all, it makes me feel very optimistic for the future of woodwork in the UK. What do you think?

This fine cabinet on legs houses storage for drinks and glasses, and has a drawer for odds and ends as well as a slide to provide additional preparation space. In English elm and sycamore, it's made by Richard Hardy, from the Williams and Cleal School of furniture making

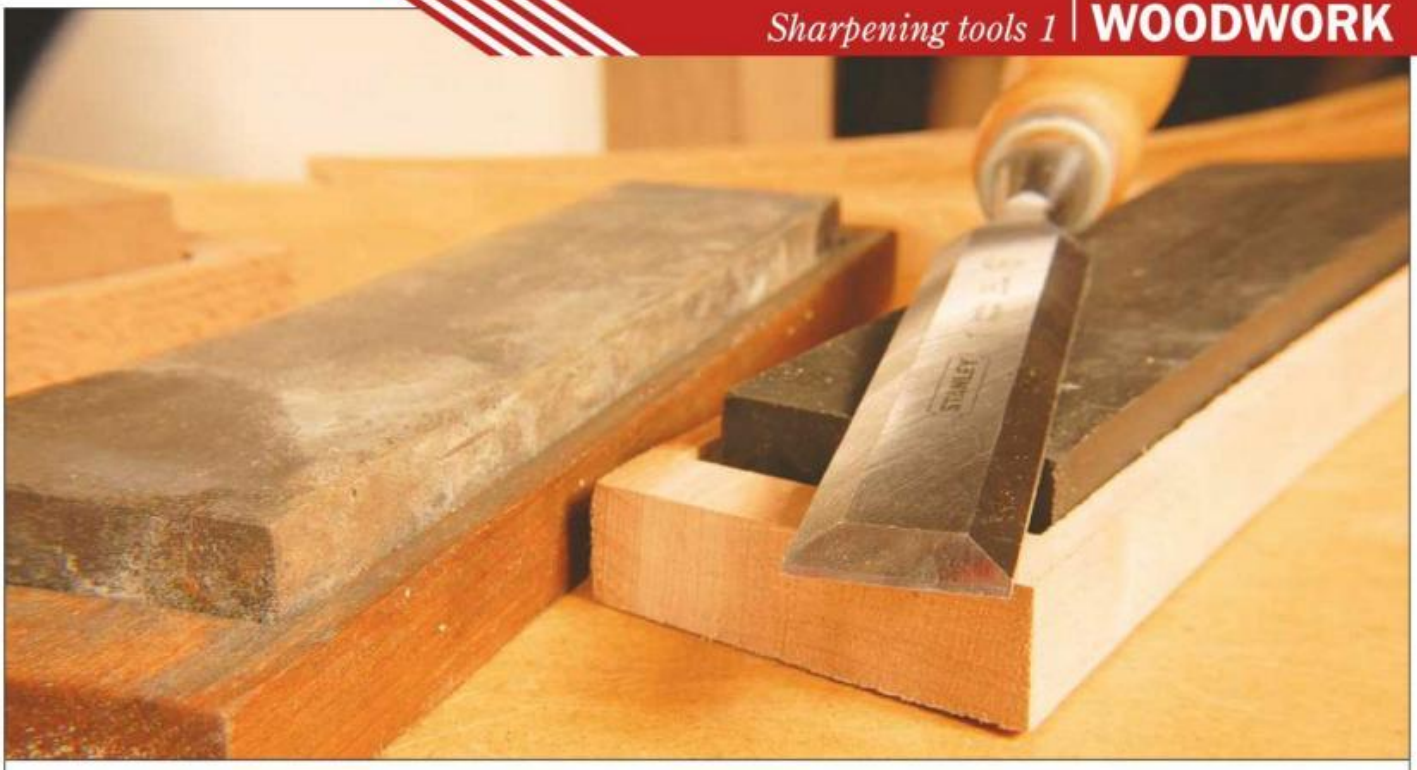
This lovely piece in contrasting timbers (wenge and steamed pear) makes full use of curves, including the panels. Called *Yin-Yang*, it's a very well-worked example, and is something I think a lot of us would give house room to. It's by Kung Mana Tongmee, and I hope to see more of her work in the future

Called the *Heritage Table*, this one-drawer desk is a blend of the old and the new, with English oak and slip-cast porcelain. Joanna Weaden used a mix of modern technologies and traditional materials

Making a chair like *The Mantis* should be high on every woodworker's to-do list. Much trickier than you might think, this one is a fine example by Sam Greig which possesses something of the sinister grace of its namesake insect



This is a variation on the Shaker system of a pegged frieze or rail attached to the wall on which various items could be hung for tidiness. Here Joseph Kennedy has created a flexible storage system for a variety of box-like shelving units and more



BY MICHAEL FORSTER

Honing: a guided tour

I wasn't impressed by my first taste of champagne, but the bottle *was* cheap. Then the kind manager at our honeymoon hotel placed a bottle of serious quality in our room. It was like finding the Holy Grail...

For someone who didn't know the difference between Burgundy and Bermondsey, I instantly became strangely discerning about my sparkling wines – not a desirable state of affairs for a couple of impecunious newly-weds with a mortgage to consider!

I mention this completely irrelevant experience because it's the closest analogy I can find to my experience in sharpening edge tools. For years I'd believed I was using sharp tools – and that this was how sharp tools should function – and I blamed all my woodworking problems (which sadly were many and manifest) on my own technical mediocrity.

Spot the difference

The first time I used a truly sharp tool was, without a hint of hyperbole, life-changing. Well-honed tools make woodworking not only more enjoyable but much safer, because they're more controllable. They also raise the quality of work unbelievably. Learning to sharpen my tools properly raised my hacking and bodging to a completely different level.

After that, I could easily have become a sharpening bore, never to be invited to a dinner party again – and come to think of it, it's been a while... So I need to remind myself that sharpening's a means to an end and nothing more. It's the actual woodworking I love; sharpening has to be simple and quick so I can 'sharpen and go'. So how do we attain this happy state?

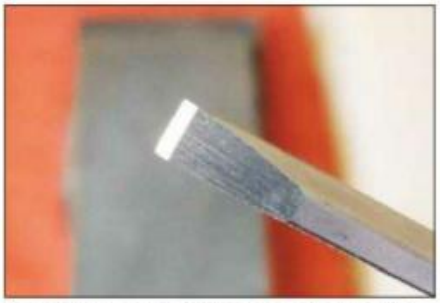
An edge defined

Essentially, a sharp edge is the meeting point of two flat surfaces that produces an edge too narrow for light to be reflected from it. This can be produced quickly by

A honing guide ensures a constant bevel; just set the required blade projection with a rule

This guide from Axminster has the most-used blade projections marked on the side

For greater precision and convenience, you could make up a simple bench jig like this one



The control a guide offers is particularly helpful for very narrow blades like this 3mm chisel

Gripping the tool by the edges keeps the blade square to the stone surface during honing

grinding, but that's not the end of the story. Put that edge under a microscope and it would look like more like a saw than a plane or chisel. Theoretically those serrations will always be there, but it's possible to reduce them to insignificance and we do that by first honing and then polishing the edge.

Get a guide

For far too long I was too proud to use a honing guide; I believed that 'proper woodworkers' didn't need such things. Well, actually some don't – but most of the ones I know do use them. What distinguishes 'proper woodworkers' is the quality of their work, not how they achieve it.

Honing is an engineering task, requiring precision, and for such tasks 'proper' engineers unashamedly use jigs! Honing guides enable repeatability, so that I'm not wasting time changing the angle of the bevel at every sharpening.

Now prepare yourself for a surprise: this is one rare instance where I think cheaper is better. The Axminster gauge, based on the old Eclipse, does nearly all my sharpening and it has two great advantages over many more expensive guides. Its simple but effective tool-holding system grips the tool by the edges and ensures that it's square in the guide, and its often criticized narrow roller allows me to tweak the lateral angle in a controlled way as I hone – great for radiused plane irons in particular.

Next we come to the real nitty-gritty: which sharpening medium should I use. I'm going to run through the ones I've used over the years and give my subjective impressions of them.

Get a stone

When I began woodworking, just about everybody used an oilstone – usually a double-sided carborundum stone housed in a simple wooden box and lubricated with that old faithful, '3-in-1' mineral oil.

This system had – and still has – its merits. The kit was cheap, so unlike some modern sharpening paraphernalia it enabled anyone just setting up to get reasonably sharp tools without facing bankruptcy. It took up very little space in the toolbox, was simple to use and, to a lesser extent, to maintain. The stone held its flatness reasonably well, but was difficult to flatten once it became worn, and over time it got clogged up with sharpening detritus.

Using one was a notoriously messy business, and I seemed congenitally incapable of avoiding stains on my hands and smears on the workpiece, which then made finishing a nightmare. The same used to happen with fountain-pen ink in my schooldays, and I now experience a similar phenomenon with jam doughnuts, which is why those essentials of gracious living are sadly banned from the workshop!

Making the grade

However, others not blessed with my endearing natural untidiness seemed to manage the process pretty well. The main disadvantage of this system is that it's a bit Henry Ford – any grade of stone you like as long as it's this one. Most stones had a coarse and a fine side for grinding and honing respectively, and that was basically it. Finer stones were available, but if you wanted to clutter the place there were better media available to do it with. A final irritation – rather than an insuperable problem – was that the stones generally available were just a little narrower than the industry-standard No 5½ plane iron.

Having said all that, I can't deny that a lot of very fine work was done by chippies down the ages using some kind of oilstone – but I wasn't one of them. Unbeknown to me in my state of blissful ignorance, my tools were 'D-U-L-L-dull, darling.'

Take to the water

Whether water stones were available in Europe during my fleeting moments in the

business I don't know, but if so they kept their heads well down whenever I was around. When eventually I discovered them – and at the same time made an uneasy truce with the aforementioned honing guide – my woodworking experience was about to be transformed.

The big advantage of water stones is also paradoxically their worst shortcoming: water stones don't clog, and constantly present fresh, sharp grits to the tool, enabling them to remove metal comparatively rapidly even when using fine grades. They do this by having the grits suspended in a soft clay which wears and washes away, taking the grinding debris and dulled grit with it and exposing fresh grit. As this happens the stone becomes misshapen, but it's easily flattened by rubbing it on some wet-and-dry paper mounted on a piece of float glass. Because of its method of production, float glass is as flat as the flattest thing you're ever likely to find on a spherical planet.

Three of a kind

The stones come in a wide variety of grits and sizes, and I have a dedicated sharpening station in my workshop on which all the stones are stored, along with a sheet of 12mm float glass and some wet-and-dry for flattening. Generally, three stones tend to comprise a set: a coarse 800 grit for forming the secondary bevel, a 1200 for honing and – big leap coming up – a 6000 or more for polishing which further refines the edge and improves sharpness.

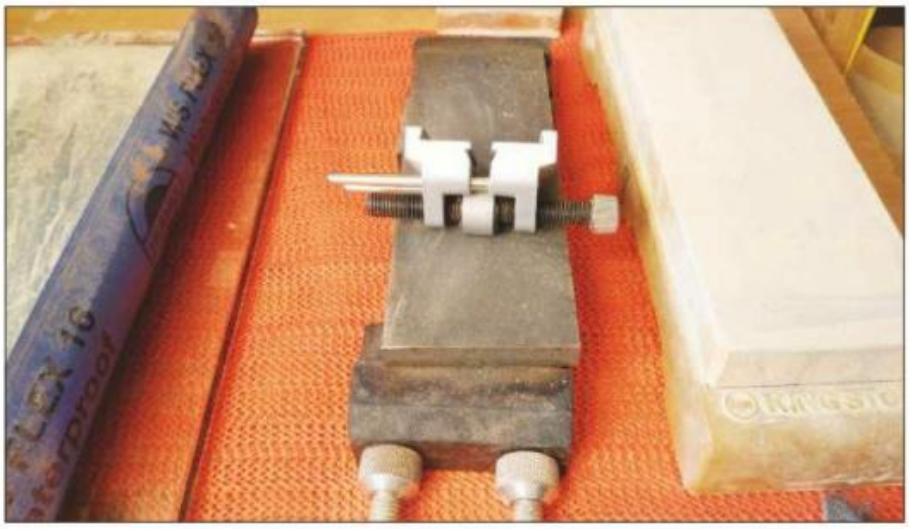
The downside is that this is not a low-maintenance, sharpen-and-go solution. The stones need to be flattened frequently during and after use to ensure they don't become misshapen and distort the tools. This can quickly ruin a fine chisel, and then the only answer is either to spend hours re-flattening the chisel or to buy another. It's better (and cheaper) to flatten the stone!

Maintaining the flatness of water stones using glass and abrasive is not difficult, but it's one more bit of faffing about I can live very happily without, thank you! If I want that kind of excitement, I can usually find some wet paint to watch as it dries.

Messing about

The other disadvantage is that living with water stones is a messy old business. The slurry essential to the function is not as objectionable as that from an oilstone, but there's quite a lot of it to deal with. By far the easiest way is to have running water and a sink in the workshop, although I managed well for quite a few years with a bucket of water. As well as that, the superfine grade of polishing stone can be left out to dry, but the coarser stones must be kept in a water-bath when they're not in use. However, this is no real problem as a cheap plastic sandwich box will easily meet that need.

However, we're back to having a quantity of water in the shop, and without plumbing that can become irksome, especially when the workshop is at the end of a long garden. After a few hard winters on the trot, you might also do well to remember that with stones permanently saturated, the danger of the storage water freezing has to be borne in mind.



The narrow roller allows me to tweak the angle if I wish, and is great for radiused plane irons

Oilstones are simple, cheap and effective, and can produce reasonable sharpening results

Japanese water stones retain their cutting ability well thanks to their construction...

...but the way they shed surface grit during the sharpening process means that they need frequent flattening to stay in shape

I use a 1200-grit water stone for honing and an 8000-grit one for polishing, plus wet-and-dry paper on float glass to flatten them

Finally, remember that water and ferrous metals don't mix. Many years ago my original toolkit was almost completely destroyed by being kept in a damp garage, so I got a tad neurotic and always finished every sharpening session by drying the stones carefully and applying camellia oil, replacing the lids on all the containers and generally obsessing about humidity.

Water stones were an important part of my learning process and gave me my first experience of using really sharp tools, so I definitely have a soft spot for them. However, 'sharpen-and-go' they're not, or not in my terms anyway.

For coarser work, I used to have an 800-grit water stone. After my temporary dalliance with diamonds, I kept the diamond stone for that to reduce the mess and avoid the flattening

Water stones need to be stored immersed in water. Don't let them freeze in winter

With so much water about it's worth protecting the tools from rust. I use camellia oil

Diamond stones come in a huge range of sizes – including the credit-card size and a handy one that'll hang on a keyring

I use my Tormek wet grinder for general grinding, and the leather wheel for stropping carving tools. I still hone chisels and planes by hand

Rough diamond

At a woodworking show a few years ago, I watched a demonstration by a company rep extolling the virtues of diamond stones – very useful pieces of kit that can be used for a whole variety of sharpening tasks. They come in just about every conceivable shape and size and a few more besides, and can be used with a variety of lubricants including plain water as long as you're careful to dry them well. Importantly, they don't wear away like other stones, and diamonds are of course the most durable abrasives you can have.

The downside of all this (although I've never had an issue with mine) is that some woodworkers have expressed doubts about the flatness of diamond stones, and as far as I've been able to ascertain they don't come in anything approaching the ultra-fine 8000 grit water stone that I used to use for polishing.

Substitute's bench

However, my hope was that I could replace my grittier water stones with a diamond stone, retain the 8000 polisher (which doesn't need a water bath to live in), and so simplify the sharpening process a little. The first thing I learnt (the hard way) is that fresh diamonds cut more aggressively than their grit ratings would suggest. Even the 'fine' side, when new, will rapidly put deep scratches in the back of a beautifully polished chisel. The diamonds mellow over time, but I was still left with the angry chisel.

On the clogging and cleaning front, my stone came with a cleaning block – remarkably like a rubber used for erasing pencil marks – and instructions to use it regularly. I never had a great deal of success with it, but that might be my endearing natural scruffiness again in that I didn't use it often enough.

A flawed stone

In practice, I found that the fine side of the stone didn't leave my edges ready for the polishing stone. I still needed to use the 1200-grit water stone in between, so the diamond didn't really benefit me very much considering its high cost. All ways round it wasn't a successful experiment – for me. I still retain the stone as part of my general kit, but I don't use it for routine sharpening.

If you do feel that diamonds are forever your choice of sharpening medium, then you need to know that if you buy cheap you'll probably buy twice. While the leading-brand one I used never gave cause for concern, it seems generally accepted among professional users that some of the cheaper brands definitely have flatness issues – and while with water stones that's not significant as you'll flatten them anyway, diamond stones are another matter.

That's not to dismiss diamonds as a sharpening medium; that would be crazy. Various manufacturers have produced a wide range of sharpening devices that have real value in particular circumstances – but as a general day-to-day sharpening solution they didn't sparkle for me.

The water returns

So the water stones were restored to pride of place on the sharpening station, the bucket of water re-installed beneath it and I was back to the old flattening routine… for a while. Of the systems I've tried so far I was undoubtedly happiest – and worked best – with these. But I'd hardly sighed a big 'Hey ho!' and resigned myself to the faffing and flattening routine than a favourite tool supplier sneaked up behind me like a pusher at a party, tapped me on the shoulder and whispered, 'Want to try some of this?'

Well, I have to be honest: I did try it. And now I'm hooked. And there's no going back. What was it? All will be revealed next month…

Makita®

THE CHOICE IS IN YOUR HANDS

110v/240v Multi-Tool
TM3000C

14.4v Multi-Tool
BTM40
LITHIUM-ION

Thumb On/Off switch.

Dust extraction attachment.

18v Multi-Tool
BTM50
LITHIUM-ION

OIS
Oscillating Interface System

Constant Oscillation control.
Variable oscillation: 6,000 - 20,000 OPM.

Accessories can be installed at 30° increments, across 360°
Compatible with OIS accessories.

Makita has a comprehensive range of multi-tool accessories to suit every job.

Please see the Makita 2013 accessory catalogue or visit www.makitauk.com

Makita Multi Tool Video
Scan the QR code or visit www.makitauk.com to watch the video.

3 YEAR WARRANTY

Visit www.makitauk.com to register for your Makita 3 Year Warranty.
Terms and conditions apply.

Follow to be entered into the prize draw.
Web: www.makitauk.com

BY KEITH SMITH

Basic benchwork

This simple bench was designed to fit in a country kitchen and replace a couple of chairs so the dining table could be pushed up against a wall when the extra seating wasn't required

This is a relatively simple construction, and it should be possible to make it in a weekend. I've kept the legs relatively plain, but a more elaborate design could easily be substituted.

I bought two 3.9m lengths of 150 x 50mm unsorted redwood costing just under £30 from my local timber merchant for this bench. I deliberately bought a bit more than I needed so I could cut away any unsightly knots and splits. They came as sawn boards which needed to be planed to size. If you don't have access to a planer thicknesser, it would be easier to buy PSE (planed square edge) timber instead. Make sure you choose the boards yourself, and look along their length to make sure they're free from twists and warping.

Four-part harmony

The bench has just four components (above): a top, two legs and a single rail which supports both the legs and the top. With the exception of the leg-to-rail joints, the grain runs in the same direction. This allows for a simplified construction, because there's no need to allow for wood movement. As the leg-to-rail joints will potentially be put under a lot of stress, I planned to wedge the tenons for extra strength.

Making wider boards

As I was using sawn timber, I first had to plane the boards with one flat face and a flat, square edge. A simple butt joint would probably have been strong enough to glue the boards together to create the wider boards I needed, but to ensure that the joints wouldn't open up I decided to add some size 20 biscuits, **photo 1**. Once the joints for the top and the two leg pieces were dry, I planed the timber to thickness and cut them to their final size.

I allowed 70mm at each end of the support rail for the tenons, and then used a steel rule to mark out the curve on its bottom edge which I then cut out on the bandsaw, **photo 2**. This left quite a rough finish and needed cleaning up with a sharp spokeshave, **photo 3**.

Curving the legs

I marked the three curves on each leg using steel rules pivoted around small nails, **photo 4**, to give the desired shape. The bottom curve which creates the feet is quite tight, so I made a number of parallel cuts down to the marked line before cutting out the curve, **photo 5**. As I'd marked the shape of each leg out partially by eye, rather than using a template, I stood both legs up on the bench and checked that they looked right, **photo 6**, before marking out the mortises for the support rail.

I added some size 20 biscuits before joining the halves of the legs and top

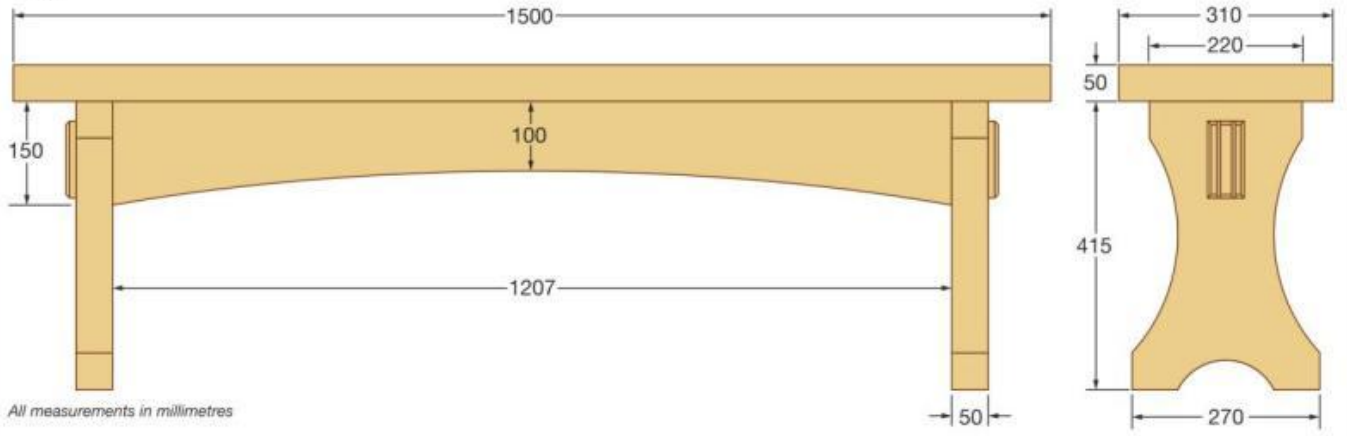
I marked the rail's curve with a long straightedge and cut it on the bandsaw

The bandsaw blade left a poor finish, which I cleaned up with a sharp spokeshave

After marking out the leg shapes, I flexed a steel straightedge round a nail to create the curves

When cutting a tight curve on the bandsaw, these parallel cuts allow the waste to drop away

Fig 1



6

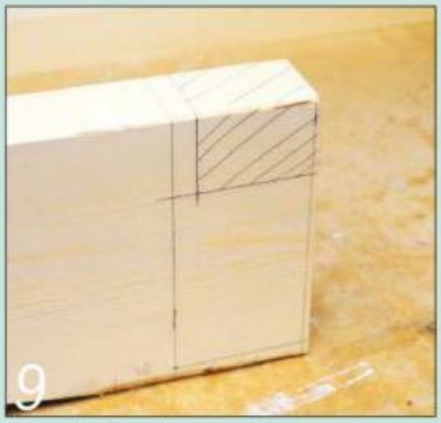
Once the legs were cut out, I thought it a good idea to make sure they looked right together

7

I removed the bulk of the waste from the deep leg mortises with a Forstner bit...

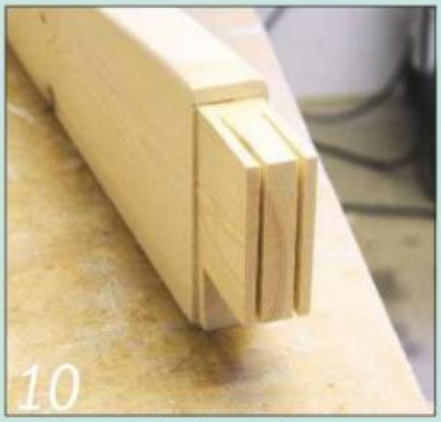
8

...before cleaning them up and forming the recess for the tenon haunch with a sharp chisel



9

I haunched the rail tenons at the top to prevent them twisting in their mortises



10

I added a scant shoulder to each tenon and cut two long slots to take oak wedges

The legs were too big to fit in my mortiser, so I had to cut them out by hand. To speed up the process I used a Forstner bit to remove most of the waste, **photo 7**, before cleaning up with a bevel-edge chisel. I then formed the shallow cut-out at the top of each mortise to take the haunched tenon on the rail end, **photo 8**.

Haunching the tenons

I'd allowed 70mm for each support rail tenon. These were haunched at the top to prevent them twisting whilst leaving some strength in the legs, **photo 9**. I wanted to cut a shoulder to the cheeks of the tenons, as this would make much neater joints, but I didn't want to lose any strength in the tenons, so opted for a scant 3mm shoulder. I cut the tenon down in height by 5mm to allow me to fit a slim wedge at one end and cut two wedge shaped slots, 6mm in from each cheek, which would house oak wedges, **photo 10**.

Time for a wedge

I glued and cramped the legs to the rail and then drove a softwood wedge into the gap at the top to lock the joint, **photo 11**. When the glue had dried I cut this wedge off flush with the leg before fitting two oak wedges per tenon, **photo 12**. These wedges will add some strength to the joint, but are mostly for decoration as they couldn't be driven in too hard without splitting the leg. Once the glue had completely dried, I trimmed the ends of the tenons to leave a 15mm projection and chamfered all the edges.

Hidden fixings

As the grain in the top ran in the same direction as the grain in the legs and support rail, there was no need to allow for wood movement, so I could fix the top

securely to the leg assembly. I wanted a hidden fixing and decided that dowels would work best, but I then faced the challenge of aligning 19 dowels perfectly!

I started by cutting a piece of scrap hardboard to the same size as the leg/rail assembly, and pinned it in place, **photo 13**. I could then drill the holes for the 12mm beech dowels down through the hardboard using a Forstner bit to give me clean holes. I then removed the hardboard template, turned it over and pinned it to the underside of the top before drilling corresponding holes into that, **photo 14**.

Dowel magic

I had some 500mm lengths of 12mm beech dowel which I'd bought a while back from the Axminster Tool Centre. I cut these into 50mm lengths and chamfered one end to make final assembly easier. I glued these into the holes in the top, leaving the chamfered ends facing out, **photo 15**. I then brushed more glue onto the dowels and fitted the top to the leg assembly, **photo 16**.

This may take some ingenuity in cramping to get them to pull up tight, but mine went together remarkably easily. I think it's important to be as quick as possible when assembling the top to the legs. If you are quick, there's still a small amount of movement in the dowels where they seat into the top, and this makes aligning them a bit easier.

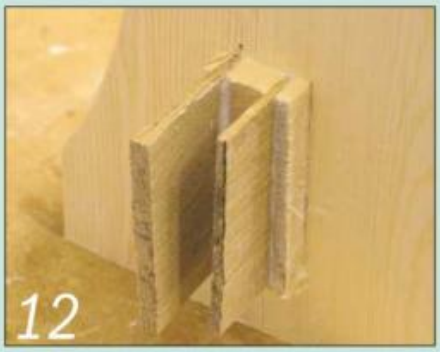
Finishing touches

After rounding over all the edges and sanding down to 180 grit, I had to pick a suitable finish. I'm not a fan of coloured varnishes, and staining softwood can be a hit-and-miss affair as the wood's variable porosity can leave a very patchy finish. I wanted to give this bench an aged finish, so I decided to brush on a caustic soda wash, taking care not to get the ends of the tenons wet.

I made up the mix to its highest recommended strength, adding the pellets slowly to the water; don't *ever* do it the other way round. Wear goggles and rubber gloves when mixing and using it, as it's a very aggressive agent and splashes will burn skin and ruin clothing.

Once the wash had completely dried (I left it for a couple of days), the wood grain had been raised and needed sanding back down to 250 grit before I could give the bench three coats of clear satin Osmo Polyx oil. Then all that remained was to deliver this surprisingly heavy piece of furniture to my waiting customer!

After assembling the joint I drove a softwood wedge into the gap at the top to lock it



I cut this wedge off flush with the leg before fitting two oak wedges per tenon

I pinned some hardboard to the top of the leg assembly to form a template for the dowels

I then used it upside down to drill the corresponding holes in the underside of the top

15

Glue the dowels into the holes in the top with the chamfered ends facing out

Brush more glue onto all the dowels and fit the top to the leg assembly

Fangfest

A Celebration Of Traditional Crafts

Fangfoss,
Nr York
7th & 8th
Sept 2013
9am to 4pm

The Rocking Horse Shop
Watch our experienced staff demonstrate Rocking Horse making.
Special offers on Plans, Timber & Accessories over the weekend.
www.rockinghorse.co.uk
0800 7315418

A Great Day Out For All The Family
FREE Entry & Parking
Come & Join In The Fun

Pottery Demonstrations, Classic Car Show, Chainsaw Carving, Craft Marquee, Carving Tools, Art Gallery, Archery, Traditional Fun Fair, Stone Carving, Flower Festival, Clay Pigeon Shooting, Cream Teas, Local Beer, Live Music & much more!

www.fangfest.org.uk

www.facebook.com/fangfest

FREE!

EINHELL DRILLS & MULTI-TOOLS

WORTH OVER £800

We have 20 power tools from the Einhell Blue range to give away this month, so there's something for everyone. First up are ten 18V cordless drill/drivers worth around £30 each, closely followed by ten corded multi-tool sets worth about £50. Simply tick the box on the coupon below to indicate which tool you'd like to receive. We'll do the rest and arrange for Einhell to deliver your free tool direct to you.

READ OUR REVIEWS ON PAGES 75 & 83

Einhell
Quality tools at affordable prices
Established in 1964

EINHELL BT-CD18 CORDLESS DRILL/DRIVER

18V cordless drill/drivers are powerful and useful tools, but they can be expensive. However you don't need to empty your wallet to get 18V power these days. This Einhell model may be a bit basic, but it packs a lot of power. It features a 10mm keyless chuck, variable speed from 0-550rpm and no fewer than 21 torque settings for optimum screwdriving performance. It comes with a single Ni-Cd (nickel-cadmium) battery, a charger, a screwdriver bit and a storage case.

EINHELL BT-MG 135/1 MULTI-TOOL SET

A rotary multi-tool is an extremely useful gadget for all manner of tasks where a larger tool simply can't be used. This Einhell multi-tool set is an ideal addition to any toolkit, and includes all the attachments you'll ever need. Its motor is rated at 135 watts, and its variable speed ranges from 10,000 to 32,000rpm. The set includes a very useful flexible drive with a hook and bench stand, and comes in a storage case containing almost 200 accessories.

For more technical information about these tools, or to request the 2013 Einhell catalogue, please call 0151 649 1500

HOW TO ENTER

Fill in your personal details, then cut out the coupon (or photocopy it) and send it to:

Einhell Saw 0913
The Woodworker
MyTimeMedia Ltd
PO Box 269
Haslingden
Rossendale
Lancashire BB4 0DJ

The first 20 entries drawn at random will receive a free tool

The closing date for entries is 20th September 2013

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

Name.....

Address.....

.....

.....

Postcode.....

Daytime telephone.....

Mobile.....

Email address.....

I would like to receive a cordless drill ☐ **or** a multi-tool set ☐

Please ensure your personal details are correct, as they will be used to contact you if you win.
By supplying your email/address/telephone number, you agree to receive communications from MyTimeMedia Ltd and other carefully selected third parties.
If you do NOT wish to be contacted by The Woodworker and MyTimeMedia Ltd, please tick here: email ☐ post ☐ phone ☐.
If you do NOT wish to be contacted by carefully selected third parties, please tick here: email ☐ post ☐ phone ☐.
For our full Privacy Policy and Terms and Conditions, please go to www.getwoodworking.com

Scotland's National WOODWORKING & POWER TOOL Show

THE SHOW FOR SCOTLAND'S WOODCRAFTSMEN

FRIDAY 25TH & SATURDAY 26TH OCTOBER 2013

A great line up of Demonstrators and Stars including:

Andrew Hall 'The Hat Man'

Margaret Garrard

Tony Wilson

· LOWLAND HALL ·
· ROYAL HIGHLAND CENTRE ·
· INGLISTON ·
· EDINBURGH ·
· SAT NAV EH28 8NB ·

ADVANCE TICKETS CAN BE PURCHASED BY CALLING THE TICKET HOTLINE:

01474 536535

OR SECURELY THROUGH PAYPAL AT:
WWW.NELTON.CO.UK

FREE PARKING, SHOWGUIDE AND RAFFLE.
OPEN HOURS:
9:30AM – 4:00PM BOTH DAYS.
ENTRY:
ONE DAY £7 / IN ADVANCE £5
TWO DAYS £10 / IN ADVANCE £7
UNDER 16'S FREE

Welcome to

THE TURNERS WORKSHOP

The Company with Traditional Values

Our aim is to provide quality items at a fair price.

THE TURNERS WORKSHOP

The Company with Traditional Values

Vincent Coates - proprietor

In the hussle-bussle and impersonal world we live in today, I want to turn back the clock and provide a good old fashioned, personal, professional and friendly service to all my customers.












- Pen Kits
- Woodturning Tools
- Abrasives • Adhesives
- Bushing Sets
- Finishing Products
- Books & DVDs
- Pen Making Accessories
- Workshop Furniture
- Knife Making Sets
- Turning Projects

The Turners Workshop will appeal to all Woodturners, Pen Makers, Pen Collectors, Craftsmen and Craft-ladies! Visit our comprehensive shop at:

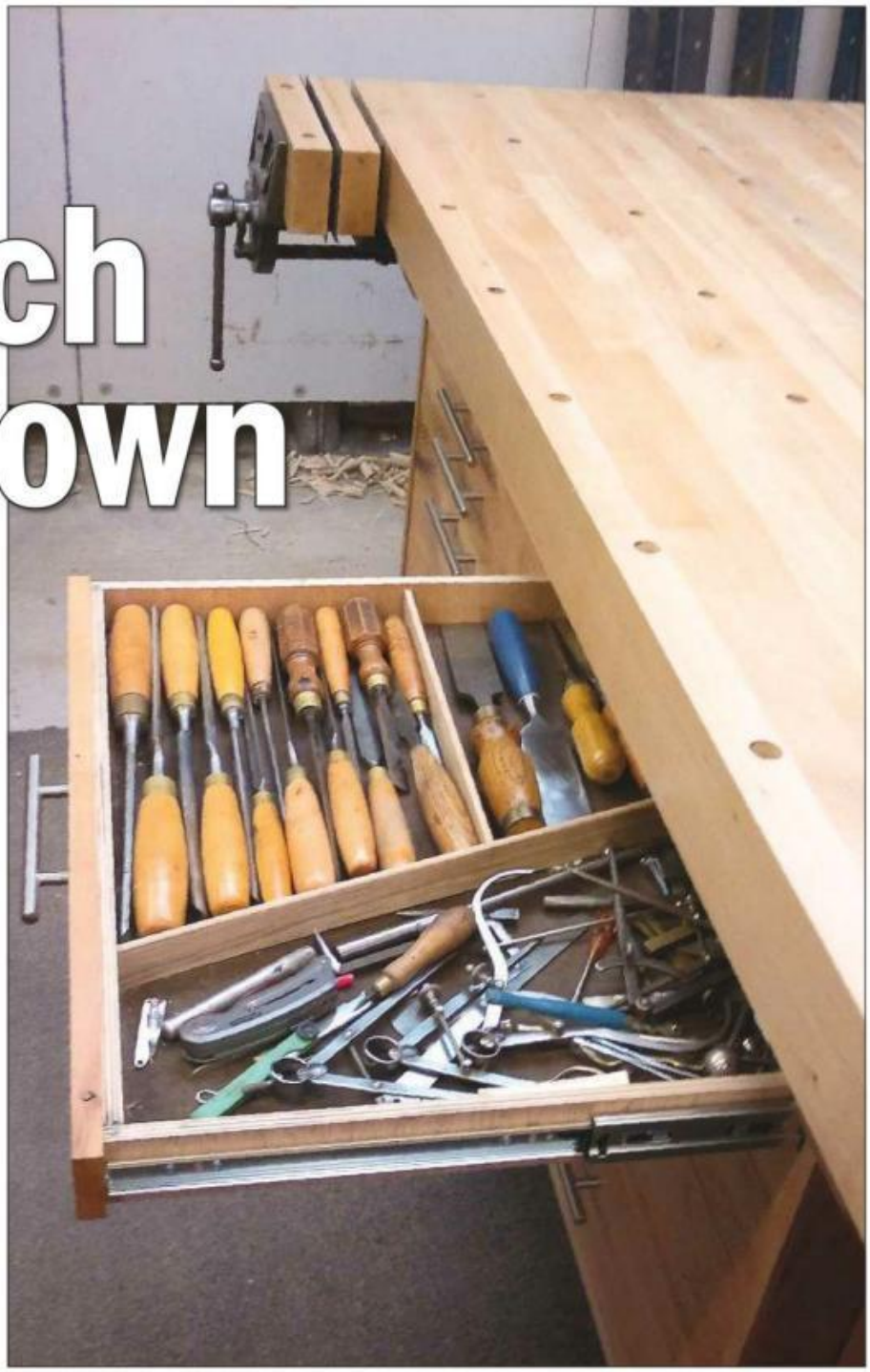
www.theturnersworkshop.co.uk • email: **mail@theturnersworkshop.co.uk** • Tel: **07870 587615**

The Turners Workshop, Newcastle Business Village, 33 Bellingham Drive, Unit 5A, North Tyne Ind. Est., Newcastle Upon Tyne NE12 9SZ


COLT · Robert Sorby · CHESTNUT · PROXXON · BriMarc

BY PETER NICHOLSON

A bench of my own



I've worked at many benches over the years, but none of them has been quite right for me. They've been too high, too low, too shallow, too wobbly... until now. I've finally designed and built the bench of my dreams

I started my woodworking career at 16, working as an engineering patternmaker. Over the following 35 years or so, my woodwork has taken me through many different disciplines including joinery, boatbuilding and antique restoration to name but a few. All these separate but related trades have different procedures and preferences for things such as bench height and work holding. As my experience level grew, I made mental notes about all these requirements, and vowed one day to make the ideal workbench for my own use. I've finally done it...

There are certain qualities that all benches should have regardless of their intended use. I believe all benches should:

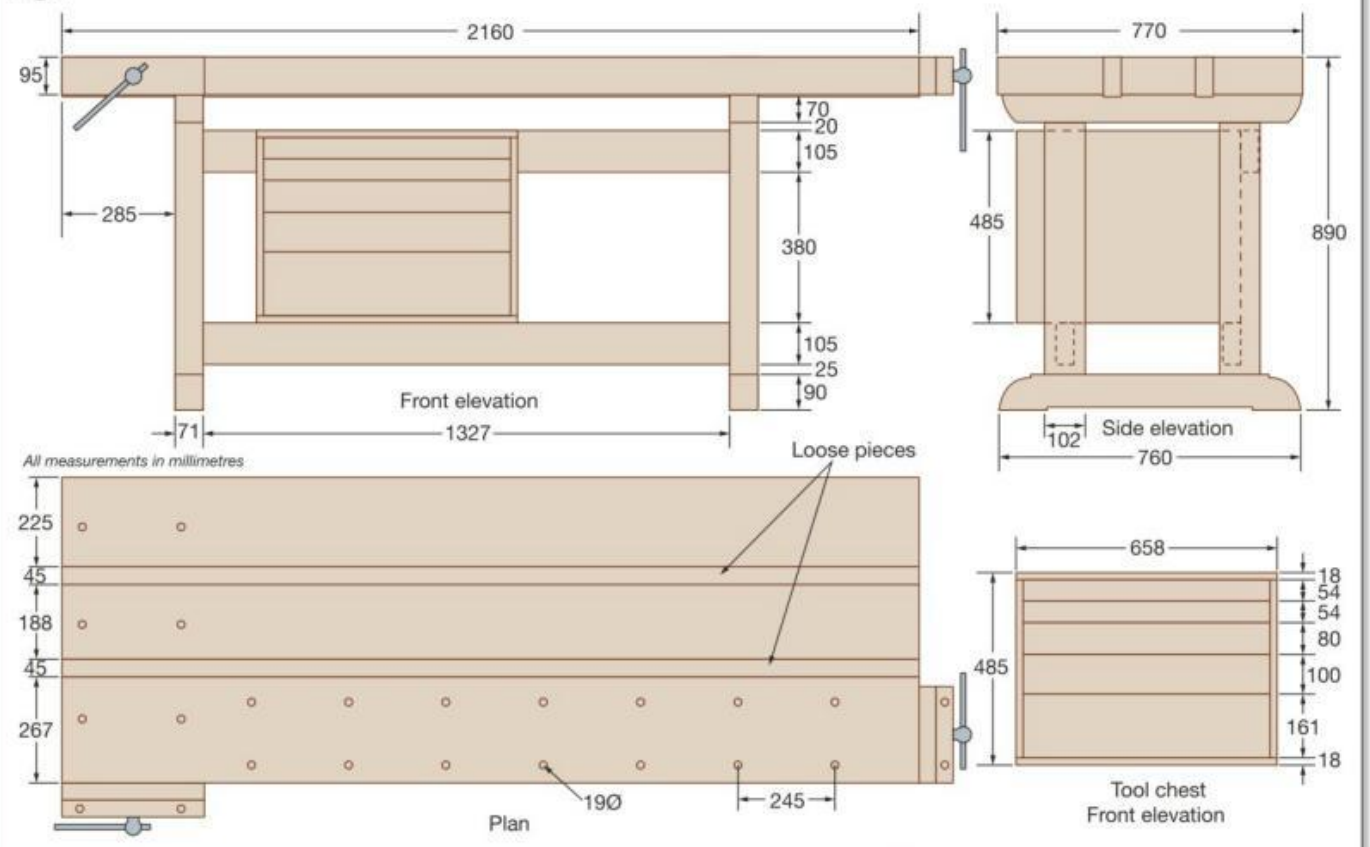
- be made of a hard dense timber, preferably light in colour with no highly decorative grain, as this can be hard on the eyes when doing close-up work;
- be of heavyweight construction and non-racking in all directions;
- incorporate several different ways of holding work securely;
- have a solid bench top which can be resurfaced easily when necessary;
- include space for storing a wide range of hand and power tools.

What do I need?

In addition to these essentials, I've included a list of my preferred likes and dislikes.

- The ideal height for a bench is something I've wrestled with over and over, because it depends on whether your work involves using hand tool or power tools, wood finishing or carcass assembly. Most of my work is hand-made construction which incorporates all of the above, so the best average height for me is wrist height.
- A front and tail vice with independent rows of dog holes gives lots of flexibility when it comes to holding work of different shapes and sizes.
- A large, level bench top is very good for carcass assembly and glue-ups, and is easy to keep clean and tidy too.
- Being able to clamp work down on all four sides and in the centre of the top is very useful.
- Removable centre sections of the benchtop are ideal for cramping work and when preparing biscuit joints.

Fig 1



BEECH WORKBENCH CUTTING LIST

All dimensions are in millimetres

Part	Qty	L	W	T
Trestle top rail	2	760	70	71
Trestle post	4	800*	102	71
Trestle shoe	2	760	90	71
Stretcher rail	3	1470	105	45
Top 1	1	2160	267	93
Top 2	1	2160	188	93
Top 3	1	2160	225	93
Infill pieces	2	2160	45	100*

*An allowance for trimming has been added.

1

Use a chalk line to mark up long boards like these accurately for trimming

2

Cut off the waney edges on the bandsaw. Use roller stands if you're working alone

■ I don't like tool wells; they collect shavings and rubbish, and they promote lazy tool storage.

■ Tool storage underneath the bench leads to good housekeeping and adds massive weight to the bench. Removing tool boxes from the bench top surface is also good woodworking practice.

Starting from scratch

I decided that there would be no corner cutting in time or materials when constructing my bench; it would deliberately have an over-engineered feel. So I started by doing some drawings, preparing a cutting list and estimating the materials I'd need. A few days later a van-load of 75 and 100mm thick waney-edged beech arrived, and I handed over around £400 for it. It was time to start work.

Preparing the parts

Using the cutting list supplied, I rough-cut the parts required for the bench frame on the bandsaw. Using a chalk line is the easiest way to ensure straight lines when cutting off the waney edge, **photo 1**. **Photo 2** shows the boards being cut; roller stands are very helpful here if you're working on your own.

Joinery tips

The two end frames each consist of a top rail, two posts and a shoe, as shown in

fig 1. There should be no problems here for the seasoned woodworker as they're constructed using standard joinery techniques, but a few tips might help.

The trestle shoes have an 8mm deep cut-out in the bottom edge to ensure that they don't rock if the floor is uneven. The ends have a quadrant radius of 55mm blending into a step of 3mm, as shown in **photo 3**. A less pronounced curve is also formed on the ends of the top rails, **photo 4**. Both these features are purely cosmetic.

The posts are double-tenoned into 12.5mm mortises in the shoes and top. Cut the tenons on the bandsaw and remove the waste with a coping saw and chisel. I decided to peg the tenons for extra strength. Beech is a very dense timber, so it will help if you drill out most of the waste from the mortises before heading for the bench mortiser.

The bench top is unusual in that it consists of three separate sections with gaps between them. These can be blocked with infill pieces if a solid top is required, or can be used to allow cramps to be fitted in the centre of the bench. I'll describe how this works later on.

More mortises

Mark out and cut the mortises in the posts for the stretcher rails next. You'll see from **fig 1** that the front of the bench has only one rail mortised in the centre of the posts, whereas the back of the bench has two rails. The bottom rail is at the same height from the floor as the front rail, but is fitted near the front face of the posts, while the top rail is positioned near the back face of the posts. This is to accommodate the two under-bench tool chests.

Photo 4 shows the end frames being glued and dowelled; note the mortise positions in the rear post. **Photo 5** shows the completed underframe being glued and wedged. If your sash cramps aren't long enough, a simple fix is to use two cramps. Simply take off the adjustable heads and use the pins to fix the bars together, as I've done here.

Making up the bench top

The three sections of the bench top are each made from nominal 100mm thick beech and are laminated together from several strips, each about 45mm wide. I used biscuits between the strips to stop the laminations from skating out of line as I applied cramp pressure, **photo 6**. The width of these laminated sections will depend on the width of your thicknessing machine.

Once the three separate sections are laminated, they can be planed and then thicknessed down to 93mm, **photo 7**.

Cut the top rails and shoes to shape and drill out most of the mortise waste

Finish cutting all the joints; then assemble the end frames and peg the tenons

Cut the three stretcher rails to length and assemble the complete underframe

Each section of the bench top is made up of laminated and biscuit-jointed strips

Plane each completed top section smooth and then thickness it down to 93mm

The easiest way to trim the top sections to length is with a router and a guide fence

I prefer to use engineer's bolts rather than coach screws to attach my vice bodies

Fit spacers between the top sections as you attach them to the underframe

Attach the tops using coach screws driven up into them through the trestle top rails

Drill vertical 19mm diameter holes in the vice jaw blocks to take bench dogs

Mark lines along the bench top and drill dog holes along them at regular intervals

14


Lift an infill piece out of its slot if you want to fit cramps near the centre of the bench

15


Insert them upside down to form a raised lip. Note the housings on the underside

A roller stand is essential here if you're working alone to prevent cutter snipe.

The best way of cutting these massive tops to length is with a router and a guide fence, working from both sides, **photo 8**.

Fitting the vices

As I already had two traditional woodworking vices, I opted to make use of these. Their sizeable wooden jaw blocks meant I could still make use of bench dogs. These vices are much easier to install before the tops are fitted to the frame.

When I fit vices I don't like the coach-screw method. I much prefer to tap a thread into the bench, as shown in **photo 9**, and then to screw in engineer's bolts which give you more threads per inch than a coach screw. This is by far the most secure way to fit a vice. The photo also shows the standard cut-outs for the tail vice in the underside of one of the top sections.

The process is simple enough. To use 12mm bolts, drill a 10.2mm hole and then insert a 12mm tap into the hole and cut the thread by turning the tap clockwise one full turn, then anti-clockwise half a turn. Continue in this way until the tap bottoms out.

Fixing the tops

The three top sections are coach-screwed to the underframe through the trestle top rails. Cramping spacers between the three tops will ensure a truly parallel gap which will make the infill pieces much easier to fit later, **photo 10**. **Photo 11** shows the coach screws being driven up into the bench top through clearance holes drilled in the trestle top rails.

Drilling the dog holes

First drill the 19mm holes into the vice blocks, **photo 12**. Using two squares will help you to ensure that the drill stays vertical. Then draw two lines near the edges of the bench top and mark the dog hole positions at regular centres. Drill the holes truly vertical with the aid of a try square, **photo 13**.

The location (and spacing – mine are 245mm apart) of these holes is specific to individual needs. I like to have them near the front edge of the bench because when I'm using tools that require a fence – a router plane, for example – they help to prevent the fence fouling on the bench.

The infill pieces

Cut the two infill pieces about 7mm thicker than the bench top. When they're needed, they're located in position over the trestle top rails by shallow housings cut in their bottom edges. Put them in place and mark from underneath the bench where they sit on the trestle top rails. Then remove them, turn them upside down and use a tenon saw and chisel to cut the housings to a depth of 7mm. When the pieces are turned over and inserted back into their slots, they should lie perfectly flush with the bench surface.

As I mentioned earlier, these infill pieces are incredibly useful. Insert them when you want a solid bench top, and remove them when you need to position cramps in the centre of the bench, **photo 14**. Put them in upside down and they provide a raised lip against which you can locate a workpiece for jobs such as planing endgrain or cutting biscuit slots, **photo 15**.

A fine finish

Remove all sharp edges from the bench and sand it all down to 240 grit. I chose the traditional finish of linseed oil, with the first couple of coats thinned down 50:50 with white spirit. I put on several coats over a period of a week. Further coats can be applied if and when necessary.

Making the tool chests

My last requirement was to provide enclosed storage space beneath the bench for hand and small power tools, so I designed two rectangular chests to sit side by side on the lower stretcher rails. As you may not want these I haven't supplied a cutting list, but all the relevant dimensions are shown in **fig 1**.

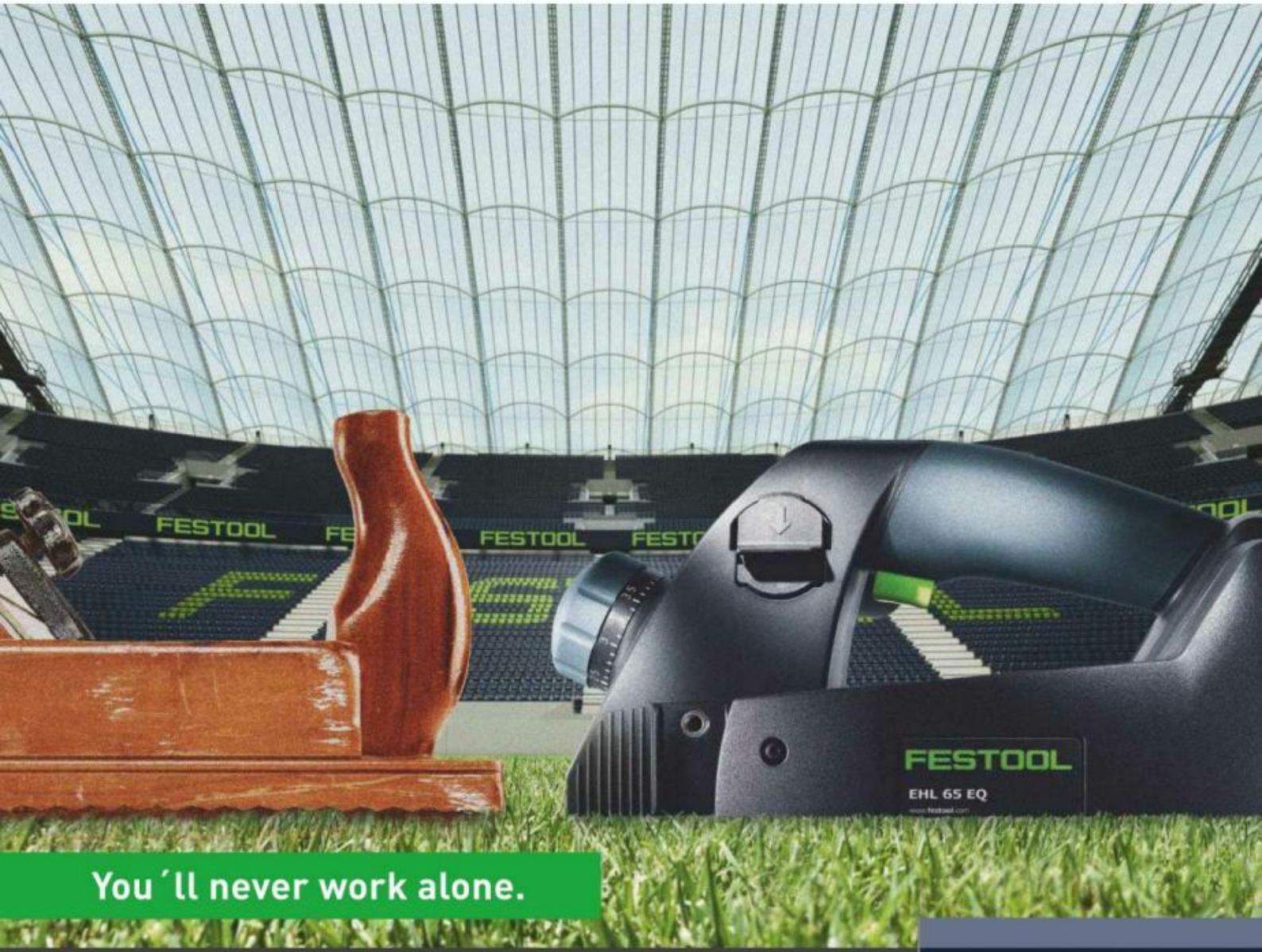
I used veneered 18mm plywood for the carcasses, and lipped the exposed front edges with beech to match the bench. The carcasses were biscuit-jointed at the corners, and the 6mm thick plywood back panel was glued into a routed groove in the carcass.

I made up the drawer boxes from 12mm plywood, with 6mm thick plywood bases held in a routed groove. I used biscuits again for speed, although the boxes could have been dowelled or even dovetailed. The false fronts are made from cherry for contrast, and each drawer is fitted on sliding metal runners.

The last job was to line the drawer bottoms with felt and to fit a series of dividers to house my tools. It was time to start doing some woodworking…

Time for a **substitution**

The new one handed planer EHL 65 EQ



You´ll never work alone.

SERVICE
all-inclusive

Tradition meets innovation. The new planer EHL 65 EQ weighs just 2.4 kg making it the lightest in its class. Fitted with a unique spiral blade, giving maximum surface quality, silent operation and easy blade change. We think its time for a substitution.

For more information visit your local dealer or **www.festool.co.uk**

FESTOOL
Tools for the toughest demands

www.**festool**.co.uk

Henry Taylor Tools

Peacock Estate
Livesey Street
Sheffield S6 2BL
Tel: +44 (0)114 234 0282
Fax: +44 (0)114 285 2015
email: sales@henrytaylortools.co.uk
website:www.henrytaylortools.co.uk

Makers of fine hand tools since 1834. Each individual tool is hand forged and hand finished by our Sheffield craftsman. Choose from our vast selection of cranked paring, incannel paring, incannel & outcannel firmer gouges, registered mortice, cranked bevel edge paring, long thin paring, bevel edge socket, heavy duty socket firmer, offset sockets, short cranks and swan necks. They will perform and serve you well for many years to come. See our website for a list of stockists or simply contact the office.

BY ANDY STANDING

P is for...

The aim of this series is to provide you with snippets of interesting and, I hope, useful information concerning all aspects of woodworking. It will explain some of the mysteries for those new to the craft, and will I hope inspire and entertain everyone else

The idea of pottering through the alphabet and looking at woodworking topics that begin with each letter in turn generates some unusual entries. But it's an interesting exercise in lateral thinking, because in a curious way one topic seems to lead on to another, even if there's no obvious link between them as you first consider them. Here's my latest batch; please read on, and see what useful nuggets you can pick up from my trawl through subjects beginning with the letter P.

PATINA

The patina of a piece of furniture refers to its appearance as it ages. Antique furniture acquires a patina over many years of use and repeated polishing, and this gives it a depth and character that can't be faked in the workshop. The colour of the timber mellows and wear marks appear. Dirt becomes ingrained in the finish, and the odd bit of damage occurs to add to the patina. Metal also develops a patina. For example, copper and bronze turn green over time.

PILOT HOLE

When driving traditionally-shaped woodscrews, particularly into hardwood, there's a risk of the wood splitting. A pilot hole is bored to provide space for the screw shank – the solid core of the screw round which the thread is cut. Its size should match the diameter of this shank. To pick the right twist drill bit for making a pilot hole, select a size that just disappears behind the screw shank when you hold the two together side by side.

When fixing two components together with screws, the component to be fixed should have a clearance hole drilled in it. This is a hole large enough to let the screw shank pass through it without binding, and ensures that the component will be pulled up tight against the one to which it's being fixed. The latter should have the pilot hole.

PUSH STICK

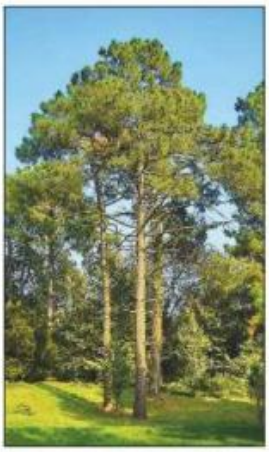
Safety is always of paramount importance when using workshop machinery, and you should never endanger yourself by taking any unnecessary risks, such as letting your fingers get too close to moving blades or cutters. Push sticks, as the name suggests, are plastic or timber sticks that are used to manoeuvre small or narrow workpieces past the cutters. Machines such as table saws or bandsaws are often supplied with them, or you can make your own. They will need replacing fairly regularly, as they may well touch the blade or cutter and be damaged as a result. Better that than your fingers, though…

PAWL

A pawl is small pivoted lever on a woodworking machine. An array of pawls is used to grip workpieces as they pass through the machine and stop them being thrown back at the operator. Pawls are sometimes fitted to the riving knife or crown guard of a table saw, and are always fitted to a thicknesser.

PINE

This is the most common variety of softwood. It's grown extensively in the UK, especially in Scotland, and in Europe. The European variety is often referred to as redwood. It's a cheap and easily worked timber that's suitable for general woodworking use, and is widely available. It's a fairly soft timber and can be easily damaged, though it can be finished to a high standard. There are many varieties of pine, and the term is often used in the trade to describe any type of white softwood.



PLANE

The hand plane is one of the oldest woodworking tools. It's used to flatten and smooth the surface of timber, and sometimes to shape it too. The oldest planes have wooden bodies with metal blades wedged in position at an angle, and this design is still available today. However, modern planes more commonly have metal bodies with fine adjusters for setting the blade depth.

A hand plane is a very satisfying tool to use, and demands a fair amount of skill to sharpen it and get the best from it. Like many hand tools, powered versions (often called planers) are available, which are excellent when a fair amount of stock needs to be removed, though they cannot produce the same level of finish as a razor-sharp hand plane. There is a huge range of plane models available, from miniature tools for specialist work through to large jointer planes for truing up long board edges.

PLUG CUTTER

When assembling furniture or woodwork, it's often necessary to use screws where traditional joints might be impractical. Carefully installed screws can look attractive; however, there are times when it's preferable to conceal them. One of the best ways to do this is to sink the screw head beneath the surface of the timber and then to cover it with a timber plug that matches the surrounding surface. To do this you need a pair of tools. One is a counterbore, which is a special drill bit used to produce the hole that contains the screw head. The other is a plug cutter, which makes a matching plug to fill the hole. These tools are usually sold as a matched pair to suit various screw sizes. For best results, a plug cutter should be used in a pillar drill to ensure that the plugs it cuts are true cylinders.

POCKET-HOLE SCREW

Pocket-hole screwing is an ingenious fixing method that allows you to assemble butt-jointed constructions with considerable speed and strength. The heart of the system is a drilling jig and a special stepped drill-bit. The jig holds the bit at a precise angle of about 15°, and the stepped bit bores a sloping counterbored hole to accept the self-tapping screws that are required for this joint. As only one component needs to be drilled there are none of the alignment problems that occur in dowelling or similar methods. The joint components are butted up and the screws are inserted and tightened to pull the joint together. It's extraordinarily quick and easy, and allows you to assemble projects without the need for any cramps, though for additional strength you're recommended to use glue in the joints as well.

PVA ADHESIVE

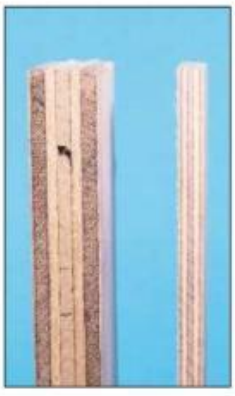
PVA stands for polyvinyl acetate, which is a rubbery synthetic polymer. Still none the wiser? Well, it's what the most common wood adhesives are made from. PVA is a water-based glue which is ideal for general woodworking use. It's easy to apply straight from the container, dries quickly, is easy to clean up with a damp cloth, and is inexpensive. Its disadvantages are that it has limited moisture resistance (although special waterproof exterior formulations are available), it doesn't dry rock-hard so some creep can occur, especially when cramping, and some varieties have a fairly short open time, meaning that speed is vital when gluing up complicated assemblies.

PLYWOOD

A ply is a layer, and plywood is a man-made board consisting of several thin plies of wood stuck together with adhesive. The layers are cut from the log, often tangentially, then coated with resin glue and placed in a heated press to cure. Building up a board in this way has several advantages. Firstly, because each layer is very thin – ranging from 1.5mm to 4mm, depending on the type of ply – it behaves more like a veneer and is not so prone to the movement found in thicker timber sections. To further stabilise it, adjacent layers are laid with the grain at right angles to each other. The boards are also always made up of an uneven number of layers so the external appearance is that of a solid timber board.

Plywood is available in a range of grades and can be supplied with decorative outer veneers. It has many uses in woodwork and construction. Thin sheets can be laminated into very strong curved shapes. It's also moisture-resistant, and is considerably lighter than medium-density fibreboard (mdf).

There are various types of speciality plywood available, including marine ply, specifically treated for high-moisture nautical situations, and bendy ply which is designed to be easily curved for various creative uses. Unlike mdf, plywood needs to be edged with solid wood lippings to conceal the core.



BY IAN WILKIE

All aboard!

A push-along train set like this one is a perennial favourite with children, especially if they've had a chance to see the real thing in action. In the first of two articles, I'll explain how to make the locomotive

The traditional wooden train is still a popular toy, and many small children will have had a ride on a heritage railway steam train, so they'll know what an old-fashioned steam engine looks like. In designing it I've taken account of the following important criteria.

■ **Safety** There must be no parts that can break off to leave sharp splinters, and all surfaces and edges must be smooth. Any paint or varnish used must state clearly on the tin that it's suitable for children's toys. All spigots must be long and thick enough to be firmly glued into drilled holes.

■ **Play value** The train will need to be robust: there's nothing too delicate here! Carriages and wagons with simple characters and loads to be transported will give plenty of scope for imaginative play.

■ **Appearance** Use contrasting natural hardwoods with painted birch plywood parts where appropriate. The toy should look attractive to a child, and classy on a playroom shelf when it's not being used.

■ **Fun to make** The set requires only basic woodworking and woodturning skills, so it's suitable for grandfathers, dads and uncles (or their female counterparts) of all abilities!

■ **Low cost** Making the set involves minimal expenditure on materials, and is a good way of using up small hardwood offcuts.

■ **Basic equipment** Apart from standard woodworking tools, a scrollsaw, a small lathe and a drill stand will be invaluable.

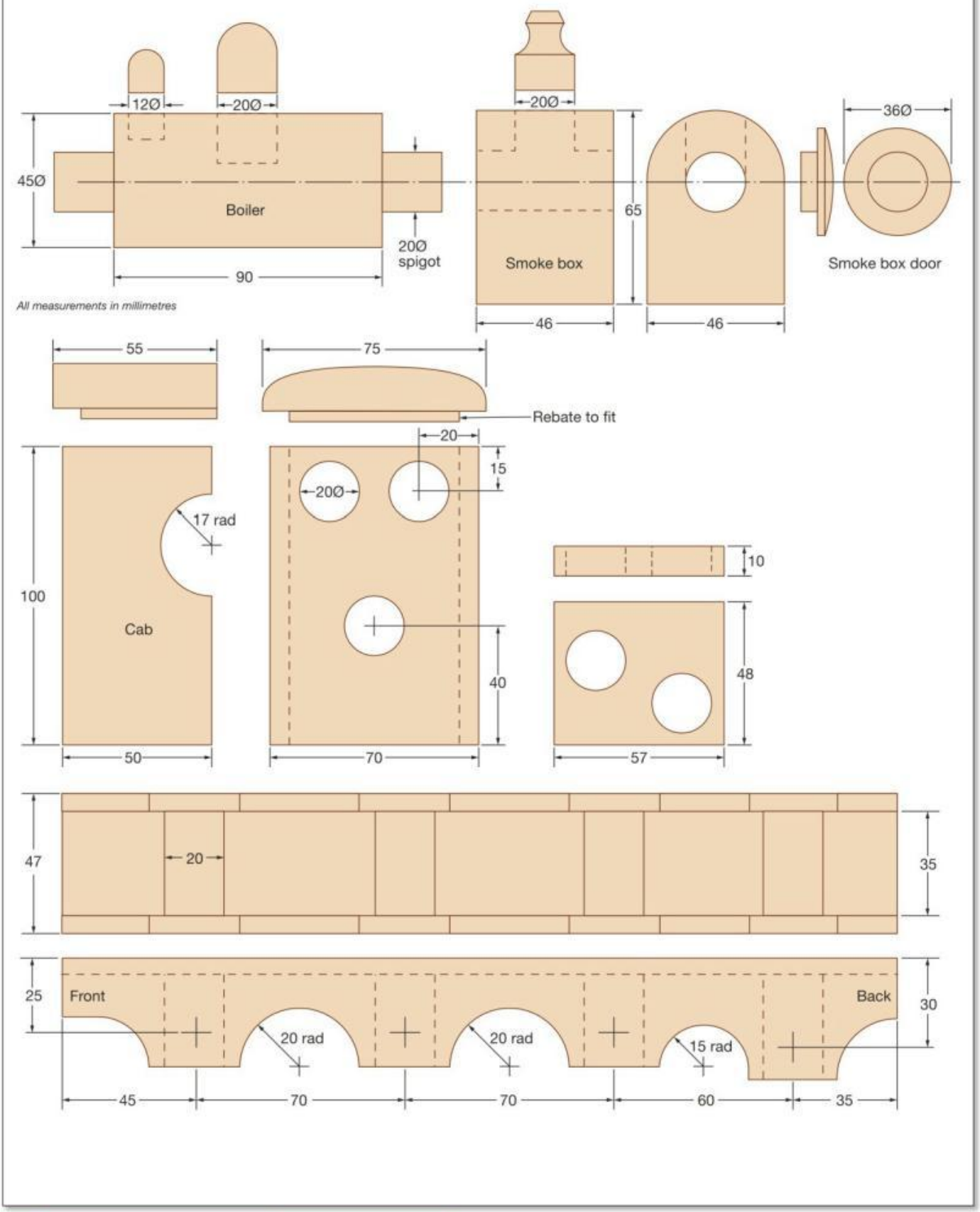
Take a good look at the drawings overleaf before you start, to familiarise yourself with all the parts and how they go together.

THE BOILER

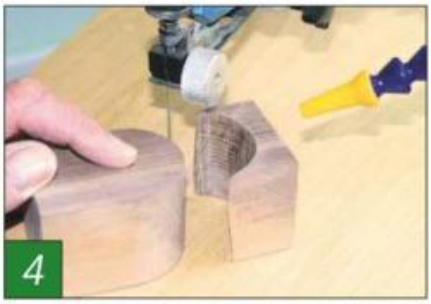
Prepare a blank measuring 130 x 50 x 50mm. Mark the position for the dome and whistle holes on it and drill the hole for the dome 20mm in diameter and 12mm deep with a saw-toothed Forstner bit, **photo 1**. Drill a shallower hole 12mm in diameter towards the front end of the blank for the whistle.

Mount the blank between centres, with a 12mm Steb centre (if you have one) in the headstock and a revolving centre in the tailstock, **photo 2**. Turn the blank to produce a cylinder 45mm in diameter with a spigot at each end measuring 20 x 20mm. Check all the diameters with a gauge, **photo 3**.

Fig 1



THE SMOKEBOX



Prepare a blank in contrasting wood measuring 80 x 46 x 46mm and cut out its rounded top shape on the scrollsaw, **photo 4**. Then drill a 20mm diameter hole right through the blank, centred on a point 40mm above its base, to take the boiler and front door spigots. Drill a second 20mm hole to a depth of 10mm in the top of the blank to take the chimney spigot, **photo 5**.

Check the fit, **photo 6**; note that the smokebox is 1mm larger than the boiler. Then turn a thin, slightly domed disc 36mm in diameter with a short 20mm diameter spigot on the back (**fig 1**), and glue it to the front of the smokebox to represent the door.

THE CHIMNEY, DOME & WHISTLE

Choose a piece of wood for the chimney which will contrast with the smokebox and the boiler; it should measure about 45 x 30 x 30mm. First drill a smoke hole halfway down the centre of the blank and mount it between centres, with the point of the revolving centre located in the hole. Turn it down to 30mm in diameter and form a 20mm diameter spigot 10mm long at the headstock end. Then mount this spigot in suitable chuck jaws and turn the chimney itself to shape, **photo 7**. Test its fit in the drilled hole on the top of the smokebox, **photo 8**.

The dome and whistle are made in exactly the same way but with parallel sides, a rounded top and no central drilled hole. The dome has a diameter of 20mm and the whistle 12mm. All three parts are made deliberately stubby and rounded to avoid any possible safety hazard. Test-fit them in their holes, **photo 9**

THE DRIVER'S CAB

Mark out the front and sides of the cab on 6mm birch plywood, after sanding both sides of the sheet smooth using an orbital sander. Mark the positions for the three 20mm diameter holes – two for the 'spectacle windows' and one to take the spigot that attaches the cab to the boiler. Use a saw-tooth Forstner bit with a piece of scrap mdf under the ply to ensure a good clean cut and to protect the drill table, **photo 10**. It's easier to drill the holes before cutting the ply into smaller pieces, **photo 11**.

The front and side panels can be rebated for a neat finish (as shown here) or simply butt-jointed together. Glue and cramp them up and set the assembly aside to dry, **photo 12**. The domed roof (**fig 1**) is made from hardwood and will be put on at a later stage.

THE COAL BUNKER & FOOTPLATE

13

14

15

Make a simple coal bunker from three small plywood offcuts (shown in **photo 11**), and glue them together as you did for the cab. Cut a block of softwood, texture its top surface to simulate coal, and glue it inside the bunker. It will sit at the back of the footplate, **photo 13**, when the locomotive is assembled.

Cut a small block of wood about 10mm thick to fit in the floor of the cab and drill two 20mm holes through it to take the driver and fireman figures. Glue this block securely to the sides of the cab.

Next, cut a piece of 6mm plywood measuring 280 x 70mm for the footplate. Place the cab, bunker and boiler on it and mark their positions in pencil. These parts will be screwed to the footplate from the underside with 10mm brass countersunk screws, so work out where to drill your clearance holes. Take extra care when marking the positions of the screws that will attach the cab, to avoid the holes for the driver and fireman. You can cramp the cab assembly to the footplate, **photo 14**, to make this operation easier. Then drive in the screws to hold the coal bunker, cab and smoke box in place, **photo 15**.

THE SIDE TANKS & UNDERFRAME

Cut and shape two slim hardwood blocks measuring 80 x 35 x 8mm to form the side tanks, and prepare a 6mm thick plywood offcut measuring 80 x 52mm to fit between them. Check their fit on the footplate, **photo 16**, then glue them together.

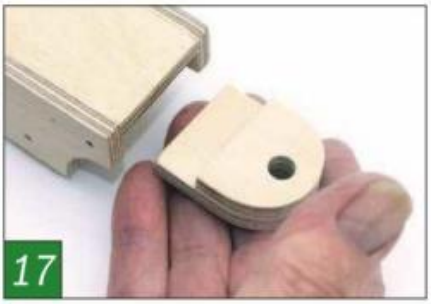
Next, mark and cut out the two plywood panels that make up the sides of the underframe, matching the profile shown in **fig 1**. Note that the two wheels at the back of the engine are smaller than the others, so the radius of the arc next to them is smaller. Mark the positions of the holes for the wheel axle screws. Drill these holes and then join the frames together by gluing in the top piece of plywood.

The four 35 x 35 x 20mm hardwood spacers fit between the side panels, and are centred on the drilled holes for the wheel axle screws, as shown in **photo 18**.

Make up a coupling block for each end of the chassis from a double thickness of ply, and drill a central hole to take a short 8mm dowel, **photo 17**. Glue and screw each block to the end of the footplate. The completed underframe is now ready to be painted, **photo 18**.

Disassemble the other parts you wish to paint or varnish and, when everything is dry, reassemble them on the footplate. Finally, drill, countersink and screw the underframe to the underside of the footplate, **photo 19**.

16



17

18

19

It's now time to make some wheels...
coming next month in part 2, along with detailed instructions for creating the carriages, the wagons, the crew and the passengers.

triton
Precision Power Tools

Unbeatable Sanding Power

Precision Power Tools Since 1976

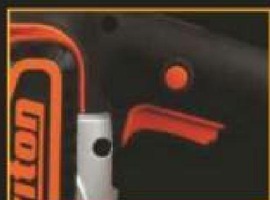
76mm Belt Sander

Triton's **TA1200BS** Belt Sander is host to many significant features, from variable speed control for improved versatility, to belt tracking adjustment for accurate alignment of the sanding belt.

The powerful 1200W motor drives the belt between 200 and 450m/min, whilst the lock-on button provides convenience and comfort during extended use. Fitted with a small diameter front roller for sanding in awkward areas, the **TA1200BS** boasts a rubber over-moulded grip and removable bail handle for increased support, safety and control of the tool.

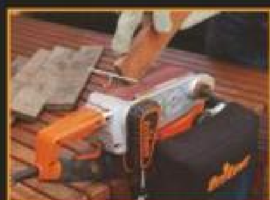
Belt Tracking Adjustment
for accurate alignment of the sanding belt

Variable Speed Control
for working with different materials



Lock-On Button
adds convenience with extended use

Side Dust Port
connects to the supplied dust bag or dust extraction system



Inversion Clamps
(for use as a bench sander) for rapid coarse shaping

You Tube | triton TV | Available on the App Store

tritontools.com

BY COLIN SIMPSON

Routing on the lathe 2

Last month I showed you how I make a simple cradle to facilitate routing of lathe-mounted work. This month I'll use it to make a small bowl and rout the rim to resemble flower petals before adding some colour

Turning bowls has been covered many times in previous articles, so I'll just mention a couple of points to note. I used piece of ash that I'd rough-turned a few months ago and left to dry. I gave it a chucking spigot on both sides, and then shaped the back using a bowl gouge, **photo 1**. Don't worry too much about the surface finish you achieve. It's also easier to rout the piece if the rim is shaped – or at least flattened – at this stage, **photo 2**.

Planning the cuts

I intend to rout 24 radial beads on the back and rim of the bowl. **Photo 3** shows the beading router bit I'm going to use. It cuts one half of two adjacent beads at the same time. This creates quite a sharp point which is therefore reasonably fragile, so I suggest you don't take too much wood off at one time. I recommend making several passes with the cutter, going a little deeper each

After rough-turning the blank, shape the back using a bowl gouge

It's easier to rout the piece if you shape or flatten the rim at this stage

Secure the router in its cradle and fit your choice of beading bit

Cramp a template to the table for the screws in the jig to follow....

...and add an offcut to act as a stop block that will limit the jig's travel

Rout the beads in stages, cutting a little deeper with each pass

This is how the bowl looks after the first pass with the router over all 24 beads

time. Mount the cutter in the router and the router in the cradle, and you're ready to go.

Staring work

Cut a curved template roughly to the shape of the outside profile of the bowl. You can of course use exactly the same shape all the way round, but I think it looks better sometimes if the routed grooves are deeper in one place than others, and this is achieved if the router doesn't follow the exact path of the bowl's profile.

Cramp the template to the baseplate of your jig. I have a table cramped securely beneath the lathe, but in most cases it can simply be a flat sheet of mdf or plywood cramped to the lathe's bed bars.

Following the template

I'm going to use the two screws in the base of the router cradle to follow the shape of the template, **photo 4**. There's a gap of 2-3mm between the screw heads and the template when the tip of the router bit is just touching the bowl. This will control the depth of cut for the first pass. I can then drive in the two screws by a couple of millimetres to take the second pass. I've also cramped an mdf offcut to the baseplate, **photo 5**, to act as a stop block and limit the cradle's travel.

Safety first

Before starting to rout, check that the template is cramped securely to the baseplate and the router is correctly mounted in its cradle. When carrying out these checks I always disconnect the power supply. Suffer one slight lapse in concentration, and you could find yourself switching the lathe on instead of the router!

Making the first pass

Using your chuck's indexing system, lock the lathe spindle and make the first pass with the router across the back of the bowl. Then move the indexing one space and rout the second bead. Repeat the process as you work your way round the bowl, **photo 6**. **Photo 7** shows the first pass completed for all the beads. I think I'll drive in the guide screws by another couple of millimetres before I make the final pass.

Routing the front

When you're happy with the beads on the back of the bowl, turn it round in the chuck,

but don't tighten it up yet. Lock the lathe's spindle again and bring the router up to the back of the bowl. Rotate the bowl in the chuck until the one bead is aligned with the router bit, **photo 8**, and then tighten the chuck. Cramp another template, roughly the shape of the rim of the bowl, to the baseplate and rout the rim in the same manner as you did for the back, **photo 9**.

A quick trim

When you've completed the routing, there will usually be a few rough edges and wisps of wood left. If you want to keep the piece with just a bare wood surface, you'll need to hand-sand each petal. However, I wanted to colour my petals and the paints I employ look better on a dark background, so I used a blowtorch to char the rim and back of the bowl. This also removes any wispy bits of wood left by the routing.

Burn with care

I charred the rim quite heavily, **photo 10**, which softens the beads and also burns the softer spring growth more than the harder summer wood. This gives the piece an attractive textured surface.

Clear up the work area thoroughly before doing the burning, as a small ember could set light to any shavings lying around on the bench or the floor. Also switch off the dust extractor, as a spark or ember sucked up there could cause an explosion. It's best to take the chuck and bowl outside to carry out this process.

With the burning stage complete, I used a rotary nylon abrasive brush to remove the carbon deposits, **photo 11**, and then sprayed the piece with Chestnut ebonising lacquer, **photo 12**. When this is dry, it's time to start painting.

A little lustre

Photo 13 shows my set-up for the painting stage. I removed the chuck and bowl from the lathe and placed it on an old Lazy Susan turntable. This gives me better access to the area to be painted. I'm using Jo Sonja iridescent paints (www.josonjas-uk.co.uk), and I've found the key is to use them sparingly. I use a cheap glue brush and the paint neat – no diluting it with water – and stipple it on over the black surface, letting the different colours blend together. Once the back is done, turn the piece over and complete the rim.

Align the routed bead with the cutter and tighten up the chuck

Rout the rim of the bowl in the same manner, moving the index on one space at a time

A heavy scorching will soften the beads and burn off any rough edges and wisps

Remove the carbon deposits from the petals with a rotary nylon abrasive brush

Remove the chuck, put it on a turntable and start to stipple on the paint

Spray the piece evenly with ebonising lacquer and leave it to dry

Remount the chuck on the lathe and hollow out the inside with a bowl gouge

The best product to use on this piece is spray-on acrylic lacquer

Allow the lacquer to dry and then buff it up with burnishing cream

Reverse-chuck the bowl onto a wooden dolly lined with a pad of kitchen paper

Turn away the chucking spigot and sand the bowl base smooth

A fine interior

Now all that remains is to finish the inside of the bowl. Remount the chuck and bowl on the lathe and use a bowl gouge to hollow out the piece, **photo 14**. Then sand the turned surface smooth.

I didn't want to disturb the paint effect on the petals, so any sort of brushed-on finish – particularly a cellulose one – would be out of the question. The best product to use in this situation is an acrylic aerosol; I used Chestnut's gloss lacquer.

If you can slow your lathe down to about 50rpm, then you can spray the piece with the lathe rotating, **photo 15**. Otherwise spray the piece when it's stationary. To achieve a really good, flat coat of lacquer, I allow it to dry and then buff it up with burnishing cream, **photo 16**.

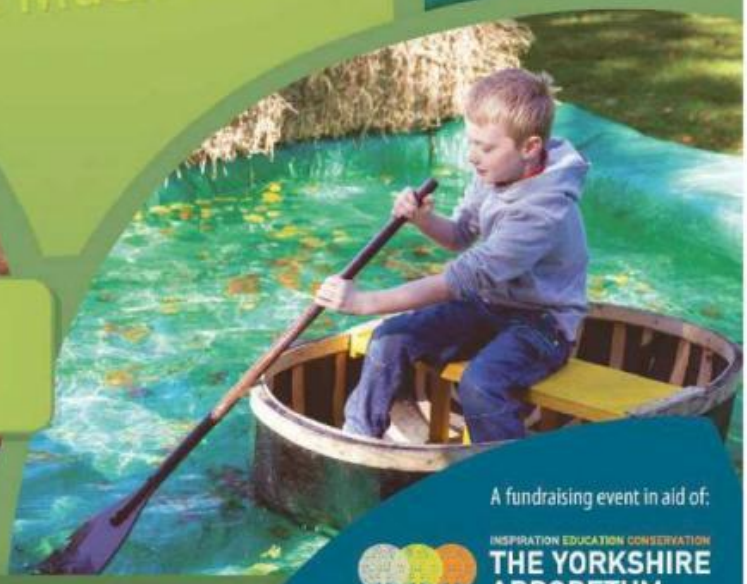
Finish the job by reverse-chucking the piece onto a wooden dolly, using a few sheets of kitchen paper to protect the polished surface, **photo 17**. Turn away the chucking spigot, **photo 18**, and sand the base smooth.

2013 WILD ABOUT WOOD

The Yorkshire Arboretum, Castle Howard
Sat 14th & Sun 15th September 2013 10am-5pm

A celebration of all things wood for all ages!

Chainsaw carving
Woodcrafts & gifts
Willow weaving, Horse logging
Coracle rides, Pond dipping
Paper making, Falconry display
Pole lathe turning, Discovery Zone
Food & drink, Taster tours
Watercolour painting
& Much More!



Adult **£8**, Child (3-16) **£5**, Under 3's **Free**,
Family Ticket **£21**, Concessions **£6**

SAVE UP TO 10% on these prices by buying in advance at **www.wildaboutwood.org**

A fundraising event in aid of:

INSPIRATION EDUCATION CONSERVATION
THE YORKSHIRE ARBORETUM

Registered Charity Number: 1044931

www.wildaboutwood.org

BY CHRIS CHILD

The daily grind

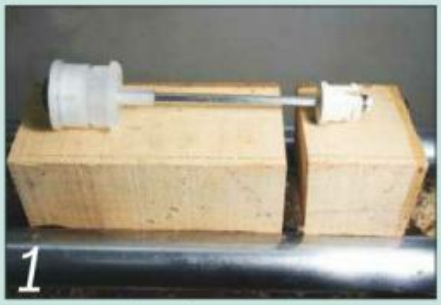
These ceramic pepper mills are just the job for grinding pepper – and sea salt too – and are a great improvement over some of the metal varieties which tend to rust and wear away with repeated use

Salt and pepper mill bodies are a bit fiddly to make, and sizing the recess for the mechanism accurately doesn't allow much scope for originality, but with patience and a methodical approach you can end up the possessor of a highly superior mill which will last for years.

Making a start

You'll need a piece of seasoned wood about 220mm long and 70mm square to make this compact mill, **photo 1**. Start by turning the 160mm long base section to a cylinder between centres using a roughing gouge. Then cut a dovetail spigot at one end using an angled scraper, **photo 2**, so you can mount the work in a compression chuck, **photo 3**.

Slice the free end flat using a small bowl gouge, **photo 4**. Then fit a 25mm bit in the



You'll need a piece of seasoned wood about 220mm long and 70mm square

Form a dovetail spigot on one end of the cylinder with an angled scraper

Remove the cylinder, reverse it and mount it in your compression chuck

Slice the free end of the cylinder to a flat surface using a small bowl gouge

Fit a 25mm bit in the tailstock chuck and drill a hole about 125mm deep

Measure the diameter of the mechanism's bottom flange with a vernier gauge

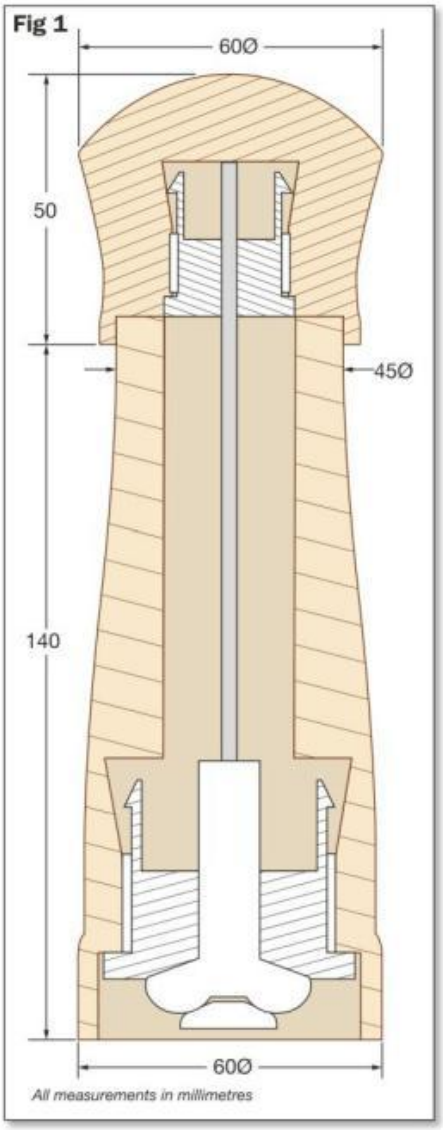
Cut the recess with a scraper, taking progressively finer cuts as you work

Measure the diameter of the body of the mechanism between the raised ribs

Cut out the recess and check the diameter with a pair of internal callipers

Use a scraper with a long handle to make the under-cut in the recess

Fig 1



tailstock chuck and drill a hole about 125mm deep down the centre of the cylinder, **photo 5**. This forms the chamber for the peppercorns. Removing the bulk of the waste in this way allows you to get a large square scraper to bear during the next stage – widening the recesses for the mechanism to the correct diameters.

Shaping the recess

Measure the diameter of the bottom flange of the mechanism with a vernier gauge,

photo 6. Hollow out the recess with the corner of the scraper by holding it flat on the tool rest and feeding it slowly in, taking no more than a 1mm width of cut at a time. As you get closer to the finished dimension you need to take even finer cuts, **photo 7**.

There are six fine ribs about 1mm high round the body of the mechanism which need to form a tight interference fit with the wall of the next recess to make. Measure the diameter of the body between the ribs, **photo 8**. Then use the same technique as before to form the second, wider recess in the base of the body.

Check the diameter of this recess with a pair of internal callipers, **photo 9**, before cutting it to its final depth. This needs to be deep enough for the mechanism inside the base to be well above the work surface on which the finished mill will stand.

The last part of recessing the base is possibly the most fiddly. You have to form a sloping under-cut in the bottom of the wider recess so the two lugs on each side of the base mechanism can spring out and hold it firmly in place when you insert it. A long handle on your scraper is a great help when making this cut, **photo 10**.

Tackling the outside

When you've recessed the inside of the mill's body, it's time to complete the outer shape using a gouge, **photo 11**. Make sure you form a straight section at the top of the body so the head of the mill has a parallel-sided seat to rotate on, **photo 12**. Finish the body by sanding it smooth; then polish it with carnauba wax and part it off with an extra-thin parting tool, **photo 13**.

Heading for the top

To make the head of the mill, turn the smaller block to a cylinder, **photo 14**. Cut a dovetail spigot on one end as before, fit the block in your compression chuck and slice the end flat with a small gouge, **photo 15**.

Next, use your scraper to cut the shallow square-sided recess that will fit over the top of the mill's body, **photo 16**. Check that the body fits and revolves smoothly inside this recess, **photo 17**.

Complete the outer shape using a gouge. Aim for a simple, smooth profile

Form a parallel-sided section at the top on which the head will rotate

Sand and polish the body, then part it off with an extra-thin parting tool

Mount the shorter block between centres and turn it down to a cylinder

Reverse it in a compression chuck and slice the end flat with a small gouge

Use a scraper to cut the shallow recess that will fit over the mill's body

Offer up the mill body to check that it will revolve smoothly inside the recess

Cut a recess for the mechanism's flange in the underside of the head

Use a vernier gauge again to measure the diameter of the mechanism

Cut the recess to take the head mechanism using a square scraper

Form a sloping under-cut to accept the head mechanism's fixing lugs

Push the mechanism up into the top of the mill until it clicks in place

Form the approximate shape of the top *in situ* using a roughing gouge

When you're happy with its proportions, sever it with your thin parting tool

To finish the top, form a small jam chuck for it on a piece of waste wood

Push the top firmly onto the jam chuck and check that it fits securely

Finish shaping it with a small bowl gouge, then sand and finish it as before

Fitting the head mechanism

Measure the width of the flange at the base of the head mechanism, form a matching recess in the underside of the head and check that the flange fits in it, **photo 18**. Then take a careful reading of the diameter of the body of the mechanism between the ribs using your vernier gauge, **photo 19**, and use your square scraper to cut the narrow recess to take this section, **photo 20**.

Finish off by forming a sloping under-cut at the top of the recess for the three fixing lugs to spring into, **photo 21**. Then push the mechanism up into the top of the mill, **photo 22**. It needs to be a tight fit so it can drive the mill's shaft round. If you've made the recess a bit too wide, then putting a blob or two of strong epoxy resin adhesive on the mechanism should do the trick.

Finishing the top

Calculate the height of the top of the mill by placing the base and mechanism against the side, and mark off the parting-off point. I formed the rough shape of the top with it *in situ* using a roughing gouge, **photo 23**. This meant I could check its proportions against the body of the mill more easily. I then parted it off with the thin parting tool, **photo 24**.

To finish the top, form a jam chuck on a piece of waste wood, **photo 25**, and push the top onto it, **photo 26**. The fit needs to be just tight enough to hold the work firmly, but not so tight that it splits it apart. With the top held securely on the jam chuck, finish shaping it using a small bowl gouge, **photo 27**. Then sand and finish it in the same way as the body of the mill.

The Woodworker SUBSCRIPTION ORDER FORM

DIRECT DEBIT SUBSCRIPTIONS (UK ONLY)

Yes, I would like to subscribe to *The Woodworker*

☐ Print + Digital: £10.50 every 3 months
(**SAVE 30%** on shop price + **SAVE 75%** on Digital Download + **FREE GIFT**)

☐ Print Subscription: £8.50 every 3 months (**SAVE 30%** on shop price + **FREE GIFT**)

YOUR DETAILS MUST BE COMPLETED

Mr/Mrs/Miss/Ms ..... Initial ..... Surname .....

Address .....

.....

Postcode ..... Country .....

Tel ..... Mobile .....

Email ..... D.O.B .....

I WOULD LIKE TO SEND A GIFT TO:

Mr/Mrs/Miss/Ms ..... Initial ..... Surname .....

Address .....

.....

Postcode ..... Country .....

INSTRUCTIONS TO YOUR BANK/BUILDING SOCIETY

Originator's reference 422562

Name of bank .....

Address of bank .....

.....

..... Postcode .....

Account holder .....

Signature ..... Date .....

Sort code ☐☐☐☐☐☐ Account number ☐☐☐☐☐☐☐☐

Instructions to your bank or building society: Please pay MyTimeMedia Ltd. Direct Debits from the account detailed in this instruction subject to the safeguards assured by the Direct Debit Guarantee. I understand that this instruction may remain with MyTimeMedia Ltd and if so, details will be passed electronically to my bank/building society.

Reference Number (official use only) ☐☐☐☐☐☐☐☐☐☐

Please note that banks and building societies may not accept Direct Debit instructions from some types of account.

CARD PAYMENTS & OVERSEAS

Yes, I would like to subscribe to *The Woodworker, for 1 year* (13 issues) with a one-off payment

UK ONLY:

☐ Print + Digital: £47.50 (SAVE 19% on shop price + SAVE 75% on Digital Download + FREE GIFT)

☐ Print: £39.50 (SAVE 19% on shop price + FREE GIFT)

EUROPE & ROW:

☐ EU Print + Digital: £67.00
☐ EU Print: £59.00
☐ ROW Print + Digital: £67.00
☐ ROW Print: £59.00

PAYMENT DETAILS

☐ Postal Order/Cheque ☐ Visa/MasterCard ☐ Maestro

Please make cheques payable to MyTimeMedia Ltd and write code V500 on the back

Cardholder's name .....

Card no: (Maestro)

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ ☐☐☐

Valid from ..... Expiry date ..... Maestro issue no. .....

Signature ..... Date .....

TERMS & CONDITIONS: Offer ends 20th September 2013. MyTimeMedia Ltd & The Woodworker may contact you with information about our other products and services. If you DO NOT wish to be contacted by MyTimeMedia Ltd & The Woodworker please tick here: ❑ Email ❑ Post ❑ Phone. If you DO NOT wish to be contacted by carefully chosen 3rd parties, please tick here: ❑ Post ❑ Phone. If you wish to be contacted by email by carefully chosen 3rd parties, please tick here: ❑ Email

POST THIS FORM TO: THE WOODWORKER SUBSCRIPTIONS, TOWER HOUSE, SOVEREIGN PARK, MARKET HARBOROUGH, LEICS LE16 9EF.

Please visit **www.getwoodworking.com/terms** for full terms & conditions

CODE V500

PRINT + DIGITAL SUBSCRIPTION

Free Stanley Combination Square worth £29.99*

13 Issues ***delivered to your door***

Save up to ***30% off the shop price***

Download each new issue to your device

A ***75% discount*** on your Digital subscription

Access your subscription on ***multiple devices***

Access to the ***Online Archive*** dating back to January 2007

Exclusive discount on all orders at myhobbystore.co.uk

PRINT SUBSCRIPTION

Free Stanley Combination Square worth £29.99*

13 Issues ***delivered to your door***

Save up to ***30% off the shop price***

Exclusive discount on all orders at myhobbystore.co.uk

SUBSCRIBE TODAY

Irish Woodturners' Guild

National Woodturning Seminar

27 - 29 September 2013, Radisson Blu Hotel & Spa, Sligo, Ireland

Come and be part of **The Gathering Ireland 2013** at the world's friendliest woodturning seminar, featuring the cream of Irish and European woodturning talent. Less than three hours from Dublin and set amongst the beautiful scenery of the north west of Ireland, our venue, is the Radisson Blu in Sligo. With all seminar activities under one roof and special bed and breakfast rates available to delegates, it is the perfect base to explore all that Ireland has to offer.

Our featured demonstrators include Joe Laird and Robert O'Connor from Ireland; Dennis Keeling, Joey Richardson and Les Thorne from England and Marcel van Berkel from Holland. There will also be demonstrations by local turners from the North West of Ireland as well as ten competitions open to delegates with many prizes.

the gathering IRELAND 2013
thegatheringireland.com

To book your place at the IWG National Seminar, contact Tom Dunlop on +353 514 21032 or see our website, www.irishwoodturnersguild.com for more details and a booking form.

Why not become a member of the Irish Woodturners Guild?

The Irish Woodturners' Guild (IWG) was formed in 1983 with the aims of promoting woodturning throughout the island of Ireland and assisting woodturners with all aspects of their art and craft. Since then the IWG has flourished and now comprises twenty chapters spread throughout Northern Ireland and the Republic of Ireland. Membership is open to anyone (worldwide) with an interest in woodturning.

See www.irishwoodturnersguild.com for special membership rates.

18V cordless drill/drivers are powerful and useful tools, but they can be expensive. However, you don't need to empty your wallet to get 18V power these days. This Einhell model may be a bit basic, but it has a lot of power for very little money

Einhell BT-CD 18 cordless drill/driver

10 FREE DRILLS!
See page 43

£30 (web price)

A cordless drill is an indispensable part of any woodworker's toolkit, and there's a huge range to choose from. Professional models are, of course, excellent machines with loads of power and bursting with top features. Unfortunately they also cost professional prices. The majority of home woodworkers don't use their tools nearly as frequently or as intensively as tradesmen, so often a DIY spec' machine will do just as well and save a fair amount of cash. This Einhell falls very much into the budget sector, but nonetheless is a worthwhile tool.

Standard features

This is a conventional T-shaped drill/driver. It has a blue soft-grip body that's well balanced and comfortable to hold. The large NiCd battery plugs into the base and is easy to fit or remove. On the nose is a keyless chuck with a 10mm maximum capacity. The torque setting ring is mounted behind this. As this drill has only a single speed, there's a ribbed plate blanking out the space where the gear selector would usually be.

A basic charger is supplied, but it has no auto switching to indicate when the battery is fully charged. The instructions state that charging takes from 3 to 5 hours; you shouldn't leave it connected for longer than this.

Using the tool

The Einhell is a solid performer. Its single speed means that drilling is a fairly leisurely process, but screwdriving is impressive. It will drive large screws with ease and the torque ring is effective. Though the battery looks rather bulky, the tool isn't too heavy and is perfectly comfortable to use for extended periods.

Considering the price, this is a good buy for occasional use. It can certainly do the job, but is rather let down by its slow and unsophisticated charging system. ***AS***

SPECIFICATION

BATTERY	18V 1.3Ah NiCd
CHUCK	10mm keyless
NO-LOAD SPEED	0-550rpm
TORQUE SETTINGS	21
CHARGE TIME	3-5 hours
WEIGHT	1.7kg

ACCESSORIES storage case, charger, battery, screwdriver bit

VERDICT

This is a basic but capable tool. It has few frills and only one battery, but packs plenty of power.

PROS
- Low price
- Robust construction
- Good performance

CONS
- Single speed
- Single NiCd battery
- Slow non-automatic charger

VALUE FOR MONEY ■■■■■□
PERFORMANCE ■■■■■□

FURTHER INFORMATION

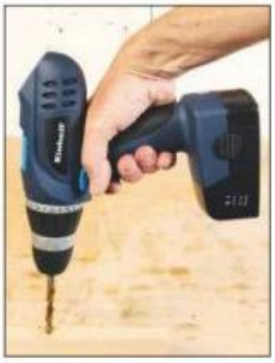
- Einhell
- 0151 649 1500
- www.einhell-uk.co.uk

The soft-grip body features a trigger and a speed reverse button

The torque ring sits behind the 10mm keyless chuck and has 21 settings

The rather cumbersome 18V battery is easy to load and unload

Drilling holes is rather slow, but screwdriving performance is excellent



The Rotex 150 is the largest of Festool's gear-driven sanders, with a pad size of 150mm. The motor is powerful and the build quality is superb, making this sander the ideal tool for even the toughest of jobs

Festool RO 150 FEQ-Plus eccentric sander

Dust collection, balance and stability are key considerations when choosing a sander that might be used for many hours each day. The quality and durability of consumables also needs to be taken into account. Festool have all of this covered, but there's more.

£367
(web price)

Standard features

The Rotex 150 operates either as a rotary sander, which is ideal for rapid removal of material, or as an eccentric sander for fine removal or polishing. The mode is selected with a control just above the on-off switch.

It has a sleek, compact shape which sits comfortably in the hands, with a forward grip and a barrel body. Power is supplied via the detachable 'Plug-It' flex. The speed is adjustable and once set is kept constant, even under heavy load. An edge protector accessory is supplied with the machine which allows sanding right up to a vertical surface without the risk of marking it.

Tool-free pad change

The sanding pads can be removed, without tools, by pressing the spindle lock and giving the pad a quarter turn. Festool refer to this as the 'Fastfix' standard. Abrasive sanding discs attach using the 'Stickfix' system, similar to Velcro. In tests the pad changes were easy to do and disc attachment was consistently firm.

The general-purpose soft pad supplied with the machine is suitable for slightly uneven surfaces. Optional accessories include a hard pad, designed for large flat surfaces and edge work, an ultra soft pad for curved work, and a pad designed to take specifically to take polishing discs.

The Rotex 150 uses the 'Multi-Jetstream' design for dust collection via an array of holes in the pad and the discs. This efficient removal of dust helps to prolong the life of the sanding discs as well as protecting the operator.

The Plug-It flexible cord allows easy connection of the power supply

The circular black edge protector allows sanding right up to vertical surfaces

The sanding pad features the Multi-Jetstream pattern of dust collection holes

Festool provides a wide range of abrasives, buffing pads and polishing felts for the RO 150

Using the sander

The Rotex 150 was put through a series of tests on different materials, using Festool's own abrasive discs. The abrasives used ranged from 60 grit to 240 grit, followed by the so-called green sanding 'vlies' which is used, like a Scotch-Brite pad, to work oil into a surface when finishing it.

Our first test was on a piece of lacewood which is notoriously difficult to plane and needed to be left smooth and flat. We went from 120 to 180 grit 'Rubin 2' abrasive in rotary mode followed by eccentric mode, and finished with 240 grit 'Brilliant 2' abrasive. The results were perfect.

Next came the roughest piece of oak that you could imagine. It was too wide to go in the planer and did not look promising enough to warrant planing by hand. However, in less than 10 minutes there was the most amazing transformation. We started with 60 then 80 grit 'Granat' abrasive, followed by 120 and 240 grit Rubin 2.

Sanding discs are often ignored in reviews but we have tried almost every variety that Festool make. They are all made to the same high standards as the tools and they perform very well. At no stage during the three days of usage did we use more than one disc of any given grade of abrasive.

Summing up

The Rotex 150 is not cheap, but it's designed to be worked hard and to deliver perfect results. With the Festool reputation behind it, you can't go wrong with this super sander.

SPECIFICATION

MOTOR	720W
PAD DIAMETER	150mm
NO-LOAD SPEED	320-660rpm
ORBIT SPEED	3300-6800rpm
SANDING STROKE	5mm
DUST EXTRACT DIAMETER	27mm
WEIGHT	2.3 kg

ACCESSORIES sanding pad, 2 sanding discs, edge protector, Systainer case

VERDICT

This sander is beautifully engineered, amazingly stable and, with both rotary and eccentric modes, is a game changer for the serious woodworker.

PROS
- Soft start and constant speed
- Well engineered and built to last
- Easy to handle even during long sessions
- Superb choice of abrasives

CONS
- High initial outlay

VALUE FOR MONEY

PERFORMANCE

FURTHER INFORMATION

- Festool UK
- TTS Tooltechnic Systems
- 01284 760791
- www.festool.co.uk

The Rotex 150 is easy to control in awkward outdoor situations too

This difficult-to-plane lacewood was soon ready for an oil and wax finish

This rough oak board was too wide for the planer and almost went for firewood

After sanding with 60-grit Granat paper it became a thing of beauty

The current trend towards multi-based routers with motor housings that slip into a variety of bases makes the standard small plunge router almost redundant. Here's the latest base offering from Bosch

Bosch TE600 plunge router base

Bosch often leads the way where innovation is concerned, and the GKF600 router certainly established itself as a cracking little router immediately it was launched. Thanks to the fixed and tilt bases and various additional accessories that came with it, it covered a lot of the smaller jobs required of such a machine such as trimming laminates, edge moulding and inlay work. However, it lost ground on its rivals by not having the plunge base they offered. That's now been redressed with the launch of the TE600 base, which gives it similar capacities to those of a dedicated small plunge router. This new base has all the settings you need.

£59

Fitting the base

The same rule applies when fitting any of the Bosch bases to the single-speed motor housing. You align the arrows on the base with the corresponding arrows on the body, twist it to engage the locating pin and set it in position ready to go. Closing the large toggle cramp then nips the base securely to the body.

Comfort and convenience

The rubberised grips are large and comfortable to hold, and are tilted forwards to give a more relaxed wrist position and therefore better control. Alongside this, the clever plunge action is a major advantage and gives a very smooth performance, backed up by the excellent plunge lever.

This is positioned behind the left grip and is sculpted to be easily accessible with the thumb. A further advantage is the springing of the lever, which works in the opposite way to many such levers. Pushing the lever on this base works against the spring tension and therefore releases the plunge. Once you release the pressure on the lever, the spring immediately tightens the plunge and locks the setting, continuing to apply pressure so it can't slacken off once the router is powered up.

The plunge base is designed to accept the Bosch GKF600 router

Lock the base to the motor housing with this easy-to-operate toggle

The turret post has a small adjuster screw for fine-tuning the cut

The new plunge router base is very easy to use on shaped stuff

An excellent base

The 145mm diameter baseplate with its clear acrylic insert and 54mm opening allows good views of the work area. You can run the baseplate against a simple guide, or use the fence holes within the casting to fit a standard Bosch fence. However, this is an optional accessory. Note that this base is available as an add-on for the owners of the GFK600 system looking to get the full range of features, but that package omits the traditional twin-bar fence that fits the base.

Standard features

Following standard plunge base designs, there's a rotating turret. This one has seven positions, along with a simple finely-adjustable post that's marked in both metric and imperial measurements for convenience.

The base has a maximum 55mm plunge depth. That's equal to most small stand-alone routers, and makes this base a very desirable addition to anyone owning the original router kit. Finer and more controlled cuts often need finer tools, and a smaller machine can deliver a light touch and easier control. Now there's a full range of routing options available for the Bosch GKF600. ***AK***

SPECIFICATION

BASE DIAMETER	145mm
BASE APERTURE	54mm
MAXIMUM BIT SIZE	44mm
PLUNGE CAPACITY	55mm

VERDICT

Owners of the Bosch GKF600 router now have a neat set-up for a wider range of routing projects.

PROS
- Superb plunge lever
- Same capacities as a stand-alone router
- Metric and imperial depth scale

CONS
- No fence supplied
- Awkward to swap cutters

VALUE FOR MONEY ■■■■■

PERFORMANCE ■■■■■

FURTHER INFORMATION

- Bosch Power Tools
- 01895 838743
- www.bosch.co.uk

It's equally at home working mouldings on bigger stock

After adjusting the turret post, you secure it with this locking knob

The plunge lever is well designed and extremely easy to operate

You have to remove the body from the base to change cutters

A jack plane allegedly derives its name from being a 'jack of all trades'; long enough for basic shooting work as well as flattening and smoothing stock. This bevel-up version comes from China

Quangsheng No 62 low-angle jack plane

£149.50

Bevel-up planes have the advantage of achieving a finer finish, thanks to the combination of an adjustable mouth and a changeable cutting bevel on the blade. Quangsheng planes generally hit the middle price band with high quality, but that has to be matched by accuracy. For a start, the wings are perfectly square so shooting work should be easy.

Lateral adjustment is an asset here if you have a slight anomaly in this area when shooting. It's also essential if the grinding of the seating area for the blade is slightly out. There are no problems in this area either. The blade beds down perfectly and projects squarely through the mouth, and there's a small amount of lateral adjustment available with the Norris-style lever.

Minimal movement

This is a close copy of the Veritas low-angle jack plane, but with the blade having very little clearance space between its edges and the wings of the casting. The movement range isn't as good on the Quangsheng, but even so there's just enough there to allow you to tweak it if needed. You need to keep the honed edge as square as possible, however.

The engineering of the adjuster is excellent. It fits snugly into the milled recess so the actual movement, little as it is, allows the blade to skew properly, with half a turn to move between setting it in or out.

Adjusting the mouth

The front knob follows the same pattern as the other low-angle jacks, acting as a lock for the adjustable mouth. Although the brass adjuster for this is probably the crudest part on the plane, it works perfectly. The engineering on the mouth itself is again superb, closing down to nothing for the finest cuts, or opening to a whopping 9mm for coarse hogging cuts if these are required.

The front knob (*bubinga* is used for both grips) sits quite high, but fits well in the palm to give a better grip when there's a need to give the plane a good push on heavy cuts.

Finer detail

The bedding of the blade is superbly finished; the blade sits solidly, and is held with a brushed stainless steel lever cap. The keyhole slot for the retaining screw is slightly recessed, acting almost the same as a safety collet in a router where you need to unlock it twice.

Here the cap remains in place until you back it off completely, so when you flip it over and release the tension to look down the sole

The Norris-style lateral adjustment lever is excellently engineered

The mouth adjuster looks a little crude, although it works flawlessly

You can open up the mouth to a massive 9mm wide for taking heavy cuts

Planing is as good as the high-end brands for a fraction of the cost

for the projection, nothing falls off. This is a simple touch that works like a charm.

However, getting a freshly honed blade into the plane is a bit more of a challenge. The keyhole slot on the blade means you have to sit it in place over the lever cap screw and then slide it forwards to engage the advance pin, all the while trying to stop it striking the bed of the plane.

Three blade benefit

And so on to the blade itself – or in the case of this plane, the blades, as it comes with a set of three having grind angles of 25°, 38° and 50°. At 3mm thick, each one is solid enough to bed down well and remain chatter-free, especially as the engineering of the bed is so good.

Having the extra irons opens up the true value of a low-angle bevel-up plane. It's the wild, tricky grains that often cause the most trouble for any woodworker, and raising the effective cutting angle to an almost scraper-like action can tame most wild woods. Having the extra blades thrown in as part of the deal is a huge bonus, allowing the standard-pitch blade to do the general work and the steeper pitched blades to be fitted instead when needed. ***AK***

SPECIFICATION

DIMENSIONS	355 x 62mm
BLADE SIZE	114 x 50 x 3mm
BEVEL ANGLES	25°, 38° and 50°
BED ANGLE	12°
WEIGHT	3.3kg

VERDICT

This Quangsheng plane is a master of many things beyond the standard Bailey-pattern style, and is a great addition to any toolkit.

PROS
- Three irons supplied as standard
- Fantastic quality
- Excellent performance

CONS
- Changing blades can be tricky

VALUE FOR MONEY ■■■■■

PERFORMANCE ■■■■■

FURTHER INFORMATION

- Workshop Heaven
- 01295 678941
- www.workshopheaven.com

The plane will tame tricky timbers like lacewood very easily using a high-bevel blade

This countersink holds the cap iron in place when the plane is inverted

The three blades have different grind bevels, ideal for difficult grains

The blades need very little honing work to get them ready for use

If you ever do any woodwork away from your workshop, you'll need something to store and carry your tools in. This organiser from Stanley could fit the bill

Nothing divides the tool-sharpening fraternity like water stones. Some swear by them, while others hate them. This new ceramic stone might reunite the warring factions

Stanley FatMax tool organiser

£48

This FatMax Tool Organiser from Stanley has a multi-compartment layout that puts all the tools up on end so anything from screwdrivers and chisels to pincers and squares can be fitted in and, more importantly, easily accessed.

A flap on either side can be rolled down and held with a Velcro fastening. A set of ten elasticated loops on the inners of each flap is useful for smaller items such as sockets, but it's on the inside of the case itself that the main storage is arranged.

On one side you have 24 looped pockets of identical size for screwdrivers or similar tools with thin handles or blades, while the opposite side of the organiser has a further 22 pockets of varying sizes for other tools. There's also room on the floor for a plane or a tenon saw that won't fit in a pocket.

There's a top handle for transportation as well as a shoulder strap, and for durability and protection the sides and bottom of the organiser have a hard plastic shell so it won't wick up water if it's put down somewhere wet.

The FatMax Organiser is a great solution for carrying around a basic small tool kit as well as a few bigger bits and bobs, and it holds a surprising amount of stuff. ***AK***

One side of the organiser has identical pockets for thinner bladed tools

The other has a selection of different sized pouches for bigger tools

VERDICT

This organiser works well with small hand tools, but is not so good for storing bulkier items.

PROS
- Easy access
- Lots of storage

CONS
- No room for power tools

VALUE FOR MONEY ■■■■■□
PERFORMANCE ■■■■□□

FURTHER INFORMATION

- Stanley Tools
- www.stanleytools.co.uk

Sigma Japanese ceramic water stone

£61.50

This range of ceramic water stones from Sigma was originally designed for sharpening high-alloy steel tools. Because of the way they're constructed (by sintering under heat and pressure), they work up to five times faster than traditional water stones. The surface readily releases new abrasive particles in use, so will need flattening from time to time, but the speed at which tools are sharpened on it means that this will be needed less frequently. These stones don't have to be stored in water, which avoids potential mess in the workshop, but they do need a few minutes of soaking before use.

Faster and sharper

We tested only the 3000-grit stone, and found that it's very quick to use. You can feel the bite on the stone as you work, and it actually feels surprisingly gritty as it cuts. There's a slurry build-up as the stone does its job, but an occasional sprinkle of water keeps the cut clean.

If you expect shiny backs to your blades you may be disappointed, as this stone leaves a relatively dull surface. However, that doesn't belie its capability of honing an edge to a standard good enough to plane even the toughest hardwoods. ***AK***

THE RANGE

1000 grit for primary bevels	£56.95
3000* grit for micro-bevels	£61.50
10,000 grit for fine finishing	£95.95

*version tested

VERDICT

These stones work quite a bit faster than normal water stones, and wear more slowly in use.

PROS
- Ideal for sharpening hard A2 steel tools
- Needn't be stored in water

CONS
- Must be soaked before use
- Will need occasional flattening
- Wickedly expensive, especially if you buy all three stones!

VALUE FOR MONEY ■■■□□
PERFORMANCE ■■■■□

FURTHER INFORMATION

- Axminster Tool Centre
- 03332 406406
- www.axminster.co.uk

Rotary multi-tools are versatile and useful machines, popular with model makers, DIYers and woodworkers alike. The best-known manufacturer is Dremel. Now here's an offering from Einhell, complete with all the accessories that you could ever want

Einhell BT-MG 135/1 multi-tool set

A rotary multi-tool may not be the sort of machine that you'll use everyday. However, it's an extremely useful little gadget for all manner of tasks where a larger tool simply can't be used. This Einhell multi-tool set is an ideal addition to any toolkit, and includes all the attachments you'll ever need. And it's a bargain as well!

Standard features

This is a sturdy tool with a dark blue body, complete with soft-grip rubber inserts to aid grip. It's fractionally larger than a Dremel and not quite so well-shaped, but is perfectly OK. On the rear is a simple rocker power switch and the speed control wheel. There's also a useful hanging loop.

In common with other multi-tools, the Einhell doesn't use an expanding chuck as fitted to larger drills. Instead it has a chuck similar to a router, and is supplied with a selection of collets so it can accommodate a range of accessories from drill bits to grinding wheels. A spindle lock button is fitted, and a small spanner is supplied for accessory changes.

Useful extras

One of the most useful accessories is the flexible drive. This allows you to hang the motor unit on the supplied telescopic bench stand and then use your bit in the flexible drive chuck. This set-up is ideal for very delicate jobs where the weight or size of the motor unit would be a handicap.

All the accessories are supplied in an excellent transparent storage case. Such tiny attachments can be a nightmare to store as they're so easy to lose. This case has everything well laid out, clearly visible and easily accessible.

Summing up

This is a well-specified tool at an attractive price. It's pleasant to use and robust enough to survive a bit of rough handling. It comes with all the bits you need to get started and, should you need more, accessories from the large Dremel range can be used with it. ***AS***

A small spanner is supplied for use when changing collets or bits

The range of accessories allows you to tackle many unusual jobs

The bench stand and flexible shaft are ideal for doing detailed work

SPECIFICATION

MOTOR	135W
OSCILLATION RATE	10,000-32,000/min
WEIGHT	600g

ACCESSORIES storage case with 189 attachments, flexible drive with hook and bench stand

VERDICT

This is a competent tool supplied with an excellent range of accessories in a neat and well-organised case.

PROS
- Good performance
- Huge range of accessories
- Useful bench stand
- Dremel compatible

CONS
- Nothing obvious

VALUE FOR MONEY ■■■■■□

PERFORMANCE ■■■■■□

FURTHER INFORMATION

- Einhell
- 0151 649 1500
- www.einhell-uk.co.uk

TIMBER SUPPLIES, COURSES & SPECIALIST EQUIPMENT

WOOD TURNING & SPECIALIST SUPPLIES

ADD A NEW DIMENSION TO YOUR WORK WITH

metalcraft

Visit our Online Store Today!
(web address at bottom of this advert)

Easy to use tools that do not require heat or power

Ideal wherever wood and steel can combine to make stylish...

- Furniture
- Clocks
- Signs
- Frames & Decorative Panels
- and so much more

Call today for our free Catalogue and if you quote the promo code "MTW13" we will send you our new demo DVD free of charge

J & C R Wood, Dept MTW13, FREEPOST NEA15848, Hull HU5 1BR
01482 345067 | info@jandcrwood.co.uk

www.metal-craft.co.uk

Uk Suppliers of Olive Wood Planks for Woodworkers

At Wood and Stuff I supply kiln dried 25mm & 30mm olive wood planks in a range of widths from 20cm to 40cm(widths subject to availability). These planks can be supplied and delivered to your door at up to two meters long for very reasonable prices. We supply to both professional and hobby wood workers as well as woodworking supply shops

As with all kiln dried wood these planks can be prone to splitting in the heads but I do my best at all times to supply sound, split free boards. All the wood comes rough cut and most has a waney edge.

Multi-Buys available to save on postage costs

If you have no internet please phone or write to the address below to receive a product list and order form in the post

- SPINDLE BLANKS
- BOWL BLANKS
- PEN BLANKS
- OLIVE WOOD PLANKS
- OLIVE WOOD BURR
- MULTI BUYS

WOOD AND STUFF
James Newburn

WWW.WOOD-AND-STUFF.CO.UK
TEL: 07714 204060
EMAIL: JAMES@WOOD-AND-STUFF.CO.UK
Unit 10 Lidun Park, Boundary Road, Lytham, Lancs FY8 5HU

Woodworking Equipment for sale

2. **REXON 10" BANDSAW** On a stand uni-drive **£150**
3. **REXON MITRE SAW M2504AL** with a laser and sitting on a WOLF Stand **£75**
5. **TREND AIRSHEILD £75**
6. **TREND ROUTER TABLE** with a freud f2000e 3 1/4 HP ROUTER **£80**
7. **SIP 18Vcordless circular** Boxed with charger & two Batteries **£85**
8. **Box of 11 German Chrome Vanadium Chisels** with TREND Diamond Honer **£35**
9. **Box of BJR Saw bits**, need sharpening **£15**
10. **Box 25 pieces rubber sanding set £10**
11. **Dremel** with a measure of bits etc **£15**
12. **BOSCH GST 97** 50 years celebration Jigsaw little used with Blades **£30**
14. **SIPS** Heavy Duty Bench Grinder **£15**
15. **TREND T5 ROUTER** with all accessories **£70**
16. **REXON BS10 SA Profiline** with new new blades **£50**
17. **SIPS18 VOLT Circular Saw** boxed with charger and two Batteries **£50**
18. **TREND CRT Mk 3 router table** Fitted with a FREUD FT2000E 3 1/4 HP **£190**
19. **POOLE WOOD 15/90 Lathe** Fully equipped with all necessary fixture and fittings **£100**
23. **ROBERT SORBY Lathe indexing £55**
25. **SIPS Bench Drill £35**
26. **Scheppach Planer /Thicknesser £200**

Buyer collects please from North Oxford **(01295) 402 902**

The Wood Veneer Hub

www.thewoodveneerhub.co.uk

We provide the highest quality:

Decorative, Exotic & Burr Veneers
Coloured & Smoked Veneers
Constructional Veneers
Peel & Stick Veneers
Tools & Accessories

Visit Us: Unit 4 Eden Court, Eden Way
Leighton Buzzard, Bedfordshire, LU7 4FY
+44 (0) 1525 851166
sales@thewoodveneerhub.co.uk

WOOD SUPPLIES, COURSES & EQUIPMENT

SHOP GUIDES

WEB GUIDE

DIAMOND SHARPENING & CHAINSAW DISCS

MUSICAL INSTRUMENT MAKERS

CLOCKS

MARKETPLACE

Our **FREE** classified advertisement service

Send or email a photograph of your item and we'll include it with your ad for **FREE!**

FOR SALE

Oak and mahogany, planed ¾in and ⅞in thick, sizes include 8ft x 16in; phone for details.
01745 855570 (North Wales)
Would callers who answered this advertisement before please ring again?

Delta 18in scrollsaw on stand, 40/650C variable-speed model, hardly used; £50 or sensible offer. Buyer collects.
01582 873977 or 07582 415891 (Bedfordshire)

Hegner multi-cut scrollsaw in very good condition with handbook and spare blades, cost £225; yours for £100. Table bandsaw; £75.
02392 525483 (Hampshire)

Axminster 28/40 lathe, variable speed, swivel head, spindle lock, indexing chuck, mounted on heavy steel stand; £395.
01709 542912 (South Yorkshire)

Carver's chops on stand with seat, plus large rocking horse plans and hardboard templates for same; £200 ono. Buyer collects.
01225 704654 (Wiltshire)

Lie-Nielsen scrub plane: £75. Lie-Nielsen rebating block plane; £75. ECE wooden smoothing plane; £75. ECE wooden block plane; £35.
01432 354960 (Herefordshire)

Makita 490 router table, complete with router and all accessories, used twice; £50. Buyer collects.
07902 238137 (Hertfordshire)

Record RPMS-R router table with custom-made locking wheel set, little used so in excellent condition; £275. Freud FP2000VCE router in very good condition; £70.
01244 540832 (North Wales)

Inversion stand (integrated sanding frame) for DeWalt DW432/433 3in belt sander, boxed and unused; £25.
01724 733170 (North Lincolnshire)

10in circular saw with tilt and rise-and-fall action, 2¾hp induction motor, fully equipped; £50.
01275 374550 (Bristol)

Variable-speed lathe, swivel head, 5ft bench; £175. Remote-control air filter; £50. Buyer collects.
01903 532279 (West Sussex)

50 Woodworker and Practical Woodworking magazines in excellent condition; £20.
01285 861462 (Wiltshire)

Delta 16in scrollsaw, 2-speed model featuring circular table, cast iron frame and quickset blade change, unused so as new; £145.
01455 843668 (Leicestershire)

Tormek attachment for planer blades; £60. Japanese oak-bodied scraper plane; £20. Will email photos if required.
01270 872832 (South Cheshire)

Record No 3 lathe, bench-mounted, in very good condition, with chucks, turning tools and wood blanks. Trend Airshield battery-powered respirator, boxed and brand new. £450 the pair.
01246 863593 (Derbyshire)

DeWalt cordless tools in storage case – drill, jigsaw, circular saw, reciprocating saw and floodlight – plus charger and 5 Ni-MH batteries, little used; £485.
01455 843668 (Leicestershire)

Axminster lathe, 750W variable speed model, 1100mm between centres, 350mm over bed, with K8 chuck and stand; £195.
01934 834717 (North Somerset)

WANTED

Spiers / Norris planes wanted by private collector; top prices paid for quality tools.
01530 834581 (Leics)

Woodworking hand tools, especially old wood and metal planes, wanted by collector. Write to Mr B Jackson, 10 Ayr Close, Stamford PE9 2TS or call
01780 751768 (Lincs)

Woodworking tools: planes by Norris, Spiers, Mathieson, Preston, Slater etc, brass braces, interesting rules and spirit levels; top prices paid, auction prices beaten.
01647 432841 (Devon)

USE THIS FORM TO BOOK YOUR **FREE** AD

The Woodworker MARKETPLACE

- This space is available only to private individuals wishing to buy or sell woodworking machinery and tools.
- The maximum value of any item for sale must not exceed £500. A small fee is payable for items offered at over £500; please ring 01689 869852 for details.
- Each coupon is valid for one free insertion in the next available issue.
- The publisher accepts no responsibility for errors or omissions in this section.

Please publish this advertisement in the next available edition of *The Woodworker*. I am a private advertiser and have no trade connections.

PLEASE TICK: FOR SALE ❑ WANTED ❑

My advertisement (max 20 words please) reads as follows:

Name _____

Address _____

_____

Postcode_____ Daytime tel no._____

Signature _____

Please write your advertisement in BLOCK CAPITALS and send it to: The Woodworker Marketplace, MyTimeMedia Ltd, Hadlow House, 9 High Street, Green Street Green, Orpington, Kent BR6 6BG. You can also email your free ad to: thewoodworker@mytimemedia.com Send/email a photograph of your item and we'll include it with your ad for FREE

The picture shows a sample of a lapped dovetail in oak, such as might be found in furniture drawer construction, and one set of specialised through dovetails in softwood. Can anyone tell me what the special use of this particular arrangement of dovetails could be (hint: it's upside down)? Answers to me at mark.cass@mytimemedia.com. Good ones might well win a Woodworker badge!

Are they hand-cut?

BY MICHAEL FORSTER

I often hear that question at craft fairs, and it's gratifying to have my skill appreciated. I reply that all my joints are hand-cut, with traditional saw and chisel work and no guides or jigs. Sometimes we then go on to have a pleasant conversation about the finer points of cabinetry.

But just occasionally the conversation takes a different turn, as it did just the other weekend. I was exhibiting at a country show and as usual had on the stall a number of small items for sale, some of which featured my 'signature' of dovetails cut in contrasting timbers. Then I heard a voice…

Opening gambit

'Nice dovetails', he said. *'Are they hand-cut?'*
'They are', I replied. ***'All done with traditional saws and chisels.'***
'Yeah, right!'
'No, really. They're entirely hand-cut.'
'You're having me on!'
'I assure you: all my joints are hand-cut.'
'But you must use a saw guide of some sort,' he persisted.
'The only guide I use is for marking out. My saw and chisel work is all freehand.'
Eventually, the gentleman did have the grace to accept that I was telling the truth, but it seemed an odd conversation to be having at a craft fair, of all places.

Master class

I remember chatting at a show a while ago with a bemused John Lloyd (of Fine Furniture fame, to whom I humbly and readily defer in the art of cutting dovetails and indeed in cabinetry generally), and he told me he'd just had a similar conversation. The bizarre aspect was that he had not long finished presenting a masterclass on that very subject – in which he had hand-cut a dovetail before the eyes of a live audience – and his session was prominently billed in the show programme. But the visitor to his stand had apparently missed all of that, and absolutely insisted that the only way such fine joints could be cut was on a machine.

Craftsmanship lives

In a way it's difficult not to be flattered, as we're obviously achieving something that these show visitors think is impossible to manage with hand skills alone. But it's also a little disturbing. Don't people ever consider the levels of craftsmanship that went into creating antique furniture, made long before the industrial revolution ever happened? Do they think that Thomas Chippendale had a steam-powered router in his workshop?

Look, I'm not a Luddite. I have a well-equipped dedicated machine shop just a couple of yards from my joinery shop. However, I know what a buzz I get from doing fine woodwork by hand, and how much more enjoyable it is to work in a relatively quiet and dust-free environment, able to hear the shop radio or enjoy the birdsong coming in from outside.

Maybe a few people who think it's impossible will be encouraged to aspire to that, too. I sincerely hope so.

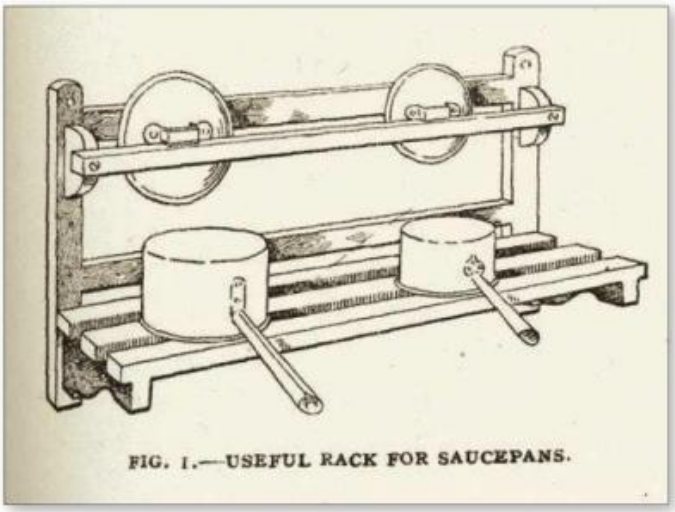
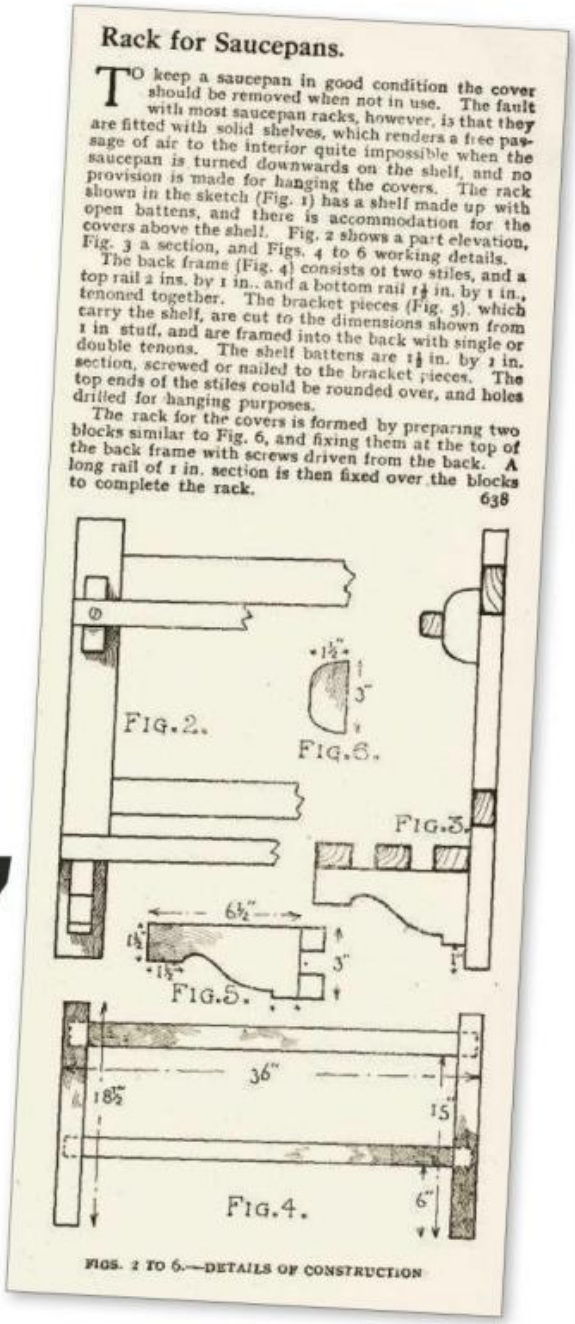


FIG. 1.—USEFUL RACK FOR SAUCEPANS.



Rack for Saucepans.

TO keep a saucepan in good condition the cover should be removed when not in use. The fault with most saucepan racks, however, is that they are fitted with solid shelves, which renders a free passage of air to the interior quite impossible when the saucepan is turned downwards on the shelf, and no provision is made for hanging the covers. The rack shown in the sketch (Fig. 1) has a shelf made up with open battens, and there is accommodation for the covers above the shelf. Fig. 2 shows a part elevation, Fig. 3 a section, and Figs. 4 to 6 working details.

The back frame (Fig. 4) consists of two stiles, and a top rail 2 ins. by 1 in., and a bottom rail 1½ in. by 1 in., tenoned together. The bracket pieces (Fig. 5), which carry the shelf, are cut to the dimensions shown from 1 in stuff, and are framed into the back with single or double tenons. The shelf battens are 1½ in. by 1 in. section, screwed or nailed to the bracket pieces. The top ends of the stiles could be rounded over, and holes drilled for hanging purposes.

The rack for the covers is formed by preparing two blocks similar to Fig. 6, and fixing them at the top of the back frame with screws driven from the back. A long rail of 1 in. section is then fixed over the blocks to complete the rack.

638

FIG. 2.

FIG. 6.

FIG. 3.

FIG. 5.

FIG. 4.

FIGS. 2 TO 6.—DETAILS OF CONSTRUCTION

Pots, pans, racks and plans

Years may go by, but the need for kitchen shelving is as paramount as ever...

Despite the passing of nearly a century since this article first saw light in *The Woodworker* of March 1920, little change has been seen in the requirements of the average domestic kitchen. True, electricity, fancy lighting and all manner of modern media have modified the perception of the kitchen into what is often a home hub, but it's still primarily a place where cooking occurs, and where there's cooking, there are always lots of pans.

As well as instructing readers in the finer points of Hepplewhite and Sheraton furniture design, this particular issue was keeping things real with this nifty saucepan rack and bracketed shelf. Speaking as someone who has recently made a shelf or two to serve this very purpose, I can only say that the arrangement illustrated here is, in practical terms, 100 per cent up to the job.

A great all-rounder

I'm sure that we've all seen the wheel of fashion and style turn full circle (and more than once in some cases!) – a phenomenon which continues to justify the 'don't throw anything away' philosophy of many, so it's no surprise to observe that there are a few kitchens I know of where the *Woodworker* pan rack would fit right in. Quite apart from the look of it, the slatted shelf ticks all the boxes for use and practicality, not to mention good housekeeping and food hygiene into the bargain.

I particularly like the upper rail for the provision of safe storage for pan lids, and I employ a similar scheme in my workshop for storing a variety of chisels and the like.

I was working in a similar vintage property last week which had many original features, but if anyone knows of actual shelving like this still in existence, I'd love to see a photo of it. Just email it to me at mark.cass@mytimemedia.com

mark

More from The Woodworker archive next month...

FASTTRACK™ PROMOTION

SHARPEN CHISELS QUICKLY

Portable hand operated honing system giving razor fine edges to chisels every time.

- Quick change sharpening angles 25° for primary and 30° for secondary.
- Unique lateral sharpening action, gives superb finished edge.
- Quick change magnetic lock diamond sharpening stones.
- Easy to use with no set up time required.
- Ideal for chisels and plane irons.

Includes:
- Preparation Stone 220 Grit
- Finishing Stone 450 Grit
- Cleaning Block

INCLUDES FREE

DIGITAL ANGLE RULE

200mm rule that calculates angles quickly and accurately.

- Digital display for angles.
- Rule locking function.
- Measuring range from 000.0° to 360.0° with an accuracy of 0.3°.
- With metric and imperial scale.
- Easy operation with Auto-shut off.

Only available at your nearest Trend Routing Centre visit www.trend-uk.com

AD/13/16

trend®
routing technology

Follow us on:

AVAILABLE AT TREND ROUTING CENTRES AROUND THE UK.

Phone 01923 249911 for your free 2013 Routing Catalogue and details of your nearest stockist.

web: www.trend-uk.com | email: enquiry@trendm.co.uk

Introducing the Best Value 12" Bandsaw on the Market

5 YEAR GUARANTEE

The BS12 is built to offer exceptional performance and value for money. Our brief was to create a machine that could compete in the entry level market whilst offering better features and performance than most of the competition and apply our 5 year guarantee with absolute confidence.

BUY ONLINE

STILL ONLY £369.99 Inc. VAT

Includes leg stand, basic wheel kit and mitre fence.

Prices valid until 31.08.2013. E&OE.

The BS12 at a Glance...

In addition to offering unbeatable value for money, the BS12 12" Bandsaw boasts numerous features not often seen on machines in this price bracket.

BS12	Other Bandsaws
Easy Access Handles	**Tool Required**
	
The doors can be opened easily without the need for tools.	A far less convenient solution.
Easy-Adjust Guides	**Standard Guides**
	
A superior design, similar to our premium bandsaw range.	Provide less support and require tools to adjust.
Improved Access	**Limited Access**
	
The large table insert makes access and adjustment very easy.	Most bandsaws feature smaller table inserts, restricting access.
Steel Rack & Pinion Trunnion	**Cast Alloy Trunnion**
	
This type of trunnion allows one-handed operation, giving excellent support and accuracy.	More difficult to adjust accurately, requiring two-handed operation.

RECORD POWER
ESTABLISHED 1909®

Over 100 years
Experience • Knowledge
Support • Expertise

RECORD POWER
STARTRITE
CORONET
BURGESS

Incorporating some of the most famous brands in woodworking, Record Power have been manufacturing fine tools & machinery for over 100 years. Built to last we provide support for thousands of machines well over 50 years old, which are still in daily use. Testimony to the sound engineering principles and service support that comes with a Record Power product.

www.recordpower.co.uk Tel: 01246 561 520