Woodworking CRAFTS

HAND, POWER & GREEN WOODWORKING • TURNING • RESTORATION • DIY

Make the ultimate router table

PROJECTS
Garden observatory
Bathroom vanity unit
Recycled plant pot stand
Breakfront display cabinet

Feature: Swill basket maker

TECHNIQUES
Dowel making
Cleaving green wood
Edge tool sharpening
Oak table restoration

NEW STORE KIDDERMINSTER OPENS JUNE '18

Machine Mart

66 SUPERSTORES NATIONWIDE

WHERE QUALITY COSTS LESS

Clarke TABLE SAWS

LEG STAND KITS FOR CTS10D AND CTS11 ONLY £27.59 INC VAT

FROM ONLY £72.99 EXC.VAT £87.59 INC.VAT

BEST SELLER

CTS10D

INCLUDES LEFT & RIGHT TABLE EXTENSION

MODEL	MOTOR	BLADE	EXC.VAT	INC.VAT
CTS800B	600W	200mm	£72.99	£87.59
CTS11	1500W	254mm	£154.99	£185.99
CTS10D	1500W	254mm	£169.98	£203.98

Clarke 4" BELT/ 6" DISC SANDER

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

CS4-6E

£92.99 EXC.VAT £111.59 INC.VAT

Clarke 6" BELT/ 9" DISC SANDER

- Includes stand
- 1 HP/ 230V/ 1ph motor

CS6-9C

£239.00 EXC.VAT £286.80 INC.VAT

Clarke TABLE SAW WITH EXTENSION TABLES (250mm)

CTS14

- Ideal for cross cutting, ripping, angle and mitre cutting
- Easy release/locking mechanism for table extensions
- 0-45° tilting blade
- Cutting depth: 72mm at 90° / 65mm at 45°

£129.98 EXC.VAT £155.98 INC.VAT

SHOWN WITH OPTIONAL LEG KIT CLK5 £19.98 EXC.VAT £23.98 INC.VAT

evolution FURY5-S TABLE SAW

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

3 YEAR GUARANTEE

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

Clarke WOODWORKING VICES

STANLEY. Record

FROM ONLY £14.99 EXC.VAT £17.99 INC.VAT

WV7

MODEL	MOUNTING	JAW (WIDTH/OPENING /DEPTH)mm	EXC.VAT	INC.VAT
Clarke CHT152	Bolted	150/152/61	£14.99	£17.99
Stanley Multi Angle	Clamped	72/60/40	£18.99	£22.79
Record TV75B	Clamped	75/50/32	£21.99	£26.39
Clarke WV7	Bolted	180/205/78	£29.98	£35.98

Clarke QUALITY CAST IRON STOVES

8kW

OVER 22 QUALITY STYLES ON DISPLAY

£219.00 EXC.VAT £262.80 INC.VAT

ENERGY RATING A

FLUES, COWLS & ACCESSORIES IN STOCK

BARREL II

Clarke 1" BELT/ 5" DISC SANDER

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

£69.98 EXC.VAT £83.98 INC.VAT

CBS1-5

Clarke TURBO FAN GAS HEATERS

Offering low cost, efficient heating

PROPANE GAS FIRED

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

*stainless steel

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

Clarke ELECTRIC HEATERS

BEST SELLER

DEVIL 6003

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

DEVIL 7003

MODEL	VOLTAGE	HEAT OUTPUT KW	EXC.VAT	INC.VAT
DEVIL 6003	230V	1.5-3	£49.98	£59.98
DEVIL 7003	230V	3	£59.98	£71.98
DEVIL 6005*	400V	2.5-5	£69.98	£83.98
DEVIL 7005	400V	5	£84.99	£101.99
DEVIL 6009#	400V	4.5-9	£109.00	£130.80
DEVIL 7009¥	400V	9	£129.98	£155.98
DEVIL 6015†	400V	5-10-15	£169.00	£202.80
DEVIL 7015	400V	15	£199.98	£239.98
DEVIL 7025	400V	22	£299.00	£358.80
DEVIL 7030	400V	30	£349.00	£418.80

*was £89.99 inc.VAT #was £142.80 inc.VAT ¥was £167.98 inc.VAT †was £214.80 inc.VAT

Clarke CORDLESS STAPLE/ NAIL GUN

- All models include nail/staple pack and tough moulded case
- 18V 2Ah Li-ion power pack
- 18 Staple/Nail Gauge

ONLY £109.98 EXC.VAT £131.98 INC.VAT

CONSN18LIC

SPARE NAILS / STAPLES IN STOCK

ELECTRIC AND CORDLESS MODELS IN STOCK

TURBO AIR COMPRESSORS

airmaster

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

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

- 'V' Twin Pump

8/250

MODEL	MOTOR	CFM	TANK	EXC.VAT	INC.VAT
8/250	2HP	7.5	24ltr	£89.98	£107.98
7/250	2 HP	7	24ltr	£94.99	£113.99
11/250	2.5HP	9.5	24ltr	£109.98	£131.98
8/510	2HP	7.5	50ltr	£119.98	£143.98
11/510	2.5HP	9.5	50ltr	£139.98	£167.98
16/510*	3 HP	14.5	50ltr	£209.00	£250.80
16/1010*	3 HP	14.5	100ltr	£259.98	£311.98

Clarke 4" BELT/ 8" DISC SANDER

- Includes two tables
- 550W 230V motor

£159.98 EXC.VAT £191.98 INC.VAT

CS4-8

Clarke DUST EXTRACTOR/ CHIP COLLECTORS

CDE7B

CWVE1

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

- Powerful 1100W motor
- 50 litre bag capacity
- Flow rate of 850M3/h

MODEL	MOTOR	FLOW RATE	BAG CAP.	EXC.VAT	INC.VAT
CWVE1	1100W	183 M3/h	50Ltrs	£109.98	£131.98
CDE35B	750W	450 M3/h	56Ltrs	£144.99	£173.99
CDE7B	750W	850 M3/h	114Ltrs	£159.98	£191.98

Clarke CAT111 AIR TOOLS

CAT165

FROM ONLY £21.99 EXC.VAT £26.39 INC.VAT

HUGE CHOICE IN-STORE/ONLINE

MODEL	DESCRIPTION	EXC. VAT	INC. VAT
CAT111	Orbital Sander	£21.99	£26.39
CAT160	6" Dual Action Random Orbital Palm Sander	£39.98	£47.98
CAT165*	10mm Air Belt Sander	£39.98	£47.98
CAT168	50mm Right Angle Orbital Sander	£34.99	£41.99

*was £59.98 inc. VAT

Clarke HARDWOOD WORKBENCH

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

CHB1500

£149.98 EXC.VAT £179.98 INC.VAT

Clarke DISC SANDER (305MM)

- Powerful, bench mounted
- 900W
- Dust extraction port

£129.98 EXC.VAT £155.98 INC.VAT

CDS300B

BLACK & DECKER POWER PLANERS

TE-PL850

- 82mm cutting width

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

MODEL	MOTOR	DEPTH OF CUT	EXC.VAT	INC.VAT
Einhell TE-PL850	850W	3mm	£54.99	£65.99
B&D KW750K - GB	750W#	2mm	£57.99	£69.59

Clarke BELT SANDERS

- Ideal for surface removal, sanding and finishing

Makita

BS1

ABRASIVE SANDING BELTS IN STOCK

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

MODEL	MOTOR	M/MIN	EXC.VAT	INC.VAT
Clarke BS1	900W	380	£36.99	£44.39
Clarke CBS2	1200W	480	£79.98	£95.98
Makita 9911	650W	75-270	£89.98	£107.98

Clarke DETAIL SANDERS

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

CDS-1V

FROM ONLY £19.99 EXC.VAT £23.98 INC.VAT

MODEL	WATTS	EXC.VAT	INC.VAT
PS105	105W	£19.98	£23.98
CDS-1V	280W	£29.98	£35.98

ALL MODELS INC. SANDING SHEETS

Clarke SHEET SANDERS

- Ergonomic design for optimum comfort

*was £41.99 inc.VAT

CON300

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

MODEL	SHEET SIZE	MOTOR	EXC.VAT	INC.VAT
COS200	190X90mm	150W	£16.99	£20.39
CON300*	230X115mm	330W	£32.99	£39.59

Clarke RANDOM ORBITAL SANDER

- Adjustable front handle improves control
- 7000-14000rpm

£32.99 EXC.VAT £39.59 INC.VAT

CROS3

INC DUST BAG AND SELECTION OF 125MM DIAMETER SANDING DISCS

Clarke CPF13 ELECTRIC POWER FILE

- Variable belt speed
- Tilting head

*Black & Decker

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

MODEL	MOTOR	BELT SIZE (mm)	EXC.VAT	INC.VAT
CPF13	400W/230V	13x457	£49.98	£59.98
KA900E*	350W/230V	13x455	£59.98	£71.98

Clarke CIRCULAR SAWS

- Great range of DIY and professional saws
- Ideal for bevel cutting (0-45°)

CON185

*Includes laser guide

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

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

VAC KING WET & DRY VACUUM CLEANERS

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

#was £119.98 inc.VAT

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

* SS = Stainless Steel

MODEL	MOTOR	CAPACITY DRY/WET	EXC. VAT	INC. VAT
CVAC20P	1250W	16/12ltr	£49.98	£59.98
CVAC20SS*	1400W	16/12ltr	£59.98	£71.98
CVAC20PR2	1400W	16/12ltr	£64.99	£77.99
CVAC25SS*	1400W	19/17ltr	£67.99	£81.59
CVAC30SSR*#	1400W	24/21ltr	£89.98	£107.98

Clarke PORTABLE THICKNESSER

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

£219.00 EXC.VAT £262.80 INC.VAT

CPT250

Clarke 18V CORDLESS DRILL/DRIVERS

Clarke CONTRACTOR

powered by Li-Ion

CON18Li

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

MODEL	VOLTS	BATTS	EXC. VAT	INC.VAT
CON18Ni	18V	2 x Ni-Cd	£69.98	£83.98
CON18Li	18V	2 x Li-Ion	£89.98	£107.98

Clarke CONTRACTOR 18V BRUSHLESS COMBI DRILLS

- 2 forward and reverse gears

NEW RANGE

powered by Li-Ion

CON180LI

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

MODEL	VOLTS	BATTS	EXC. VAT	INC.VAT
CON18LIC	18V	2x 2.0Ah Li-Ion	£109.98	£131.98
CON180LI	18V	2x 4.0Ah Li-Ion	£169.98	£203.98

Clarke OSCILLATING BOBBIN SANDER

COBS1

- Dust collection port
- Inc. 6 sanding sleeves/bobbins

£139.98 EXC.VAT £167.98 INC.VAT

Clarke BOLTLESS SHELVING/BENCHES

- Simple fast assembly in minutes using only a hammer

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

SAVE 10%

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

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

CHOICE OF 5 COLOURS

RED, BLUE, GREY, SILVER & GALVANISED STEEL

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

MODEL	DIMS WxDxH(mm)	EXC.VAT	INC.VAT
150kg	800x300x1500	£29.98	£35.98
350kg	900x400x1800	£49.98	£59.98

Clarke WHETSTONE SHARPENER (200MM)

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

CWS200B

ONLY £119.98 EXC.VAT £143.98 INC.VAT

Clarke PLANERS & THICKNESSERS

CPT800

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

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

MODEL	PLANING WIDTH	MAX THICK. CAPACITY	EXC. VAT	INC. VAT
CPT600	6"	120mm	£184.99	£221.99
CPT800	8"	120mm	£219.98	£263.98
CPT1000	10"	120mm	£299.00	£358.80

Clarke OSCILLATING BELT & BOBBIN SANDER

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

£179.98 EXC.VAT £215.98 INC.VAT

COEBS1

27271LH

FAST, EASY FINANCE ONLINE/INSTORE

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Clarke SLIDING COMPOUND MITRE SAWS

BEST SELLER

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

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

CMS10S2

MODEL	BLADE DIA/BORE (mm)	MAX CUT DEPTH/CROSS	EXC.VAT	INC.VAT
CMS210S NEW	210/30	60/120	£89.98	£107.98
CMS10S2	254/30	78/340	£139.98	£167.98

Clarke MITRE SAWS

CMS210

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

Laser Guide
‡ Sliding Compound

- Quality Range of Mitre saws and blades in stock

MODEL	BLADE DIA/BORE (mm)	MAX CUT DEPTH/CROSS	EXC. VAT	INC. VAT
CMS210	210/30	60/120mm	£59.98	£71.98
Einhell TC-MS 2112	210/30	55/120mm	£59.98	£71.98
Einhell TC-SM 2131#	210/30	62/310mm	£129.98	£155.98
Einhell TC-SM 2534‡	250/30	75/340mm	£159.98	£191.98

Clarke WORK TABLE SUPPORTS (PAIR) CWTS1

ONLY £29.98 EXC.VAT £35.98 INC.VAT

- Ideal if you have your own work top or want to build a steel or wood workbench • Inc. mounting holes for worktop, shelf and floor

SIMPLY ADD YOUR OWN TOP

BEST SELLER

Clarke DRILL PRESSES

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

FROM ONLY £66.99 EXC.VAT £80.39 INC.VAT

CDP152B

B = Bench mounted
F = Floor standing

MODEL	MOTOR (W) SPEEDS	EXC. VAT	INC. VAT
CDP5EB	350 / 5	£66.99	£80.39
CDP102B	350 / 5	£79.98	£95.98
CDP152B	450 / 12	£149.98	£179.98
CDP202B	450 / 16	£189.00	£226.80
CDP10B	370 / 12	£198.99	£238.79
CDP452B	550 / 16	£229.00	£274.80
CDP352F	550 / 16	£229.00	£274.80
CDP502F	1100 / 12	£499.00	£598.80

Clarke CONTRACTOR BOSCH JIGSAWS

BEST SELLER

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

CON750 *DIY #Professional

MODEL	POWER (W)	DEPTH OF CUT (WOOD/STEEL)	EXC. VAT	INC. VAT
CJS380*	420W	55/6mm	£15.99	£19.19
CON750#	750W	80/10mm	£27.99	£33.59
Bosch PST700E*	500W	70/4mm	£49.98	£59.98

BISCUIT JOINTER

- 11000rpm Operating Speed • 860W motor • 14mm Cutting Depth • Inc. dust bag, storage case and face spanner for cutter change

NEW

2 YEAR GUARANTEE

TC-BJ900

FROM ONLY £52.99 EXC.VAT £63.59 INC.VAT

Clarke SCROLL SAWS

CSS400C

FROM ONLY £82.99 EXC.VAT £99.59 INC.VAT

BEST SELLER

- 50mm max cut thickness
- Air-blower removes dust from cutting area
- Table tilts 0-45°

MODEL	MOTOR	SPEED RPM	EXC. VAT	INC. VAT
CSS400B	85W	1450	£82.99	£99.59
CSS16VB	90W	550-1600	£94.99	£113.99
CSS400C	90W	550-1600	£114.99	£137.99

Clarke 13" MINI WOOD LATHE

£154.99 EXC.VAT £185.99 INC.VAT

CWL325V

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

Clarke MULTI FUNCTION TOOL WITH ACCESSORY KIT

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

CMFT250

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

Clarke BENCH BANDSAW

- Produces fast, precise mitre & longitudinal cuts
- 350W motor
- 7.5" throat size
- Cuts in all types of wood

£129.98 EXC.VAT £155.99 INC.VAT

CBS190B

Clarke MORTISING MACHINE

£174.99 EXC.VAT £209.99 INC.VAT

CBM1B

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

CHISELS AVAILABLE FROM £8.39 INC VAT

"...fast and accurate with a good solid feel....Excellent value for money." See www.machinemart.co.uk

Clarke STATIC PHASE CONVERTERS

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

PC60

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

ROTARY PHASE CONVERTERS ALSO IN STOCK

CONVERT 230V 1PH TO 400V 3PH

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

Clarke 12" DOVETAIL JIG

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

CDTJ12

£57.99 EXC.VAT £69.59 INC.VAT

Clarke PROFESSIONAL BANDSAWS

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

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

CBS300

FROM ONLY £199.00 EXC.VAT £238.80 INC.VAT

MODELS ALSO FEATURE:

MODEL	THROAT DEPTH	MAX CUT 90°	MAX CUT 45°	EXC. VAT	INC. VAT
CBS225	228mm/9"	90mm	50mm	£199.00	£238.80
CBS300	305mm/12"	165mm	115mm	£399.00	£478.80
CBS350	340mm/14"	225mm	160mm	£498.00	£597.60

Clarke CONTRACTOR BOSCH ROUTERS

- Powerful heavy duty machines ideal for trade and DIY use

CR2 INCLUDES 15 PIECE KIT WORTH OVER £20

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

CR1C

*DIY

MODEL	MOTOR (W)	PLUNGE (mm)	EXC.VAT	INC.VAT
CR1C*	1200	0-50	£46.99	£56.39
Bosch POF1400ACE	1400	0-55	£89.99	£107.98
CR2	2100	0-60	£119.98	£143.98

Clarke ROUTER TABLE

CRT-1

Router not included

BEST SELLER

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

£69.98 EXC.VAT £83.98 INC.VAT

Clarke GRINDERS & STANDS

- Stands come complete with bolt mountings and feet anchor holes

6" & 8" AVAILABLE WITH LIGHT

FROM ONLY £32.99 EXC.VAT £39.59 INC.VAT

STANDS FROM ONLY £47.98 INC.VAT

POLISHING KITS 4" TO 8" FROM ONLY £27.59 INC VAT

With sanding belt *8" whetstone & 6" drystone

MODEL	DUTY	WHEEL DIA.	EXC.VAT	INC.VAT
CBG6RP	DIY	150mm	£32.99	£39.59
CBG6RZ	PRO	150mm	£42.99	£51.59
CBG6RSC	HD	150mm	£54.99	£65.99
CBG6SB#	PRO	150mm	£54.99	£65.99
CBG6RWC	HD	150mm	£59.98	£71.98
CBG8W* (wet)	HD	150/200mm	£56.99	£68.39

Machine Mart Xtra

Professional woodworking tools and machinery from Record, Sheppach, SIP and more!

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In the May issue...

Hello everyone and welcome to the May issue of Woodworking Crafts

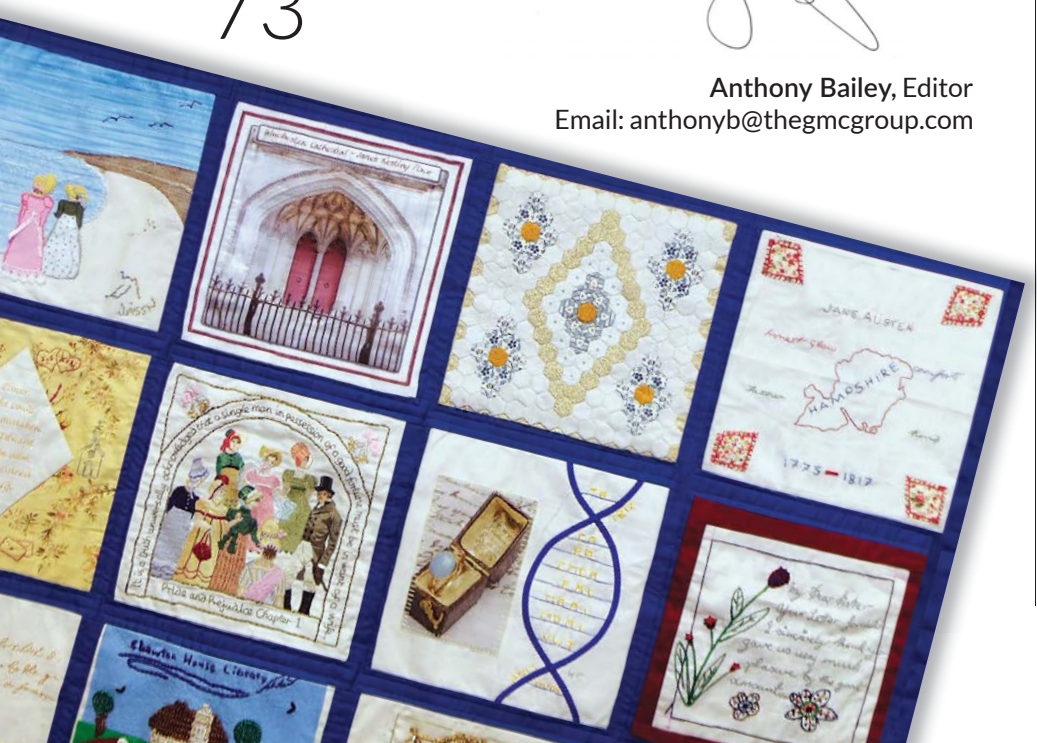
The sky isn't the limit

I don't think I would describe myself as a dreamer, I'm much more practical and 'down to earth'. Nevertheless, I am fascinated by the sky, by cloud formations, the patterns of aircraft movements, and the night sky, the occasional shooting star as debris burns up and the star formations, indications of many suns' histories from billions of light years ago as seen from Planet Earth. It's a big dark void which has been gradually giving up its secrets to astronomers, quantum physicists and mathematicians. So for those of you, who like me are fascinated by the heavens above, we have a plan drawing for a simple back garden observatory where you can sit in relative comfort with an astronomical telescope and make your own fascinating discoveries.

Women in woodworking

So much has come on to advance equality in all areas of life in our society. If women want to do any job from driving an HGV to fighter pilot to any of the building trades including woodworking, they can. Yes, it is sometimes a challenge trying to be a woman in a man's world and it takes a lot of determination to win through. In this issue, we take a brief look at a community quilt created by Jane Austen devotees from around the world, mounted in a specially made frame – the quilt squares often sent from countries where equality between the sexes hasn't happened, but those women are determined to make their mark using the traditional craft of embroidery to honour the memory of Jane Austen. It is easy to think of novels such as *Pride & Prejudice* as romanticised views of society when in fact her observations of the characters' social mores are quite clinical in their dissection and her wit and wisdom came well before the waspish words of Oscar Wilde. We still have a way to go in treating ourselves as equal and not superior to women, but thankfully at least in woodworking women are making their mark!

Anthony Bailey, Editor
Email: anthonyb@thegmcgroup.com



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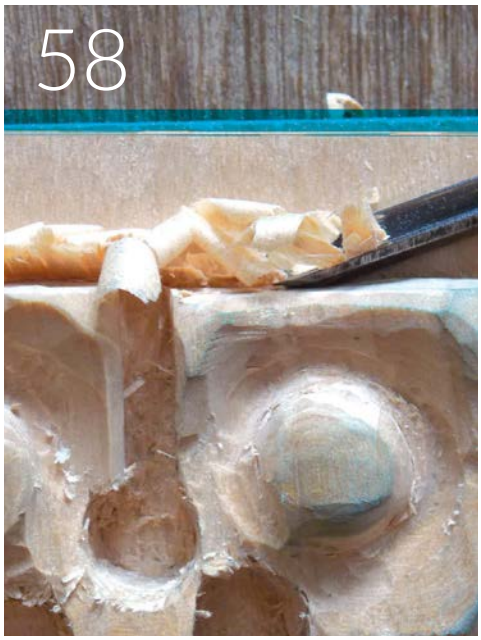

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Woodwork on the web

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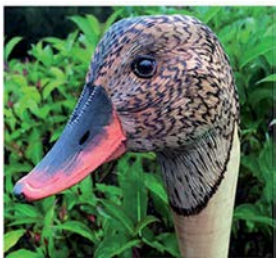
The North's premier woodworking store holds its Spring Open Event, Saturday 21st April 9.00am to 5.00pm

Our star name will be Richard Findley. Richard has been around woodworking for over 20 years. Through his career, his passion for woodturning led to being accepted on the Register of Professional Turners and the Worshipful Company of Turners. Anyone who reads the Woodturning Magazine will have seen his very popular "Diary of a professional woodturner" along with many other articles over the last 7 years.

Richard will be performing four turning masterclasses, each session will be a different project and last around 1 hour 15 mins, with plenty of opportunity for a Q&A session after each session. Seating as always is limited for these sessions and a minimal fee applies to each session.

We also have popular woodturner, Margaret Garrad demonstrating. Margaret has almost 20 years experience in woodturning. Margaret is a member of the Association of Woodturners of Great Britain and the Worshipful Company of Turners. Margaret is always keen to pass on her knowledge.



We also have the talented stickmaster - Marc Cotterill. Marc's talent is clear to see and no doubt will be the name for stickmaking for many years to come.

For those budding pyrographers out there, we have Bob Neill and Lisa Shackleton demonstrating their talents.

It is a day not to be missed, with many discounts available throughout the day, you are sure to pick up a bargain as you wander around the store.

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Shabby chic style

A clean-lined design

PHOTOGRAPHS COURTESY OF SHUTTERSTOCK

Design INSPIRATION

Everyone seems to aspire to owning a dresser – impressive to look at and the perfect place to show off valuable items

Left: Traditional design can add more detail

The detail makes the difference

Fine glazing bars and shaped legs define this piece

Sideboard display cabinet

PHOTOGRAPHS BY GMC/ANTHONY BAILEY UNLESS OTHERWISE STATED

PHOTOGRAPH BY BRENDAN DEVITT-SPOONER

'A conversation at a craft show resulted in an order for a whole suite of furniture' says **Brendan Devitt-Spooner**. Here is the sideboard and display cabinet

The making of this cabinet, which essentially is a display cabinet sitting above a sideboard, came about after a conversation at a large craft show last year. This cabinet was part of a room scheme, which comprised two sideboards, one of which had the display cabinet above, an octagonal dining table and a set of six dining chairs.

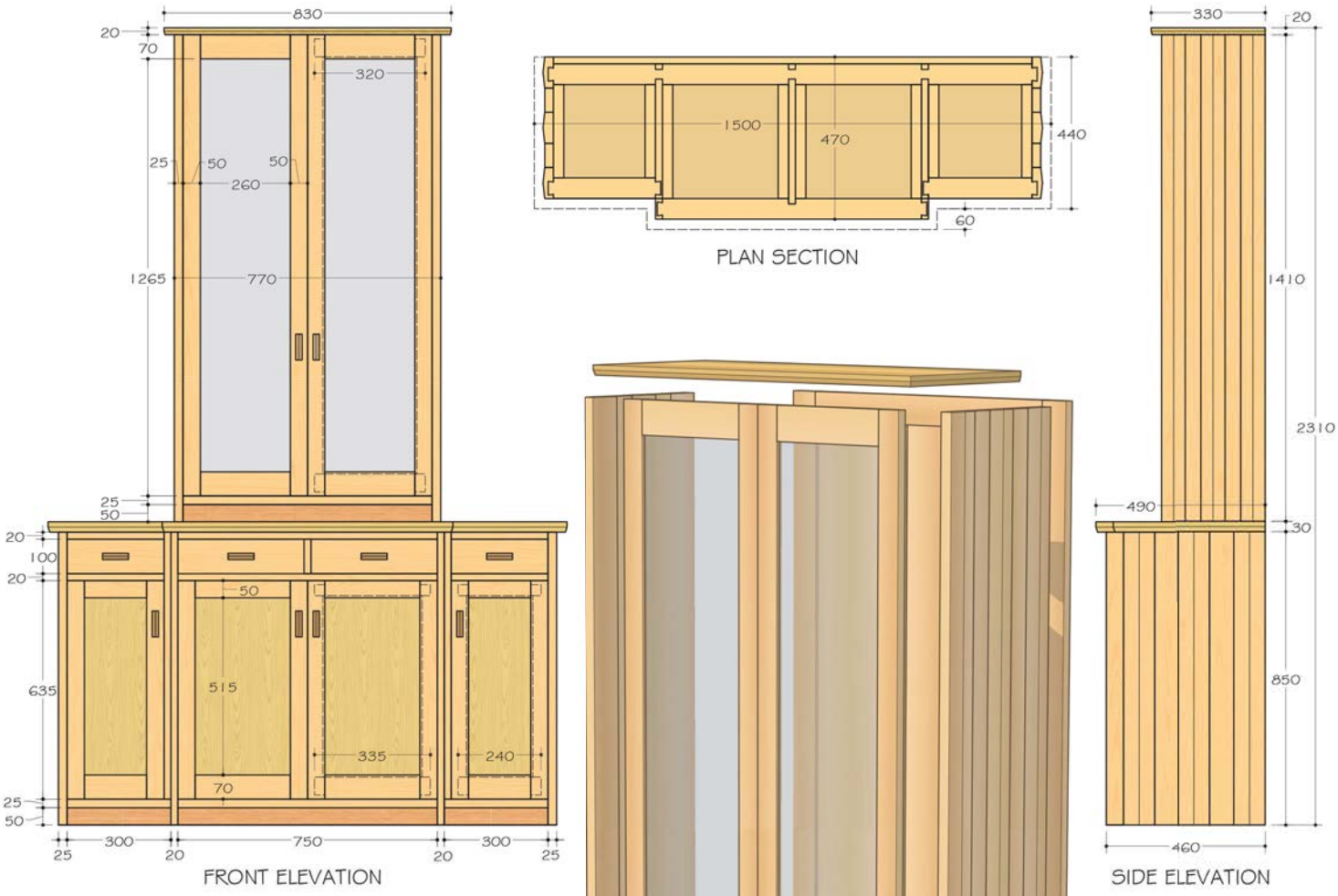
After a visit to my workshop, the clients and I discussed the overall design theme and the timbers to be used. In this case ash was chosen for the main with oak for the tops. Mahogany was used for the details and cedar of Lebanon for the rear panels and drawer bases. The general overview of the pieces was that they were to be quite angular and to highlight the ends of the cabinets with 'corrugated' vertical pieces of wood.

Material choice

As with any project the choice of materials is a major consideration. In this case the timber chosen was English ash. The trees I used came from an estate in West Sussex. We had felled them three years earlier and they had been air-drying ever since. After a brief spell in my kiln to reduce the moisture content down to about 11%, work could commence.

Main construction

Initially all the major pieces were prepared first, these being the base, the sides, dividers and the connecting tie rails. ➤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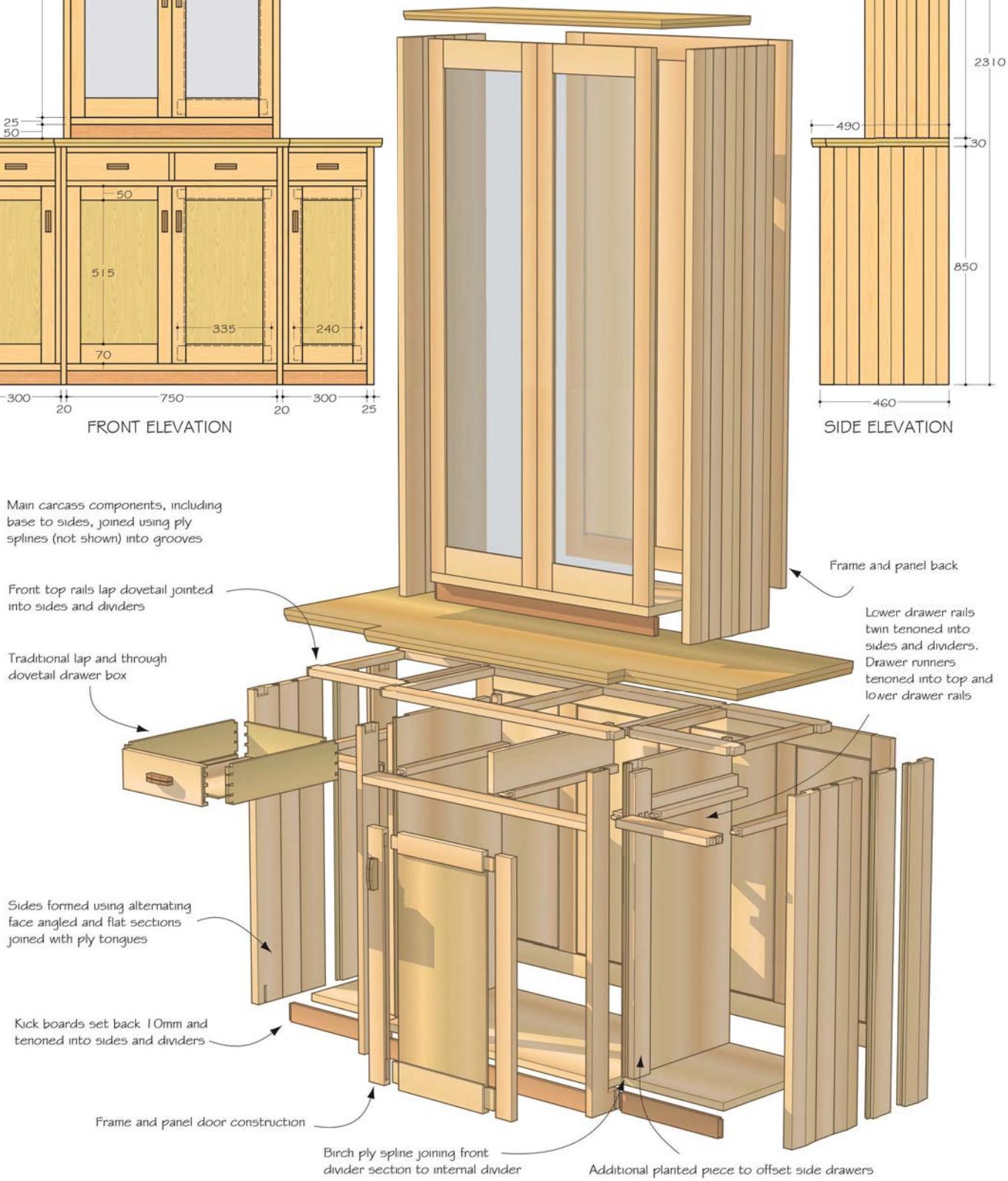
Main carcass components, including base to sides, joined using ply splines (not shown) into grooves
Front top rails lap dovetail jointed into sides and dividers
Traditional lap and through dovetail drawer box
Frame and panel back
Lower drawer rails twin tenoned into sides and dividers. Drawer runners tenoned into top and lower drawer rails
Sides formed using alternating face angled and flat sections joined with ply tongues
Kick boards set back 10mm and tenoned into sides and dividers
Frame and panel door construction
Birch ply spline joining front divider section to internal divider
Additional planted piece to offset side drawers

The base which measures 1450mm long by 420mm wide was made up of narrow boards joined together. This has the benefit of reducing the chance of cupping which is quite likely with a single, wide board. I joined them together by grooving each inside side and inserting a birch ply tongue. There are many ways of joining boards, all of them having legitimacy in realising a wide board. The machines and equipment at one's disposal will form the method used. I have a spindle moulder with a ¼in grooving cutter. Once set up, 'miles' of grooving can be formed quite effortlessly. In this case as the ends of the boards would be located into the ends the grooves could be run all the way through. The internal dividers were similarly joined.

End panels

The ends were made up from three angular pieces and two flat ones. The angular ones are formed by initially preparing the timber into 95mm x 30mm sections. Using an angular slide for the thicknessing table the pieces were fed into the machine until the required shape was achieved. The two intermediate pieces were then thicknessed until they matched the lower edges of the previously shaped pieces. After arranging the pieces so that the resulting ends were pleasing to the eye in terms of grain orientation and colour match, the joining edges were then grooved. As it would be difficult to clean up the individual pieces of the ends once they were joined, I sanded and oiled the surfaces prior to gluing.

As with all glue ups, a trial run is always a good idea to ensure that the meeting edges join without any gaps at all, also to make sure that the plywood tongues are not too wide. Having a set of sash clamps ready with softwood cramping blocks, the five major pieces were glued.

Tongue and trench

The next stage was to re-machine the pieces to their final thickness. Assuming the pieces come out flat I tend to thickness them on a speed sander, which means they all end up flat and smooth ready for final finishing. The pieces were now ready for dimensioning to the finished sizes. The base was finished at 1,414mm long and 410mm wide. This was going to be joined to the ends with tongue and trench joint, the trench being

The assembled ash back panel

Loose tongue detail on an end panel

12mm deep and about 54mm up from the base of the ends. Before marking and cutting of joints the base had to be shaped to achieve the breakfront outline. As the joint would be stopped at the front it is a good idea to mark an L (left) and R (right) on the pieces to ensure that the stop is on the same end. They were cut out using an 18mm straight cutter in a router using the fence from the base edge. The resulting round end of the groove was squared off with a chisel. The tongue was again formed using a router after setting it up to take off an equal amount from each edge. The fit is quite important – too tight and it is difficult to clamp together, even more so when glue is applied! Too loose and the whole integrity of the joint is compromised by relying on glue which is not a good idea. A fit which needs firm hand pressure to assemble, seems to work well.

After forming the notch at the front edge the joint could be assembled. Next was forming the trenches that would house the dividers. These are placed just outboard of the projecting part of the breakfront. The accompanying drawing will probably explain the details more effectively than words.

With the joints cut for the dividers I then drilled holes in the bottom of the trench to enable Allen headed screws

to be inserted and secure the divider in its trench. This has the advantage of being able to secure them whilst other parts are worked. It also reduces the number of clamps needed when gluing up later.

The inner back edges of the sides and the upper back edge of the base could then be rebated to accept the rear frame. Following on from this the dividers can be sized so that they align to the rebates.

Drawer runners

As the drawers are conventionally fitted there are quite a lot of individual pieces that needed to be jointed. The top rails are dovetailed into the sides and divides. The lower rails are twin-tenoned. So that the outboard inner drawer sides do not rub against the dividers an extra piece was attached – again see the drawing to visualise. The drawer runners are morticed into the front rails. The top ones morticed and tenoned into the top rails but left short and not glued so as to accommodate the small expansion and contraction of the sides. The lower runners are morticed into the front rails but screwed to the sides at the back end. All of this work has to be done with concentrated attention to measurement and accuracy. The smooth running of the drawers rely on it.

Dovetails are good for carcass strength

As mentioned earlier it is essential that a dry run is done to ensure everything fits. This is a complex glue up. Because the sides are shaped the glue blocks have to be shaped to enable the clamps to exert the necessary pressure. The two dividers are screwed into position with the central drawer rails cramped into position. It was be easier to leave this part to set before continuing with the rest. With all the clamps ready the rest of it is glued. Lastly the top rails are tapped into position, making sure that the vertical measurements for the drawer openings are identical.

Carcass work

After the whole carcass was glued the front faces could be cleaned up and set aside whilst the rest of the cabinet was worked on. ➤

Pre assembly detail

Before any of this can be glued there are a few more operations to complete. As the shelves will be adjustable, sets of holes need to be marked out and drilled. The drawer stops need to be morticed in usually a 40 x 10mm slot 10mm deep. There are to be kickboards and grooves need to be routed out. In this case they were 12mm wide and set back from the front by 20mm.

With all the jointwork completed, attention was then turned to the finishing, far easier to do this before gluing than after. After final sanding I used Danish oil to give a finish. Particular care needed to be given to the drawer running parts. Furniture polish was applied to all the running surfaces.

The lower section complete

The back is essentially an ash frame joined with mortices and tenons with cedar of Lebanon panels, which after finishing is screwed into the rebates of the carcase.

While the cabinet was relatively light at this stage, it could be inverted so that the mahogany kickboards could be fitted. These are simply cut to length with a tenon formed on each end and then tapped into position. The whole of the bottom could then be trimmed and sanded. A 4mm x 4mm chamfer was run round the parts of the carcass that would touch the ground. This gives a pleasing 'shadow line' as well as prevent breakout of the edges if the cabinet is moved or dragged across a floor.

Breakfront detail at floor level

Making the top

The top is made up in this case of Sussex oak, the boards after initial surfacing and thicknessing are grooved to accept tongued birch ply, these are stopped grooves. After the top had been glued it was re-thicknessed again on the speed sander. The breakfront shaped was marked out and formed using a circular saw and a jigsaw to get into the corners. The shape was formed using a bevel cutter in a handheld router from both faces. The internal corners were finished off with a wide chisel. The whole thing was then sanded and oiled and fixed to the carcass with brass screws from inside.

Feature doors

The four doors are conventionally made with a mortice and tenoned frame with a groove around the inside to hold a solid ash panel. Doors are important features on a cabinet. Ideally straight-grained framing members are desirable. Laying out the components prior to marking out the joints can lead to the selection of the complementary grain patterns and colours.

Fine chamfer detail

The top section awaiting final fit-out

A steel washer for door closure against a magnet

Drawer dovetails look good as well as being strong

Similarly the panels need to have attention. In this case I book-matched the panels and arranged them in a pleasing manner. The doors were made up to be a tight fit initially in the carcass and then planed to fit, usually with a 1mm gap all round.

Door furniture

Invariably I use solid drawn brass butt hinges for hanging doors. The handles I used were made up as sandwiches of timber and shaped. They were attached using brass screws from inside the door. If the clearance hole is slightly larger than normal it allows final adjustment to the alignment of the handle relative to the door frame.

Drawers

The drawers are traditionally constructed using single lapped dovetails at the front and through ones for the back. A groove houses the cedar of Lebanon base. There are many articles and books describing the making of a drawer so I will omit the procedure in this case.

Shelves

The shelves simply rest on brass pegs, which fix into the holes already drilled on the cabinet sides. It is better to make the shelves out of narrow boards glued together rather than wide boards so as to prevent any cupping particularly as they are floating.

The upper cabinet is made up using the same procedures and joints. LED strip lights were hidden vertically behind the doors so that they could not be seen. The top was then secured to the base unit with two brass strips set into the back. The client was very happy with the complete suite but more on that in a future article! ■

PHOTOGRAPH BY BRENDAN DEVITT-SPOONER

Glass shelves and strip LED lights (switched off) complete the job

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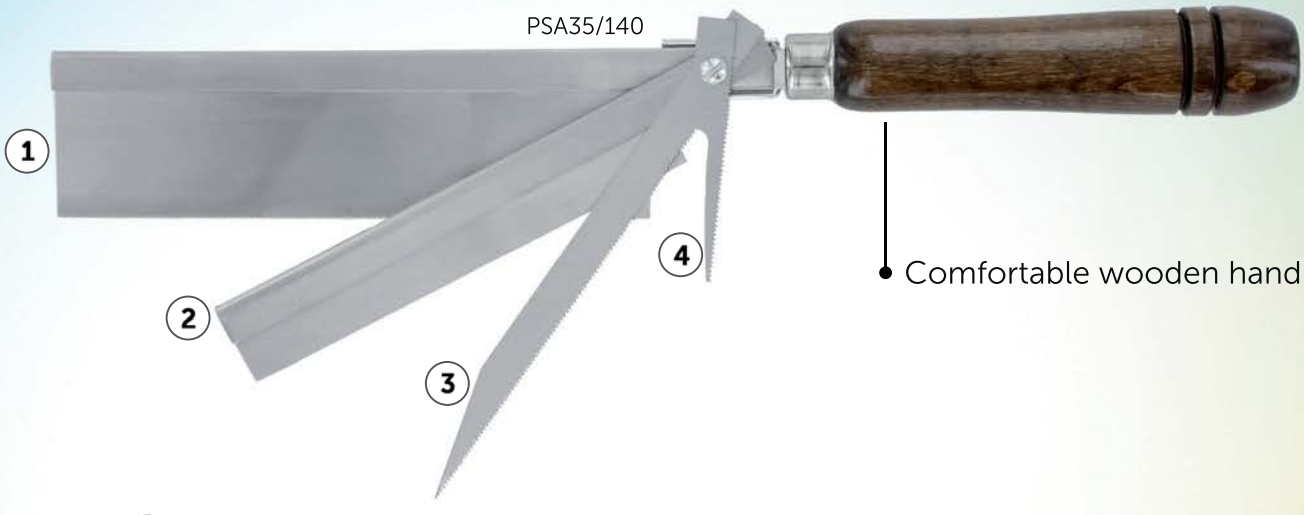

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A woodworking glossary

The letters N and O

NAIL PUNCH A metal tool used to recess the heads of finishing nails below the surface.

PHOTOGRAPH BY PETER WESTERMANN

A natural-edge bowl

NATURAL EDGE TURNING A woodturning, often a bowl or goblet, which features bark or the immediate surface underneath on the rim.

NATURAL FINISH A transparent finish that does not seriously alter the original colour or grain of the wood.

NEEDLE Horizontal timber placed through a wall as a support.

NEWEL The upright post at the top or bottom of a staircase into which the banister assembly is mounted. A 'half newel', which is a split in half newel, is often used where a banister rail stops at a wall.

NICKEL METAL HYDRIDE (NiMH) A type of rechargeable battery which has greater 'energy density' than Ni-Cad and without 'memory effect' nor the toxic heavy metals.

NICKEL CADMIUM (NI-CAD) An older type of rechargeable battery which is larger than NiHM or Li-ion types. They are generally being phased out in favour of the other types.

NOGGINS Short, horizontal wooden members between studs in a partition wall.

NON-DRYING OIL When used on wood, any oil-based finish that penetrates the surface but does not harden when exposed to air. Mineral oil and most vegetable oils are non-drying.

NON-GRAIN RAISING WOOD FINISH Oil and spirit-based dyes and finishes do not generally raise the grain on application, whereas water-based finishes often do.

NORFOLK LATCH A fastening for a gate or ledged door operated by the thumb and also known as a thumb latch or Suffolk latch.

NOSING The front, rounded edge of a stair tread.

NOTCH A dado cut into the edge of wood that is part of an edge lap joint if it extends halfway into the wood.

OFFCUT Waste piece of lumber.

OGEE An S-shaped decorative moulding or edge profile consisting of a concave arc flowing into a convex arc, sometimes called a Roman ogee.

PHOTOGRAPH BY SAM MCCARTHY FOX

An ogee cutter

OIL STAIN A stain formed by mixing oil-soluble dyes in an oil or oleo-resinous base.

ONE-OFF One-of-a-kind project, usually a piece of furniture made to a customer's specifications.

OPEN COAT Grit covering 70% or less of the surface backing of sandpaper is referred to as open-coat. This is used on softer wood or paint removal because the chips will not clog the sandpaper as easily.

OPEN-GRAINED Any wood with wide, conspicuous growth rings, large pores, and a grainy surface texture, such as oak, ash, and chestnut. Also called coarse grained.

OPEN TIME The amount of time you have after a glue is spread before it becomes unworkable. Also referred to as 'working time'.

ORBITAL SANDER A type of finishing sander in which the motor's rotation is converted to minute eccentric circles causing abrasive paper to abrade a surface to make it smooth.

PHOTOGRAPH BY GMC/ANTHONY BAILEY

An orbital sander

ORIENTED STRAND BOARD (OSB) Type of building panel similar to plywood, made up of small, flat wood chips glued together to form large sheets.

OSCILLATING DRUM SANDER Powered surfacing tool in which an abrasive cylinder simultaneously rotates and moves up and down for sanding complex shapes.

OUTBOARD TURNING To pivot a lathe's headstock away from the lathe bed, increasing the machine's capacity for turning large bowls.

OUTFEED The side of a machine cutting tool where the processed material exits, such as a planer thicknesser.

OVERLAY DOOR A cabinet door that completely covers the front face of the carcass box. ■

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Plant pot stand

With some crafty cut-strokes **Paul Purnell** uses a simple colour palette to make a delightful plant stand

Tools

- Tablesaw
- Bandsaw or jigsaw
- Random orbit sander or similar

Materials

- Coloured pallet wood 100mm wide by 16mm deep.
- Assorted screws
- Sandpaper
- Wood glue
- Varnish

This is another simple project from recycled pallet wood. This small, slim stand for one plant pot can be tucked away in any corner. I have used wood from blue and red pallets to add some colour, although it would look equally good in natural wood. I wanted to add a slight curve to the legs of this stand. They needed to be about 600mm long and fit within the 100mm width of the blue pieces of pallet wood I had. I am sure there will be a mathematical solution to working out and drawing these curves, but I used my own jig instead.

1 Lay on the ground a 1225mm length of chipboard as a base, then cut a strip of 6mm MDF to 100mm wide and place it at one end of the board. At the other end use a piece of scrap wood and part-way drill in a screw at the centre point in relation to the base and piece of MDF. Attach a length of string to the screw and a pencil at the other end. Experiment with drawing a curve on the piece of MDF, moving the screw backwards and forwards until you achieve the length and arc that is wanted. A radius (length of string) of 1310mm should fit the bill. Cut a length of batten, loosely screw one end into the scrap wood and in the other drill two holes at 1310mm and 1340mm for a pencil to fit snuggly. This will give a width of leg of 30mm. Now use this to draw the two arcs on the MDF and cut this out on the bandsaw to use as a template.

2 This template is needed to cut out 12 legs from blue pallet wood on a bandsaw. The wood used here was 16mm thick. The legs are then given a rough belt sanding.

3 Clamp the legs together and use a random orbital sander with 150-grit paper to sand all legs to a uniform shape.

4 The finished legs are sorted into the best pairs and position, ensuring the blue sides are facing outwards on the four outside legs. Number the position of each leg and its orientation.

5 Cut seven pieces of blue, 100mm pallet board to 290mm. These will be the horizontal supports between each pair of legs. Number them, again ensuring the outside pieces have their blue face showing.


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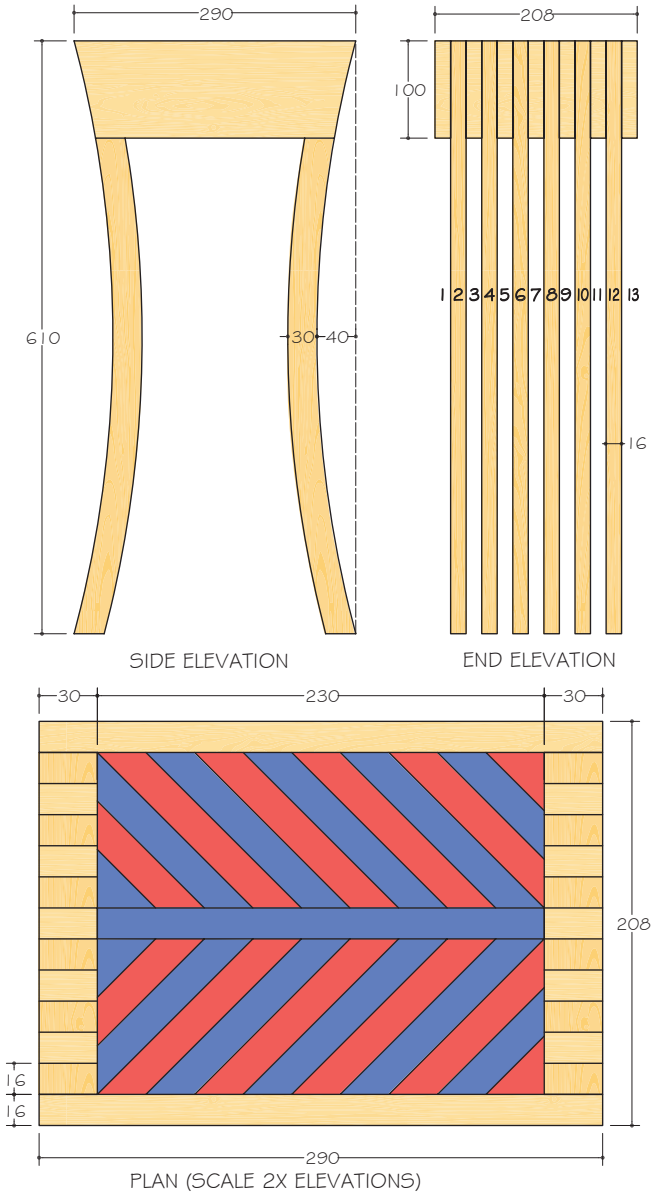

6 Mark out a rectangle of 610mm by 290mm on a flat surface. Place one of these horizontals at the top of the rectangle, and place the first set of legs on top. Ensure you have everything aligned. Then mark onto the surface of the horizontal the shape of the leg that coincides.

7 Cut the waste sections away with a bandsaw. Repeat this for the remaining pairs of legs.

8 Put the two horizontals for the outside faces to one side. On the remaining pieces, measure down 30mm from the top and draw a line. Place the leg template on top, and where the inside edge of the leg intersects this line, draw a line to the top at 90 degrees. Use the bandsaw to remove the section outlined as shown. ➤


5


6


7


8

9 Now you should have two outer horizontals and five shaped, inner horizontal supports.

10 Clamp the legs together, one side at a time. Trim to 610mm and square the ends.

11 Make a jig, 610mm x 290mm, with low side edging as shown. This will assist with keeping everything in line during assembly. The components will be glued two or three pieces at a time so the edges need only be 30-45mm high. Note: you could make this jig for step six above.

12 Before starting the assembly, make sure all pieces are still marked with their positions and orientation. I will refer to assembly using the numbers one to 13, as shown in the side view of the drawings. Glue and clamp the first set of pieces. This is the outer horizontal and first pair of legs (pieces numbered 1 and 2). Make sure you have the blue side of both legs and the horizontal facing outwards.

13 When the first set is dry, remove from the jig and glue the next set – the first shaped horizontal and next pair of legs (pieces numbered 3 and 4). Continue with this sequence of assembly until you have glued the fifth set (pieces numbered 9 and 10).

14 Finally glue together the pieces numbered 11, 12 and 13. Ensure that the last pair of legs and the last horizontal have the blue edge facing outwards.

15 Glue together the first two sets. Note: the third set shown in this photo is not glued and screwed, I used it to assist with alignment.

16 For extra strength, join the sections with screws. The idea is to have no screws showing on completion. When the above two sections are dry, screw through from the inside with a screw that will secure all pieces but will not penetrate the outside. I used 60mm screws, but the size may vary for your project depending on the thickness of stock used.

17 Continue to glue and screw all sections together. The last section of three cannot be screwed due to the way I assembled the sections. Had I realised, I would have left off the outside horizontal so that I could. However, this doesn't cause a problem as the pieces will be strengthened when the base plate is attached in the next step.

18 Cut a piece of 3mm MDF or plywood approximately 21.5mm x 18.5mm. This is the measurement of the base plate that will fit within


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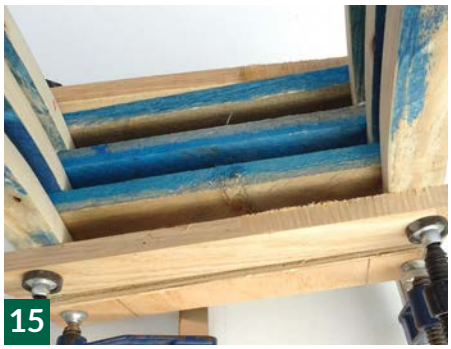
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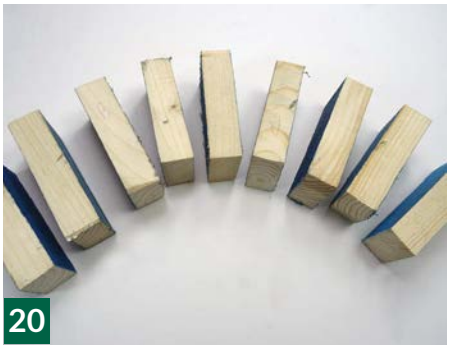
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the cut-out section. If you have used slightly different thicknesses of pallet wood, these measurements will vary. It is best to measure the section on your construction and cut the board accordingly. Shape the MDF baseplate to fit the cut-out section and screw in place through the five horizontal pieces.

19 Use a random orbital sander to tidy the top edges of the stand.

20 Due to the vagaries of pallet wood, you may need to add spacers between the legs to remove warping and ensure they look uniform. Cut the pieces about 74mm in length.


21


22

21 You can arrange the spacers in any pattern you wish. Decide where you prefer to insert them and sand to the shape of the leg. Then glue in place and clamp.

22 Give the stand a good sand with 150-grit paper.

23 The pattern for the top can be any of your choosing. Herringbone would look good. I used alternating strips of red and blue pallet wood, 15mm wide, that I ripped on a tablesaw. I wanted the finished top to be below the upper edge as shown. For this pattern, first place a strip of blue in the centre. The edges will need to be shaped to fit the profile of the sides. Lay out the pattern first before gluing.


23


24


25

24 Starting at one end, cut the pieces, radiating from the central strip at 45°.

25 Cut and lay out the remaining pieces.


26

26 When you are happy with your pattern, glue the pieces and then varnish the stand. This is the finished table. ■

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Meet the contributors...

We put all of this month's professional and reader contributors here, so you know exactly who they are and what they do

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Having completed her City and Guilds, Louise trained for a further four years at the London College of Furniture. She joined a London firm working for the top antique dealers and interior designers in London before starting her own business designing and making bespoke furniture and restoring furniture.
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Simon Rodway has been an illustrator for our magazine since 'the dawn of time' itself, drawing on his experience in the field of architecture. He also runs LineMine, a website with articles and online courses on drawing software. A new course, SketchUp for Woodworkers, is proving really popular.
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British-born Michael has been working with wood off and on for 40 years. He moved to New York in 1996 and over the years, has made bespoke furniture, including clocks, inlay work, Adams fireplaces, book cases and reproduction furniture.
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John Samworth

John is a relatively recent convert to carving, having only taken it up about five years ago. Like many other carvers, he describes himself as a slightly eccentric, enthusiastic, amateur. He has been a member of the Cornwall Woodcarving Association for the past two years. For carving subjects his particular interests are the interaction of human figures and bonsai trees. The current piece he is working on is a personal interpretation of 'A partridge in a pear tree'.

Gary Marshall

Gary has had a life-long interest in woodlands and the countryside. He trained in countryside management and subsequently ran a company working with the local County Councils and Unitary Authority and their Countryside and Rights of Way Teams, as well as a wide range of conservation organisations.

Your face and details could appear here in our 'rogues' gallery' if you write an article for the magazine, and you could be rewarded for your efforts too.

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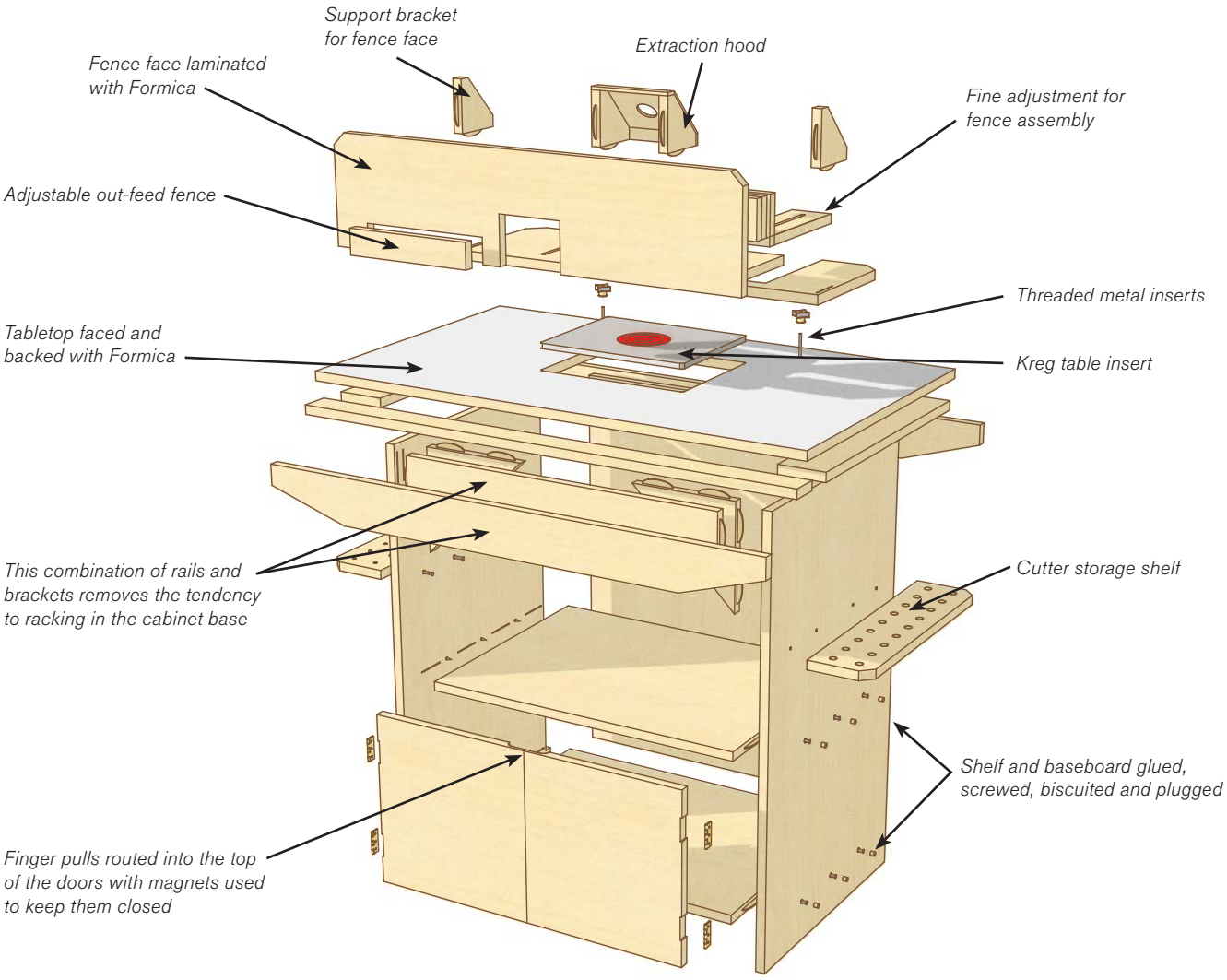
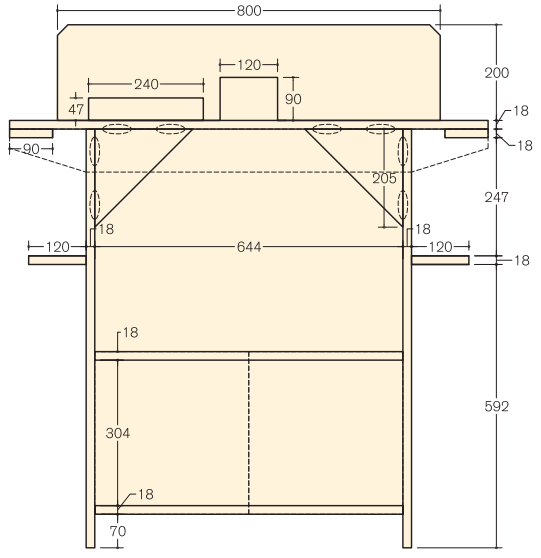
The ultimate router table

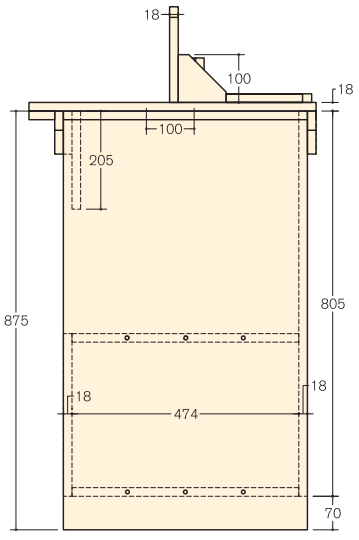
The **Editor** has built many router tables, but this has to be the biggest and the best of the lot

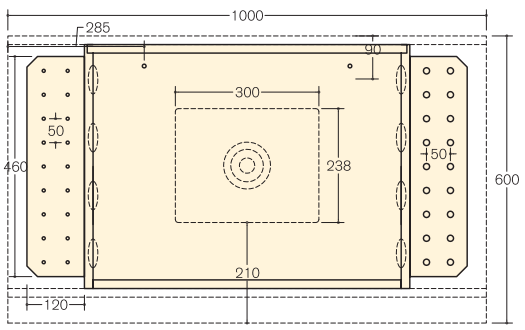
PHOTOGRAPHS BY GMC/ANTHONY BAILEY

The finished table complete with a Kreg mitre gauge track routed in using the Kreg track itself and two quick clamps as the straightedge for machining the required wide slot. A DeWalt 625E is installed, complete with a homemade fine-height adjuster consisting of a tube spanner with a nut fixed in one end and a knob epoxied into the other. Finally, the all-important NVR switch for operational safety. ➤

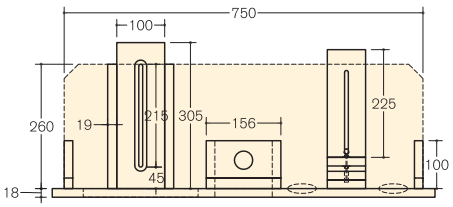








ROUTER TABLE



This router table comes in three basic parts – the cabinet, the tabletop and the fence.

This is not a small table, this one emulates its bigger brother, the spindle moulder. It allows for working on large frames or panels and sizeable shaped work when the fence is removed for freehand bearing-guided cutter use.

The fence itself has inbuilt forward and back fine adjustment on the infeed side and a movable fence section on the outfeed side, to support workpieces when the face has been machined.

The fence is high for good reason. It can be used for vertical support, to attach a through sub-fence and to fit additional extraction over the cutter or spring fingers as hold-downs.

This is not the quickest router table to build, but with a big router installed it is a very capable piece of kit.

The cabinet

Accurate carcass parts, preparation and component matching are essential so, for instance, check the sides and shelves against each other and for square. The back panel will be cut later, as will the router tabletop and then the fence once the top is fitted. I would suggest you get the birch ply board cut to size at your local timberyard. It makes things much easier and more accurate.

Mark the biscuit position across from one side panel to the other, bearing in mind the cutter selection shelves that will be on the outside of the carcass. These will also be fitted with No.20 biscuits like the carcass and similarly will have twinfast screws in pre-drilled pilot holes between the biscuits for strength and security.

The biscuits are evenly spaced courtesy of a registration stick used for repeatable marking-out accuracy. Note that there is an allowance at the rear for the back panel to sit in the yet-to-be-machined rebate, while at the front the shelves sit back enough for the doors to lie flush with the side panels.

Biscuiting the carcass components

Routing the rebate to take the back panel

The glued up basic carcass assembly

Using a Forstner bit to drill plug holes

When biscuit slotting the shelf ends, the slots will not be quite in the board centre. This does not matter, just ensure the wider ply section is above the biscuit when it is assembled. The plug holes where the carcass screws will be are drilled using a Forstner bit.

The rebate is a little deeper than the back panel and about two-thirds the thickness of the side panels to allow screws to be fitted comfortably without breakout. The basic carcass is then glued and biscuited, clamped and checked for square.

Contrast plugs cover the carcass assembly screws and are cut with a plug cutter then bandsawn free, ready to glue in and clean off flush with a chisel when dry.

The top front rail is easily sprung into place with glue and biscuits. The back panel is then cut to size and glued and screwed into the rebate.

Tabletop construction

Contact adhesive is used to bond the laminate sheet to both faces to even out any tension. Use a fine-toothed spreader to create a thin glue film on the meeting faces so they are flat rather than uneven. The laminate is trimmed afterwards with a router and bearing-guided trimmer.

The front and rear members hold the top flat – they need to fit tightly against the front and back of the carcass. If needs be, trim the top back edges of the carcass sides so the rear member sits flush against it. At the ends of the tabletop, strips of birch ply are simply screwed into place to thicken up the top and give added strength. Once the top is assembled it can be dropped on to the carcass top and fitted using screws driven in from inside the carcass. Triangular brackets are fitted at the front to stiffen it. ➤

Separating the contrast plugs that cap the screw holes

Back panel in place and top front rail biscuited

An alternative using a roller to apply aliphatic resin for pressing

Cupboards and shelves

The assembled router table can now be lifted on to the bench with some help, ready to fit the cutter shelves that will sit in the comparatively dust-free zone under the wings of the tabletop. One shelf has ¼in blind shank holes at 50mm spacing while the other has ½in shank holes. This is done by router drilling, with abrasive paper spray-mounted on the router base to avoid slippage while drilling. For ease of fitment the folded hinges are set into the cupboard doors rather than the carcass. Use a dovetail or Japanese saw to cut the ends of the hinge recess, then 'climb cut' (run backwards) very lightly along each exposed door face with both doors held in the vice back to back. This will avoid tear-out before the bulk of the machining is done in the correct feed direction. The doors are hung and adjusted to fit and two cylindrical door magnets inserted into holes drilled in the topmost shelf edge.

Fitting an insert plate

The Kreg table insert plate was used but other makes can be installed. Carefully follow the instructions that come with the plate for machining and fitting.

Making the fence

The table is essentially complete when two 10mm holes are drilled to the rear of the top to take two metal inserts with 8mm internal threads. These will accept the bolts on the fence lock knobs.

The bare unlaminated fence is shown sitting in position clamped down. It is tall and deceptively simple-looking from the front. Note the slide-out facing on the outfeed side for supporting machined sections. When laminating it should go right over the movable face. The laminate is then cut through with a Japanese saw and a Stanley knife, using a straightedge for the long cut, and all edges trimmed.

The adjustments mimic some proprietary router table fences, giving better, more accurate control over your work. On the left is the fence fine adjustment. For instant fine adjustment of the fence, lock both fence knobs and turn the eyebolt, which runs in an M8 threaded insert in the thick block glued to the back of the fence. On the right the movable fence face can be released by the lock knob and pushed forward until it rests against a part-machined workpiece then re-locked before continuing the machining work.

In the centre the extraction enclosure is made from 6mm ply with a hole to suit an extractor hose.

A closer view shows the rear section is an L-shaped piece with an 8mm-wide slot to accommodate the fence knob and bolt. The eyebolt has been used because it has a longer thread, which had to be cut a bit short, in fact. It also avoids a clash with the fence knob due to its smaller shape.

The sliding fence section has a slot with a recess because a standard fence knob doesn't have a long enough bolt to go through both it and the slot in the fence base underneath. Two pieces of quadrant sit tight against it to avoid any sideways play as it is moved forward. The forward movement of this fence section will never be used on its own, so it simply has to match the fence slot in the base when the fence is pushed forward.

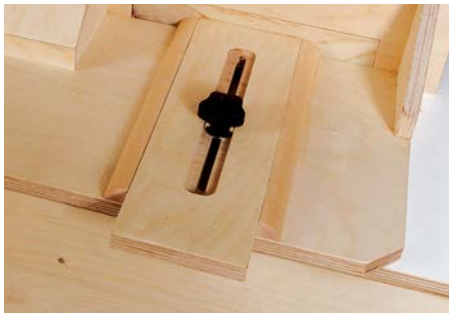
The ¼in shank cutter storage shelf

Machining the door hinge recesses

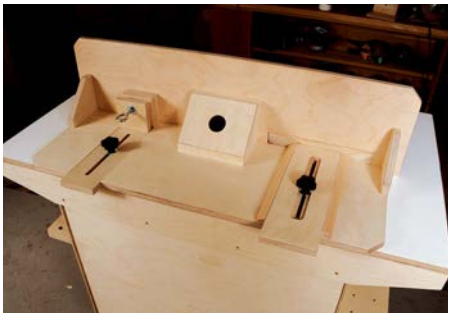
Drilling router mounting holes in the insert plate

The shelves in place and also the un-faced fence

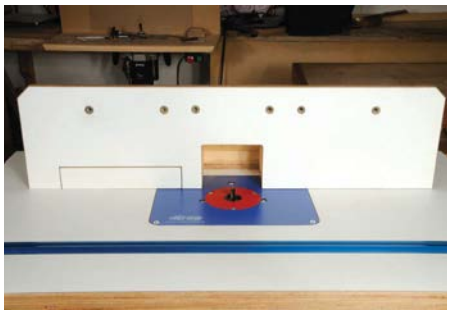
The main fence adjuster for fine movements



Detail of the outfeed fence adjustment

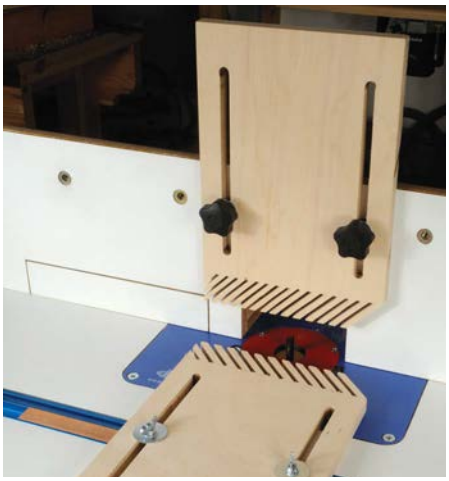


The completed fence rear view



The now laminated high fence and threaded inserts

A through fence with extraction clamped in front



Spring fingers for complete work hold-down

ACCESSORIES
Fence upgrade

Having made the micro adjusting fence, you can clamp various accessories to it. However, a better method of fixing accessories is to bolt them to the fence. To do this drill a set of holes and fit M8 threaded inserts so you can bolt the extras on. On our fence the pairs of holes are spaced at 140mm centres with 60mm gaps between the pairs, and all 160mm from the table surface. I have used threaded knobs, which fit the M8 inserts, to hold the accessories to the fence.

Extraction

A large extraction hose from a twin motor drum extractor will give plenty of pulling power. The extraction port is a plastic fitment screwed to a ply L-piece and is either mounted on the fence or, alternatively, clamped to the router table in a position where most chippings are flying.

Hold-down fingers

These keep the workpiece in place when presented to the cutter. Use a piece of 18mm ply. Cut a series of evenly spaced, angled kerfs on the bandsaw along one edge. The board is fixed to the fence with clamps, or slots can be cut to fix it using the M8 bolt holes at a height which presses down firmly without impeding the feed rate. The hold-down fingers on the table bed are fixed to a batten in the mitre slot with bolts and wing nuts. If the extraction pipe is mounted over the middle, fix a set of spring fingers either side of the pipe.

Square push block

If you want to make perpendicular scribe cuts, as when using a profile and scribe cutter set or when forming tenons, then a perfectly square block will suffice as a push block – the fence does not need to be set parallel to the table. The block will hold the workpiece square to the fence and prevent breakout on the trailing face of the workpiece. Screw a batten vertically along the front edge of the block to give extra support.

Adjustable mitre protractor

Where you need to set variable angles, a wood-based version of the standard mitre protractor is required. The front sub-face is slotted sideways so it can be adjusted relative to the fence position. Because it runs in the mitre track, the main fence must be set exactly parallel to the table and mitre track. Although it is possible to inset metric scales into the table surface to do this, there is always scope for inaccuracy and it creates a potentially uneven running surface, so using a steel rule and measuring the distance from the fence face to track is better.

Adjustable machining tunnel

When moulding small sections of timber, there is not only a safety risk but the amount of vibration causes chatter which will damage your work. The effective answer is to make a tunnel for the workpiece to travel through. This is a complete enclosure that protects the operator. Provided the workpiece matches the tunnel aperture perfectly, it will produce fault-free fine mouldings. The tunnel's height is adjusted via its slots and the position of the outer batten is determined by the width of the stock. Use an unmoulded section to push the workpiece through until the moulded piece pops out at the other end.

This is a challenging but very satisfying project that will give you superior, safer table routing. ■

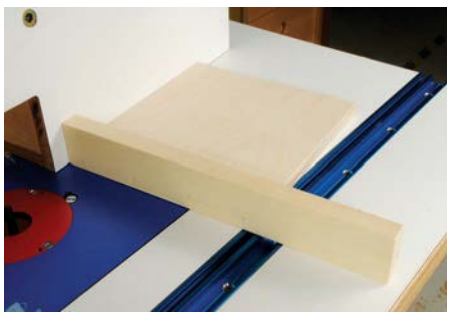
Suppliers

Knobs, T-nuts and inserts, insert plates, extraction accessories, etc.

Axminster Power Tools
www.axminster.co.uk

Trend Machinery
www.trend-uk.com/en/UK

Record Power (dust extraction)
www.recordpower.co.uk



A 90° pushblock for scribing cuts

A partial tunnel for enclosing small components

A fully adjustable mitre protractor with adjustable facing

Bathroom vanity unit

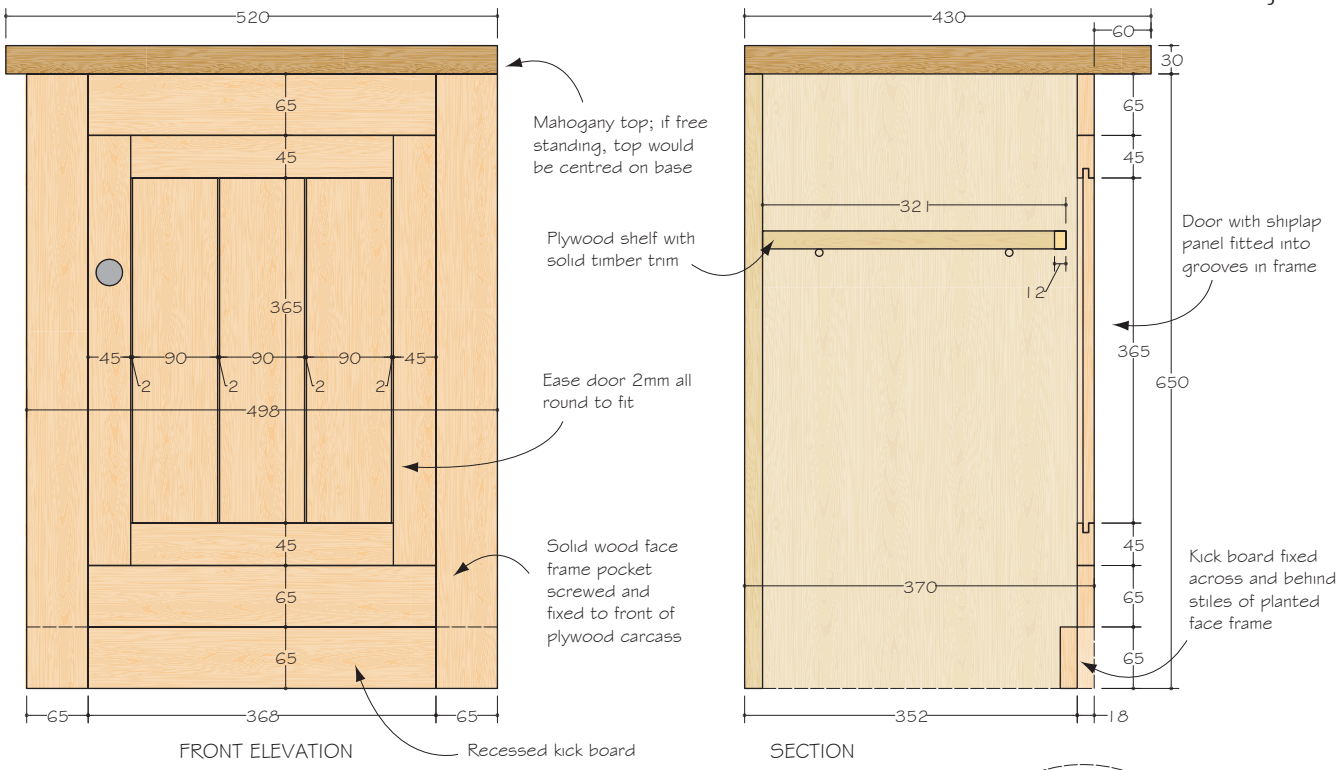
Michael T Collins creates a pristine 'bathroom of the vanities' sink unit

PHOTOGRAPHS BY MICHAEL T COLLINS

Tools and materials

- Tablesaw or skillsaw
- Pocket screw jig
- 6.5mm router bit
- 6.5mm chisel
- Router plane
- One sheet 19mm furniture-grade birch ply
- Hardwood of choice for the top
- Face frame wood

This old vanity unit's time was definitely up



Ask any estate agent and they'll tell you that the one thing you can do to your house to add value, help with a sale or simply bring it into the 21st century, is to remodel the bathroom. And our 1960s vanity unit certainly needed a facelift!

In this article I am not going to show you how to remodel your entire bathroom, but I will show you how to make a very stylish, modern vanity to update the room.

Dividing up the parts

1 The first step is to cut all the pieces to final dimension. There are three methods that will help when cutting ply:

1. With a knife, score where you are going to make the cut. This will pre-cut the fibres and the saw blade is less likely to cause tear-out.
2. Always use a zero-clearance insert on your tablesaw.
3. Saw with the face side up.

(**Photo 1** shows the correct way to cut large sheets). If you feel uncomfortable cutting large sheets on a tablesaw, use a circular saw. Be sure to place a sheet of foam or some 2x4s underneath to raise the wood off the ground.

Making the carcass

Unlike my previous articles, this project doesn't contain any traditional joints. Instead, all connections are made using glue and pocket screws. For many years, the use of pocket screws was anathema to me, going against the grain of traditional woodworking – excuse the pun. But when I was commissioned to produce a kitchen cabinet from oak ply in a short timeframe, I decided to give pocket screws a go, and have since added the technique to my repertoire for effective joints.

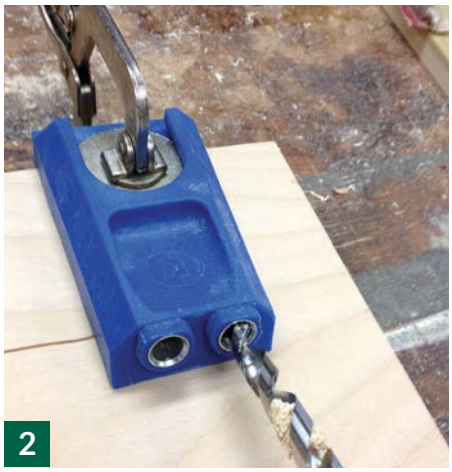
Using pocket screws

2 The secret to using pocket screws is to place them where they cannot be seen and make sure that the screws are not going into end grain.

Pocket holes are created using a specialised drill bit that features a stepped pilot tip. To achieve the right pocket-hole depth, simply adjust the position of the collar on the drill bit. Make several test holes in a piece of scrap wood if you're testing this method out for the first time!

Once the desired depth is achieved, tighten the collar with an allen key. ➤


1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3 First make sure that all meeting parts are perfectly square. Mark the locations of the pockets and drill away. I have found that in ply you only need single holes spaced evenly along an edge, whereas in face frames paired holes are best.

The face frame

4 The face frame and the 'toe kick' in my example is made from poplar – this is a great wood to work with, has a very even grain and takes stains and paint very well.

Cut all the face frame parts to final length and assemble – using glue and pocket screws.

When gluing and screwing the parts together, I always use a clamp and check that the joints are square.

The frame will be attached to the carcass once the shelf has been installed.

The shelf

5 I don't know about you, but I have never had much luck finishing the edges of ply so that the horrid ply layers look good. No matter what method used, you can always tell that there is ply under the paint. So, over the years I have taken to adding a trim to the edges of ply projects with a slim piece of wood to disguise the material beneath. To achieve the effect, use a piece of wood that is about 1mm thicker than the ply and glue it to the edge of the ply.

Once dry, use a block plane to remove any extra thickness. Remember to always plane from the lower ply across the edging – this will ensure that the edging is the same level throughout the project.

Ease the front edges of the shelf with a couple of passes of the block plane and finish off with a light sanding – I used shelf support pins to hold the shelf in place. Secure the back in place – this fits inside the sides and is screwed from the back.

Attaching the face frame

6 Glue and screw the face frame to the body of the cabinet. The pocket screw holes should be in the ply and the screws are driven into the face frame – this will give a much stronger structure. Plane the sides flush to the carcass as you did for the shelf.

The top

7 The top is made from several pieces of mahogany, biscuit jointed and


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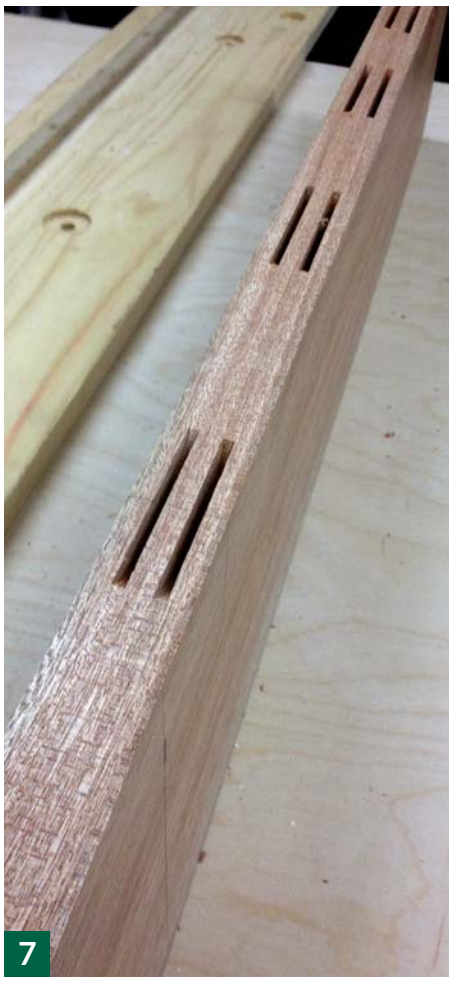
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glued together – but, you could do a rubbed joint or use dowels.

8 Plane the surface then add three coats of Danish oil, sanding with 220-grit between each coat.

The door

9 The door is basically a traditional frame and panel door, except I am using pocket screws to construct the frame. When making doors, I always take all the measurements directly from the frame that the door will fit into.

Cut the frame pieces to exact dimensions. Remember: rails fit between the stiles.

The rails have a 6.5mm x 10mm groove running the entire length of the piece and centred on the edge. This is cut on a router table, but could also be produced using a plough plane. The stiles have a stopped groove.

To cut this groove, place the stile and rail together and mark the location.

10 Measure the width of the stile (less 10mm) from the centre of the router. To make this step easy, I used a couple of pieces of masking tape on the fence.

Now set the fence so that the router bit is taking a shallow cut. To do this, ease the stile into the cutter so that the end of the stile is lined up with the left-most mark on the fence. Push the stile through the cutter until the end of the stile reaches the right mark. Increase the depth of the cut and repeat the process until the groove is 10mm deep (this will depend on your cutter size). Turn the router off while adjusting the depth and before removing the stile. Repeat for the second stile.

11 You'll be left with a curved end to each groove – this is easily removed with a mortise chisel.

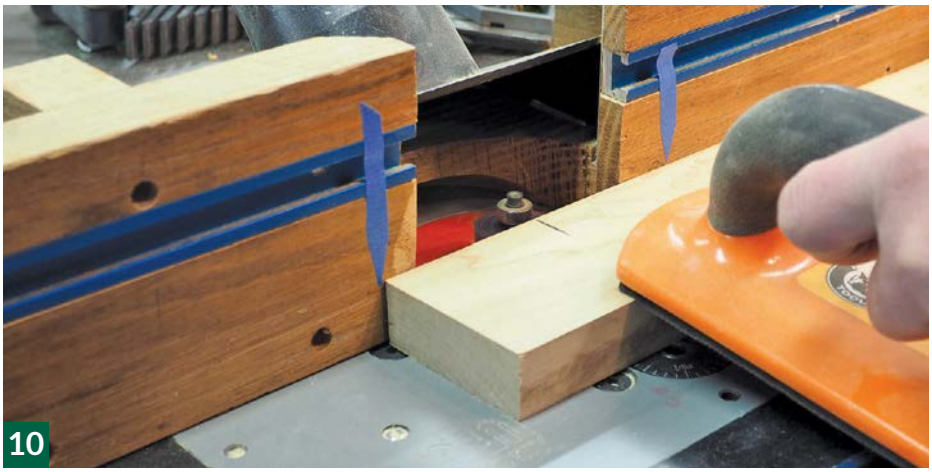
12 Assemble the two stiles and one rail using pocket screws and glue. Since the inside of the door will be visible, special plugs are used to cover the pocket screws. These plugs are glued, planed and sanded flush. Set aside to dry.

The panel

13 The panel is a traditional shiplap style. Select the boards and plane to 12mm thickness – the boards will be offset so that they are flush with the outside frame, but inset 6mm on the inside. ➤


8


9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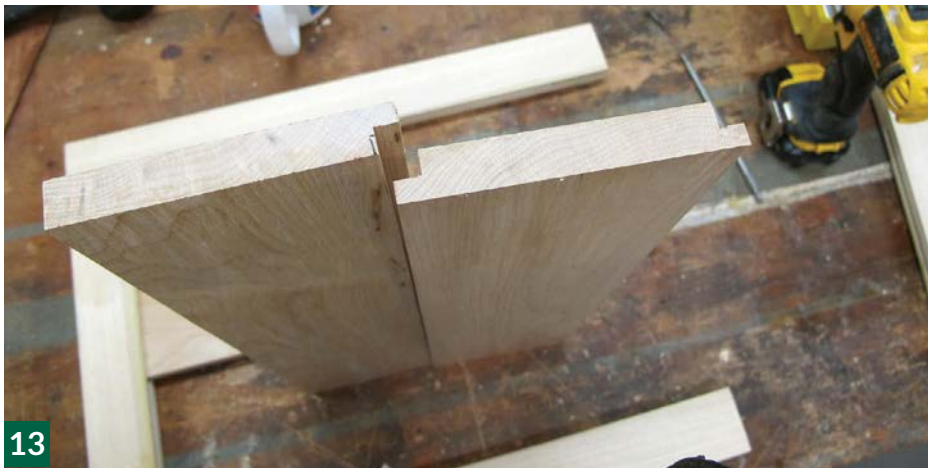
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Each piece has a 6.5mm x 12mm rebate planed on the long edge and a 12mm shoulder planed on each end. Based on your dimensions, you will need to do some calculations to work out the widths of the boards, allowing for the groove, the gap and the overall distance between the rails.

14 Once the boards are planed and sanded, you'll need to test the fit – they should fit snugly in the groove but not so tight that they cannot expand. I added a drop of glue to the middle of each end of the boards, which allows the board to expand but not slide around in the groove. Business cards are a great way of spacing things out as they are typically about 0.5mm thick. See diagram of layout of the boards.


14

15 Complete the panel by adding the top rail. Again, add a spot of glue to the centre of each board.


15

Fitting the door

16 The door now needs to be fitted. If you want a quick hinge method then use no mortise hinges, but here I am adding butt hinges set in a mortise.

Test the door's fit using business cards to create the desired gap and, if necessary, plane to create the perfect fit. It's a good idea to chamfer the inside long edge opposite the hinges so that it clears the face frame when closing.


16

Locate the hinges. Typically, I set them one hinge length up and down from the top of the stile. Alternatively, you could place them at the level where the rail meets the stile. Use a marking knife to mark the location on the door's stile and the face frame.

17 Use a marking gauge to set the depth to half the diameter of the hinge knuckle. Chop down to the gauge line. Then, using a router plane, excavate the waste.


17

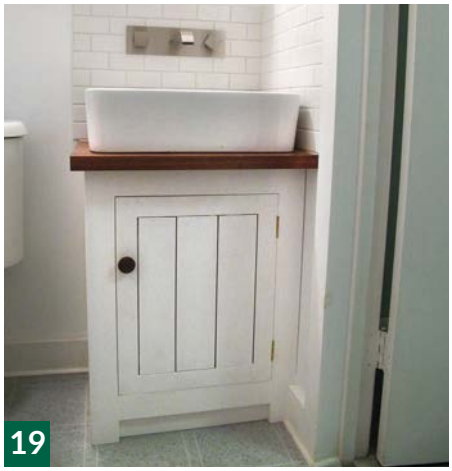
18 Repeat this process for the mortise in the face frame. Drill pilot holes. Then, using a steel screw of the same size, create the screw hole.


18

19 Secure the door to the frame with brass screws. You may wish to add a bit of beeswax to help drive the screws home. Finally, give the whole carcass and the door a couple of coats of semi-gloss paint. Install a door knob and stain it to match the top.

The top is secured to the carcass with two pocket screws in the back corners and, with the weight of the basin and with the plumbing attached there was no need for additional screws. Since the back is fixed any expansion will be forward.

I installed the vanity in the bathroom by cutting holes in the top, the shelf and the base for the waste pipe. The basin, tiles and taps are then installed, giving the vanity a modern and classic look. To complement the vanity, I added a wall cupboard that was also constructed with pocket screws. ■

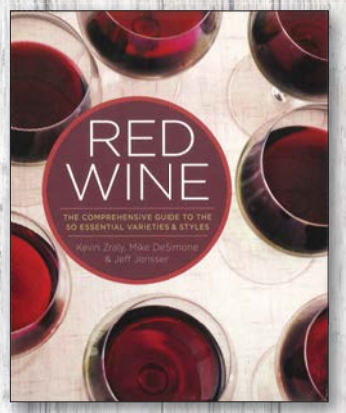

19

BOOK REVIEWS

Smooth, suave and sophisticated – not the Editor, but an epic tome on the subject of red wine and yet another interest of his – intarsia...

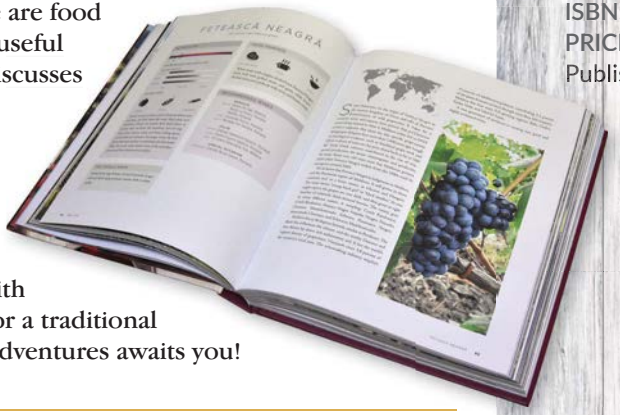
Red Wine – The comprehensive guide to the 50 essential varieties & styles

Authors – Kevin Zraly, Mike DeSimone & Jeff Jenssen



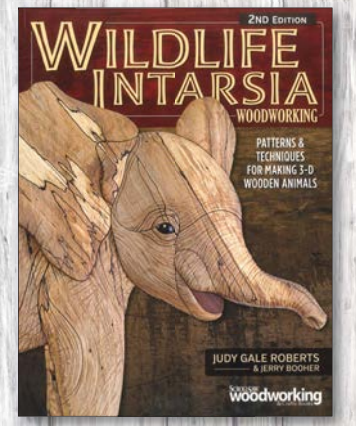
ISBN: 978-1-4549-1823-3
PRICE: £23.99
Published by Sterling Epicure

Armchair woodworking, i.e. reading about it, is helped considerably by a glass or two of a fine wine – it adds 'claret-y' to the subject. Just in case you thought, like me, that merlot, syrah or rioja were the choices good enough to drink, there is of course a whole global cellar of wines to choose from and good reasons to do so. This is much more of a 'wine table' book than a coffee table book. It lists 50 wines or styles from around the globe and each is presented in a clear, uniform way – in the glass, colour (not just any old red), tasting profile and tasting notes – explaining the characteristics that impart a distinctive set of tastes and smells upon the sensitive olfactory receptors that bring pleasure from drinking a fine wine. There are food pairings, recommended wines and other useful information. At the beginning the book discusses the history of grape and wine production down the ages, how it is produced and colour, aroma, flavour and taste. So be adventurous and try monastrell from the Franco-Spanish border, with its dark berry flavours, teran from the plateau of Istria in the northern Mediterranean with fresh and fruit-forward taste and aromas or a traditional ruby port. The whole world of red wine adventures awaits you!



Wildlife Intarsia Woodworking 2nd edition – patterns & techniques for making 3-D wooden animals

Judy Gale Roberts & Jerry Booher



ISBN: 978-1-56523-910-4
PRICE: £14.99
Published by Fox Chapel Publishing

To quote the back page of this book – dramatic portraits of North American wildlife. Intarsia, the art of making three-dimensional picture mosaics, is done most effectively in this book with a wide variety of animals captured both lovingly, with expressive faces, and with great skill, using different timbers and wood grain to bring each subject alive. Apart from the Getting Started section with useful advice on working technique, there are chapters for step-by-step instruction and patterns. The elephant seems to have escaped the zoo, but apart from that project you can choose from a bald eagle, wild mustang, bull moose and polar bear in the step-by-step section. Patterns include the arctic wolf, buffalo, jack rabbit and raccoon, a total of 11 patterns in all. Beautifully illustrated in colour throughout, there is bound to be something to suit every scrollsaw user.

Both books available from:
GMC Publications
www.thegmcgroup.com
01273 488005

NEWS & EVENTS

All the latest events and news from the world of woodworking

PHOTOGRAPHS COURTESY OF SHUTTERSTOCK

Tropical forest family trees

Huge database helps scientists map out tropical forests family tree. By Gary Marshall

A paper published in February this year has the title 'Phylogenetic classification of the world's tropical forests'. This represents a large and truly global example of scientific co-operation that was not funded by any one organisation.

Over 100 scientists from around the world have collaborated to build a huge and important new tropical forest database. This will help scientists and conservationists to anticipate 'region-specific responses to global environmental change'. The research includes identification and explanation of Regional differences.

The data has been obtained from nearly 1 million tree samples from some 15,000 species. DNA analysis provides 'family tree' information and can therefore link species that might have appeared to have had completely separate origins using other taxonomic methods.

For the purposes of this important exercise plant classification and plant communities based on similarities in evolutionary origin have been allocated to 5 main tropical regions: '**(i)** Indo-Pacific, **(ii)** Subtropical, **(iii)** African, **(iv)** American, and **(v)** Dry forests'.

Going back a very long way, African and American forests originated in the Gondwanan super-continent and so have been grouped together, while those of Indo-Pacific origin – e.g. Australia and Madagascar form another grouping. Northern hemisphere American and Asian forests are connected – dry forests form a separate grouping.

There still remain some mysteries – such as why there appear to be related sub-tropical forests in East Asia and Central and South America. It could be that there may be remnants of forests that once ranged from Europe and Asia, right the way to North America.

Ferry Slik, an associate professor at the Universiti Brunei Darussalam in Brunei led the work. Janet Franklin, professor of biogeography at the University of California, Riverside, gathered, co-ordinated and interpreted the data that is publicly available as an open access article.

To quote Janet Franklin: 'Different forests may be more vulnerable or resilient to climate change and deforestation, so if we understand the similarities and differences between forests it will help inform conservation efforts.'

Sources and further info: **https://ucrtoday.ucr.edu/51379, http://www.pnas.org/content/early/2018/01/31/1714977115**

Web links for you

Instagram

@diykingdom

Home of cool DIY and incredible tools. One of those pages that can make you feel inadequate as a woodworker but you still enjoy watching the clips. I first noticed a compound angle dovetail joint sliding together.

Vimeo

Traditional Woodworking Demonstration – Treadle Saw & Spring Pole Lathe

One of a series of videos for the Carolina Museum of History, this one shows the treadle saw and spring pole lathe in action. It's interesting to watch how it's done.

EVENTS

Weald of Kent Handmade Fair, Penshurst Place 29 April – 1 May 2018, Tonbridge, Kent, TN11 8DG – a fun family day out, lots of crafts stalls, music, food and drink, held in the striking landscape of Penshurst Place. RHS and English Heritage cardholders get free entry.
www.thecraftshows.co.uk/kent/spring/

NEW SHOW! Makers Central, 5-6 May 2018, NEC Birmingham, B40 1NT
www.makerscentral.co.uk/

Woodworks@Daventry 2018, 11-12 May 2018, Daventry Leisure Centre, Lodge Road, Daventry, NN11 4FP
www.tudor-rose-turners.co.uk

Devon County Show, Westpoint 17-19 May 2018, Exeter, EX5 1DJ
www.westpointexeter.co.uk

Nunhead Cemetery Open Day, 19 May, 2018, Nunhead Cemetery, Linden Grove, London, SE15 3LP – walks, talks, choir, food and drink and bodgers among the trees…
www.fonc.org.uk/2018-open-day.html

The Great Scottish Spoon Hoolie, 18-20 May 2018, Tir na Nog, Balfunning, Balfron Station, Scotland, G63 0NF
www.thegreatscottishspoonhoolie.co.uk

Weird and Wonderful Wood, 19-20 May 2018, Haughley Park, Wetherden, Nr Stowmarket, Suffolk, IP14 3JY
www.weirdandwonderfulwood.co.uk

Twitter

IndustrialRevolution @2016 industrial

Some wonderful and fascinating vintage and antique objects including cobbler's benches, old saws and amazing coloured wood samples

YouTube

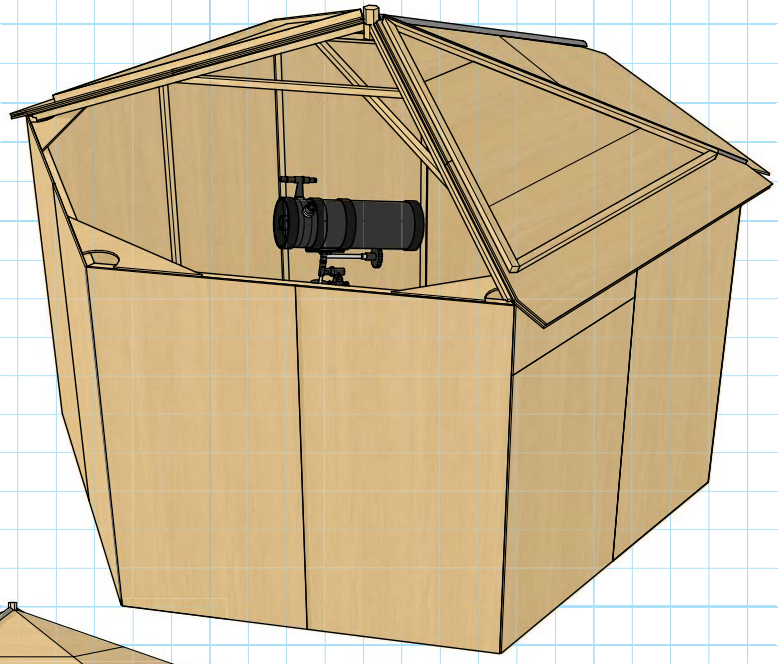
Woodland TV – An introduction to Cabinetmaking – Andrew Marsh

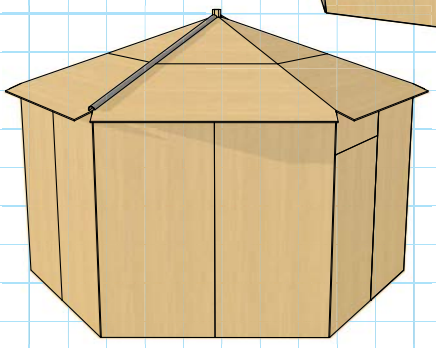
It's good for a change to have a UK-based video clip of a young designer/maker talking and showing his working processes and see a piece of furniture being made.

PLANS 4 YOU

Garden observatory

Simon Rodway aims for the stars with his latest project

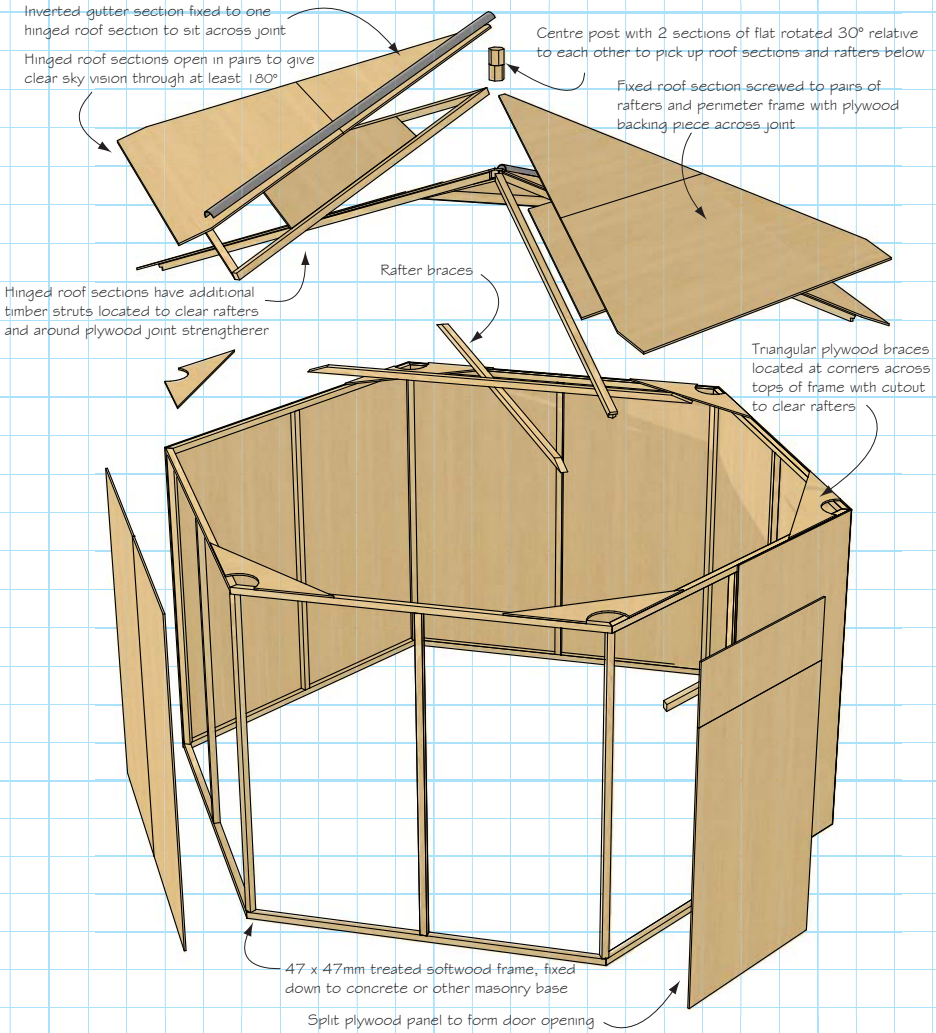




The project for this issue is not something you are going to encounter in everyday use, but should you be interested in things above and beyond our planet or know someone who is keen on stargazing, then this could provide an ideal base to take things to the next level. The requirements for a home observatory are a little unusual, the primary one being the ability to open up the roof structure to give a clear view of the heavens. Additionally, and a little fortuitously, a lightweight construction which does not retain heat is desirable since this can interfere with night time viewing.

I am going to assume that the groundwork for the observatory is already built, and in this case it would probably be best to lay a concrete slab, and possibly a couple of brick courses, which the timber frame can be fixed to. The overall shape is hexagonal, for the simple reason that this allows alternate pairs of hinged roof sections to be opened in turn and folded back against the two fixed sections, allowing a total 360 degree vision of the night sky. Telescopes come in a wide variety of sizes, but the generous dimensions of this garden observatory should allow room enough for upgrades. In any case, it should be possible to scale up or down whilst retaining the basic principles of the construction.

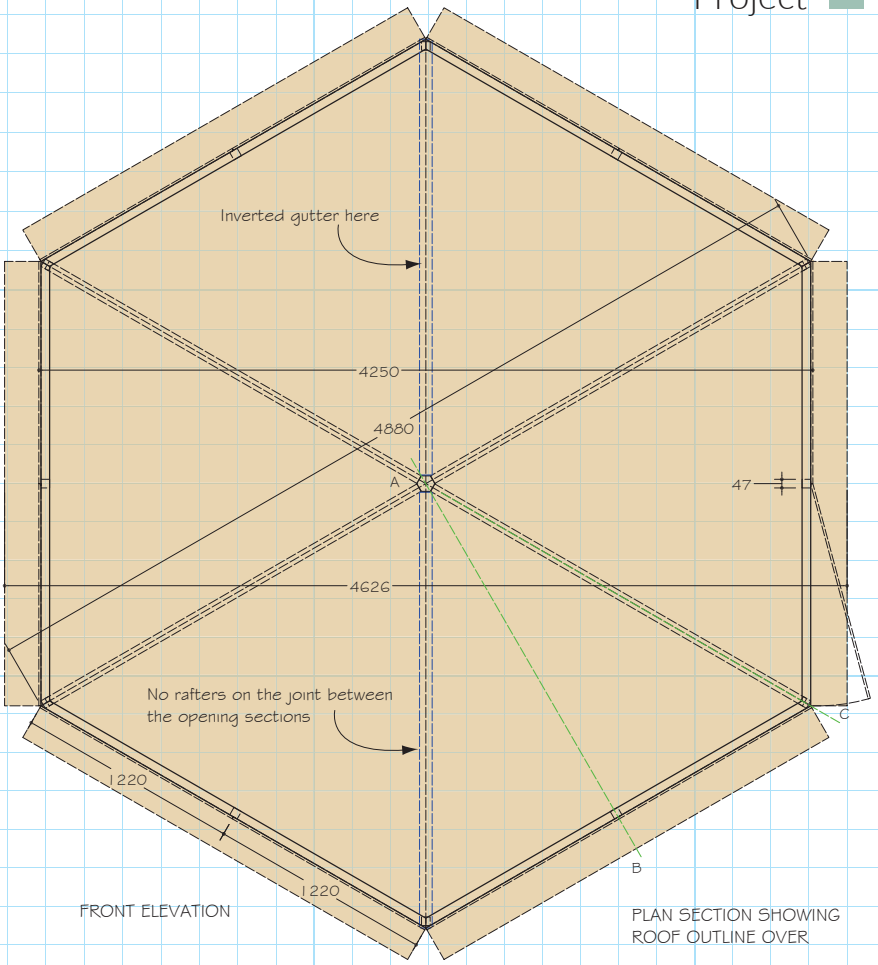
The structure is quite simply a frame of 47mm square section treated softwood throughout, with 12mm plywood sheets cladding the whole thing. This combination, with a bit of judicious bracing, is enormously strong. I have shown each corner braced along the top with triangular

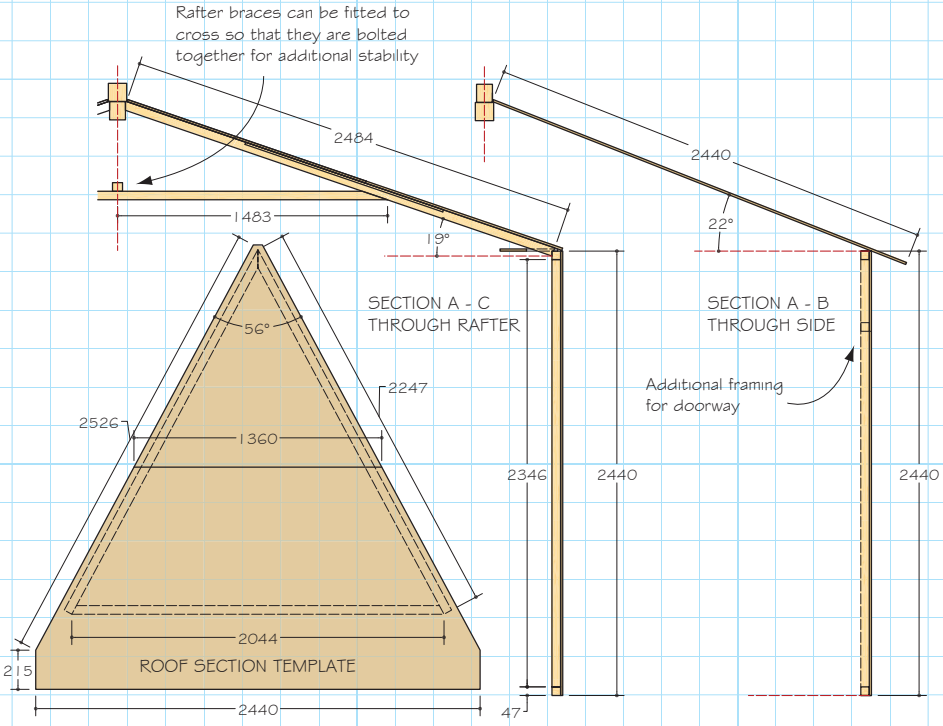


Cutting list

Base/top frame	12 @ 2440 x 47 x 47
Rafters	4 @ 2490 x 47 x 47
Uprights	12 @ 2346 x 47 x 47
Rafter brace	1 @ 2970 x 47 x 47
Rafter brace	1 @ 2695 x 47 x 47
Centre post	1 @ 200 x 100 x 100
Roof (open) frame	8 @ 2247 x 47 x 47
Roof (open) frame	4 @ 2044 x 47 x 47
Plywood sheets	25 @ 2044 x 1220 x 12

The rafter braces are sized approximately and should be cut to fit. Cut the rafters oversize and then to fit. Additional framing to walls and door as required, which can be added when the main structure is built. One additional plywood sheet allowed for. Plywood corner braces from offcuts.





plywood pieces, and the rafters are also braced at approximately half their length with cross pieces, to prevent spreading. For simplicity I have built the whole thing using full size ply sheets for the walls, with one cut to form a door. Each wall section has two sheets mounted vertically with framing at the edges and middle; the angles at the edges can be resolved by just screwing direct to the corner pieces. To keep the plywood flat you may need to add additional framing horizontally to the walls, and also to the back of the door.

The roof construction is a bit trickier. I would suggest making a small scale model first using some thin but rigid material to represent the plywood sections. As long as these are consistent in size and shape, the roof will work, with the edges meeting all round. However, to do this, the angle they rest at can vary slightly. In order to test the fit, though, the rafters have to be in place and fixed, at least provisionally, a bit of a chicken and egg situation. The variation should be no more than a degree either way though, but be prepared for a bit of getting up and down a step ladder until it all fits together. I have shown the centre post as hexagonal but with an upper and lower section to pick up the changing geometry of the roof covering and the rafters, which will need to have an angle cut at the base to fit into the frame. The fixed plywood sections have an additional ply section bridging the join, and the hinged sections have some framing added to that as well to keep them rigid when opened.

I haven't shown any hinges or fixings to keep the drawings nice and simple, but these will need to be fairly robust and rust proof. Additionally, I would suggest using a felt covering for some of the roof, at least along the joints and around the centre post to waterproof the structure. Additionally, the plywood sheets, which should all be external grade, need to have their edges protected and sealed as much as possible, on both the roof and the walls. The join between the opening roof sections is also protected by a section of inverted guttering, fixed to one side only, a very effective way to weather ridge or hip joints in this type of construction. ■

Selecting & cleaving green timber logs

PHOTOGRAPHS BY GARETH IRWIN

Can I use green wood for making furniture? Yes you can. Gareth Irwin shows you how

When choosing timber for projects, the first question I ask myself is 'can I use green wood?'

Projects such as cupboards, dressers, doors and drawers that need to be kept square and level are more suited to sawn, planked and seasoned timber. Slab and stick chairs, ladder-back chairs or spoons and spatulas can be made from green wood and the best way of converting this is by splitting, maintaining the through grain for maximum strength. Logs can be split and shaped while green then be allowed to season (if necessary) before finishing and joining.

Chair parts, for example, can of course be obtained from seasoned dry timber by sawing with the grain. However, a board from the sawmill will cost considerably more than a green log from the woods or firewood stack and be much harder to work down with hand tools to get the required dimensions. I appreciate that not everyone has access to woodland but, as a woodworker, I would say a source of green wood (perhaps an arborist, firewood dealer, estate or farm) is as important as a good sawmill.

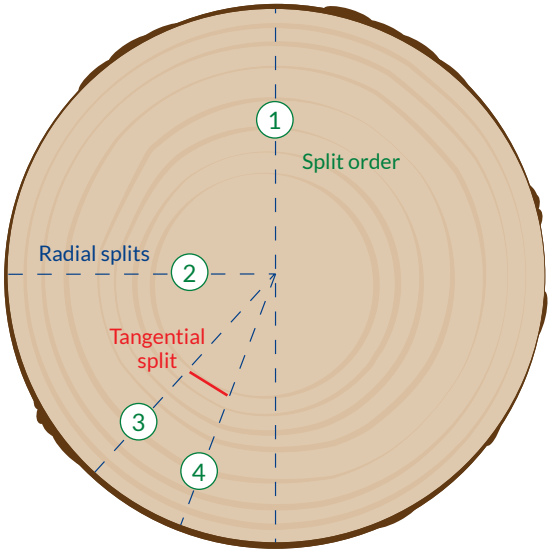
The ideal log will have grown quickly and straight, the exception being where curved timbers are required, such as curved arm rests or the rear legs of ladder-back chairs. Quick-grown timber will be strong and flexible, whereas slow-grown timber can be a bit brittle in comparison. A tree that grows straight will obviously have straight timber and, if grown without a leaning stem, will have even timber without the problems associated with compression or tension wood.

Trees grow quickly and straight when they have good light and are spaced evenly apart – but ideally not too far apart as this promotes side branching which leads to knots in the timber. If faced with a stack of cut timber with unknown growing history, quick and straight-grown logs will have well-spaced growth rings (roughly ⅛in or more apart), the pith or first year's growth will be fairly central and the bark won't have many 'eyes', the sign of knots within.

Cleaving timber requires just a few simple tools: a large axe (for the main cleaving), a couple of wedges (to continue the split), a large wooden mallet, known as a beetle or maul (for hitting the back of the axe head or wedges), and a froe or small flat axe (for more delicate, 'steered' splitting).

The golden rule when cleaving timber is to have an equal amount of resistance in the wood on either side of the split. If the resistance is equal, the split will run straight, resulting in two equal and parallel pieces. If the timber on one side of the split can flex more than the other, the split will 'run out' in that direction.

At this point, it's worth mentioning that where possible the log should be split from the thinnest end towards the base of the tree. Wattle hurdle makers who cleave long, thin hazel rods into two will always start their split at the ➤



Sequence of splits through a log


Halved log showing pith


Uneven split 'running out'


Billets of ash and cleaving tools


Good quality ash log, ready for cleaving

Quartering a longer log, laid down

'Steering' a long split

Tangential split

narrow, top end. As the blade cleaves the rod, any knots or side branches will deflect the blade back towards the centre pith, because those side branches grew out of the rod in an upwards direction.

The first splits are radial – that is, they will run from the centre pith of the log to the bark edge. Place the axe on the end of the log, exactly on the pith, and hit the back of the axe head with the mallet. Logs that are up to thigh height can be split in an upright position and at that height will probably split right through. Logs that are longer than this are best laid down with one end against a tree stump, rock or wall and once the axe is driven into the end a wedge can be knocked into the side of the opening split ahead of the axe. As the split runs along the log, another wedge goes in ahead of the last until it is split into two. If all goes well, the flat faces of the two halves will have the distinctive dark line of the pith visible down their centres. Take one of these halves and place the axe on an imaginary line running from the pith to halfway round the bark edge. Striking the axe should split the half into two quarters, both still showing the pith down their inside corners. In the same way, this quarter can be cleft into two eighths, and so on.

Now a tangential split can be made at 90° to the previous radial split. Looking at the top of the eighth of log it appears as a wedge. The tangential split needs to be just under halfway along this wedge. It may seem that the thick end of this wedge has way more wood in it than the thin end, but the resistance to flexing is almost equal in both.

Tap the froe (or thin-bladed axe) into the wedge in the position mentioned and this time carefully lever the handle to open up the split. If the split runs straight, slide the blade further into the split and repeat. If the split starts to run out left, use the other hand to slightly bend the half on the right while you continue to lever the split open. This should, with practice, bring the split back to the middle. If the split starts to run out right, bend the left half as you lever. In practice this is easier to do in an 'up or down' way rather than 'left or right'.

With little practice, effort and cost this process can produce lots of lengths of good-quality timber which are ready to be worked with a trimming axe, turned on the lathe or worked at the bench. These pieces can then be seasoned, which will be fairly fast in their new, much smaller dimensions. ■

Making the first split in a clean ash log

Tangential split through a longer billet

Cleft billets, ready to be made into chair parts

MAINS OR CORDLESS
A SAW FOR EVERY JOB

260mm Slide Compound Mitre Saw

LS1019 - LS1019L (Laser)

DXT

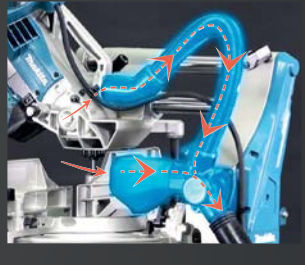
The saw can be placed flat against a wall

Large guide fence and material base

Laser line (LS1019L only)

Max Cut: 91mm x 279mm

Advanced dust extraction system



165mm 18V Brushless Mitre Saw

DLS600

18V LITHIUM-ION BL MOTOR DXT ADT

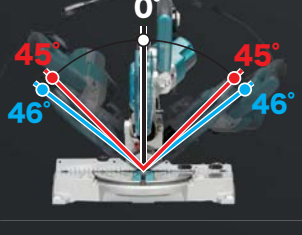
Battery level indicator

Laser line

Max Cut: 46mm x 92mm

Brushless motor

Bevels 46 degrees to the left and right



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Making a hole in the bool with a bodkin

PHOTOGRAPHS BY THOM ATKINSON UNLESS OTHERWISE STATED

Oak swill baskets

Oak swill baskets are beautiful and strong as skilled maker **Lorna Singleton** shows us

An oak swill 'eggy' basket

Lorna with a swill basket

If you already know what a swill basket is, then you probably live in Cumbria, otherwise you may not have heard about this amazing traditional form of basketry. Lorna Singleton has learnt to make them but has added her own personal twist to this traditional, very functional but beautiful object. Why a swill basket? What is so special about them and how useful are they? The Editor decided he really ought to find out for himself.

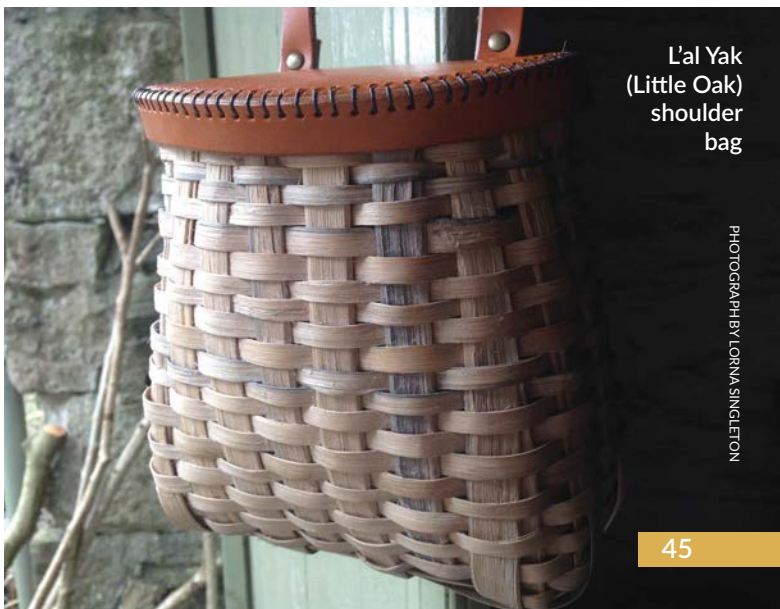
History

The woodlands of the Furness and South Lakes area were historically largely made up of Oak and swill shops were once prevalent in the area. Like so many traditional skills, swill basket making has been in massive decline but there are just a couple of makers, Owen Jones and his protégé Lorna, keeping this tradition alive. However, in the modern age it seems that we are now looking backwards wistfully at a bygone age and wanting the satisfaction and pleasure of making things whose form follows function with the charm and beauty arising from that. In the beginning this basketry like any other, was made for purely practical purposes. Made from strips of oak woven together, each basket depending on it size or type could hold anything from freshly caught shellfish which would drain naturally through the basket weave, to coal, potatoes, eggs and other garden or farm produce, to collecting fungi, flowers, you name it a swill basket can hold it all. They are also immensely strong, so much so that an inverted basket without a handle, can be safely stood on without breaking it. Before the age of manufacturing such a versatile utensil was an everyday container for helping sustain the pattern of life – rural life in particular.

Weaving a hazel basket

Learning

Lorna decided she wanted to work in the woodlands in the area of South Cumbria (old Lancashire) where she grew up. She chose to take up coppice work and in 2013 she graduated as a coppice apprentice of the Bill Hogarth MBE Memorial Apprenticeship Trust, an independent charity, following three years of intensive tuition in coppice woodland management and crafts. She has had the benefit of working and learning from Owen Jones, the last of the 'swillers', hopefully she too will manage to keep the craft alive by passing on her knowledge through workshops which she runs. ➤



L'al Yak (Little Oak) shoulder bag

PHOTOGRAPH BY LORNA SINGLETON

Stool and shavehorse and bundles of oak

The tools of the trade: Clockwise from top; Laura's swilling knife; a froe or lat-axe; a swiller's bodkin; a knocker

Making

Oak is incredibly strong but the swiller must know how it behaves and how to make it bend to their will and thus fashion a workable item. Key to swill making is coppiced oak. Coppicing is an ancient form of woodland management. It encourages trees to grow quickly and once they have been harvested, allows light to come pouring in, encouraging diversity of flora and fauna within the woodland. Small, manageable areas of woodland are cut each winter, when the leaves have fallen and the trees are dormant. In Spring these tree 'stools' then all race up towards the light producing tall, straight stems that are extremely useful to work with. Oak coppice is cut on a 20-30 year rotation when the stems are 100-150mm in diameter.

The stems are cleft into quarters, split down further with a series of knives then boiled in a tank overnight. When the wood is hot and wet the fibres can be torn apart along their grain rather than sawn, making the material extremely flexible without compromising on strength. This is all possible because the relatively young growth is without knots and other defects, sapwood is mainly used since there is still a relatively small amount of heartwood.

The swill shed is where Lorna works, she prefers to work and walk around barefoot because boots feel too 'clumpy' especially in summer and when Lorna goes down to the river to collect wood she takes her boots off and then doesn't bother to put them back on again.

Apart from a chainsaw for felling, the tools are strictly handtools, a bowsaw, froe or lat-axe and club or knocker for splitting branches, a drawknife for shaping the oak strips, a swiller's bodkin for making holes, swilling knife for fine work and a pair of small hand shears. Once the split oak sections have been boiled overnight, the oak is split down again using the froe and then torn apart into clean strips. These can be kept moist and pliable by the simple device of tying a rope round them and on to a sapling by the stream so they can lie in the shallow water until ready to use. The hazel bools (the rims) are steamed in the top of the boiler and then bent around a former.

Lorna sits astride a shave horse to shape the oak ribs or 'spelks' as they are known. She wants to find some time to make a traditional 'mare' instead of the shavehorse. Because the spelks are thin they are each rested on a board clamped

Right: Basketry material soaking – Lorna prefers to work and walk around barefoot

Dipping the swill strips in the stream


Checking the shape and placement of the spelks


Shaping the bool spelk


Riving down a taw


Shaping spelks on the shavehorse using a drawknife

in the shave horse for support. The thinner in-between strips are called 'taws' created by riving down – tearing the oak apart by hand.

The next task is to use a knife to refine the shape further resting on her leg as it isn't practical to do it all on the shave horse. The 'bool spelk' (bowl) sections which are needed for the rim and handles are thicker being made from the first part of the stem until where the branch begins, the rest is firewood. A 'knocker' is used to split the stems. These pieces are wrapped with oak taw at each junction to tie them together forming the basic frame around which spelk are added to create the basic bowl form and then woven taw is used to create the finished shape. The riven oak strips are kept dry and resoaked in the river overnight to make them pliable again for weaving. Once dry the swill oak hardens making it a very solid but lightweight basket. It sounds incredibly simple but it entails experience and hard graft making each swill basket. In theory they can be almost any size and with or without a handle. Lorna has gone one step further and made other woven objects such a shoulder bag with leather top and strap and upright baskets. The products Lorna makes add value back into the coppiced woodlands, allowing other craftworkers to continue making a living from them and ultimately reconnecting people with our coppiced woodland and with nature. Working with nature sounds idyllic but it's hard work too, but for Lorna Singleton it seems to be paying off!

If you are interested in learning how to make or simply want to buy, you can find Lorna on Twitter, Facebook and Instagram as **@lornaweavesoak**

Finished 22in swill basket

Ask the experts

ANTHONY BAILEY
Editor,
Woodworking Crafts magazine

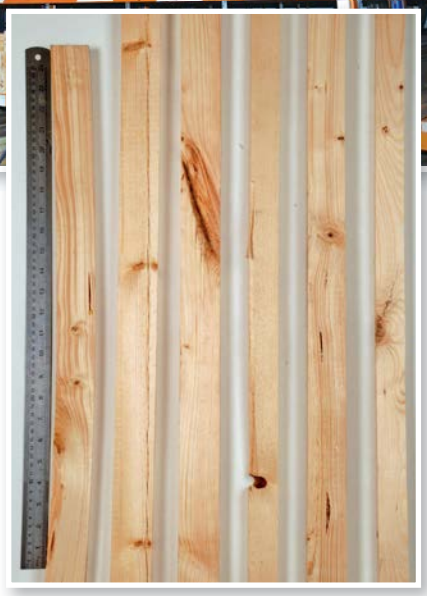
Another selection of awkward questions for our experts to answer

SOFTWOOD SORROWS

I recently bought a pack of prepared softwood from my local DIY store, which carries a range of stuff and is pretty knowledgeable too. When I opened the pack it seemed okay until I sorted through the wood and found a couple of pieces that were twisted and several boards had sticky resin pockets or awkward knot defects. I've since managed to use all of it with care but maybe I should have complained to the store about the poor quality? Does wood always behave like this?

Gerry Andersen

It's best to select your wood at a timberyard



Typical flaws found in pre-packed softwood

Anthony replies: It's the same problem for the poor old consumer – you need to use something now, in this case some wood. Do you take it back or carry on, as you did? If you really weren't happy then you needed to return the entire pack with its packaging and the receipt for a refund. To be fair it isn't exactly the store's fault, only for stocking it. DIY stores tend to stock 'white' softwood, which is quite prone to flaws and the shrink plastic packaging of course pulls the boards together nicely, then they spring apart and twist when the pack is cut open. The advantage of timber sold this way is that it is uniform in length and easy to transport by car.

I would suggest that next time you consider going to a timberyard with a cutting list of approximate sizes. The timber looks better quality, you can ask to select it and the yard can cut it to length for your convenience. A last point is that you aren't creating a waste problem as no plastic packaging is involved.

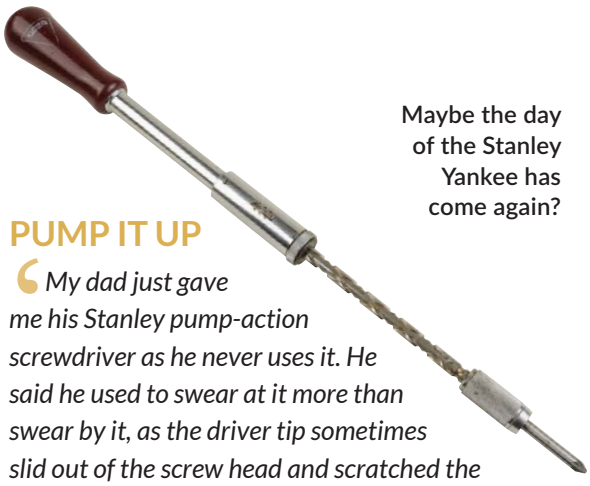
A quick paint makeover makes a real difference

QUICK TOUCH UP

Is there a quick easy way to refinish cupboards and doors with a hardwearing finish that doesn't need lots of coats or take hours to dry?

Tiffany Case

Anthony replies: If you visit a big DIY superstore, the chances are that hidden away among the myriad shelves of paint pots, there is probably a range of paints intended to quickly refinish existing furniture and woodwork. We used one on the quilt frame on page 73, which is oil-based so it takes a little while to dry but is much quicker than conventional undercoat and gloss paints and claims to cover in one coat. If you are doing a quick makeover, use masking tape to protect surrounding surfaces and wrap carefully around knobs and handles. Do use a dewaxing solution or sugar soap first to remove dirt and grime so the paint sticks properly and its curing action isn't retarded by the presence of contaminants.



Maybe the day of the Stanley Yankee has come again?

PUMP IT UP

My dad just gave me his Stanley pump-action screwdriver as he never uses it. He said he used to swear at it more than swear by it, as the driver tip sometimes slid out of the screw head and scratched the surface around it. Looking online it seems a lot of them were made so they must have some use?

Ben Armley

Anthony replies: Well, your dad was right but that was when a lot of screws were slot heads, which are now considered old school. Not only did Stanley make a lot of Yankee ratchet screwdrivers, they also came in different types and sizes. The cross head bits were a safer option for avoiding slips but more recently you have been able to buy an adaptor that will hold any hex-shanked driver bit, drill, socket, etc. which makes sense because the pump action is very efficient. So, you can bring that old soldier back to life and not always have to reach for a cordless drill.

An efficient sharpening set-up

THE RIGHT ANGLE

I do a bit of woodwork and learned to sharpen my tools reasonably well, but as I haven't been trained I didn't realise there are supposed to be two different angles for cutting. Have I been doing something wrong and does it matter if the blade is sharp anyway?

Nev Bennett

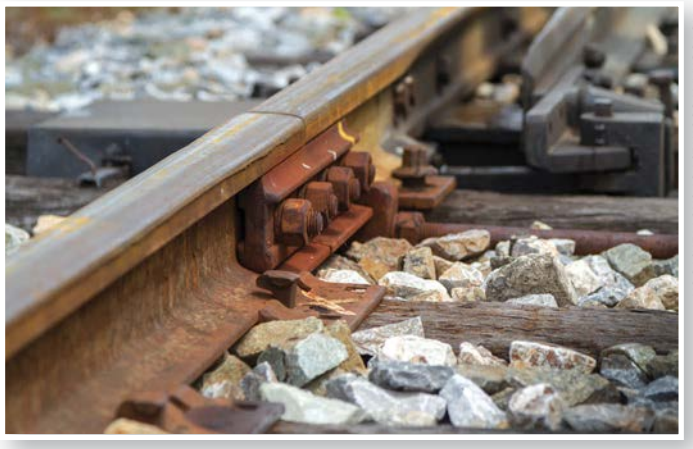
Anthony replies: Hang on Nev, we will be covering all this is in part two of a sharpening series next month. In the meantime – does it matter? Not really, so long as you end up with nice, sharp cutting edges, but it may be taking you too long and removing a bit too much metal each time. For standard use with plane blades, chisels and the like, 25° is usual for grinding a blade and the secondary angle, or 'micro bevel', of 30° is honed to give the final cutting edge. Read part one in this issue first though…

DRAMATIC LICENCE

Our local amdram society is considering putting on a production of 'The Railway Children' next Christmas and we are thinking ahead about props for the show. It would be more realistic to have a section of railway track for platform (the edge of the stage) plus digital effects etc. A member of the society who works 'on the rails' says it is impossibly heavy stuff. Do you think making it out of wood could be realistic enough and not too tricky to do if we can find suitable carpenter?

Natasha Venables

Anthony replies: This isn't at all difficult with some imagination and the right skills. Sections of 150 x 50mm softwood with 'eased edges', plus additional strips pinned on the side, will imitate rails and making up some 6mm ply flat long-box shapes would do for sleepers, then some other bits and bobs for rail chairs to hold the rails. You need something to imitate track ballast, maybe broken up pieces of polystyrene packing? Then plenty of browny-blackish emulsion paint, possibly sprayed on for ease of application, plus theatre lighting should make it convincing. If you look online I'm sure you can find images of railway track to give you a better idea or take a few photos next time you need to catch a train? Good luck – it should be a great production.



PHOTOGRAPH COURTESY OF SHUTTERSTOCK

Rail detail is easy to copy

STAR QUESTION PRIZE

The Tool Marketing Company, or TOMACO, as it is known, which sells a variety of tool brands, including COLT, Sharp Edge and Narex Tools, is pleased to be sponsoring the Ask the Experts section in collaboration with GMC Publications. Each issue's Star Question prize-winner will receive a Narex six-piece chisel set worth £79.95 and all other published questions will receive a 20mm half-round fine cut Narex rasp worth £20.95. For more information see www.tomaco.co.uk

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N.B. If you do need help or advice you can email me: anthonyb@thegmcgroup.com or visit: www.woodworkersinstitute.com where there are lots of useful articles, either way the service is free!

Trees for life

Sugar maple

We continue our series with one of the most versatile and well known temperate hard-woods – but it isn't a native of the UK

PHOTOGRAPHS COURTESY OF WIKIPEDIA COMMONS UNLESS OTHERWISE STATED

The ancient and venerable Comfort Maple

In issue 31 we looked at the sycamore known in the US as the sycamore maple. This time we look at its tough but sweet cousin, the sugar maple, otherwise known as hard or rock maple (*Acer saccharum*). It can be confused with the Norway maple and has an almost identical Latin name to the silver maple (*Acer saccharinum*), but it has incredibly useful characteristics all of its own. However, it is under threat due to its vulnerability in polluted urban settings.

It is a deciduous tree that generally reaches heights of 25-30m although there are taller examples. A healthy tree can live to be 400 years old. The deciduous leaves are palmate in shape with five lobes. Autumn colour is spectacular, with the leaves changing from green to yellow to bright orange to a rich red before turning brown.

The hermaphrodite flowers are in panicles – meaning multiple stalked flowers but without petals. The sugar maple starts flowering after the age of about 10-15 years and the fruit are samaras, or winged seeds, designed to scatter when they fall.

PHOTOGRAPH BY GMC/ ANTHONY BAILEY

Rippled maple box by Mark Baker

Ecology

The sugar maple is an important species for the ecology of forests in the northen United States and Canada. Stands (groups) of maple are common and they can grow on most soils except sand. They are tolerant of shaded situations and grow well as understorey trees, but are capable of exploiting gaps in the tree canopy to grow quickly. Sugar maples use hydraulic lift to bring water from lower down to the surface, thus also benefitting other plants around them. Although often referred to as hard maple or rock maple this is more descriptive of the timber produced, as the tree itself has proved quite vulnerable to human intervention. There has been a decline in many areas where it is no longer the dominant mature species, other opportunistic species having taken over. Acid rain and soil acidification have contributed to its decline and the use of road salt has decimated its presence as a street tree.

Food and health

The sugar maple and the black maple are the primary source of maple syrup by extraction. Taps are fitted to the tree trunks, inserted through the bark into the phloem. The collected sap is boiled and thus reduced. Forty litres of maple sap produce just one litre of syrup, making it an expensive and valuable product.

Native Mohegan Indians use the inner bark as a cough remedy and the sap as a sweetening agent and as syrup.

Maple sap buckets collecting their precious harvest

Fascinating fact

The national flag of Canada ostensibly features a sugar maple leaf, although it isn't in fact meant to represent any particular maple species, merely to show the image properly when waving in the wind.

Timber

Apart from syrup it is the timber for which this tree is best known. It is very hard and has a slightly pink, even grain, which suits contemporary design perfectly. It can also exhibit unusual and desirable grain patterns that are much sought after – bird's eye, cat's paw, quilted, pippy and curly being typical decorative grain varieties. Often these are sold as veneer rather than solid as they are unusual and therefore attract a higher cost. The sapwood is lighter, making it more desirable.

The hardness of the timber suits everything from kitchen worktops to bowling pins, baseball bats and wood block flooring. It is widely used in the manufacture of musical instruments for violin backs, drum shells and guitar necks. It is a flexible timber making it ideal for archery bows.

Feature trees

Because the leaves can exhibit such a range of colour, the tree is often planted in private and public gardens. There are numerous cultivars or varieties which make it a much more diverse and interesting species.

Did you know?

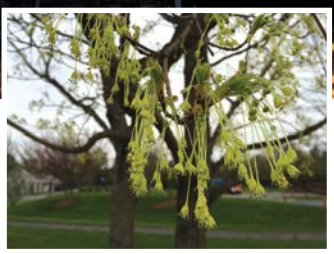
The Comfort Maple is a single sugar maple in the Comfort Maple Conservation Area of Pelham, Ontario, so called because the land was owned in the 19th century by John B. Comfort. It is estimated to be approximately 500 years old, making it one of the oldest in Canada. It has been struck by lightning and is showing its age so it relies on support from brick, concrete and guy wires to maintain it.

To see a wide variety of maple species, including the sugar maple, plan a visit: Westonbirt Arboretum, Tetbury, Gloucestershire, GL8 8QS
www.forestry.gov.uk/westonbirt

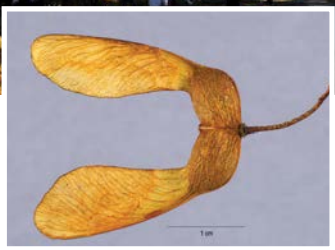
PHOTOGRAPH BY ALAN HOLTHAM

Maple-veneered MDF

Sugar maple in a suburban landscape in the US



Sugar maple flowers



Sugar maple seeds

Left: The colour palette of leaf change

Bird's eye maple and ebony boxes by Derek Jones

PHOTOGRAPH BY GMC/ANTHONY BAILEY

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Woodworking CRAFTS

A canal holiday can be such fun – but spare a thought for the teams who have to repair lock gates, in all weathers

PHOTOGRAPH BY MIKE COWIE

PHOTOGRAPH BY GMC/ANTHONY BAILEY

PHOTOGRAPH BY MARK SANGER

ISSUE 40 ON SALE 10 MAY

- Contemporary ash settee
- Sharpening Part II
- Turning simple bowls
- Outdoor chess game
- Plans 4 You – swing seat

PLUS: *Trees for life – Zebrano • Secret nailing*
Selecting green wood for spoon carving

PHOTOGRAPHS BY GEOFFREY LAYCOCK

The sharpest knife in the box

Geoffrey Laycock looks at the correct use of scalpels and shares his extensive knowledge on the dos and don'ts of scalpel safety

Storage & fitting

The good thing about using these blades is they are ultra-sharp and low cost, especially if you buy boxes of 100 or 50 once you know which blade designs are best for your work. Changing blades before they become too blunt is safer and essential with delicate work, but increasing the number of changes increases one of the serious risks.

In most healthcare workplaces, fitting or removing blades from scalpel handles and not using the following method is considered a disciplinary offence, such is the risk. Forcing a blade in or out of a handle using fingers is quite simply asking for a serious cut. The correct method is to use a pair of forceps or surgical needle pliers – which you probably do not have – or long-nosed pliers.

Regarding the Retractaway knife shown at the bottom of the main image, please note the blade can be in three positions: closed, the middle position for cutting and fully extended for blade changing only – do not cut with the blade fully extended. In a few photos, I'm wearing a blue surgical glove only to make the image clearer. The design of the handles and blades favour a right-handed person for these tasks; left-handed users think carefully about exactly reversing procedures. I use a pair of flat, long-nosed mini-pliers

Remove the blade from the wrapping using the pliers and slide on to the handle bayonet fitting until it clicks

I prefer the alternative removal method – grip the back edge behind the bayonet fitting with long-nose pliers and twist upwards, then slide off the handle

originally used in the textile industry, but almost any will do. It is important when fitting not to let the jaws contact the blade cutting edge, so as not to damage the edge. Also avoid this when removing so as not to possibly break fragments off. ACM blades are slightly easier to fit/remove, but using pliers is still also a good but not essential practice.

Old blades should be placed somewhere safe – for you and anyone else. Be especially wary of leaving used, unwrapped blades around where children may find them and DO NOT simply drop into a waste bin or bag. A small £1 snap-lid food container can be used until you have a quantity – see later for what to do next. Very cheap small sharps containers are available from various sources but I use a Swann-Morton Blade Remover Unit. This is a sharps box that holds around 80 used blades incorporating a lid that allows safe blade removal from a handle without using pliers. They are just over £1 each, so why risk other storage? If you want to reuse, the lid can be opened and I would 'pour' the blades into something like a plastic yogurt pot then seal with gaffer tape before final disposal.

Use the correct grip

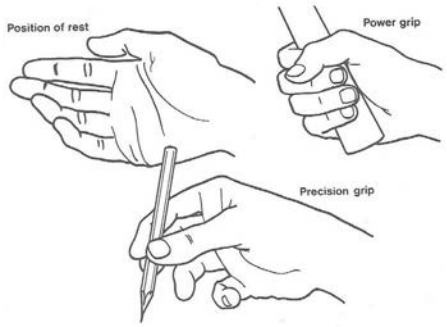
First, always use a handle. Some professionals – mentioning none in particular – use some blades alone. This is not a good idea and can easily go wrong, so, very simply, don't do it. I have also seen people using double-edged razor blades held 'carefully' – please NO.

There are two basic categories of grip we use: precision and power. The amazing design of the hand and its control systems means grip is infinitely adjustable and within these two categories we then use many variations.

The power grip, as used with a hammer, may be used with the very heaviest of cutting with perhaps a trimming knife, otherwise you will always be using a form of precision grip.

We cannot tell you what is best for your particular work, but understanding these principles may help you reduce your own risks.

Many people instinctively pick up a scalpel and assume a 'pen' grip, as if they were going to write with it. This is an acceptable grip but should only be used for the lightest, most precise cuts. Trying to use this grip for cuts where



increased pressure is applied can result in the fingers sliding down the handle and there is nothing to stop the side of – usually – the middle finger running into the edge of the blade. Some blades may not injure, other designs will. The correct grip for applying any pressure we will call the 'surgeon's incision' grip. Looking at a Swann-Morton handle, you find a machined bullseye either side. Grip in these two positions with thumb and middle/second finger with index finger on top of the handle pointing down towards the blade. This allows precision manipulations but using the index finger to apply downward cutting pressure. In surgery, this would be used with a no.10 blade and the handle at a low angle, which ensures the efficient long curved cutting edge is used. The pointed no.10A and no.11 blades are typically used 'upside-down' for stabbing incisions. For woodwork, as the no.10 is more of a slicing cut, it can be much cleaner, whereas the pointed 10A and 11 are almost cutting one fibre at a time if held too upright, and as it still forms a pointed tip it can be used in corners. One basic safety point – never use a pointed blade such as 10A pointing and pushing towards your other hand, if it slips it is specifically designed to go in with no effort at all.

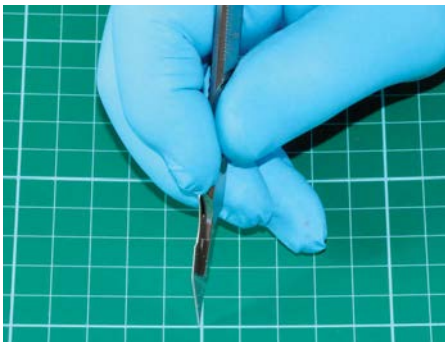
Although many craftspeople use the pointed no.10A and no.11 blades, it may be better to switch to a no.10 in many instances for long cuts and the ACM no.5 handle is definitely best for the heaviest precision cutting and also minimising grip muscle fatigue if working for a protracted period of time.

Passing a scalpel to someone else

If you need to pass a scalpel to another person, place it in your work tray and let them pick it up, please. Oh, and never converse while holding one, especially if you tend to make hand gestures.

Using the 'surgeon's' grip allows downward pressure to be applied safely. My steel rule has 800 grit self-adhesive abrasive on the reverse side to reduce slipping

Looking from below, handle gripped by thumb and second or middle finger, index finger applies cutting pressure



Very pointed blades are very useful but the original design is for penetrating cuts and used with the edge upwards

And finally – when you cut yourself

And you will. Put together a small first aid kit before you need it. You need to make the decision on when an injury requires professional attention, but bear in mind any stab injury to the palm of the hand can result in nerve damage; deep cuts to palm and inner face of fingers can result in tendon damage, as can injury on the inner face of the wrist. Don't go to A&E, you will get quicker treatment at your local walk-in treatment centre, so find out where it is now so you are prepared or call 111 for advice. Learning basic first-aid is a good idea. ■

Woodland ways

Wildlife surveys

PHOTOGRAPHS BY GARY MARSHALL UNLESS OTHERWISE STATED

PHOTOGRAPH COURTESY OF SHUTTERSTOCK

What have woodland wildlife surveys done for us? asks Gary Marshall

Question – what do the following have in common?

Trees; shrubs; ground flora; ferns; mosses; liverworts; fungi; soils; invertebrates; fish; amphibians; reptiles; birds; small mammals; bats; dormice; badgers; deer; ponds and lakes; watercourses and no doubt several other groups of living entities or habitats that I've overlooked? You'll find many of the above in our woodlands, new and ancient. But there's something else…
(**Answer – see end of article**)

Question – how many and in which woodlands?

We could make educated guesses – although they would be based on opinion, not fact or evidence. This is where the work of wildlife recorders and surveyors – expert, lay, amateur or professional – comes in.

The results of their surveys influence the way in which woodland is protected, viewed, managed, enjoyed and understood. Some surveys are one-offs, giving a limited snap-shot view at any one time. Others are ongoing and regular, building up a seasonal picture of woodland species over long time periods.

The most valuable, scientifically, will be those compiled or supervised by experts in their field. For instance, to carry out dormouse surveys, where handling the creatures may be required, a surveyor must be licensed. To quote the UK government: 'Dormice are protected under the Wildlife and Countryside Act (1981 as amended) and the Conservation of Habitats & Species Regulations 2010. Dormouse survey work involving the disturbance and handling of dormice in nest boxes or nest tubes requires a licence from Natural England or Natural Resources Wales.' Other fields are so tricky – such as bryophytes, i.e. mosses and liverworts (see very first edition of *Woodworking Crafts*) it's best to work with your county recorder.

Citizen science

Nevertheless there's plenty of room for casual observers too. Some of the most valuable species records of uncommon sightings have been 'stumbled' across by accident. If reported to your county biodiversity officer (usually stationed at or through your local Wildlife Trust) or via the 'I record' app, then they may get excited enough to send experts out to your site.

1. Spindle berries 2. Alder buckthorn flowers 3. Orange tip butterfly
4. Lakes and ponds – often the subject of woodland wildlife surveys

Species	Map Ref:	Place	Date
Amblystegium serpens var. serpens	TQ412217	East Sussex	23/02/2015
Pellia epiphylla	TQ412217	East Sussex	23/02/2015
Orthotrichum tenellum	TQ412217	East Sussex	23/02/2015
Chiloscyphus polyanthos	TQ412217	East Sussex	23/02/2015
Aulacomnium androgynum	TQ412217	East Sussex	23/02/2015
Metzgeria consanguinea	TQ412217	East Sussex	23/02/2015
Thuidium tamariscinum	TQ412217	East Sussex	23/02/2015

Above: An extract from a moss survey in 2015
Right: Bristle moss

In a nutshell

Lay people can look around, under and near hazel trees for nibbled and cracked shells. This is an easy and enjoyable way to help assess what kind of creatures are present. The teeth marks of a wood mouse or yellow-necked mouse are very different to the casual biting and cracking technique of a grey squirrel, or the shattering blows of nuthatches and woodpeckers. You don't need a licence to look at shells – just visit any open access woodland, woodland right of way or seek permission from a woodland owner. Really useful information is available online, for example try **https://hampshiredormousegroup.co.uk**

Things that don't move – much

Mature trees may appear to be almost a permanent fixture in our woodlands since most outlive the average human lifespan. When given surveys backed up by fixed-point photography and other evidence of individual trees, woodland managers can tell exactly which trees thrive over the long term. Naturalists can assess those trees that provide the best micro-habitats and tree pathologists can check the spread of possibly devastating tree diseases.

Biting insect on head of insect surveyor

Movement-triggered and infra-red detection cameras

Increasingly these are a wonderful bit of kit to help capture evidence of larger wildlife in woodlands. They can save hours of uncomfortable stalking on dark, damp nights – and conclusively end speculation about just what is snuffling around your local wood.

As the title of this article is: *What have woodland wildlife surveys done for us?* I'd better answer the question.

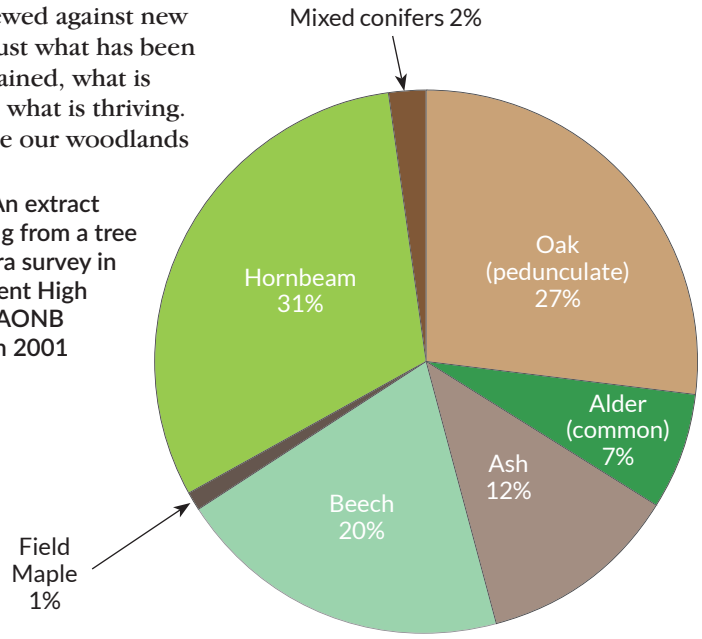
They have shown us just what woodlands contained years ago – thanks to the diligence of great dedicated and amateur naturalists. From old records, viewed against new records, we can see just what has been lost, what has been gained, what is now endangered and what is thriving. You can't know where our woodlands are going without understanding where they've been. Woodland wildlife surveys are the key to a deeper understanding of our most precious natural assets. Get involved and get in touch with the Woodland Trust or your local Wildlife Trust.

By the way, the answer to the first question is that all these entities have been the subject of numerous wildlife surveys undertaken in woodlands for which I've written management plans. ■

Even little people can get involved here

Some wildlife surveys with experts can be great fun

Right: An extract resulting from a tree and flora survey in an ancient High Weald AONB wood in 2001



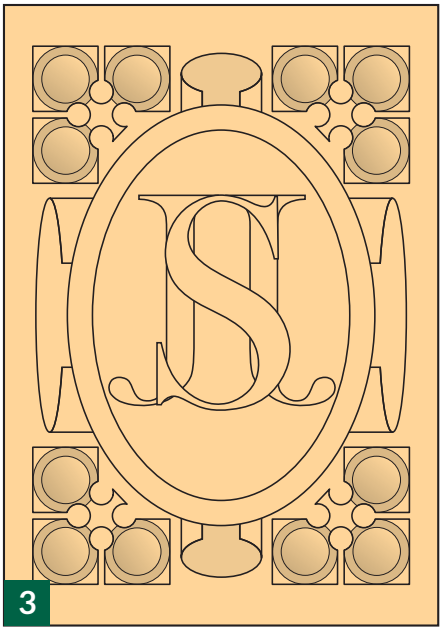
A motif plaque

The House of Samworth now immortalised in a distinctive way by woodcarver **John Samworth**

PHOTOGRAPHS BY JOHN SAMWORTH

1

2



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1 Inspiration may be found when and where you least expect it, so grab it and record it whenever you can. Your camera phone is ideal for this. Recently, on a walk through Falmouth, I noticed a badly weathered stone carving over the entrance to King Charles the Martyr Church. There is a more modern replica carved on to the granite keystone over the back door. What appealed to me is the manner in which the letters entwine, binding themselves together, there to stay for eternity.

2 The initials of family members form the basis of my family's motif. By typing the letters into a computer programme, it is simple to test a number of designs quickly. To keep the symmetry of the motif, consider reversing a letter as I have done here. The effect here is to join the two Js together with one S. You could keep your motif as simple as this or embellish it with other elements.

3 For my final design, I have framed the initials within an oval border. The space I intend to fill is rectangular, which leaves some awkward triangular corner spaces to fill. These may be filled with any design that you may have some association with or simply design which you like. I have chosen

the traditional designs of the dogtooth and scrolls, because they add an air of age, an illusion of heritage to the whole design. The actual design is to be carved in relief into 20mm-thick lime wood of a full A4 paper size.

4 First, you should copy the design on to your wood. I prefer the technique of tracing or drawing designs on to the wood, because it begins the hand-eye learning process of the shapes, which helps in the understanding of the shapes within the design. Mark all around the sides of the wood for the depth of the carving. I would suggest an even depth of between 10mm and 15mm.

5 Start by taking out the wood from the centre of the dogtooth design. Make these circular holes using a 10mm No.8 gouge. Small plugs of wood can be quickly extracted leaving four tidy holes. The wood inside the hole is fractured by the cut, leaving the central cross design strong and intact. Repeat on all corners.

6 Using a parting tool, trace out the intricate sections of the design to prevent damage to the wood fibres in places that will later hold crisp, square edges. I have marked with an arrow the actual cut direction of the nearest incision, to work with the grain keeping the central oval crisp. Make the first cut in the waste wood. Swap hands and cut backwards on the far side, in the opposite direction as shown here. Remove the rest of the waste wood using a small flute or a veiner, down to the level of the central holes.

7 Remove the waste wood from the corners using a skew chisel. If the apex of the dogtooth design is in the way it may be lowered, but keep the green centre as the high point.

8 First with a flute gouge then with a broad flat gouge, square off and tidy up the edges of the design. Continue to reduce the height of the background around the entire plaque.

9 Tip: When clearing out the small channels between the dogtooth leaflets, it's better to carve into the centre of the design. If you carve away from the centre there is a tendency for the back of your gouge to run across the design, leaving an indent in the area we want to leave crisp and square.


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10 To start the boss leaflet, find the grain. Here it is running left to right across the picture. Lower the level of the unmarked wood. Reverse the cut direction when cutting close to the outside edge. Make your initial cut with a veiner to prevent the wood from crumbling. Deepen and widen the circle around the centre.

11 I require the central boss to be the high point, about 1mm higher than the corners. I have shaved 2mm off the corners and started to insert a dip between the corners. ➤


10

Here I have re-marked the corner tips with green and highlighted with blue the second side where to insert a dip.

12 The central boss requires rounding. Using a No.8 gouge, start to shave wood from the top, working all the time with the grain. To complete the edges, continue the shaving and as the gouge approaches the edge increase the angle sharply, so that eventually you are cutting down vertically.

13 Your cut boss should look like the picture here. You can see how fine the shavings are, the underlying shape you are aiming for and the original high point still marked green. Shave this off too.

14 Tidy away the waste with a flute, ensure the central ring is low to catch a deep shadow, round off the corners of the leaflet and apply a small rounded chamfer to the edges (optional). Repeat the process on all the leaflets – there are 12 of these to cut, I got better at them as I practised. I would advise anyone cutting these for the first time not to proceed in order around the piece but to randomly cut them around the piece.

15 Take the background back to its final depth and smooth off the surface. To avoid stab marks appearing in the smooth surface, use a parting chisel to clean the shavings out of the angle.

16 Using a straight skew chisel, tidy the end of the scroll. This is a sideways, slicing cut with the grain. Stop at the top of the curve, swap hands and work in from the other direction. Ultimately, I want the lettering and the oval in the centre to be the highest points. Reduce the scroll's height by 2mm.

17 Invert a straight, small sweep gouge and round off the straight sides about a third of the way down from the top. This is because the bottom of the scroll will curve up to meet it, but this curve starts in the centre of the scroll. Use a flute to remove the wood from inside the scroll's corners. Do not cut back right to the edge – use the wood left above the depth line to make the curves flow as if one continual piece of paper.


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18 Use a straight-edge chisel to tidy up the scroll's edge. Using one clean sweeping cut, holding the chisel horizontally with the blade vertical, begin cutting left to right, slowly turning the chisel until you reach the position shown here. The chisel is vertical but leant backwards at about 45°, cutting downwards. Continue to turn the chisel, swap hands and begin to cut right to left until the chisel is horizontal in length and the blade is vertical, opposite to the start position. Stop at the centre and repeat the cut on the other side.


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19 You are aiming for this shape. The edges currently appear too thick, but the extra wood will be removed by the undercutting in the final stage.

20 With a flute, begin the process of removing the waste wood from the centre of the design, leaving the letters as raised wood. Note the stop cuts used to prevent the flute from slipping and the wood from splitting into the letter design. It is at this point the design's visual impact jumps out from the wood.

21 Using the straight skew straighten off the straight edges. Note that I still avoid the stab cut in favour of the sideways slicing cut. For me this leaves a clean finish.

22 Use a shallower sweep gouge, here a No.6 sweep with bullnose, to form the inside curves of the letters. Remember, on inside curves use a gouge with a greater sweep than the curve and on an outside curve use a gouge with a shallower sweep than the curve. A slicing cut is used to leave a cleaner finish than a stab. The bullnose is essential here – if the gouge was square, then the corners would be digging into the wood and the centre of the blade would not clean out the waste.

23 Cut out from the corners to prevent wood splitting along the grain. Once a small incision is made the edges can be safely tidied up. Continue all around the letters, lowering the visible parts of the back letters (the two Js) by 4-5mm.

24 Finish off the scrolls by undercutting the top fold of paper with a veiner. Start about 1mm in from the edge. This creates the illusion of a thickness to the paper fold. Finish off the scrollwork by undercutting the outside edges and shaving off the construction lines. Because I want this piece to have an appearance of age about it, it is important to leave the tool marks to show. These will catch and reflect the light, enhancing the design.

25 I have finished the piece in simple beeswax and hung it on the wall, just above head height. By applying wax, the polishing naturally brings out the high points, which play to the light and contrasts with the shadows. ■


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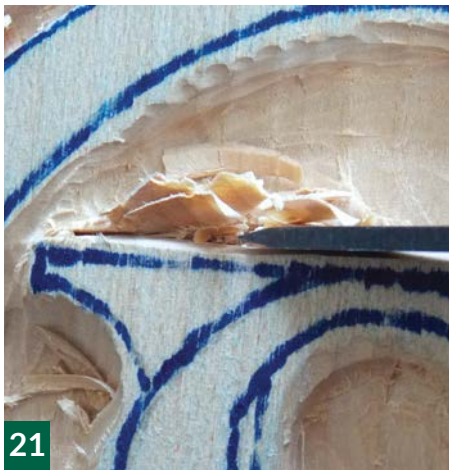
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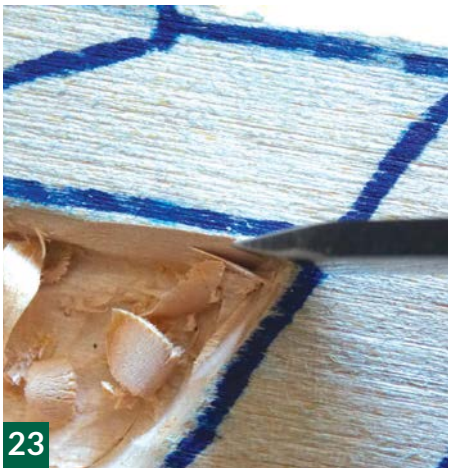
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PHOTOGRAPHS BY GMC/ANTHONY BAILEY UNLESS OTHERWISE STATED

Edge tool sharpening Part I

Every woodworker is keen to get sharp edges on hand tools. In the first of a two-part article the **Editor** discusses what 'sharp' really means

Sharpening is a topic that comes around with regularity. It seems to be the one thing that even quite well-versed woodworkers fall down on, judging by some of the comments I get. One discussion that comes to mind was someone who claimed to get a very sharp edge on a plane or chisel, but it took them half an hour. To my mind five minutes is quite long enough, the process gets boring and repetitive after that. So what is the secret? There is no secret. Find a method that works for you and stick to it. Spend money on decent sharpening kit to save effort and metal. Are your tools made of decent quality steel and are you asking them to do the wrong thing?

Why do we sharpen tools?

For edge tools to cut, two surfaces of a piece of the right type of steel (or tungsten carbide) need to meet completely at the atomic level, which we are not able to observe unless, of course, we had use of an electron microscope. Just as wood is sanded smooth by using coarse abrasive paper through to finer grades, which is 'roughing up' wood if you think about it, we use the same principle to sharpen metal. There are many cutting tools not just for wood but also for

The last section of the cutting edge has to be really sharp to cut

stone, acrylics, diamonds and metal itself. Each industry has its own tools and cutting and sharpening methods, but one thing is for sure – the material being cut always wins. What we have to do is find ways of overcoming it as best we might.

Material issues

Soft steel or harsh materials won't help your cause at all. You can buy a set of very cheap chisels at a discount supermarket and with a bit of treatment they will serve you well. On the other hand, you can also buy a handplane in a DIY store with a blade so soft it won't keep an edge at all, even though it seems like a reputable make. Unfortunately, in the age of global manufacturing it's hard to tell what is good until you work with it, unless you spend quite a bit of money on a 'posh' brand. All is not lost – if it's cheap it's no big loss and a handplane can be upgraded to a decent blade and work a lot better.

The wood you are trying to cut and shape can be a problem too. Reclaimed wood can be covered in dirt, paint or varnish so planing in particular will blunt a blade quickly. Some hardwoods may contain silica deposits which, being a sort of stony material, will have a similar effect. Even pine softwood with hard knots can blunt a blade or shock it out of position in a plane. Other tools fare better as they only work on a small area, such as chopping out a mortise or drilling a hole. Striking a nail or screw in woodwork with a chisel entails a regrind on account of the amount of metal to be removed to avoid a persistent 'tramline' in your work.

The lower chisel is a cheap alternative but still decent quality steel

Right: Definitely not suitable for planing. Paint and nails are a nightmare

STAGES OF SHARPENING

Grinding

A new tool blade is supplied in a ground state as a minimum. This means it is at the approximate angle and shape correct for cutting into wood, but it is coarse and unrefined. It may have scratch lines from abrasive grinding and it may also have a hook burr on the edge which will prevent it cutting and if it breaks off will leave a minutely ragged edge. Woodturners normally stop at grinding because the fast turning work removes the burr and there is an element of edge polishing in the cutting action.

Note the manufacturer's grinding marks compared to the honed edge

Even after honing a fine-edge burr exists which can be stropped away

Honing

Honing is the refinement of an edge to where it is essentially fit enough to cut with. This could be a ground edge or one that has simply got slightly blunted through use and needs refreshing to make it truly sharp. Whereas a dry or wet grinder may have a coarse grinding wheel, honing demands a finer abrasive surface. It will still leave scratches on the metal but finer in size, so the meeting surfaces of a blade are much sharper at the very edge. A thin, curled-over burr may remain but this is dealt with during the last stage.

Stropping

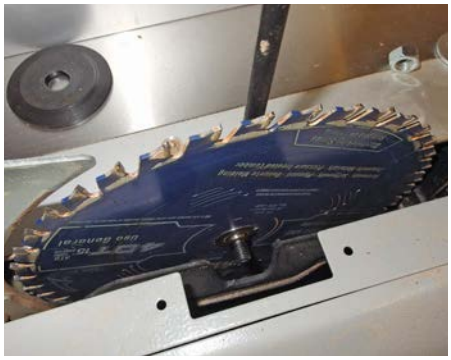
A strop is a suitable material such as leather bonded to a piece of wood. A metal polishing paste is applied and both sides of the blade drawn across it in turn so the paste and the pressure take off the remaining burr and polish the blade. This last procedure makes all the difference between sharp and lethal. Its value in preparing an edge tool should not be underestimated and woodcarvers in particular are obsessive about stropping and polishing blades so their tools will cut smoothly and easily. ➤

A very finely stropped and polished carving gouge tip

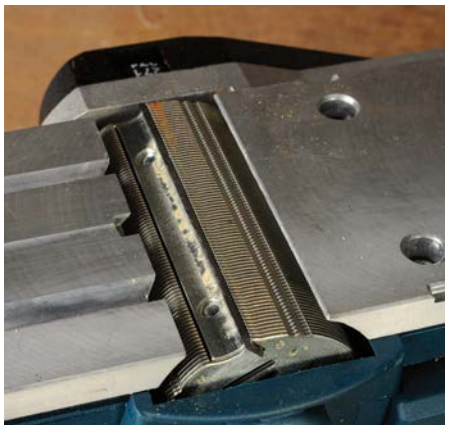
APPLIED USES OF SHARPENING

Power woodworking

Typical items are jigsaw blades, circular saw blades, planer blades and router cutters. These are essentially disposable items, very few of them are intended for resharpening, the exception being saw, spindle and planer blades on static workshop machinery. Hand-held power tools' blades are normally disposed of when damaged or blunt. Incidentally there are now far fewer saw doctors you can call on to regrind edge tools, although you can still find some in a web search.



It can still be worth having static machine blades resharpened



Portable planer blades are reversible and disposed of after use

Hand woodworking

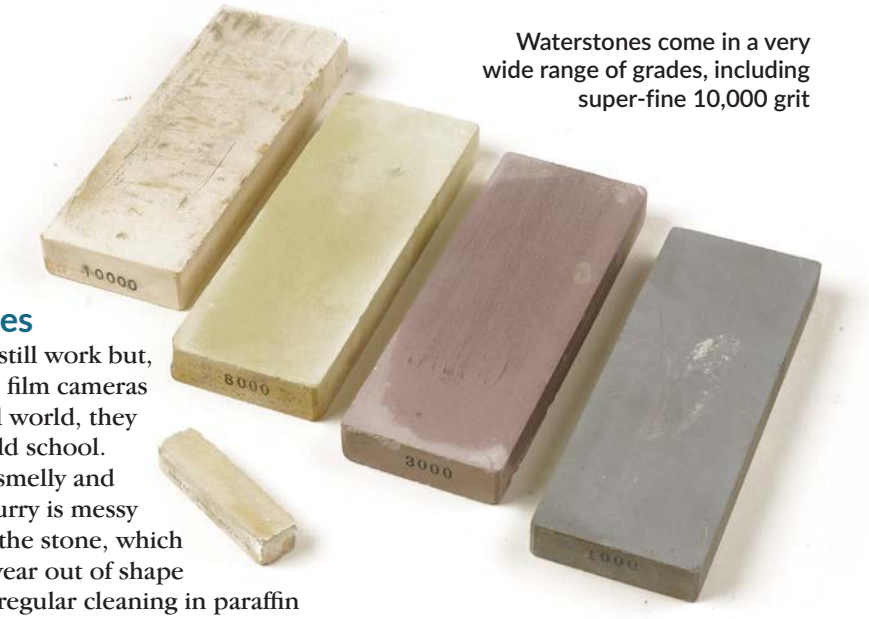
This covers carpentry, joinery and cabinetwork, carving and I would include woodturning too, because although the wood turns under power, it is the hand and eye skill of a woodturner using hand tools that make turning possible. Typical hand tools are planes, chisels, spokeshaves, saws and drill bits. Each requires a different method, although the first three are similar in technique.

A really sharp cutting edge can produce fine, even shavings

A special saw file, correctly used, can recondition a blunt handsaw

SHARPENING MEDIUMS

There are various types of sharpening mediums – oilstones, water stones, ceramic plates and diamond plates. These all come in a variety of grit or 'mesh' grades, from coarse to ultra-fine. The type, the grade and the price can make this all very confusing. The stone or plate needs to be large enough to accommodate any blade you might use, so a small stone for a plane blade, as an example, won't be enough.



Waterstones come in a very wide range of grades, including super-fine 10,000 grit

Although still available, oilstones have been largely replaced by better alternatives

Oilstones

Oilstones still work but, rather like film cameras in a digital world, they are a bit old school. The oil is smelly and the oily slurry is messy and clogs the stone, which will also wear out of shape and need regular cleaning in paraffin or something similar. They can work well, but their reputation is rather dented by 'that one in grandad's toolbox' image of a grubby old oilstone.

Waterstones

Man-made waterstones are much loved by the cognoscenti of cabinetmaking, who appreciate the fine edge that can be achieved by using them. It is something of a way of life using them – the stones need to be kept wet, it is a bit messy and the stones do wear out of shape and thus require a very coarse dressing stone to level the stones again. There is an assumption that the blades being sharpened aren't in too bad a shape but, as we know, a typical well-used plane or chisel can have quite a badly damaged blade, so you would need to do a regrind first.

Natural stones

Natural waterstones are a bit rare now and expensive and don't come in very coarse grades. They are very hard so consequently do not need flatting, unlike the manufactured type. Arkansas is best known and comes in three grades, the very hard black grade being most costly. Unless you have a particular requirement, these are probably not for you.

Natural stones are dense, hard and do not need flatting

Ceramic plates

Ceramic plates are usually a white, dense material bonded to a glass backing plate. They are used with water and deliver a very smooth edge but they do cost and are vulnerable to chipping or dig-ins by blades. They are good to use after a first treatment on another type of stone as you can get a polished edge.

Diamond plates

Diamond plates have become hugely popular and with good reason. They are flat and stay flat, they can be used with water but lapping fluid is much preferable as it avoids any chance of rust deposits on the plate. Crucially, it is the diamond plate's ability to take a blade in poor condition and make it good again without resorting to a grinder first. Avoid the cheap ones and buy a good quality combination grade plate. At first they are quite harsh to use but the particles become more even and a plate can last a long time.

Ceramic plates give a very smooth finish to a cutting edge

Diamond plates give a very quick result even with damaged cutting edges

Overheated steel can happen all too quickly – regular water quenching can help avoid this,

Dry grinder

A dry grinder is a quick way to get the initial sharpening angle on a blade and also the fast way to overheat steel causing it to 'lose its temper' meaning its metallurgical state changes so it is no longer suitable as a cutting edge and will need re-tempering by careful heat treatment. Different grit abrasive wheels can be fitted, which will need reshaping eventually using a 'devil stone'. Accessory jigs are available for things such as resharpening drill bits or woodturning gouges.

Wet grinder

A wet grinder is expensive but used with various optional jigs it can sharpen edges on most tools and, crucially, without any risk of overheating. Different abrasive wheels are available and despite the apparently slow speed at which they turn can deliver a good cutting edge quite quickly. A special device can be used to redress the wheel when it wears. One wheel is usually teamed with a second leather-covered honing wheel for polishing the sharpened edge to improve it further. Note the confusing use of the word 'honing' where a static polishing aid is called a 'strop'.

In part two we'll be doing some sharpening and some woodwork with sharpened tools. ■

The Tormek sharpening system can deal with almost any kind of cutting edge

PHOTOGRAPH COURTESY OF AXMINSTER POWERTOOLS

KITTED OUT

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

Sealey 8 drawer machinist toolbox

Sealey's 8 Drawer Machinist Toolbox has two large, and six medium drawers. Two of which are supplied with dividers and are all secured behind a lockable front panel. The pull style knobs and easy slide drawers enable quick and smooth access. The hinged top lid reveals a large storage area and is lined with a green felt interior to help protect your tools. The lockable lid features three catches that add extra strength when the toolbox is picked up by the handle. This sleek, practical toolbox is available in a walnut finish and is supplied with two keys per lock.

For further details or to view Sealey's range visit www.sealey.co.uk or alternatively call their customer service department on 01284 757500.

Special promotion price starting in May - RRP £143.93 or check online www.sealey.co.uk

MINI TEST

Kutzall rasps

Kutzall makes hand rasps with tungsten carbide abrasive coatings in three shapes: warding, half round or flat profiles with a rubber-type handle. Each shape is available in original or grit in coarse or fine grades. Original coating comprises uniform conical teeth and Kutzall say; 'They are very free-cutting and remove most materials easily, even soft or deformable stuff. Best on wood, rubber and other elastomers, polymer foam, fibreglass, etc.' Grit comprises hard, randomly configured, sharp-edged carbide grit particles. Kutzall comment; 'They are rugged and super wear-resistant. Best on materials like foundry sand, soft stone, high-fibre-density composites, etc.'

In use

Unlike many rasps, the handle comprises a moulded rubber-like grip which was easy to hold, and there was no hand slip in use. I found I was more in touch with how the file was working than some rasps I have used which have a bulky handle in which the rasp sits. The profiles available mean you have a choice as to what shape/profile is most suitable for the job being undertaken and also what coating you use – dependent on what material is being cut.

The Original and Grit coated rasps cut well and with very little effort, I must admit that despite their appearances, the fine grades leave a nice surface with micro striations which can be removed with abrasives. In my opinion, when comparing the cuts of the fine grades of Original and Grit coated rasps on various timbers, the fine grade Original coating leaves a slightly finer surface than the fine Grit coating, but not by much.

Both types of coating are easy to use and cut on both the push and pull stroke to great effect. The coarse coating in both styles really hog away timber and were unperturbed whether they were used on soft or dense resinous timbers. Any slight clogging I encountered was easily wire brushed out. Both types also worked well on some cast resins and polymers too and horn.

Conclusion

These files are well balanced in the hand are easy to use, and do the job of shaping work very well indeed. Don't be fooled by appearances. What looks like a potentially rough coating on the fine grades can be used to create a surprisingly clean surface. These rasps work well and are worth trying out for yourself.

Prices from $25 – $40
Contact: Kutzall
Web: https://kutzall.com
UK Enquiries contact: Tomaco
Web: www.tomaco.co.uk

The new Bosch GDR 18 V-160 Professional impact driver

It is powerful, fast and easy to use with high torque, speed and impact rate.

It is compact, lightweight, ergonomically shaped, robust and easily serviced and has a versatile application range. Part of the Bosch Flexible Power System, the GDR 18 V-160 is fully compatible with the Bosch range of 18 V power tools, chargers and batteries.

It has 160 Nm maximum torque, with variable speed control up to 2,800 rpm and an impact rate of 3,200 bpm. The result is fast and easy work progress, even in heavy applications. Weighing just 1.37 kg, with a 2.0 Ah battery, and a head length of 150 mm, the impact driver can be used with little effort. Its compact size is ideal for operation in tight spaces and working overhead. The ergonomic design features a slim handle with soft grip covering, adding further comfort and control. A handy belt clip, a screwdriver bit and an LED light for better vision in dark workplaces are included.

It is aimed at trade sectors like carpentry, building and electrical, as well as heating, ventilation and air conditioning (HVAC). Specific applications range from wood screwing and drilling to installing and maintaining HVAC systems, assembling wheels, constructing metal and erecting high racking.

Bosch GDR 18 V-160 Professional Impact Driver
In L-BOXX carrying case, without batteries RRP £147.71
Same kit plus two 2.0 Ah batteries and charger RRP £263.99
www.bosch-professional.com/gb/en

MINI TEST

UJK Technology 3-In-1 trammel set

There are some things you don't need very often but when you do…This is one of those items that previously I got away with by cutting a pencil notch in a long stick with a nail for a point at the other. Well, for limited cost you can use a versatile trammel that is infinitely adjustable without fuss. It comes in distinctive UJK metallic anodised orange with a firmly stuck-on scale which is metric only, not as described on the Axminster website. There are two good quality machined trammel heads and interchangeable divider points, a pencil and a cutting blade in the kit. You can buy an additional bar and joining piece and a set of cutting blades when the original gets blunt.

Verdict

This is a cheap, accurate way to create arcs and circles. Just make sure both heads are tightened before use. I don't think anyone will use the very smallest diameters with a long bar hanging on the outer end but for larger circles it is perfect. The cutting blade really does cut surprisingly well in paper and card, a craftworker may have a problem resharpening the blade but it should be easy enough for a woodworker to keen the edge. Keep it safe in the box and bring it out when the need occurs.

UJK Technology
3-In-1 Trammel Set £28.32
Trammel Set Extension Bar £18.05
6 x Cutter Blades £31.84
www.axminster.co.uk

Snickers ALLROUND toolvest

This tool vest is the ultimate in tool-carrying technology and for getting instant access to your essentials.

Versatile and adjustable, the ergonomic design features a wide range of hard-wearing pockets for a variety of tools fixings and accessories. It's lightweight, hard-wearing, comfortable and easy to keep clean. The ergonomic comfort also looks after your back by providing for comfortable heavy tool carrying through the specially designed wide shoulders, elasticated back and an integral waist belt to take pressure off your shoulders.

It comes with Cordura® 500 reinforced front holster pockets for enhanced durability and easy-access angled rear holster pockets. There's also Cordura® reinforced breast pockets plus a knife fastener, an easy-access padded mobile phone compartment and detachable ID badge. What's more, the integrated internal expander means the tool vest can be easily expanded and worn over a jacket in colder weather.

4250 Toolvest RRP £82.93
www.snickersworkwear.co.uk

PHOTOGRAPHS BY LOUISE BIGGS

Jacobean-style table restoration

Louise Biggs gives this 'old-school' Jacobite pretender a good sorting out...

The table came in from a local school and was rumoured to have been made from the elm tree mentioned in the school song and cut down in the early years of the school. Having originally viewed the table in very bad light conditions, I waited until it arrived in the workshop to give a firm timber identification. Unfortunately, I had to dispel the rumours as the table was made of oak.

The table as it arrived

Assessment

- The joints of the frame were loose.
- One stretcher rail had a previous repair which was two sections of timber laminated together.
- A long split along one edge of the table top.
- Legs, rails and tops had extensive splits and radial cracks in the timber.
- Moulding around the bottom of the rails had several lengths where the ends were broken off.
- The top had suffered most of all, being covered in some sort of red dye/paint and glue, defaced with marker pen and correction fluid as well as ring marks and ink stains. Overall it looked rather colourless compared to the frame.

Previous laminated repair to the stretcher rail

Damaged corner to the moulding edge

Red dye/paint top right end and glue showing white on the other end, plus other stains

Tool list

- Screwdrivers
- Drill and drill bits
- Rubber mallet and hammers
- Chisels – various sizes
- Sash and G-cramps
- Tenon and dovetail saws
- Block plane
- Wooden moulding planes
- Rebate plane
- Flush-cut saw

For the turning

- Lathe
- Ring centres
- Spindle roughing gouge
- Beading/parting tool
- Vernier gauge
- Personal protection equipment
- Full-face visor for turning
- Dust eye and ear protection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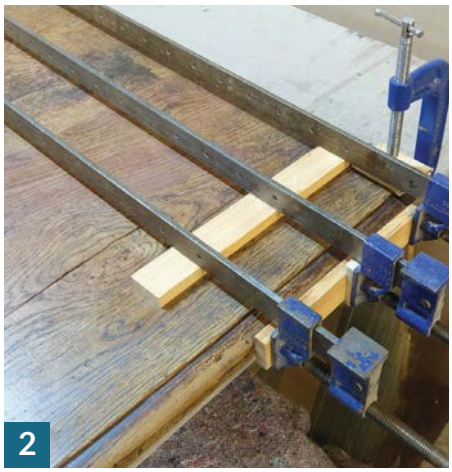
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Certain aspects of the work have been shown in previous articles so I will only cover these briefly in order to show the stages of the other work.

Restoring the table top

1 Turned on to a thick blanket the top was removed. Held with large expansion buttons the top had been able to move without fear of splitting badly. What splits are on the top I would class more as 'radial shakes' than splits due to movement. The expansion buttons were unscrewed at the same time the moulded edges were removed, and all were numbered in order to be relocated. The discarded chewing gum was also removed.

2 The split along the edge of the top was carefully prised open so old wax and rubbish could be cleaned off the surfaces. The joint was glued then clamped in both directions. Waxed blocks with newspaper clamped the surfaces level before fully tightened sash cramps were placed across the top. Tightening the cramps fully at the same time allows the joint to be closed up fully in both directions.

3 Next stage was the top surface as it would take time to dry. Carefully, with cotton buds, the marker pens and correction fluid were cleaned off. I kept working over the areas with the smallest amount of methylated spirits until they were removed. The cotton buds were replaced when dirty or reloaded with methylated spirits once they had dried out, too much spirit around the area will only disturb the finish on the top more than is necessary.

4 The red dye/paint and glue were tested with warm/hot water to see if they were water based. With no results white spirit and methylated spirit were tried – again nothing was achieved. Running out of options I tried the light wood Bald's Balm (further details can be found in my article in issue 02). Working the balm into the surface with a lint-free cloth the red dye started to move, the more stubborn areas were worked with 0000 wire wool and gradually the red dye lifted. Excess balm was removed with clean cloths. ➤

5 Gently scraping the glue appeared to be the only option. A small flat blade, similar to a razor blade, was worked over the areas of glue in a puddle of balm – hopefully, while scraping, the balm would work into and/or under the glue to prevent the surface being damaged too much. The Bald's Balm restored some colour, eliminating a lot of marks and matching the frame. The ink stains would remain.

Table frame

6 With the centre of the pegs marked, a drill slightly smaller than the pegs was used to remove the bulk of the peg. With a matching-sized drill bit the remainder of the hole was cleaned out. The joint was slightly knocked apart then knocked back together to reveal any missed peg debris which was removed.

7 The repaired stretcher rail had a loose broken tenon cut on the end. A false tenon was cut into the rail then fitted to the mortise. With the frames knocked apart and the joints cleaned up the frame was re-glued in stages.

8 Short sections of old oak were prepared to just over the required diameter and long enough for three pegs, to prevent too much vibration and whipping when turning. Mounted between ring centres for greater support they were turned to round using a spindle roughing gouge. A Vernier gauge with its corners rounded off, to prevent it catching, was used in conjunction with a beading parting tool to cut three guide points to the required diameter.

9 Still using the spindle roughing gouge the remaining timber was

turned down to the three guide points. The sections needed to be the right diameter along the length and rubbing the bevel of the gouge and guiding my support hand along the toolrest helped to achieve a regular-sized section.

10 With the holes re-drilled to remove excess glue, the pegs were inserted and cut just above the surface using a flush-cut saw to mimic the old pegs, which very slightly protruded. A piece of thin card protected the surface of the leg while gauging the amount the peg protruded.


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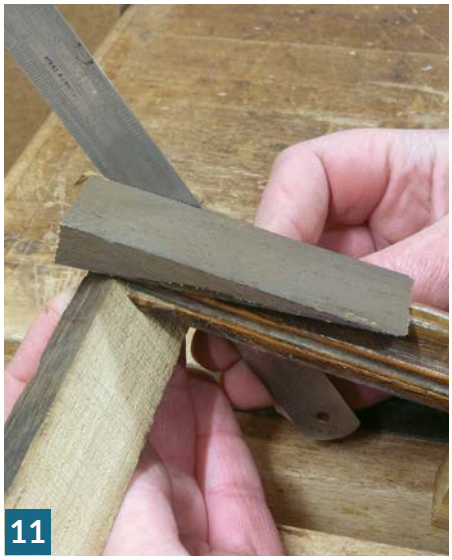
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Moulded edges

11 Each broken end of the moulded edges had a long angled joint cut using a dovetail saw to remove the damage. The joint surface was then planed with a block plane to ensure it was flat. Sections of old oak were cut to the right angle slightly larger than required and, after planing the joint surface in the same way, they were glued into position, making sure to allow for the mitre joint.

12 Using a combination of planes and chisels the new sections were shaped back to match the existing moulding, the coves were matched using a wooden moulding plane with a corresponding size blade. The beads were shaped in using a block plane and chisels. Where one of the repairs covered a rebate the new rebate was formed with a rebate plane.


12


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13 With the repairs shaped to match, the mouldings were dry-fitted to the table frame in order to mark and cut the mitre joints and to make sure everything matched up. Any final adjustments to the shape of the repairs were carried out in situ. Before being finally fitted the pieces were stained to match.

14 Finally, the top was re-fitted to the frame. Having centred the frame on the top, some of the expansion buttons were repositioned down one long edge as they were only just catching and they needed a firmer hold within the rebate on the rails. The existing repair to the stretcher rail was stained and polished to match along with the other repairs and the table was given a good coat of tinted wax. ■


14

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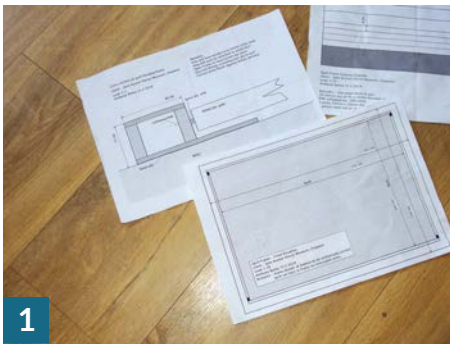
JANE AUSTEN IMAGE COURTESY OF WIKIPEDIA COMMONS

Jane Austen's House Museum, Chawton, Hampshire

Quilt frame

A global community quilt to commemorate 200 years since the death of writer and novelist Jane Austen in need of being framed...

My daughter, Lucy, is the grandly titled 'heritage activities project manager' at the Jane Austen's House Museum, in Chawton, Hampshire and a key part of her remit for the past year has been to lead a project to create a global community quilt to commemorate the death of the writer 200 years ago. This has turned into a vast undertaking involving Brighton-based quilt designer Elizabeth Betts and a team of enthusiastic volunteers. Once an overall scheme was evolved, special packs of materials and instructions were sent to Jane Austen fans around the world – some experienced quilters, others complete beginners. Everyone from the thriving Jane Austen Society of Pakistan and likewise in North America, to local Hampshire quilting groups, to the Fine Cell prisoner rehabilitation scheme. All their heartfelt labours have produced not just one large quilt which needed a display frame, but enough quilted squares to form a bed quilt in the house itself. So I could hardly refuse a request to make the frame for the large quilt. ➤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Making the frame

1 It was agreed that the quilt needed a substantial frame to set it off against the rather predictable magnolia wall of the learning centre at the museum. Once the size of the quilt with its border added was known, I could go ahead and draw up the design. From that I was able to create a boardcutting list for the 6mm FE ply, which was cut on the wallsaw at my local timberyard.

2 The frame had to be transportable and inter-connect at the corners. The front and back were ply but the side would be 75 x 12mm PAR softwood, deeper than shown on the original drawing due to the diameter of the quilt hanging pole. The softwood was cut to matching lengths and had to be extended by splicing for the longitudinal sections as I used 2.4m pre-packed wood.

3 All the components formed hollow box sections, light to build, transport and fix to the wall but looking very solid. The extended lip profile would go behind the quilt in case any of the wall might be visible. Even though the design was agreed, there were still unknowns dealing with soft, flexible quilt material. Copper glazing pins were used to locate the components together during glue-up.

4 The construction and installation was done in the spring, hence the snowy image of the museum. I used aliphatic resin glue, which was kept warm indoors over the fireplace before use. The inside face of the frame needed to be the correct distance from the edge to be perpendicular before being clamped firmly and the surplus adhesive scraped off.

5 Although not complete, the frame was laid out on the front room floor – it was a tight fit even pushing furniture back. I needed to check all corner connections met properly and work out the clip-together joint method required.

6 This was how the joint started out, creating an illusion of a solid frame. Now it would need some sort of plug joint to hold it all together firmly and neatly without it falling apart during installation.

7 This was it, short solid sections of oak glued in position so the outer face of the frame would sit flush on the outside. I held a softwood offcut in place to get the right positioning of the oak plug before clamping firmly.

8 Once all the plugs were set in place and the glue cleaned off, all the ply edges were given a quick clean up and chamfer using a block plane, no square or rough edges wanted.

9 All the copper pins, which were used to avoid rusting, were punched in and the head recesses filled using standard fine filler. Any other defects were also filled and the entire frame sanded using an orbital sander, the square edge being able to run along the inside of the frame components.

10 There was a discussion about colour. A grey was thought best as it would set off the quilt colours nicely and form a break with the wall colour. It also found favour with Lucy, which obviously mattered. This one is a special oil-based Ronseal paint for revitalising woodwork and promised to be hardwearing.

11 One of the top plug-together joints, the plugs being in the vertical components and then fitted into the longitudinal ones. The bottom rail was 100mm wide to look visually 'correct' in relation to all the other 80mm-wide components. This is usual with any kind of frame because it looks right from the viewer's position.

Installation

12 Finally, after driving into a snowy Hampshire and meeting the quilt-hanging team over a restorative mug of tea, I could screw the frame together through the top and bottom where it wouldn't be visible. After setting its height on the wall using clamped-on 'legs' of softwood and a spirit level, I fixed it to the wall.

13 It was determined that the quilt would cover the frame, so I could safely drill and screw into the wall studding behind using washers to prevent the screws pulling through the ply. The stud positions were easy to find, the plaster had popped off where some galvanised nails were located. Some touching up of the frame was needed before the quilt was hung.

14 The quilt would hang from a 45mm-diameter wooden pole, which would slide through a fabric pocket on the top back edge of the quilt. The team were busily sewing this on while I had my second mug of tea – it was, after all, quite cold outside…

15 The pole had a mortise bolt fitted in each end. The key extended the bolt so it would locate in the quilt frame and hold the precious quilt safely. It would also allow the quilt to be removed at any time with a few turns of a key – a neat solution to hanging.

16 And finally, a much-relieved team with the quilt in place, just waiting for hook and loop tabs to hold the ends in place. From left to right: Pippa – volunteer, Liz – the quilt designer, Lucy and volunteer Sam. Everyone happy at last, and thankfully the museum curator was both pleasantly surprised and satisfied with the outcome. ■

If you are interested in the Community Quilt or visiting the museum see its website for more information: www.jane-austens-house-museum.org


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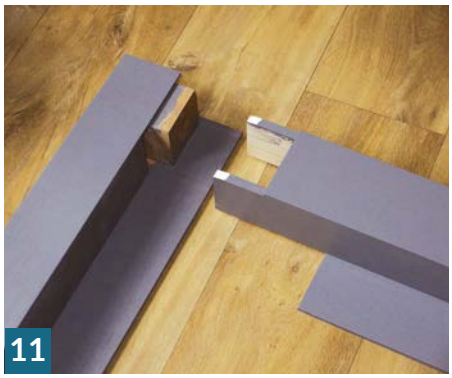
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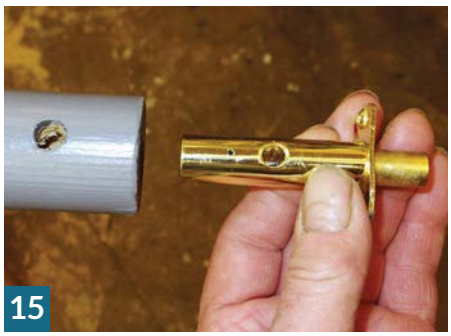
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Make a rocking giraffe

Ivor Carlyle gives a classic toy a jungle theme with this project

PHOTOGRAPHS BY IVOR CARLYLE

Rocking toys are always popular and never go out of fashion. There seems to be constant demand for them, and while awaiting another third-generation arrival, I decided to make a rocking giraffe. The eventual owner has South African connections and I like the animal's shape and character. I considered various materials but decided to use softwood as it is modest in cost and comes from renewable sources. It should be purchased carefully with large and closely grouped knots being avoided. It is possible, with careful selection and laying up with the template, to have an almost knot-free finish. The timber is a bit wild and tends to curve but, as it is also flexible, this can be rectified by laminating layers together. This also adds to its overall strength, stability and resistance to splitting. I used a No.9 reverse-cut blade on my scrollsaw (fretsaw) for cutting out the 20.5mm sections and a No.7 reverse-cut blade for the thinner material. It's a project that can be achieved with only a small number of tools. ➤

Cutting list

20.5mm softwood

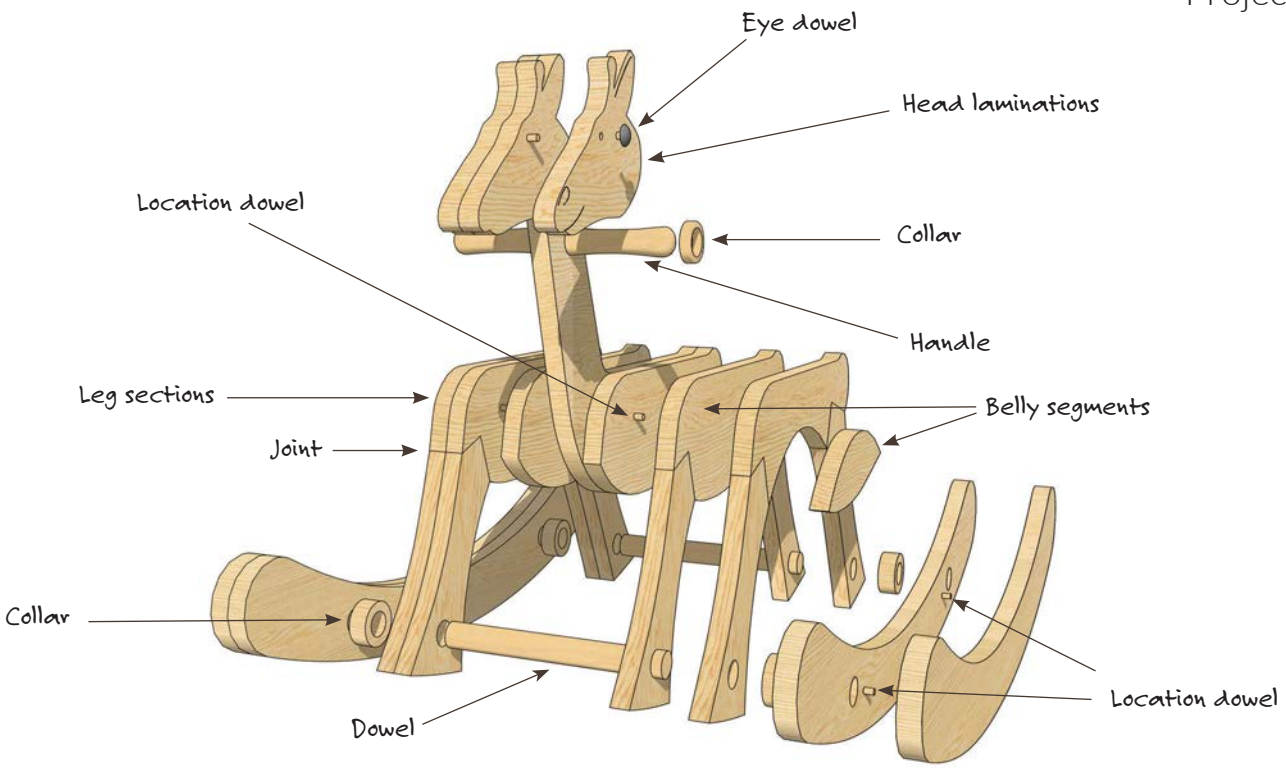
1 x head, neck and body section
450mm x 568mm
2 x head sides 140mm x 214mm
2 x outer leg/body sections
573mm x 322mm
2 x inner leg/body sections
573mm x 322mm
2 x body sections 360mm x 140mm
4 x rocker sections
802mm x 168mm
4 x rocker spacers 50mm diameter

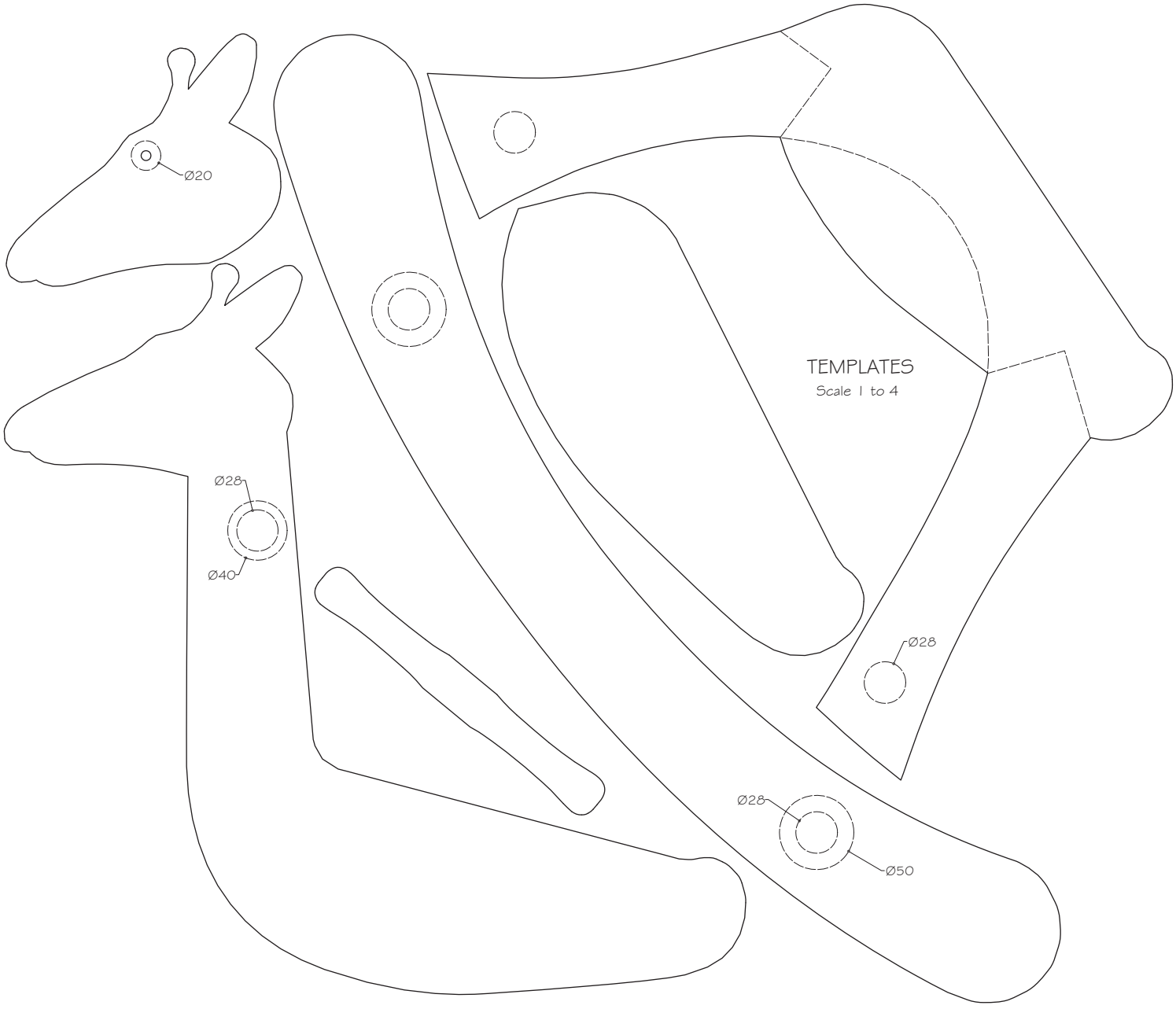
10mm hardwood (maple)

2 x handle collars
40mm diameter
28mm redwood dowel
2 x horizontal supports 222mm
1 x handle 240mm
6.5mm dowel
4 x 20mm rocker dowel
2 x 18mm eye dowel
7 x 25mm dowel

Miscellaneous

2 x 9mm (3/8in) spring caps
20 mm diameter
1 x foam rubber saddle interior
146mm x 236mm x 2mm
1 x fun fur saddle cover
146mm x 236mm
2 x velcro tape strips 25mm x 180mm
All gluing with PVA woodworking adhesive except where stated.


Eye dowel
Head laminations
Location dowel
Collar
Handle
Leg sections
Belly segments
Joint
Collar
Location dowel
Dowel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TEMPLATES
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1 Draw the giraffe with its rockers 'life-size' on to paper, then use spray-mount to stick it to card or thick cartridge paper and cut out. Use the template to mark up the head, neck and body. The grain should be vertical.

2 Cut out the head, neck and body.

3 Glue plank sections together for the inner body/legs. The grain should run vertically along the legs with the two pieces of wood meeting at an angle. A wedge-shaped piece will be needed to fill the gap in the centre.

4 Glue and clamp plank sections together for the outer body/leg sections.

5 Make cuts in the head sections with a No.7 reverse-cut blade for the mouth and the top and bottom of the ear.

6 To make the blind cuts for the nose and inside the ear, drill a 1.5mm hole at one end of each of the cut lines then insert the blade through the holes.

7 Cut out the handle collars. Mark up the handle collars on to 10mm hardwood and fret out the hole. Fret out the handle hole with a spiral cut blade. As the part cannot be rotated around the blade the spiral-cut blade can be moved around in the wood instead. It does produce a rougher cut but this hole will be hidden.

8 Use the template to mark up the leg/body sections. Use a spiral cut blade to fret the holes out in the legs of the inner and outer leg/body sections.

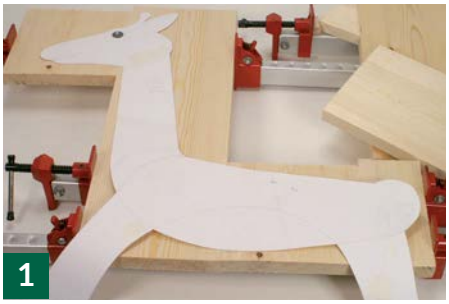
9 Remove the waste areas in sections from the leg/body sections.

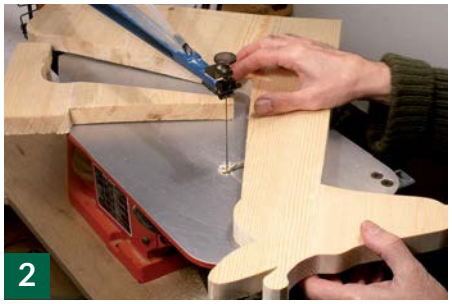
10 Cut out the belly sections from the outer leg/body sections.

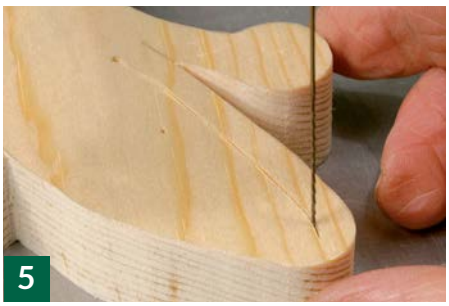
11 Fret out the holes in the legs with a spiral cut blade.

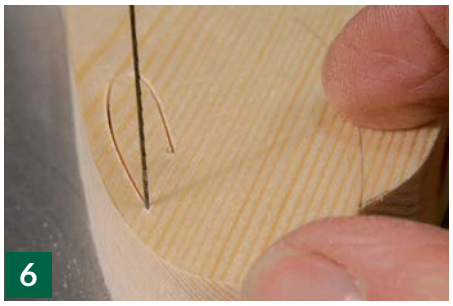
12 Next, mark up the rocker sections with the template.

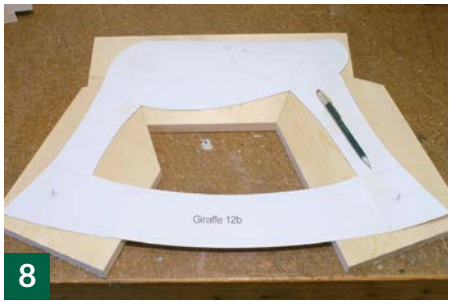
13 Drill holes on the inside of the rocker sections for the 6.5mm assembly dowel. Use plenty of clamps when gluing the rocker sections together.

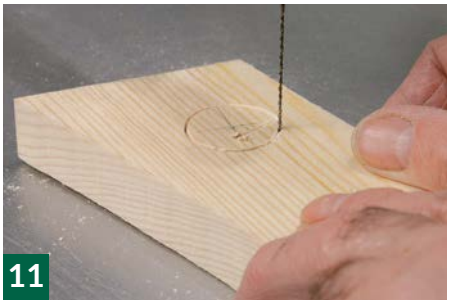


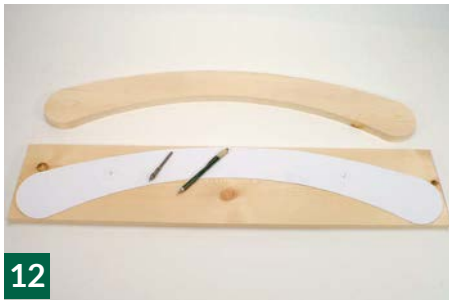












14 Fret out the rocker spacer centres before cutting out.

15 Using a piece of 28mm dowel to aid positioning, glue and clamp them over the holes in the rockers

16 Line the body sections up on the leg/body sections and drill a 6.5mm hole 25mm deep at each end. Use dowel to securely locate the inner leg/body and body sections.

17 Clamp the two assemblies together, back-to-back between flat boards.

18 Using pieces of 28mm dowel temporarily inserted into the holes in the legs to aid accurate alignment, glue and clamp the outer leg/body sections to the inner body/leg and body assemblies. Drill two 6.5mm holes through the head, neck and body section and into the body section to about 25mm depth.

19 Dismantle and spread glue on to the body section, insert 25mm long dowel into the holes to prevent the parts from slipping, and place the head, neck and body section back in place.

20 Glue and clamp the remaining leg and body assembly to the head, neck, body and leg assembly using 28mm dowel through the leg holes for alignment.

21 Glue and clamp the handle collars to each side of the neck using the 28mm dowel as a guide. Also, glue the head sides to each side of the head on the head, neck and body section. Use a piece of 6.5mm dowel through the eye hole for positioning.

22 With a plane, shape the belly sections cut out from the outer leg/body sections so that when fitted back into their original positions they provide a curve along the bottom edge of the giraffe.

23 Shape the concave surfaces with a curved Surform scraper. Use a rasp for further refinement if necessary.

24 Carefully smooth the underside with a Surform plane. ➤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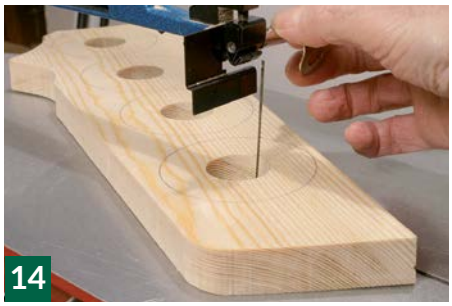
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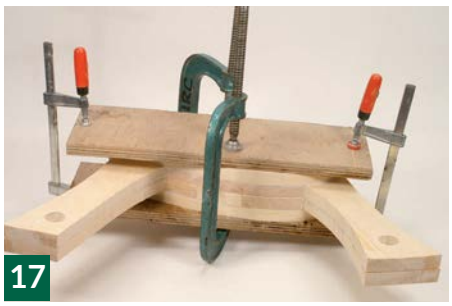
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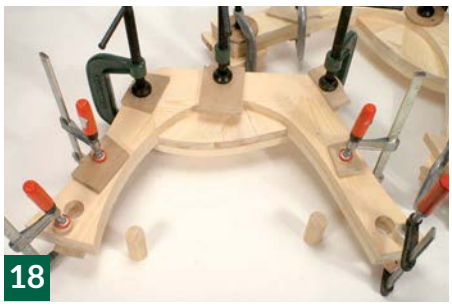
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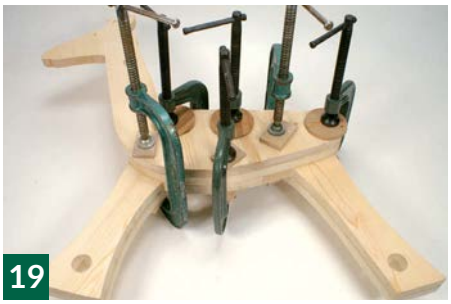
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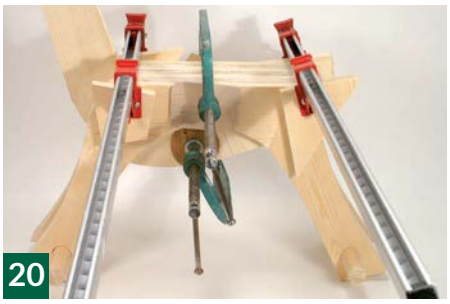
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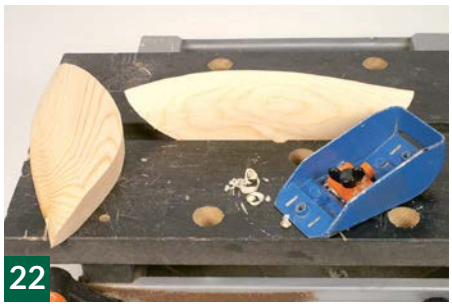
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25 Use a round file or Surform for modelling the head.

26 Round off the corners with a small modelling plane.

27 Trim the rump to shape with a knife. Hold the belly sections in place on the body and mark with a pencil where the curved edge meets the inside of the legs. Trim the legs down to this line but no further. Trim the waste from under the ears.

28 Mark up the eye areas to be covered by the 20mm-diameter spring caps, which must be left level. With a small plane, shape the nose to slope down to the edge of the central head section. Use a craft knife to trim out the inner ear space – the cut line will assist this. Glue and clamp the belly sections back into place.

29 Smooth the top of the rockers with the convex Surform scraper. Smooth the body and legs with a 130mm sanding drum. Use a delta sander for the more detailed modelling work.

30 Trim the insides of the nostrils with a sharp knife. Harden up the edges of the nostrils with some acrylic varnish before cleaning up with grade 200 abrasive.

31 Cut the two horizontal supports from 28mm-diameter dowel. From 75mm of each end of the dowel make some gluing grooves by dragging the dowel across an upturned crosscut saw held in a vice. Push the supports through the holes in the legs, place glue on the grooved areas and centre them up. Place glue on the protruding ends of the supports and in the cavities in the rockers. Place the rockers on to the ends of the supports and pull together with clamps. Also clamp the legs to the rockers. Glue and clamp the giraffe, supports and rocker assemblies together.

32 With epoxy resin, fix the eye dowel into the spring caps. Paint the spring cap and dowel assemblies with black enamel paint then apply a coat of transparent gloss lacquer before gluing them into the holes in the sides of the head.

33 Cut the dowel for the handle to length and mark up the middle. Then mark around it 20mm each side of the centre mark to show the area that will be inserted in the neck. Round off the ends by whittling down with a knife and also whittle a narrowing of the handle between its ends and the centre marks to about 24 mm diameter. Smooth out the shape with abrasive and finally glue into the hole in the neck. A saddle is an optional accessory but can prove useful in preventing the rider from sliding on the smooth wooden surface and create a more comfortable ride. My mother-in-law made mine from 2mm thick foam rubber in a synthetic fur used for stuffed toys.


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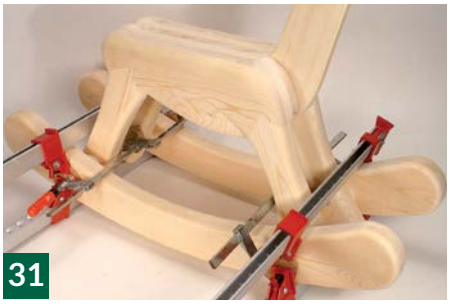
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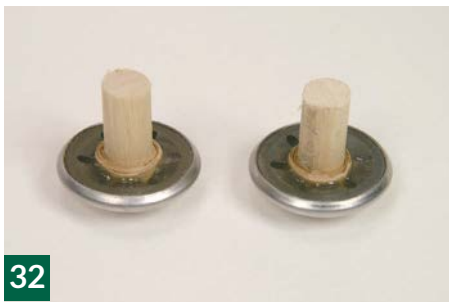
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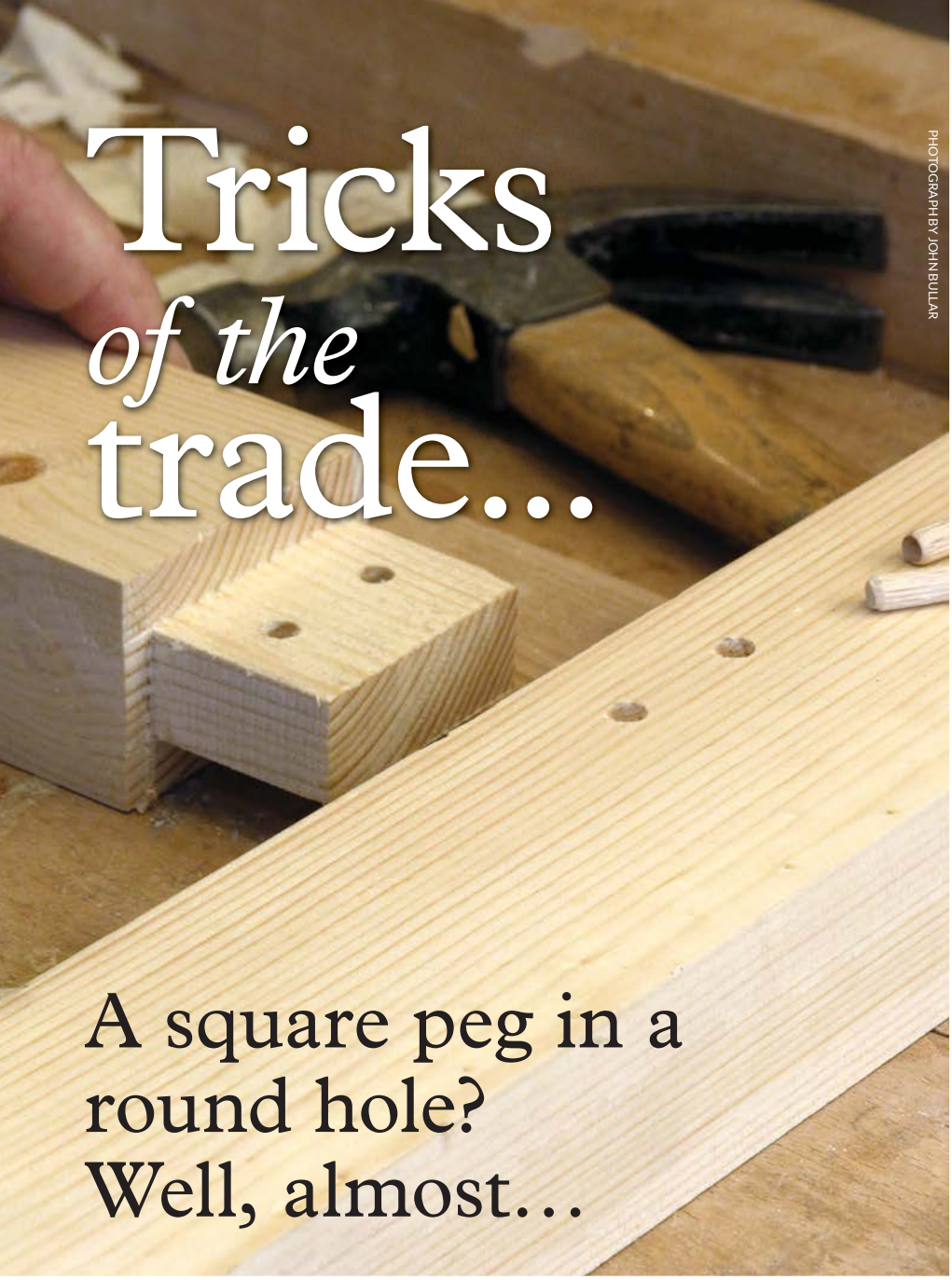
Finishing

Clean up with abrasive as necessary and apply two coats of matt acrylic varnish, rubbing down with abrasive between coats. Make up a transparent mixture of orange acrylic paint and varnish and paint on the camouflage markings. When these are dry rub down gently to accentuate the grain and blend them into the overall finish. Give two more coats of varnish, rubbing down with grade 220 abrasive between coats. ■

Tricks *of the* trade...



PHOTOGRAPH BY JOHN BULLAR

A square peg in a round hole? Well, almost...

PHOTOGRAPH BY JIM ROBINSON

Using a ready-made plate to make dowel

PHOTOGRAPH BY JIM ROBINSON

The teak dowel tapped into the chair joints

Manufactured dowel comes in set diameters and only a limited choice of wood, often pine and often with ridges where the moulding cutters were misaligned. What if you want something to match your project? Just short pieces? Why not make your own?

Last month Louise Biggs created some tiny dowel to repair the broken edge of a table flap. You can make larger diameter dowel if you want and theoretically in any species of timber. What you need is a dowel plate – simply a steel plate with holes in it, possibly of different sizes to suit different jobs. You can either buy a ready-made one, which will cost money, or make your own if you have a pillar drill and standard engineering drill bits. You need clean edges to the holes so the wood cuts cleanly. It can stay square in section so long as it is the same as the diameter – the waste wood will get sheared off. All it takes after that is trimming the tip to fit the hole and a few well aimed blows with a hammer or mallet and voila! You have the dowel you actually wanted, not the one you would have been sold. Perfect for locking joints together or as a decorative feature in a contrast timber. ■

PHOTOGRAPH BY MICHAEL HUNTLEY

A homemade plate used for the same task – note how the waste curls away

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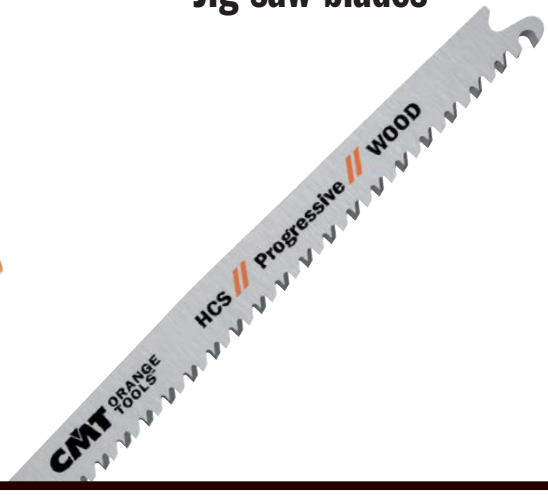

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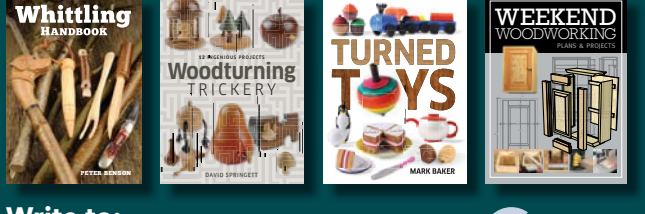

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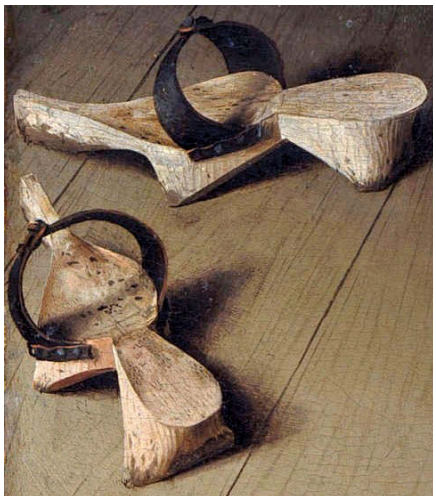
Focus on… Pattens

In days of yore it was often essential to tread warily over difficult or muddy ground– unless you owned a pair of 'pattens'

We take pavements, roads and even gravel paths for granted. Go back a hundred and fifty years or more and it was a different story. From the beginning of time until relatively recently, track ways for anyone on foot or cart tracks would be muddy, even boggy affairs. Even in the City of London the earliest games of football played in the Strand with a rough ball made from tailors' waste material, were played in mud. In mediaeval times it was a common practice for those better off, to own and use various types of raised footwear designed to keep the wearer above the mud and dung of everyday existence. These under-shoes for want of a better description came in different types. Some might have iron rings fastened to them, others more commonly would be shaped wood to reduce ground contact and there were even elevated pattens that would not look out of place on the catwalk during London Fashion Week! The idea was to arrive cleanshod at your destination and able to remove the mucky pattens leaving your shoes and feet free of dirt. In the City of London is the Guild Church of St Margaret Pattens in Eastcheap. It is believed to have been so named because there were many 'pattenmakers' in the area at one time, the last being registered in the 1920s. Thankfully we have developed much better surfaces to travel on and our footwear has evolved to suit modern circumstances. The once popular patten in all its forms is typical of human ingenuity in adversity.
To find out more visit: **www.stmargaretpattens.org**

Very fashionable footwear captured by Jean-Etienne Liotard

An example from a painting by Hieronymous Bosch



An example from the Arnolfini portrait by Jan Van Eyck

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The interior of St Margaret Pattens church

Metal ring pattens 'Dreckschule' (Dirt shoes)

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