

Furniture & cabinetmaking

DESIGN • INSPIRATION • PROJECTS • TECHNIQUES • TESTS • NEWS • EXCELLENCE



A YEAR IN THE MAKING

Meet the next
generation of
designer makers

Keeping it simple

Build a Krenov-inspired brown oak
jack plane with David Barron

Walke Moore Tools

2500 perfectly good reasons
for owning a router plane

Identity crisis

Find out what really makes
a Welsh stick chair Welsh

Hikoki - the new name for Hitachi Power Tools



www.hikoki-powertools.co.uk

HIKOKI

HIGH PERFORMANCE POWER TOOLS



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

INCLUDES
LEFT
& RIGHT
TABLE
EXTENSION

CTS10D

*was £185.99 inc. VAT

MODEL	MOTOR	BLADE	EXC.VAT	INC.VAT
CTS800B	600W	200mm	£72.99	£87.59
CTS11*	1500W	254mm	£149.98	£179.98
CTS10D	1500W	254mm	£169.98	£203.98

**BEST
SELLER**

Machine Mart

**65 SUPERSTORES
NATIONWIDE**

**WHERE QUALITY
COSTS LESS**

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

Clarke TABLE SAW WITH STAND

NEW

- 1600W motor
- 250mm blade size • 0-45° tilting blade
- Cutting depth: 73mm at 90° / 53mm at 45°

INCLUDES LEFT
& RIGHT TABLE
EXTENSION

£99.98
EXC.VAT
£119.98
INC.VAT

CTS16

Clarke WOODWORKING VICES

STANLEY

Record

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

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

Clarke Bolted	150/152/61	£14.99	£17.99
CHT152			
Stanley Clamped	72/60/40	£18.99	£22.79
Multi Angle			
Record TV75B Clamped	75/50/32	£21.99	£26.39
Clarke WV7 Bolted	180/205/78	£29.98	£35.98

WV7

BLACK & DECKER POWER PLANERS

TE-PL850

Einhell

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

MODEL DEPTH EXC.VAT INC.VAT
MOTOR OF CUT

Einhell TE-PL850 850W	3mm	£54.99	£65.99
B&D KW750K - GB 750W	2mm	£57.99	£69.59

TURBO AIR COMPRESSORS

airmaster

tiger

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

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

* '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	2HP	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*	3HP	14.5	50ltr	£209.00	£250.80
16/1010*	3HP	14.5	100ltr	£259.98	£311.98

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

CS6-9C

FROM ONLY
£239.00
EXC.VAT
£286.80
INC.VAT

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

CS6-9C

NEW

Includes 2 tables
that tilt & lock

• Quality
Induction
250W motor

CSB1-5B

£69.98
EXC.VAT
£83.98
INC.VAT

NEW

Includes 2 tables
that tilt & lock

• Quality
Induction
250W motor

CSB1-5B

£159.98
EXC.VAT
£191.98
INC.VAT

CS4-8

Includes two
tables • 550W
230V motor

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NEW PRODUCTS**

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Clarke SLIDING COMPOUND MITRE SAWS

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

BEST SELLER

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

CMS10S2

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

Clarke MITRE SAWS

• Quality Range of Mitre saws and blades in stock

Price Cut Now From

£54.99 EXC.VAT
£65.99 INC.VAT

Laser Guide
‡ Sliding Compound

MODEL	BLADE DIA/BORE (mm)	CROSS CUT	EXC. VAT	INC. VAT
CMS210	210/30	60/120mm	£54.99	£65.99
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 DRILL PRESSES

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

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

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 MULTI FUNCTION TOOL WITH ACCESSORY KIT

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

£39.98 EXC.VAT
£47.98 INC.VAT

CMFT250

Clarke ELECTRIC HEATERS

DEVIL 7003

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

MODEL	VOLTAGE	HEAT OUTPUT KW	EXC. VAT	INC. VAT
DEVIL 6003	230V	1.5-3	£49.98	£59.98
DEVIL 7003	230V	3	£59.98	£71.98
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 6015	400V	5-10-15	£169.00	£202.80
DEVIL 7015	400V	15	£199.98	£239.98

Clarke TURBO FAN GAS HEATERS

Offering low cost, efficient heating

DUAL VOLTAGE 230/110V

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

PROANE GAS FIRED

MODEL	MAX OUTPUT KW	EXC. VAT	INC. VAT
Little Devil II	10	£79.98	£95.98
Devil 700	15	£99.98	£119.98
Devil 900	24.9	£139.98	£167.98
Devil 1600	36.6	£169.98	£203.98

Clarke DIESEL/PARAFFIN HEATERS

FROM ONLY **£189.00** EXC.VAT
£226.80 INC.VAT

Ideal for fast efficient heating

- Extra-long run fuel tanks - up to 53 litres
- Variable heat output with thermostat control

MODEL	MAX OUTPUT	EXC. VAT	INC. VAT
XR60	14.7kW	£189.00	£226.80
XR80	20.5kW	£239.00	£286.80
XR110	29.3kW	£289.00	£346.80
XR160	46.9kW	£349.00	£418.80
XR210	61.5kW	£399.00	£478.80

Clarke JIGSAWS

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

Clarke SCROLL SAWS

CSS400C

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

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

MODEL	MOTOR	SPEED RPM	EXC. VAT	INC. VAT
CSS400C	120W	400-1600	£79.98	£95.98
CSS16VB	90W	550-1600	£94.99	£113.99
CSS400C	90W	550-1600	£114.99	£137.99

Clarke BENCH BANDSAWS

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

£129.98 EXC.VAT
£155.98 INC.VAT

CBS190B

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

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 ROUTER TABLE

CRT-1

Router not included

£69.98 EXC.VAT
£83.98 INC.VAT

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

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

MODELS ALSO FEATURE:

- MULTI-STEP DUST EXTRACTION OUTLET
- FLEXIBLE LED WORKLIGHT
- REMOVABLE DUST TRAY
- BLADE TENSIONING CONTROL

CBS300

FROM ONLY **£219.98** EXC.VAT
£263.98 INC.VAT

THROAT MAX CUT 90° CUT 45°

MODEL	THROAT DEPTH	MAX CUT 90°	MAX CUT 45°	EXC. VAT	INC. VAT
CBS250	250mm/10"	100mm	75mm	£219.98	£263.98
CBS300	305mm/12"	165mm	115mm	£379.00	£454.80
CBS350	340mm/14"	225mm	160mm	£479.00	£574.80

Clarke CONTRACTOR BOSCH ROUTERS

• Powerful heavy duty machines ideal for trade and DIY use

CR1200

FROM ONLY **£44.99** EXC.VAT
£53.99 INC.VAT

CR2 INCLUDES 15 PIECE KIT WORTH OVER £20

Clarke GRINDERS & STANDS

• Stands come complete with bolt mountings and feet anchor holes

6" & 8" AVAILABLE WITH LIGHT

STANDS FROM ONLY **£47.98** 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)	150/200mm	£56.99	£68.39

Clarke CONTRACTOR BOSCH ROUTERS

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£69.98 EXC.VAT
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• Converts your router into a stationary router table • Suitable for most routers (up to 155mm dia. Base plate)

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Welcome to...

... clarity and patience

You'd think the most important attribute you'd need to be an editor of a woodworking magazine would be a good command of the English language. It helps I'm sure, but it's not top of the list. Neither, and this may shock you, do you need a great deal of knowledge about the subject. Instead it takes patience. Lots and lots of patience. Maybe a year ago, maybe more, I started to ask questions about what we generally refer to as vernacular furniture. I was intrigued at how experts linked styles to specific regions within a relatively small area. One of the questions I asked was what differentiates a Welsh stick chair from an Irish one or any other rustic style for that matter. It became apparent quite quickly that I wasn't going to get a straight answer any time soon, at least not from the source I'd tapped into. This month, however, sufficient time has passed for us to bring you an extract from *Welsh Stick Chairs* by John Brown courtesy of Lost Art Press that goes some way to answering my questions all those months ago.

This issue is more tool centric than usual with nearly every article focusing on the making, the use or history of a specific tool. As the making of furniture is so closely related to the making of tools, it's not hard to find common ground among the techniques for producing both. In fact, David Barron has gone out of his way to build his Krenov-style jack plane with basic furniture making tools and equipment. On test this month is Walke Moore Tools 2500 Router Plane, which has been on my wish list for the last year at least. Contrary to popular belief and another fun fact about this editor, is that for the last couple of years the hand tools I personally review in the magazine are bought and paid for out of my own pocket and not acquired for free. Yes, we do call items in for review now and then and when they arrive they get shipped out to an independent author for their unbiased opinion. It's an approach that I believe serves us well and maybe even sets us apart from our competitors. Now that may not be the question you had on your mind when you picked up your copy of *F&C* this month but life is better when it's full of little surprises.

Derek Jones

Derek Jones

derekj@thegmgroup.com

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Don't forget there are plenty more articles and discussions to be found on the Woodworkers Institute & Forums
www.woodworkersinstitute.com



Woodworking is an inherently dangerous pursuit. Readers should not attempt the procedures described herein without seeking training and information on the safe use of tools and machines, and all readers should observe current safety legislation.

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Meet the contributors

David Barron

David is a fine contemporary furniture maker and the producer of a popular range of hand tools. He also regularly teaches woodworking courses at West Dean College, produces DVDs and uploads videos to his YouTube channel.

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John Adamson

After working in various roles at Cambridge University Press, John served as head of publications and retailing at the National Portrait Gallery in London before setting up a small publishing house in Cambridge devoted primarily to highly illustrated books in the decorative arts. He is the publisher of David Russell's book *Antique Woodworking Tools*.

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Richard Wile

Richard lives in Nova Scotia, Canada; he is an accomplished IT professional and has been an amateur woodworker for a lifetime. He has tried his hand at many woodworking genres. Using a variety of hand and machine techniques, Richard has crafted many unique furniture pieces, hand tools, turnings, miniatures, and acoustic stringed instruments from his basement workshop.

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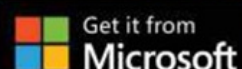
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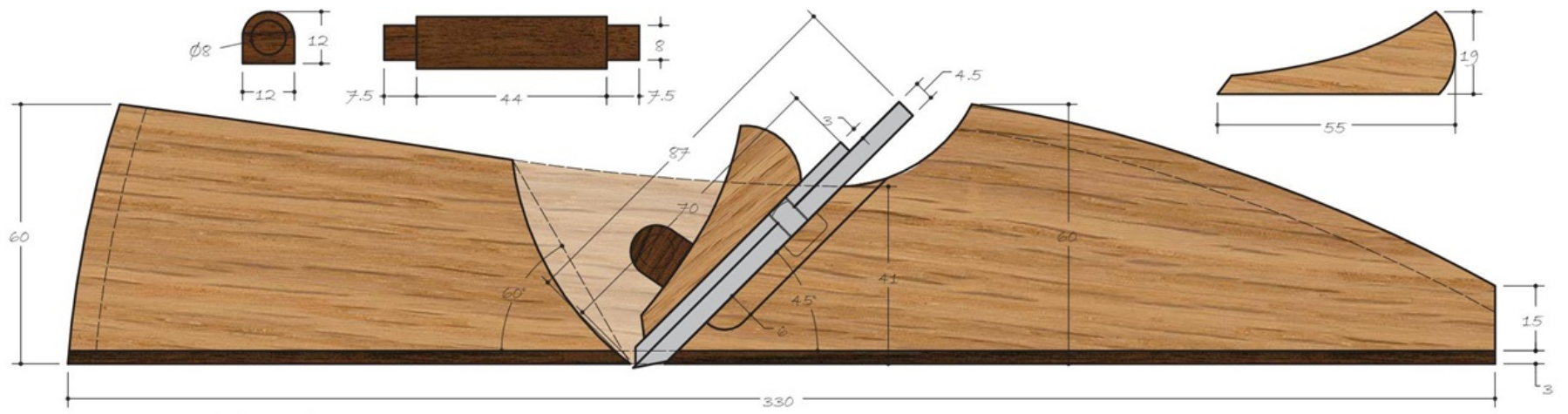
Make a Krenov-style hand plane

David Barron makes a wooden hand plane inspired by the James Krenov style

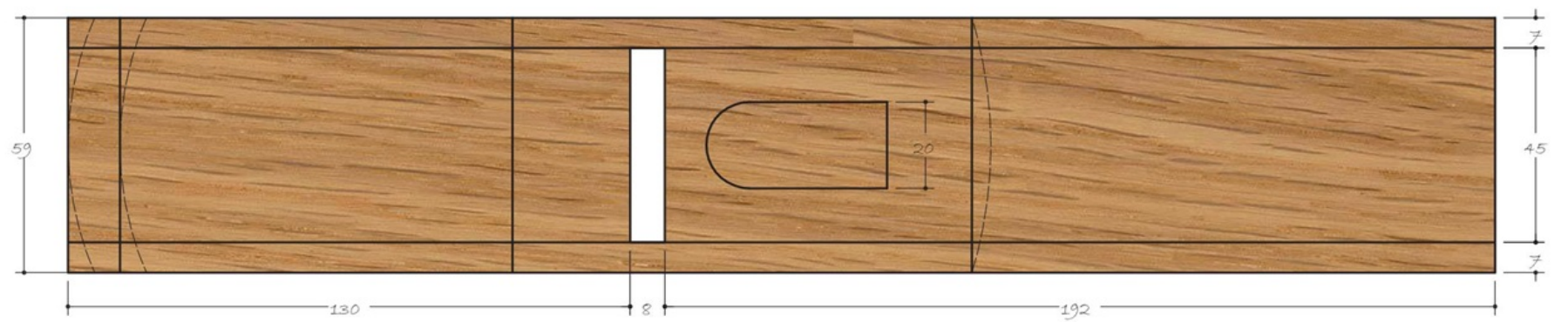


This plane is a very useful workshop all-rounder and rightly deserves its name of 'jack' (jack of all trades). It's great for smoothing and flattening, and is particularly comfortable on the shooting board. This style of plane was popularised by James Krenov who made them in all different shapes and sizes. David Finck, a student of Krenov, wrote an excellent book *Making & Mastering Wood Planes*, which is well worth buying.

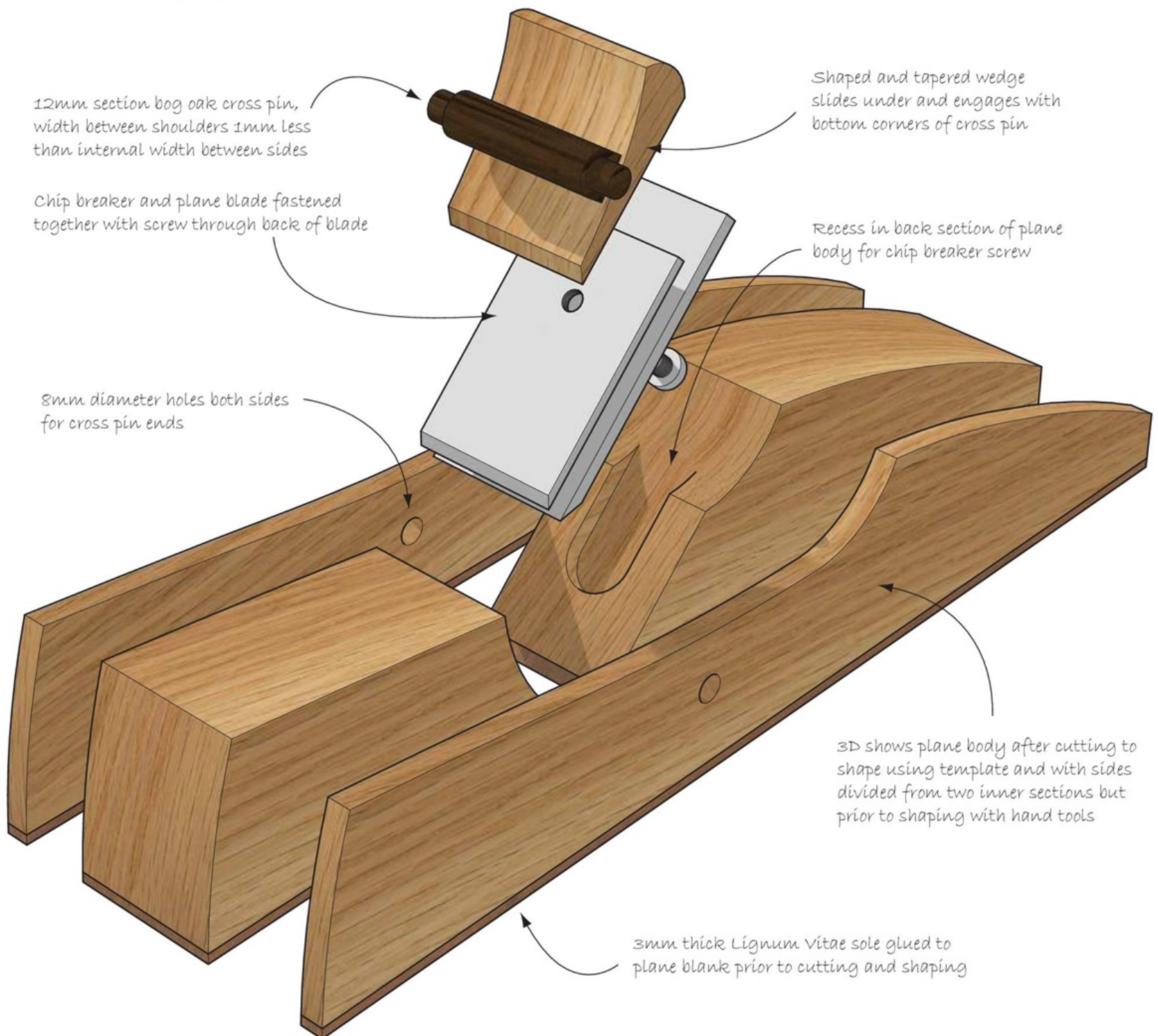
When I used to sell my hand planes, speed was essential so nearly all the work was done with machines. With this project, however, I'll show you how to make and shape the plane using lots of hand work and just two basic machines, the bandsaw and drill press.



SIDE ELEVATION
Scale 1 to 2



PLAN VIEW (BLADE ETC NOT SHOWN)
Scale 1 to 2



Preparing the blank

The starting point is an accurately planed square wooden blank. I'm using a 1 $\frac{3}{4}$ in (44.5mm) wide blade, so the blank is 64mm wide, 64mm high and 350mm long. Next I mark out the shape of the plane on both sides, I've made up a template with a comfortable and attractive design as well as markings for the mouth and bed angles, which are drawn in on the sides and across the base. The next task is to drill 8mm dowel holes on the drill press for the reassembly after the sides have been removed, these obviously need to be in the waste area outside the marked shape. In addition, an 8mm hole is drilled for the cross pin. Perfectly clean holes can be achieved by using a lip and spur bit, which is set for the tip only to break through the other side. The blank can then be turned over and the remainder of the holes drilled from the other side using the tip hole as a guide.



An accurately planed blank with optional Lignum sole



Marking out using a template, bevels and square



Drilling holes for the dowels and cross pin

Cutting

Cutting the sides is done on the bandsaw, making sure the fence is square to the table. I gave up on the aluminium fence that came with my bandsaw and made my own from plywood and a pair of strong Magswitches, which attach it to the cast-iron table. By using a feather board and cutting slowly, without stopping, the resulting cuts are clean and even. Using a sharp plane quickly cleans up the bandsawn surfaces.

Draw the bed angles on the inside section, lining them up with the mouth lines marked earlier on the sole. The beds can now be cut on the bandsaw being careful to stick to the

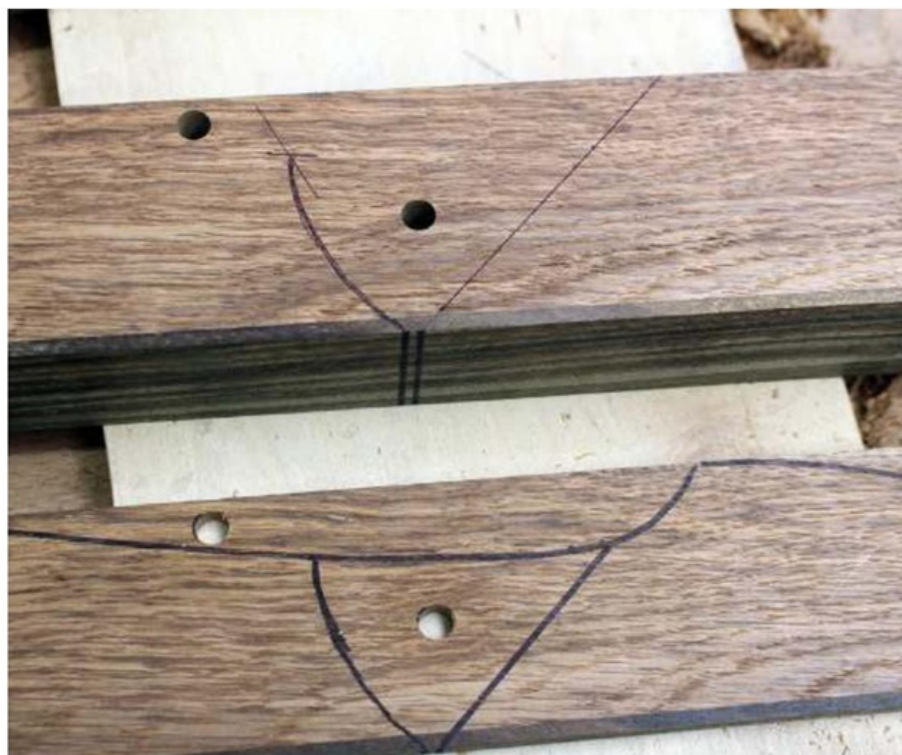
lines and not create a mouth that is too wide. The curved exit bed can be smoothed with a curved rasp and files, working up the curve rather than across to avoid tearout. The bed is cleaned up with a block plane and this must be done accurately to ensure proper flat support for the blade. Check for both squareness and flatness before moving on. The clearance for the chip breaker screw on the bed is next and this can be done with a series of overlapping cuts with a Forstner bit on the drill press (in this project I used my router with a template and guide bush, which leaves a nice clean groove).



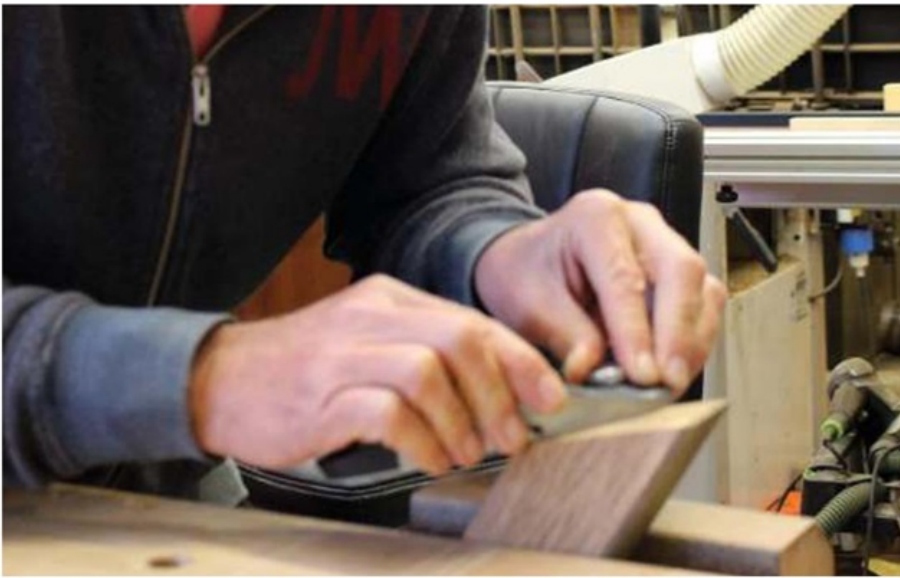
Cutting off the sides on the bandsaw



Hand planing the interior surfaces



Marking out the central waste, which is removed on the bandsaw



Flattening the bed with a sharp block plane



Routing the recess for the chip breaker screw

Making the cross pin

The cross pin that holds the wedge is made from a piece of 12mm square dense hard wood, in this case bog oak. The pin is made 1mm narrower than the finished width of the plane and has round ends to fit in the 8mm holes drilled earlier. The shoulders for these ends are marked so that the centre piece is 0.5mm smaller

than the interior measurement. After the shoulders are cut (I used my 90° magnetic guide), the round ends can be shaped with chisels and refined with a file to a snug fit in each side. The top side of the cross pin is rounded for comfort, leaving the underside square.



Cutting the shoulders on the cross pin



A nicely shaped cross pin

Adding the finish

The last job before gluing up is to apply a finish to the interior surfaces of the mouth area and cross pin, taking care not to encroach on the surfaces to be glued. I applied a couple of coats of shellac sanding sealer, followed by wax. The wax will make any glue squeeze easy to remove.



Finishing the inside surfaces with sanding sealer and wax

Gluing up and assembly

I used yellow glue applied to the two interior parts and 8mm dowels in the previously drilled holes to align everything. Do check that the dowels, which are inserted from both sides, are short enough not to protrude as this will greatly hinder clamping. Also, don't forget to insert the cross pin! Plenty of bar clamps are needed to ensure a tight bond with no glue lines; if you don't have bar clamps then two blocks of wood can be clamped to each side of the plane.

Once the glue has dried, the squeeze-out is removed from all exterior surfaces and the basic shape of the plane can be cut on the bandsaw. Refining the edges to a comfortable curve is done with a spoke shave and it is best to lay out lines on each side to identify the extent of the curves. I have found that a 5mm curve on all three areas gives comfortable rounded surfaces for my hands to hold. The concave curve behind the blade can be worked with a curved rasp and file. Rather than sand all the surfaces smooth, I like to sharpen the spokeshave blade and set it for a fine cut, making passes over all the curved surfaces. This 'tooled' finish feels lovely in the hand and contrasts nicely with the flat sides, which are planed smooth.

Before fitting the blade and making the wedge the interior surfaces need to have every bit of glue squeeze-out removed, any glue left will result in poor blade support and performance. For making the wedge, the chip breaker needs to be tightened down and the distance from the underside of the cross pin measured. The wedge can be cut on the bandsaw with a slightly curved

surface, which will engage with the two underside corners of the cross pin. This curve is refined with a rasp and file until the fit is good and the blade held tight – a good fit is denoted by two compression lines running the full width of the wedge.

Before opening the mouth the sole of the plane needs flattening, before starting the blade must be wedged firmly in place and set back a little from the sole. I like to use 120 grit sandpaper glued to a dead flat surface such as a planer table. A slight curve can very quickly be introduced into the sole if the plane is rubbed back and forwards on the sandpaper, it's much better to push in one direction only, stopping at the end

and lifting the plane before repeating. This method of flattening planes is slower but much more accurate.

To open the mouth I use a square and a dead sharp scalpel removing the waste with two chops from a 1in wide chisel. I repeat this process, checking the result each time until the blade just pokes through the base – the aim is for a very tight mouth. If everything has gone well you should be getting effortless full width shavings.

This plane-making process can be repeated, using the basic design, to make a whole range of different sizes and there is a great pleasure in using planes you made yourself. *F&C*



Gluing up with plenty of clamps!



Three cuts on the bandsaw form the basic outline of the plane



Marking the lines for the curves to be shaped



Shaping the curves with a nice, sharp spokeshave



The chamfers are finished with a rasp and file



The wedge is cut on the bandsaw and then refined with a scraper chisel



Testing the finished plane

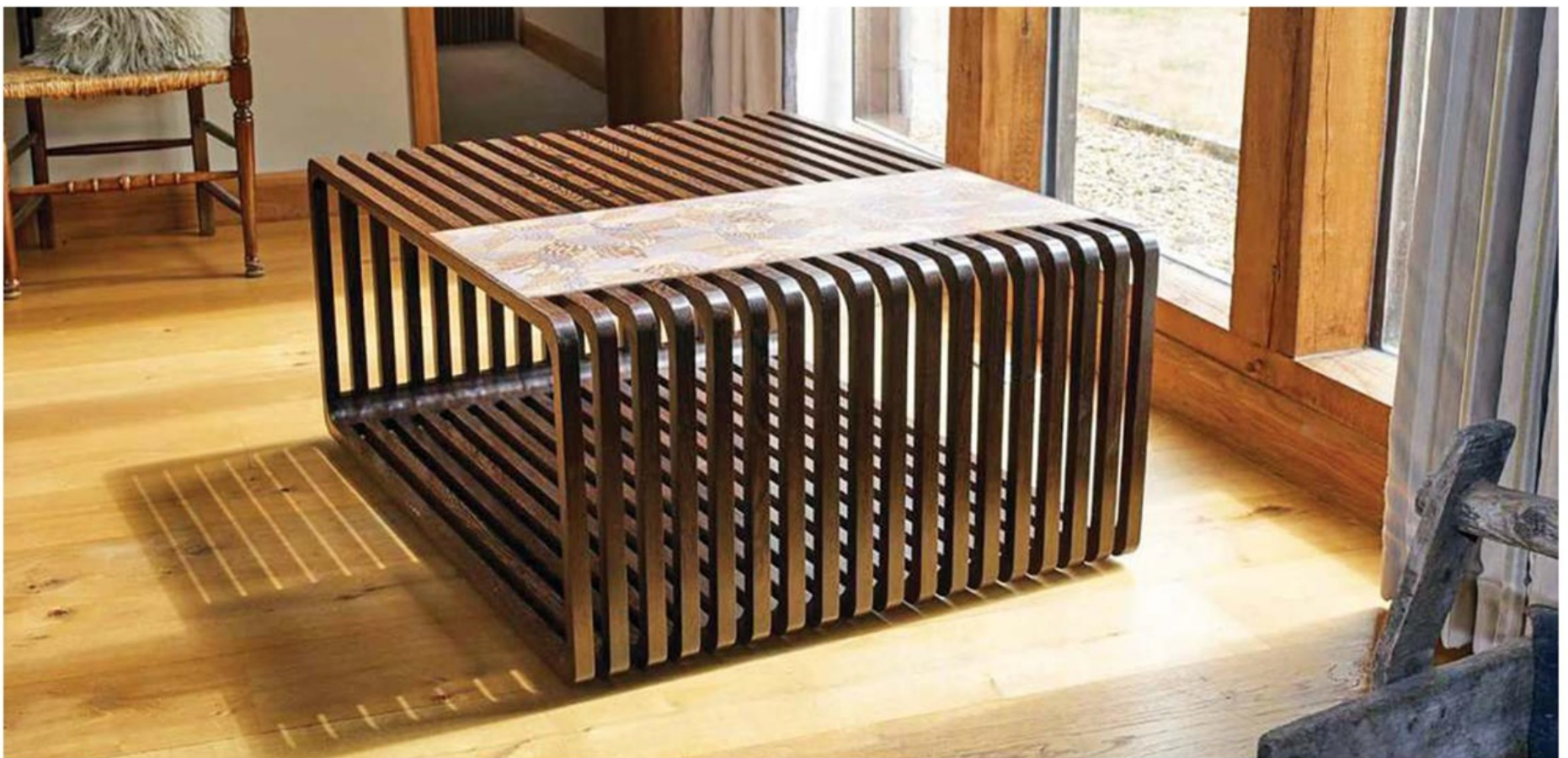
News & Events

Contribute to these pages by telling us about matters of interest to furniture makers.

Call Derek Jones on 01273 402 843 or email derekj@thegmcgroup.com

Please accompany information with relevant, hi-res images wherever it is possible

Furniture maker wins 2018 Tormek Scholarship



The No. 36 table is visually striking yet practical

The Tormek Scholarship Award 2018 has been awarded to furniture maker Dan Wall from Worcester. Dan created a stunning table, No. 36, during his time at the Peter Sefton Furniture School in Upton-upon-Severn, and the prize – a complete Tormek Wet Sharpening System – will be very useful as Dan continues to design his own pieces.

Dan decided to venture into woodworking in pursuit of a career change. He had done some basic woodworking at home but decided to enrol at Peter Sefton's school to expand his skills. He first came across Tormek at the school, where he began with tool sharpening, preparation and preservation. As well as teaching the age-old whetstone techniques, the school has Tormek systems available for the students.

Dan designed the table to be deliberately challenging to test both his ability and to get the most value from the course. The main focus was to produce a piece that was visually striking but maintained

practicality; the design challenges its own purpose. It is a table, though the majority of the construction is open space. The design has the crazy caveat that all dimensions were divisible by 36. 'I don't know why I did this but it does give the piece an extra something', Dan says.

With the course allowing Dan to pursue any idea he could practically achieve, he worked on the piece for over seven months at college using shared resources for around 100–150 hours. There was no brief as such and this provided him great freedom, in turn Dan hopes the piece inspires conversation and curiosity.

Since completing the course, Dan has gained work for an established bespoke furniture maker where he is developing his skills and understanding of the trade. He continues to design his own pieces and hopes to show these soon.

Contact: Tormek
Web: www.tormek.com



Scholarship winner Dan Wall learnt his skills at the Peter Sefton Furniture School

PHOTOGRAPHS COURTESY OF TORMEK

GCSE pupil wins School Design Prize

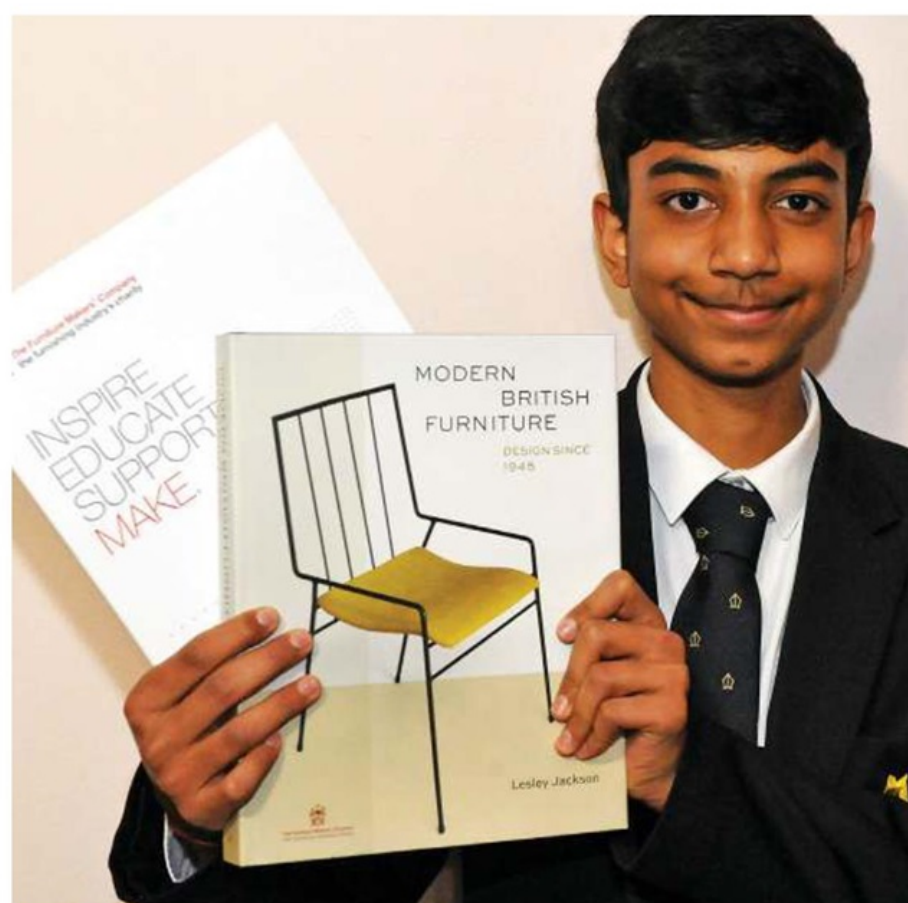
Rahul Sahni, a student at St Mary's College in Merseyside, was awarded the School Design Prize at a prize-giving ceremony at Liverpool Metropolitan Cathedral on 10 December 2018.

Mark Ireland, head of design & technology at St Mary's College, chose Rahul's GCSE design & technology project of a table lamp for the School Design Prize because of the impressive variety of techniques and materials utilised to create the piece.

Rahul's prize was sponsored by the Southern Fellowship of Woodworkers as part of The Furniture Makers' Company's national campaign of awarding promising design students in schools across the country.

Rahul said: 'I'm delighted to have been presented with this award and would like to thank The Furniture Makers' Company for awarding the prize and the Southern Fellowship of Woodworkers for sponsoring it. I'm really proud of this achievement and pleased that all my hard work in design & technology has paid off.'

Contact: The Furniture Makers' Company
Web: www.furnituremakers.org.uk



PHOTOGRAPH COURTESY OF THE FURNITURE MAKERS' COMPANY

Rahul Sahni won the prize for his table lamp project

Record support for Woodland Trust's HS2 campaign is a 'wake-up call' for the environmentally caustic project

The strength of public feeling against the annihilation of ancient woodland for HS2 must serve as a wake-up call to those designing the scheme, claims the Woodland Trust.

More than 26,000 people have added their voice to the Trust's in opposing the destruction of at least 19 ancient woodlands for Phase 2b of the environmentally caustic project. It's the largest number of responses the charity has seen for one of its campaigns to protect woods under threat.

The Trust's campaign launched in October in response to HS2 Ltd publishing its draft environmental statement for Phase 2b, revealing the shocking news that at least 19 ancient woods totalling 16.7 hectares (equivalent to 25 football pitches) are facing loss – double the Trust's original estimation.

Phase 2b will run from Birmingham to Leeds (123 miles) and Crewe to Manchester (51 miles) and as well as resulting in some destruction to those 19 sites, the route will cause damage and deterioration to 11 more



PHOTOGRAPH BY ADRIAN ASHWORTH/COURTESY THE WOODLAND TRUST

Coroner's Wood, Greater Manchester, is one of the ancient woodlands at risk from HS2

through noise, vibration, changes to lighting and dust.

The single biggest loss of ancient woodland is at Nor Wood, near Killamarsh, on the Derbyshire/South Yorkshire border (4.1ha). The Trust is continuing to press for the

proposed route to be realigned or for tunnelling to be considered in order to save the irreplaceable habitats currently under threat.

Contact: The Woodland Trust
Web: www.woodlandtrust.org.uk

Events

Information correct at time of publication, check websites before planning your visit

The Midlands Woodworking & Powertool Show

The Midlands Woodworking and Powertool Show at the Newark Showground promises a great day out full of demonstrations, workshops trade stands and advice from top power tool brands. Over 30 demonstrators will be appearing at this year's event including F&C regular Kieran Binnie, chairmaker Peter Tree, Japanese joinery specialist Brian Walsh, sharpening expert Nic Westermann, woodcarver Michael Painter and many more. The extensive list of companies exhibiting includes 50 of the industry's top companies,

such as Classic Hand Tools, Axminster, Record Power, Ashley Iles, Chestnut Products and Robert Sorby.

When: 22–23 March
Where: Newark Showground, Notts, NG24 2NY
Web: www.nelton.co.uk/midlands-woodworking-power-tool-show.html

The Midlands Woodworking Show returns to the Newark Showground this March

EVENT OF THE MONTH

The London Fabric Show

Over 35 high-end fabric companies from Belgium, Spain, Turkey, Italy, Germany and the UK will show their latest collections at the London Fabric Show. Fabrics including wools, velvets and jacquards, chenilles, silks, cottons, linens, leathers, faux leathers, high performance polyesters, backing fabrics and FR treatments will be on display.

When: 4–5 March
Where: Chelsea Football Club, Stamford Bridge, Fulham Road, London SW6 1HS
Web: www.londonfabricshow.uk

Making Is Good For You – Heritage Crafts Association Conference

The benefits of making things is the theme of the Heritage Crafts Association's conference. An impressive line-up of speakers will discuss their crafts and how making can be good for you.

When: 9 March
Where: 2 Regent's Park Road, Camden Town, London NW1 7AY
Web: heritagecrafts.org.uk

London Design Week

A world of design inspiration awaits at London Design Week 2019, which showcases the brightest and best of world-class talent. This celebration of the new season is a remarkable source of inspiration, knowledge



Celebrate art and innovation at London Design Week

and expertise for both professionals and design enthusiasts alike. Expect highly sophisticated combinations, noble materials and impeccable textures from over 600 brands at 120 international showrooms. On the main stage, a line-up of international speakers share their experiences at the acclaimed Conversations in Design series.

When: 10–15 March
Where: Design Centre, Chelsea Harbour, Lots Road, London SW10 0XE
Web: www.dcch.co.uk

Designers in Residence: Dwelling

The Designers in Residence programme at the Design Museum supports emerging designers, from any discipline, with time and space away from their regular environment to reflect, research and consider new ways of developing their practice. The theme of this year's programme is 'dwelling' and explores social housing, craft, smart home devices and concepts of time. The designers' collective work will be showcased in an exhibition.

When: until 24 March
Where: Design Museum, 224–238 Kensington High Street, Kensington, London W8 6AG
Web: designmuseum.org

Frederick Parker Annual Dinner & Lectures

The Furniture Makers' Company has announced two speakers for the Frederick Parker Annual Dinner & Lectures: Robert Ingham will be speaking on A Respect for the Past, with an Eye to the Future, while Sam Reich's lecture, Tibor Reich, Life's Rich Tapestry, will discuss the work of the pioneering textile designer.

When: 28 March
Where: Furniture Makers' Hall, 12 Austin Friars, London EC2N 2HE
Web: www.furnituremakers.org.uk

High Point Market

The High Point Market is the largest furnishings industry trade show in the world, and features more than 2000 exhibitors spread between 180 buildings in High Point, North Carolina.

When: 6–10 April
Where: 164 South Main Street, Suite 700, High Point, NC 27260, USA
Web: www.highpointmarket.org

Salone del Mobile Milano

Now in its 58th edition, Salone del Mobile Milano provides a global platform for top-notch products with the emphasis on innovation. The Salone is split into three style categories: Classic: Tradition in the Future, which draws on the values of tradition, craftsmanship and skill in the art of making furniture and objects in the classic style; Design, products that speak of functionality, innovation and boast a great sense of style; and xLux, the section devoted to timeless luxury re-read in a contemporary key.

When: 9–14 April
Where: Milan Fairgrounds, Rho, Milan, Italy
Web: www.salonemilano.it/en/



High-end furniture from around the world will be on show at Salone del Mobile Milano

Blum-ing great trip for young award winners

Four young designers were treated to an all-expenses paid trip to Austrian components company Blum's manufacturing facility in Vorarlberg in December 2018 as part of a prize organised by The Furniture Makers' Company.

Brodie Haward, Emily Lindsay, Matthew Pembury and Harriet Speed were flown out to Blum's facility on 11 December and spent three days learning about the international business after exhibiting and winning awards at The Furniture Makers' Company's Young Furniture Makers exhibition.

This annual exhibition took place on 10 October 2018 at Furniture Makers' Hall and the Dutch Church in Austin Friars, London. Around 90 pieces of furniture and lighting from GCSE and A-Level students through to BA and MA graduates packed out the Dutch Church and Furniture Makers' Hall in Austin Friars, contributing to one of the best displays in the exhibition's more than 10-year history.

During the exhibition Brodie, Emily and Matthew were awarded first, second and third place, respectively, for the School Design Prize, while Harriet was presented with the Blum Best in Show Prize for her piece, Corkey's Cabinet.

Accompanied by Blum employees and Anne Sampson, educational events and campaigns manager at The Furniture Maker's Company, the four Young Furniture Makers were given a tour of Blum's eight plants comprising 3.5million sq ft of production space.

Matthew said: 'It was an amazing opportunity to visit one of the largest high-quality manufacturing operations in Europe.'

During the trip, the winners met Blum apprentices who were being trained in the fields of electrical, design, plastic and mechanical engineering. They were also shown manufacturing techniques that Blum uses in its drawers and fittings that make their products suitable for those who are elderly or for people with disabilities.

Matthew added: 'As a first-year architecture student it was really insightful to see the manufacturing process of a product from the raw material to the final piece. This has improved my appreciation for detail in manufacturing, which I think is directly applicable for me designing more effectively and proficiently in future.'

Blum, which is a corporate member of The Furniture Makers' Company, has over 7000 employees and more than 5500 of those employees based in Vorarlberg.

Harriet, who was a student at City of Oxford College and now works as a designer at Ercol, said: 'I was really impressed with the fact Blum invest so much in the future



The four young furniture designers won an all-expenses paid trip to Austrian manufacturer Blum

of their business, particularly through their apprenticeship scheme, which seems like an amazing opportunity for young people. I think the fact that 10% of the apprentices are women is really motivating. For a young woman working in a male-dominated field, it's interesting to know the positive impact having a more gender-balanced work place can have on you. It was also great to see so many young women enjoying practical work.'

Harriet added: 'I now have a better understanding of Blum products, and how they are produced. I understand the measures they take to ensure a top-quality product. It was a great prize and opportunity.'

Hayden Davies, Master of The Furniture Makers' Company, said: 'The furnishing industry needs a skilled workforce in order to maintain a competitive edge in today's global market. We have created a wide-ranging education programme to develop young talent for the future, which supports school children right through to young professionals.'

'From awarding design prizes that raise awareness and reward talent, organising a dedicated exhibition to showcase work from

young designers, through to giving grants, bursaries and scholarships to universities, colleges and their students, our educational programme is all-encompassing.

'We'd like to thank our corporate member Blum for sponsoring such an incredible and informative trip for four of our award winners.'

Inspire the next generation

There is still time to inspire a young designer like Brodie, Emily, Matthew and Harriet in 2019 by sponsoring a School Design Prize.

This year the charity has a target to give 700 prizes to 350 schools around the UK. For a donation of just £50 (+VAT) the charity will send a school two prizes to reward an outstanding male and female.

To sponsor a School Design Prize today, call Laura Garnett, head of fundraising on 020 7562 8527 or email laura@furnituremakers.org.uk.

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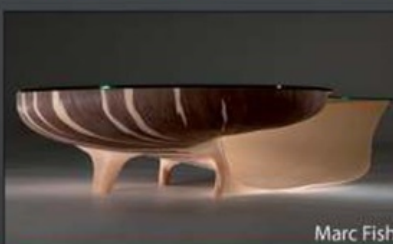


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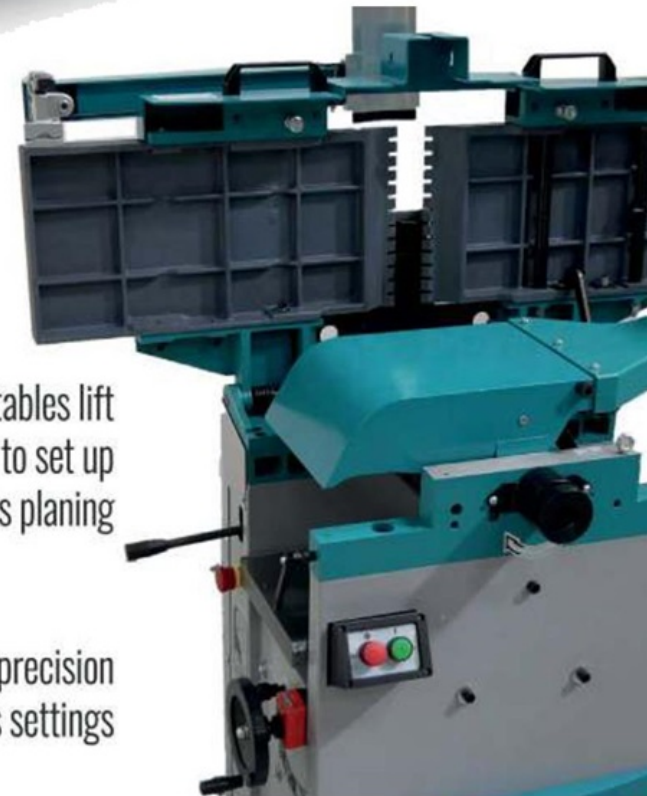


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A year in the making

Gareth Harding reflects on a year spent on the Designer Maker course at Waters & Acland with a gallery of his fellow students' work

In 2017, along with a small group of ambitious craftspeople I made the life-changing decision to enrol on the 44-week Designer Maker course at the Waters & Acland Furniture School. Like most of us at the time, I was a complete beginner to woodworking but eager to make the most of this once in a lifetime opportunity. The first week took us through hand tool sharpening, board lamination, plus projects to build a bread board and a Chinese puzzle. After eight weeks, we'd completed several smaller modules including a wall hanging cabinet – a hand tool only project that took on mitred dovetails, mortise and tenon joints, frame and panels, turned handles and veneers. Along with design meetings, lectures about timber selection, CAD tutorials, and one-day modules on French polishing and marquetry, we were acquiring a variety of skills. We were then guided through a machine-

based project – an occasional table – which gave us hands-on experience with all the major machines in the workshop. Once completed, it was on to our first self-designed project. The brief was to design and make a table or desk with two piston-fit drawers. For me, this took the form of my Butcher's Block desk. I finished with three furniture pieces, including a lounge chair and a media unit. Along with my fellow students I was completely blown away by what I'd been able to accomplish. Many of us left with the skills and confidence to start our own businesses. What follows is small selection of our work.

For more information about courses at the Waters & Acland Furniture School, visit: www.watersandacland.co.uk

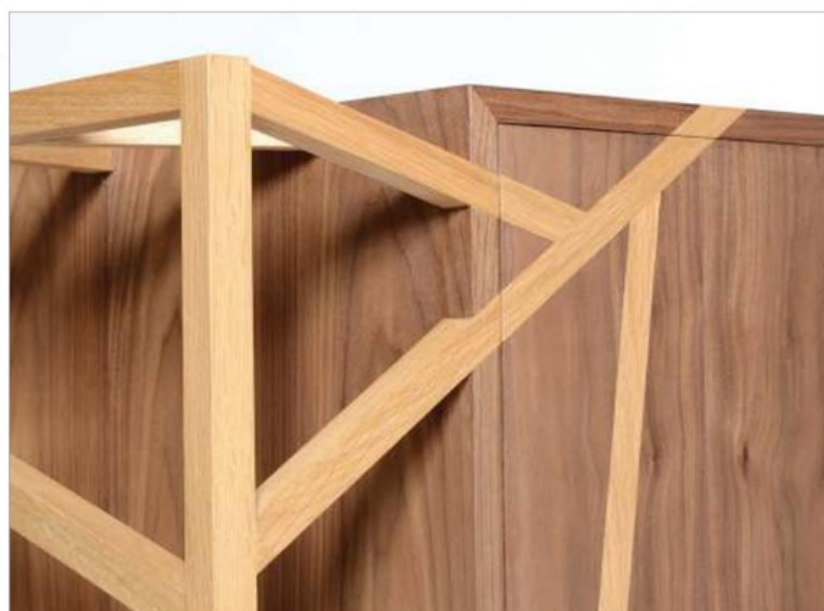
Justus Fischer



Coffee table in oak



Sideboard in walnut and oak



Cate Timothy

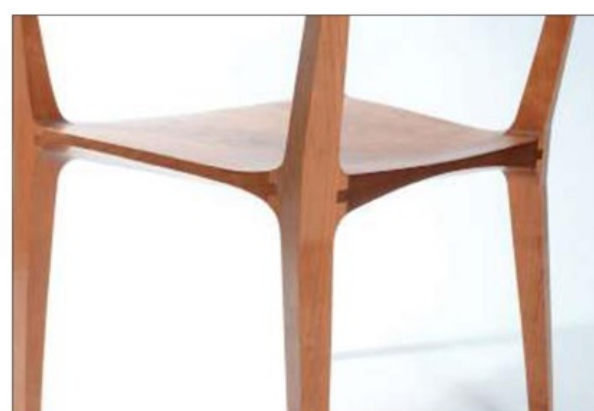


Chair in oak



Bench with drawers in maple

Pete Craven

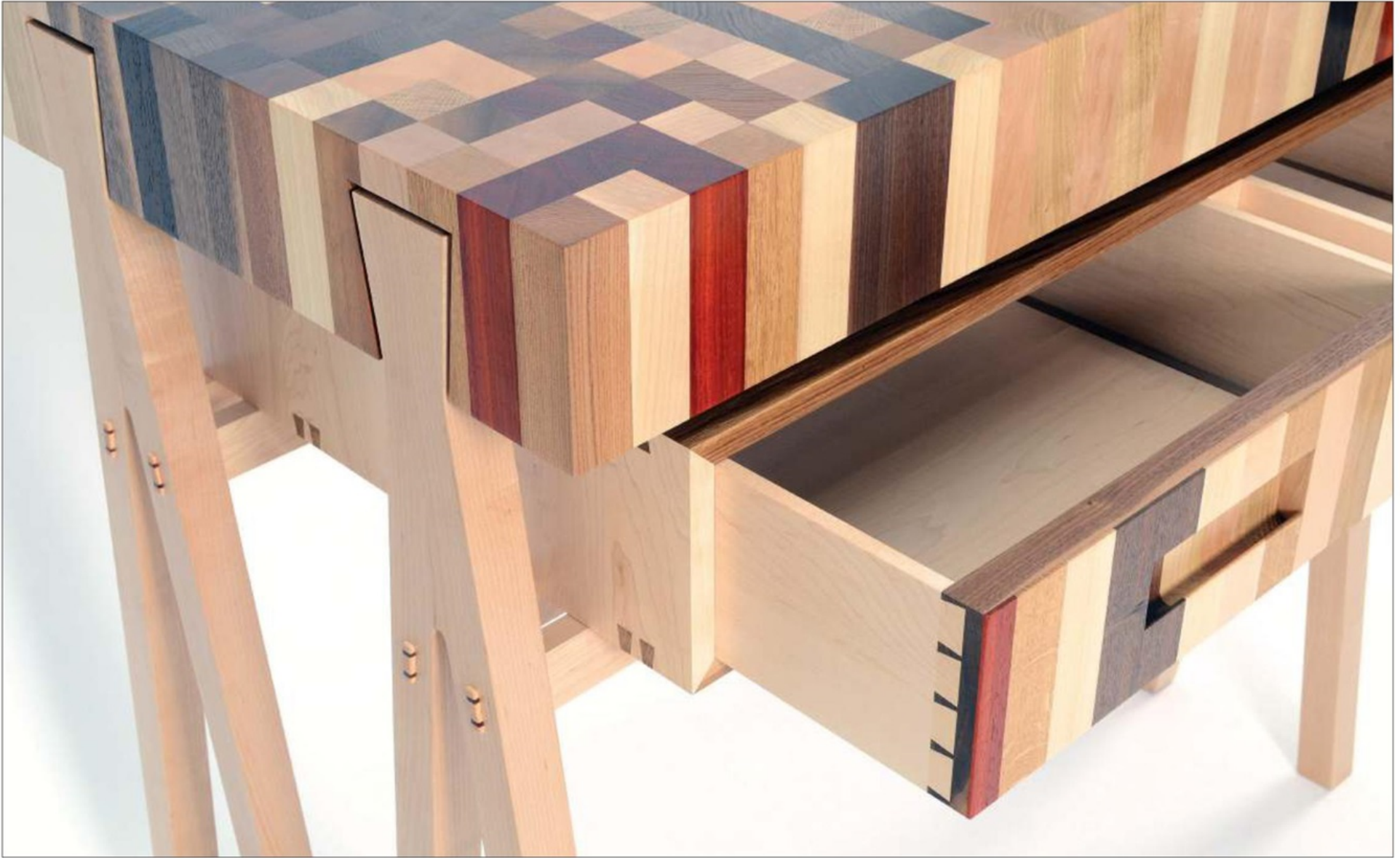


Chair in American cherry



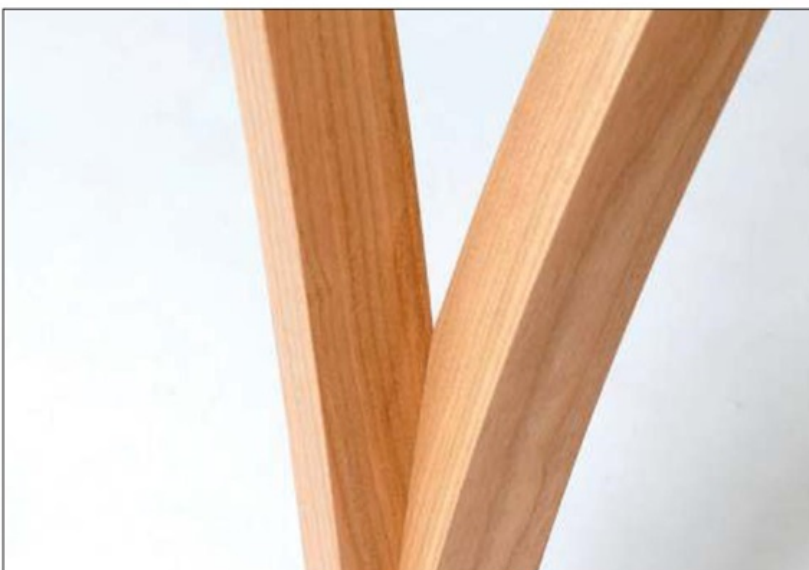
Textured stool in ash and ebonised oak

Gareth Harding



Butcher's Block in maple, oak and walnut. For more information contact: www.windermerefinefurniture.co.uk

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Desk in cherry and maple

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Media unit in maple and cherry.
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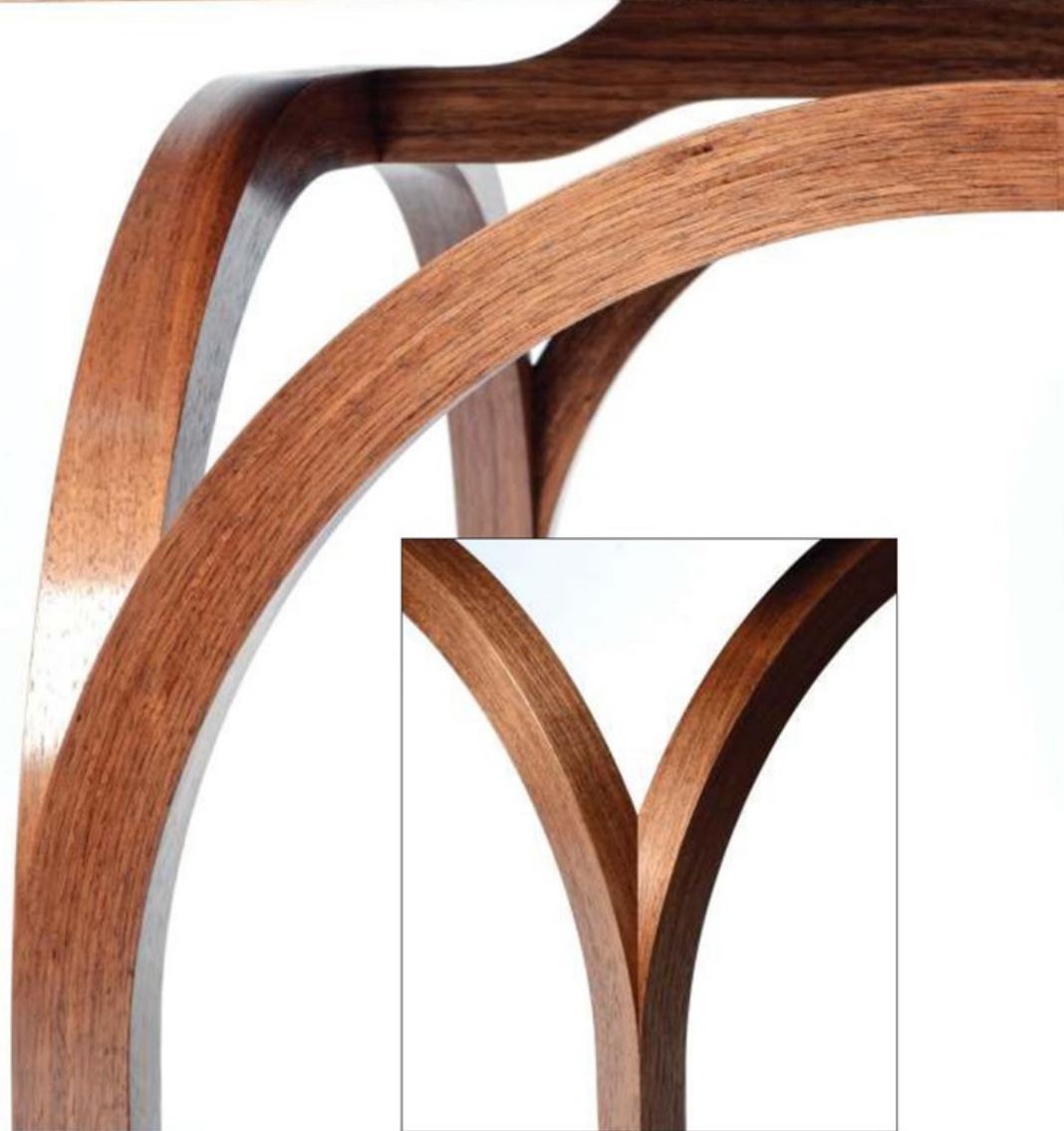


Table with drawers in walnut and ripple sycamore veneer.
For more information contact: www.richardfrostdesign.co.uk



Media unit with sliding doors in oak and sycamore.
For more information contact: www.richardfrostdesign.co.uk

Kate Morgan



Hall table with drawers in oak



Chair in fumed oak



Mark Harding



Sideboard in walnut and oak. For more information contact: www.simplywood.co.uk

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The tradition of Welsh stick chairs

In this extract from John Brown's classic book *Welsh Stick Chairs*, we learn about the evolution of this vernacular chair form



PHOTOGRAPHS COURTESY OF LOST ART PRESS

We take chairs for granted. Even the poorest people in the Western world have a few chairs in the house. In earliest times the chair was a symbol of power, a throne for the king, hung about with tapestries, a chair for the chief with the tribe at his feet. Even recently the best chair was father's, situated in a draught-free place near the range. The poorest people would have had no chairs at all. Probably the only furniture of an earth-floored hovel would have been some sort of chest. People did not have possessions, or very few. Everything then was handmade by people, and was of value. The necessities of life were shelter, a fire and some cloth for clothes. Only very gradually did people acquire any goods. Human nature doesn't change and the possession of an oak table would have produced the same effect on a home as a modern fitted kitchen of

the 1990s. So this gradual evolution, and the accumulation of cherished pieces, so regarded as to be entered, item by item, into the will or inventory of goods of a smallholder or farmer. Records from about 1650 show a yeoman of south Pembrokeshire listed as having '... stools, benches and a chair!'

Early forms

It all started with stools. Floors were rough, earth or perhaps slate, so these stools were three-legged to stand firmly on the uneven floor. Occasionally, one sees three-legged forms, a leg at each of the front corners, and a single leg in the middle rear. As the standard of living rose, so would be made for the head of the household a 'backstool' and we have what we know today as the Stick chair, or Windsor chair.

In prehistoric times the land of Wales was

covered in Scots pine, but in the periods that concern us most, Welsh trees of timber size were oak and ash. There was little use for pine or fir, even had it been available. These softwood trees require the power sawmill to make them useful. House frames were oak, and none other, as was most furniture. The only methods of converting tree trunks into usable timber were by splitting, then smoothing and shaping with an axe or adze, or sawing into boards over a sawpit. The sawpit entailed the labour of two highly-skilled men, one down in the pit, and the 'top sawyer'. With a saw 6 to 8ft in length they cut down the trunk to make planks. This was more often than not done on the site where the trees were cut down, as transporting heavy trunks would have been impossible. These boards were consequently expensive. On a good day a pair of sawyers could only do 10 or 12 cuts.

Probably the first record of a back chair is in the manuscript of the laws of Hywel Dda (Howell the Good), a 10th-century Welsh king. The surviving document, inscribed in the middle of the 12th century, has an illustration of a judge sitting on what is clearly a back or stick chair.

The history of the English chair since about 1800 is well recorded. The first chair factories with division of labour were working during the Napoleonic Wars. There are no such records of the early Welsh chairs, or the late ones for that matter. The stick chair on this side of the Atlantic is a peasant's chair, of little value, and therefore not worth recording. Welsh stick chairs were not built by chairmakers, but almost certainly were the work of the village carpenter, wheelwright or coffin-maker. A house would be built by a group of people from the area, men of various skills who could afford the time. They were not builders as such. The trades were for the important things in life, the blacksmith and the wheelwright for agriculture.

Household wares, such as furniture, were the luxuries of life which came after the provision of food. People had to do several things. A farmer might be a good hand at plastering, or the blacksmith's wife made candles.

Furniture was made by men who were handy with tools. We see only the best of it, poorly made pieces have long since fallen apart. Many of the implements used on the farm had components of wood: plough beams, harrows, wheelbarrows, sleds and gates, and for economic reasons a good proportion of these would have been user-made.

Tracing the provenance of individual country chairs is a complicated business, probably with few exceptions, impossible. There is no scholarly standard work to refer to. Chairs with similar characteristics are found in different parts of the country. They cannot, with any certainty, be regionalised. Carmarthenshire, with large areas of good farming land and a high proportion of better houses, is known for the quality and elegance of its locally-built furniture. Chairs found in the county, while unmistakably Welsh, have a greater sophistication than those made in the more remote parts further north. Dating Welsh stick chairs is very difficult. Whether these Carmarthenshire chairs were made concurrently with their more 'folk art' cousins from further north is difficult to say, but it looks as though they might have been. There is the possibility of another regional style. Some Welsh chairs have a wide lozenge-shaped seat, with only three or four untapered, heavier long sticks at the back. This type appears to come from the north.

As the standard of living improved, throughout Wales primitive furniture and chairs were made. By whom and for whom it is difficult to say. For certain, these items did not find their way into the squire's house and they were almost entirely rural. The one thing about the chairs is that they all fulfilled the strict definition of 'Windsor', in that they grew from a solid wooden seat, having legs and sticks socketed into that seat. The



A well used, very comfortable arm-chair. The turnings are interesting. The massive arm, chopped and carved out of a solid piece of timber, is a real work of art.



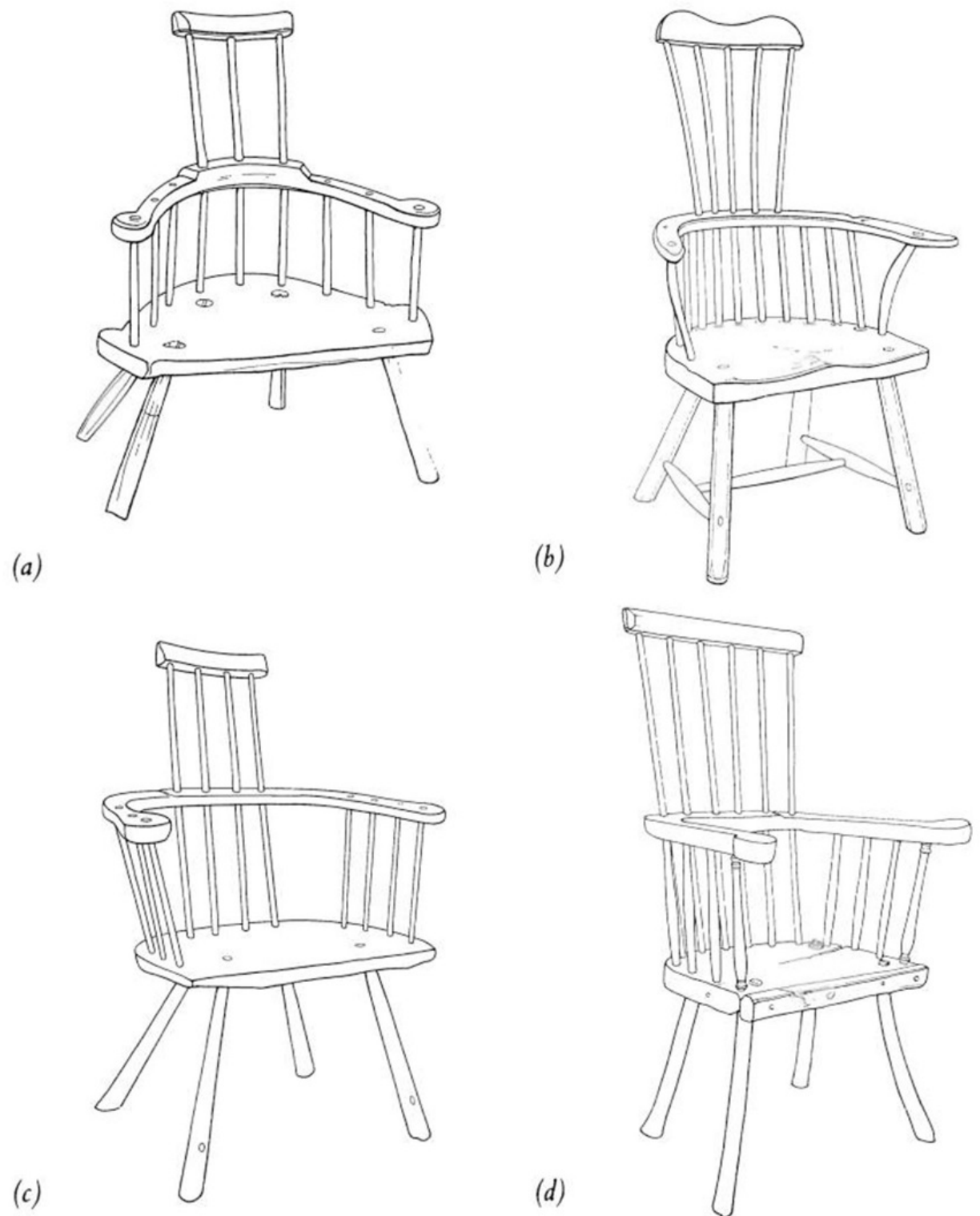
Two particularly good examples of Welsh stick chairs. The comb on the right-hand chair is interesting, for although it has no transverse curvature, the maker has tried to individualise this lusty chair with a shaped profile.

termination of the long back sticks was normally a comb, that is a piece of wood, sometimes curved, sometimes straight, into which the tops of the sticks were mortised. Rarely, a few later chairs have a steamed bow or hoop. Many of the chairs terminated at the arm, that is the rear sticks did not come up to the level of shoulders or head. These arm-chairs, quite common, are the forerunner of the smoker's bow or captain's chair.

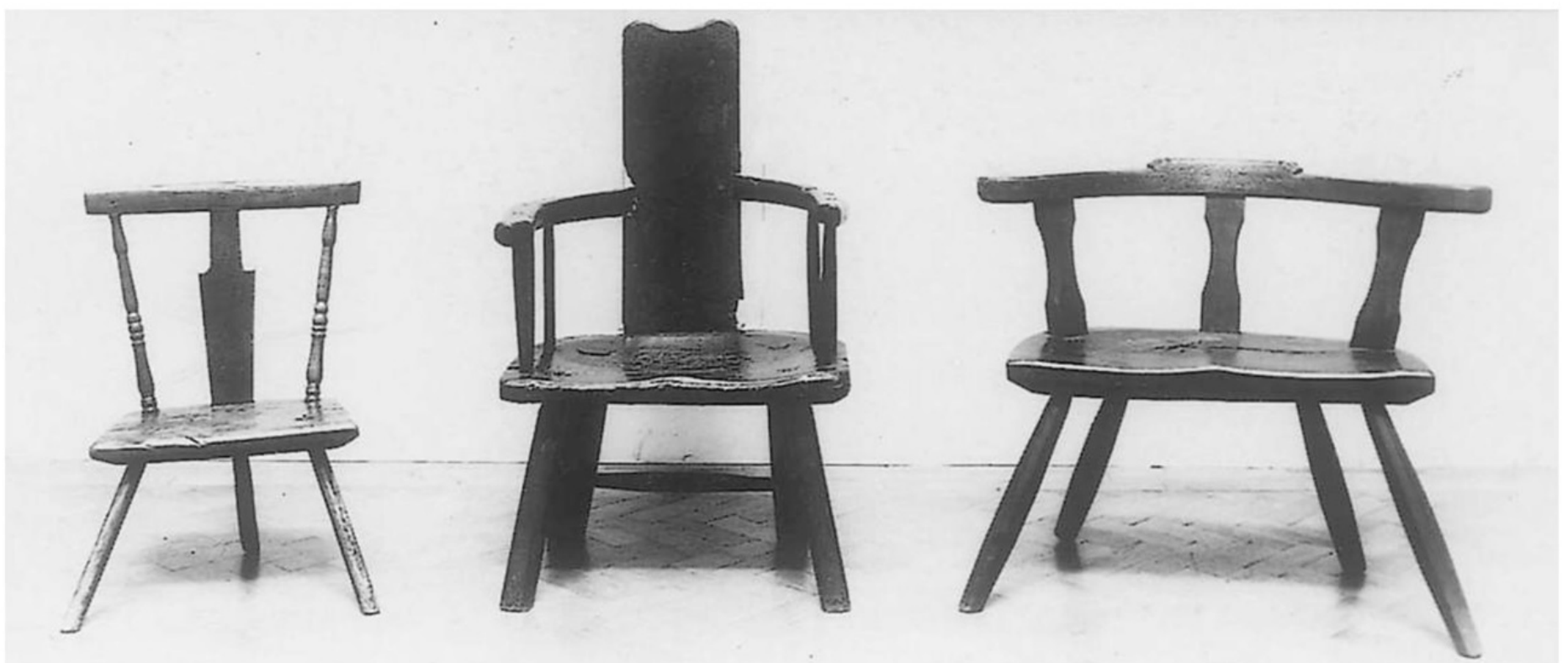
The enduring appeal of Welsh stick chairs

What is it that makes these chairs so attractive that now they have become highly sought after collectors' items? Could it be some extension of the old Celtic art which makes them so appealing – a naive folk art uncluttered by association with the contemporary urban styles. Many characteristics of the design are extremely good, and represent what we look for today in a well-proportioned chair. The most obvious feature is that the legs are set well into the seat with a good rake. The English chair has the legs at the corners, and they are more upright. This is not so elegant. Stretchers to strengthen the legs were sometimes used; there seem to be no rules. When English goods and ideas reached the country village, the rural craftsman was influenced to use some design, and some of the chairs began to lose their spontaneity.

Rural poverty and religious bigotry have triggered much migration of Welsh people, mainly to the New World. In the 1670s, Quakers from Montgomeryshire and Meirionethshire were central to the formation of Pennsylvania. William Penn's deputy was a Welshman called Thomas Lloyd. Later came the 'Welsh Tract' and, in 1786, it was claimed that there were over 900 Welsh Baptist chapels in Pennsylvania and the adjoining states. Welsh shipowners ran a continual service between Pennsylvania



In this illustration, (a) and (c) are examples of chairs which seem to come from mid to north Wales and have three or four heavy untapped sticks; (b) is a handsome chair with a slightly 'saddled' seat. Chair (d) has great charm, and has been 'modified'. The heavy arm and turned posts are interesting.



This fine trio represent the Welsh arm-chair. The right-hand one epitomises the Welshness of these chairs. The difficulty of finding crooks of the desired bend means that the arm has less curve than we are accustomed to. However, with arms clinging to the sitter it is difficult to work on one's lap, knitting, sewing, etc. This could be a version of the lap chair, or nursing chair. The leg angles greatly enhance the rakish vigour of this chair.



A four-square solid chair, obviously built to last. Some small attempt to scallop the seat, even a slight hollow, improves the comfort no end. Note the heavy arm and tapered sticks. The main arm posts are turned. The weak point is the legs; however, they are attractive, giving the chair its country appearance. A fine up-to-date undercarriage and this chair would be 'modernised' beyond recognition.

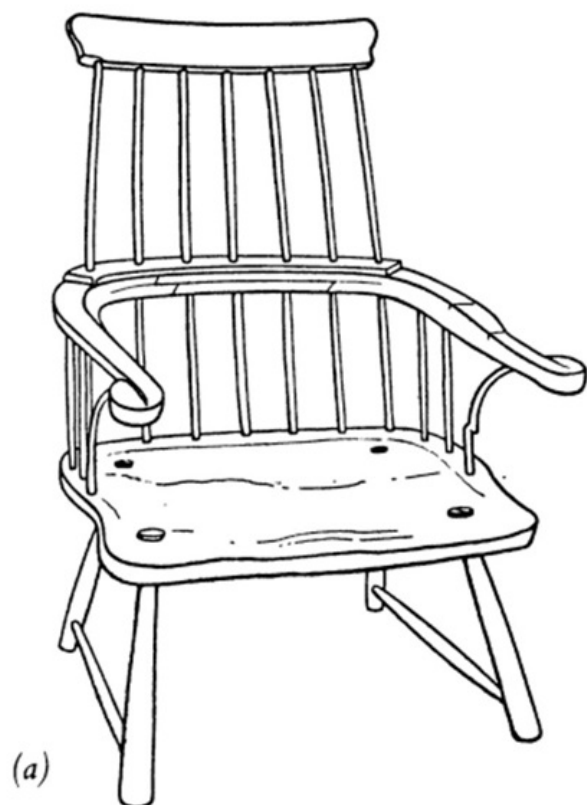
and Wales. From north Pembrokeshire and Cardiganshire large scale migrations took place to the Welsh Liberty settlement. Printing in the Welsh language went on in Pennsylvania into the 20th century.

Throughout the United States, Windsor chairs are much more widely seen than in Britain. Furthermore, they are to be found in the best parlours. The class distinction does not exist there. In court-houses and banqueting rooms, hotels and country clubs, American Windsors are in all the best places. There are many unique American-designed Windsors, and the industry or craft started in Pennsylvania. This in itself would not be important were it not for the fact that in two respects American Windsor chairs are similar to Welsh stick chairs.

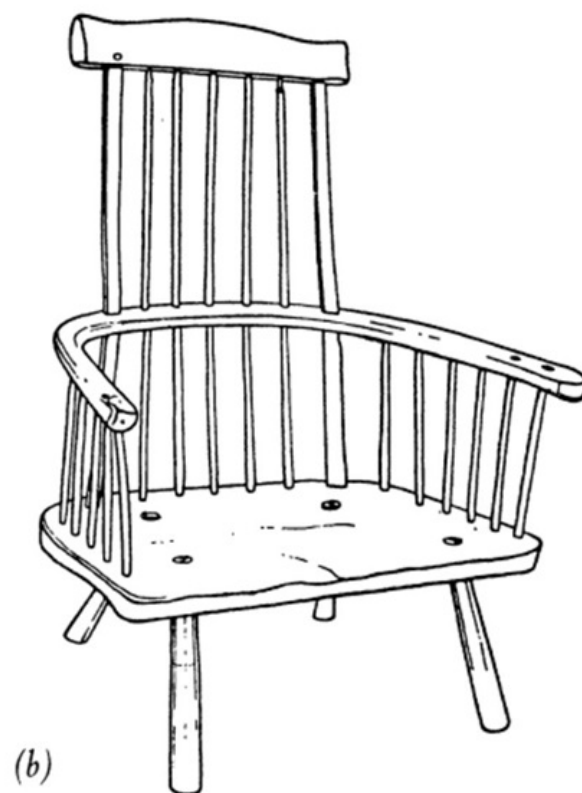
Firstly, there are no splats in the back of either sort. The splat is peculiar to English regional chairs and Wycombe chairs. Secondly, a common feature is the rake, or splay, of the legs. A collector of American chairs, the Reverend Wallace Nutting, wrote a book on the subject in 1917. He illustrates a bow-back English Windsor chair with a pierced splat. Under 'merit' he says, 'The English Windsors lack grace. Observe how stubby and shapeless the arms are. The bow is very heavy without being stronger for its purpose than a lighter one. The splat is peculiar to the English type. The legs are a very poor feature. They are too nearly vertical, and start too near the corner of the seat for strength or beauty, and their turnings are very clumsy ...' The oft repeated statement that American Windsors derive from the English chair could be in error. For historical reasons, and because of similarities in design, there seems to be a more direct link between the Welsh chair and the American Windsor. Perhaps the English version is the cousin, and the Welsh chair is the father!



Two particularly good examples of Welsh stick chairs. The comb on the right-hand chair is interesting, for although it has no transverse curvature, the maker has tried to individualise this lusty chair with a shaped profile.



(a)



(b)

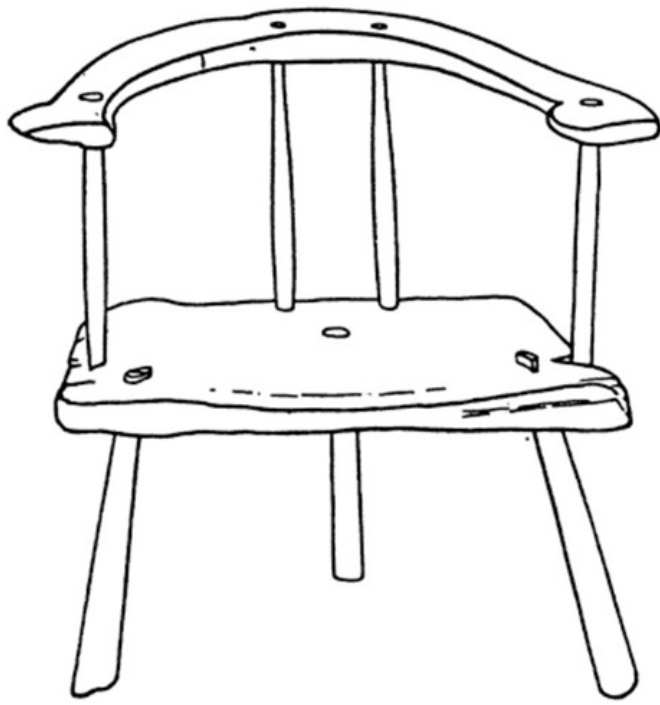


(c)

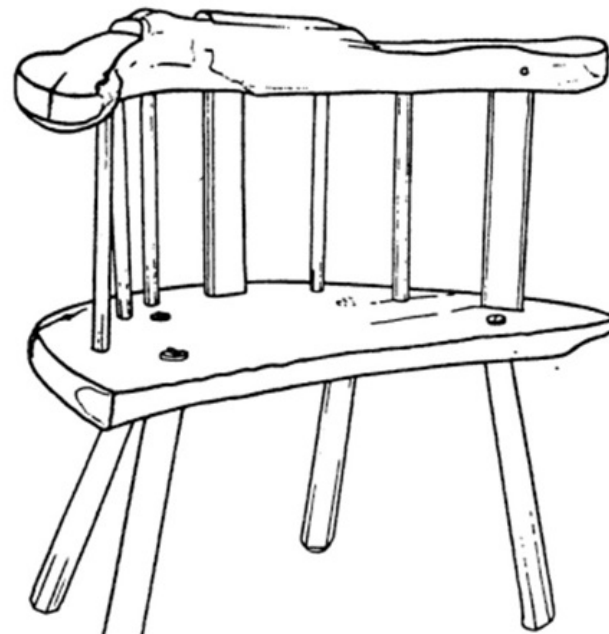


(d)

Four chairs of character. In each one there is a different treatment of the 'bow in' of the sticks. All look comfortable to sit in.



(a)

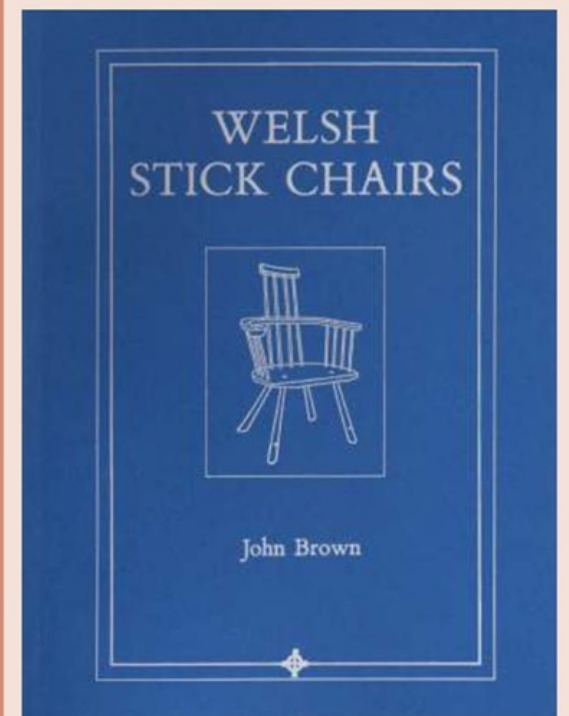


(b)



(c)

'Pura Wallia ...' These three arm-chairs are all of similar type: (a) is from Caernarvonshire; (b) from Cardiganshire, and (c) from Radnorshire. They represent a total Welshness from the mid-18th century.



Welsh Stick Chairs

By John Brown

John Brown (1933–2008) was a chairmaker in Wales who specialised in Welsh stick chairs. In 1990 he published a small book that explained how he made the chairs, plus some history of chairmaking in Wales and a critique of the Windsor chairs they were sometimes confused with. The book electrified woodworkers everywhere. Even those who weren't chairmakers were fascinated by John Brown's approach to the craft, his disdain for measured drawings and his honest and forthright writing style. Thanks to the efforts of Matty Sears, one of John Brown's sons, and the rest of John's heirs, it has now been re-published by Lost Art Press.

Available for \$29
from lostartpress.com



The English chair. Wallace Nutting was very unkind about this chair. There are much worse shapes of English Windsor. This one is quite nice. Note the splat.



This chair illustrates what happens when a country-maker tries to copy his more sophisticated cousins. This is an English chair, made in Wales.



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UNDER THE HAMMER:

Fine Asian Works of Art

We take a closer look at some of the top-selling lots from the Bonhams auction

The Fine Asian Works of Art auction was held at Bonhams' San Francisco sales room in December 2018. The sale included furniture, ceramics, paintings and calligraphy from China, Korea, Japan and India. Here we look at some of the finest examples of Chinese and Japanese furniture.

\$150,000 (£118,891)

A huanghuali horseshoe back chair, made in China in the 17th or 18th century. This style of round back chair is known in modern Chinese as 'Quanyi'. It is one of the most graceful forms found in traditional Chinese furniture. The curved back splat is carved with an openwork coiled dragon enclosed by a leaf-form beaded edge. The curving top rail is supported on the tubular back posts, framed by shaped spandrels and tapered side posts terminating in rounded hand rests. The hard panel seat is set into an 'ice-plate' edge frame with beaded aprons over stepped stretchers.



\$25,000 (£19,815)

A pair of black lacquered wood cabinets with mother-of-pearl inlay, made in China in the 17th or 18th century. Each stately cabinet is fitted with large double doors decorated with flowering tree peonies issuing from rocky outcroppings, elegantly rendered in mother-of-pearl and framed by precious symbols and leafy tendrils. The side panels are painted with gilt flowers in rectangular and circular reserves. The cabinet interiors are lacquered and have removable shelves.





\$100,000 (£79,261)

A rare pair of jade-mounted zitan corner chairs, made in China in the 19th century. The raised crest of the flattened horseshoe backs is elegantly carved with a series of lotus petals and jewels and supported by three ring and baluster form styles, set between superbly rendered vasiform splats. These splats are carved with further lotus and cloud scrolls and house brilliant white jade bi discs. The crest and horseshoe backs are carved from one piece of wood and terminate in leaf-shaped arm rests. The three stiles are continuous to form the back and side legs and are carved with ruyi-shaped knees and feet joined to the front legs by ring and baluster form cross stretchers. This chair form has its basis in Europe, notably in mid-18th-century George II mahogany corner chairs. Also named 'roundabout chairs' or writing chairs, one origin may be the three-cornered Elizabethan Varangian chairs of the 16th century. By the mid-18th century, Queen Anne and Chippendale examples were produced in America. Although commonly composed of two back splats set between three baluster styles, few corner chairs are identical. This pair, set with elegant white jade bi discs in its superbly carved splats, appear to be unique.



\$5250 (£4161)

A good-quality huali two-drawer desk, made in China in the Late Qing or Republic Period. The well-figured single panel is set into a mitred, mortise and tenon frame over side panels of beaded cut-outs and two fitted drawers to the front. These are all supported by oval rails joined to cross braces on three sides, framing a lattice-work footrest.



\$8125 (£6439)

A pair of hongmu stools, made in China in the 19th century. Each rectangular top is set into a mitred, mortise and tenon frame above a scrolled apron, joined to hipped supports and humpback stretchers.



\$12,500 (£9907)

A huanghuali side table, made in China during the Republic Period. The three-board top is set into a mitred, mortise and tenon frame over a beaded apron carved with five vignettes of ritual vessels on the long side, with three on the short side supported by beaded legs carved with key-fret terminals.



\$9375 (£7430)

A huanghuali altar coffer, made in China in the 19th century. The two-board top is set into a mitred, mortise and tenon frame joined to everted ends, shaped spandrels and 'ice-plate' edges over three solid drawers and supported by splayed rectangular legs. The double doors with fixed stiles open to the interior storage. The well-figured wood is fitted with huangtong mounts.





\$68,750 (£54,491)

A huanghuali horseshoe back chair, made in China in the 17th or 18th century. The central back splat is carved with a dragon roundel set into a ruyi-shaped reserve and framed by shaped brackets. This is suspended from a curved top rail supported by front and back rails and short posts to a framed and matted hard seat over a xiangcai-carved apron and box stretchers.

\$1375 (£1089)

A lacquered wood kodansu box, made in Japan in the Meiji period. The design is of Chinese inspiration but the box is constructed in the Kamakura bori technique of red lacquer over carved wood. The storage box is fitted with six drawers behind a pair of hinged doors above another narrow drawer opening to the front. The door fronts are carved with reserves of scholars and servants and the drawer front, sides, top and back of the case with birds and flowering branches, all against a variety of diapered backgrounds. The base and some interior surfaces are finished in black lacquer.



\$1250 (£990)

A lacquered wood incense stand, made in Japan in the Meiji era. The stand has a rectangular form and is carved with a camellia flower border on the flat top and crane reserves on the set-in waist, while dragons and other fabulous beasts crawl along the aprons between the cabriole legs. The stretcher base is also finished with a camellia flower border. The surfaces are finished in a combination of red and black lacquer.





PHOTOGRAPHS BY DEREK JONES/GMC PUBLICATIONS

Walke Moore Tools' 2500 Router Plane

Derek Jones takes a look at Walke Moore Tools' long-awaited virtuoso router plane

Router planes aren't something you buy on a whim, at least not if you're just starting to get to grips with hand tool woodworking. For a start, and to the untrained eye especially, it's hard to imagine how such a device might improve your game. But improve your game it will and for most people the light bulb only comes on after they've used one. Well that's my experience after lending my own out to dozens of students over the years.

I guess it really depends on the sort of work you do most of the time whether you need a router plane or not. And if you fit locks and hinges or cut grooves and tenons by hand, then I'm describing your workshop and you probably do. In that sentence alone

A boxwood old woman's tooth plane with a Robert Sorby cutter from the 1930s



JAMES AUSTIN/COURTESY OF THE DAVID R. RUSSELL ESTATE

there's an argument that makes jointers and smoothers look like one-trick ponies.

In a conversation a few years ago a woodworking colleague summed up what he thought the essence of cabinetmaking was with just two words: tight joints. Strip away the extraneous fluff about concepts and inspiration and a deeper relationship with materials and what's left is a series of components nestled together in housings of one sort or another, on which the structural integrity of the entire ensemble depends. In summary, you could say that the cabinetmaker's best and undoubtedly most important work goes unnoticed.

Consistent results

There are plenty of tools available that are designed to help us cut better joints more often, although it's possible to cut perfectly good joints without them. It just takes a bit more practice, that's all. However, as the return for our labour can also be linked to our output, a little standardisation is not to be sniffed at and that's what you get with a router plane – consistency of depth across identical or matched components. Router planes have appeared in texts as far back as Roubo's *Art du Menuisier*, commissioned and published by Académie des Sciences in Paris over several editions between 1769–74. Roubo described the use of a tool called a guimbarde whose primary function then was much the same as it is now, to level off the bottom of a trench at a consistent depth below and parallel to the surface of the workpiece. The term router plane came into popular use courtesy of the great Victorian London-based tool maker Charles Holzapfel in the second volume of his book *Turning and Mechanical Manipulation*, published in 1846. He describes a tool with 'a broad surface carrying in its centre [sic] one of the cutters belonging to the plough. ['plough' being a reference to the plough or plow plane]. It is used for levelling the bottoms of cavities... the projection of the iron determines the depth, the sides the cavities are prepared before-hand with chisel and mallet. The ordinary name for this plane is not remarkable for its propriety or elegance. It is generally called the old woman's tooth.' In much the same way that wooden bench planes were still being produced at the same time as metal and hybrid versions, so were wooden router planes by the time metal ones appeared. By this time the cutters were more refined and so were the methods for holding and adjusting them and it's these features that continued to evolve into the router planes we have today. Among the most sought after vintage models are the Stanley No.71 and Preston 1339P, on which the Walke Moore Tools 2500 is based, and variations of both styles by Tyzack and Record, to name a few. Among the metal-bodied planes there are two main sole patterns; a rectangular shape and one vaguely resembling a triangle. Preston and Tyzack are associated with designs based on the rectangular footprint and Stanley and Record with the latter. Having used

A type 4 Stanley No.71 router plane first patented in 1884



The Veritas Router Plane comes with a depth stop fine adjuster, a reversible tool post and two-piece cutter

both in the past I don't believe one has any particular advantage over the other in terms of performance or versatility. Having a larger contact surface may aid stability but it can also limit access to tight areas and interfere with the positioning of clamps used to secure components for bench work. The less bulky rectangular Preston-style body suggests a tool more suited to fine or delicate work despite the larger footprint. The Stanley-style body, which has influenced contemporary designs from Lie-Nielsen and Veritas, is chunky by comparison and feels more at home hogging out large amounts of waste. In truth both are worthy contenders in either situation.

What's in the box

The WM2500 comes with a single cutter, a detachable fence and depth stop and a sharpening tool holder designed to work with a honing guide such as that made by Lie-Nielsen or Eclipse. There is also a short but clear set of instructions explaining the functions of each component. The body is cast from manganese bronze, an alloy of copper and zinc. It's a material that when cast forms more consistently without voids or variencies in material density than other

materials. Although susceptible to tarnishing, it doesn't rust so the worst you can expect is a gentle and harmless patina forming on the surface. The hardware is either machined brass or stainless steel so again relatively maintenance free. The cutter is made from O1 steel. The machining, finish and general quality overall is excellent and well within what we have come to expect from premium tool makers. That's perhaps not quite as complimentary as I intended, but is indicative of the high standards of tool manufacturing in general.



Comprehensive instruction included with the plane for set-up and sharpening

Blade assembly

Sharpening the single piece blades on old-style router planes has always been a problem. Some modern manufacturers have simplified this process by developing two-piece irons – effectively a tool post with a separate blade that can be removed for sharpening. The blade on the WM2500 is attached to the tool post via a rod that runs inside it which is fastened at the top with a knurled brass screw. Not only are there no tools required to remove the cutter tip from the post for sharpening but the depth setting remains unaffected in the process. In short, that means you can pause midway through a batch of components, release the cutter from the post to hone it and then replace it to continue where you left off. Any serious re-grinding will of course affect the setting but at least you can work away knowing you have one or two hassle free re-hones in the bank.



The two-piece cutter and tool-less locking mechanism



The cutter tip attaches to an extension bar for sharpening

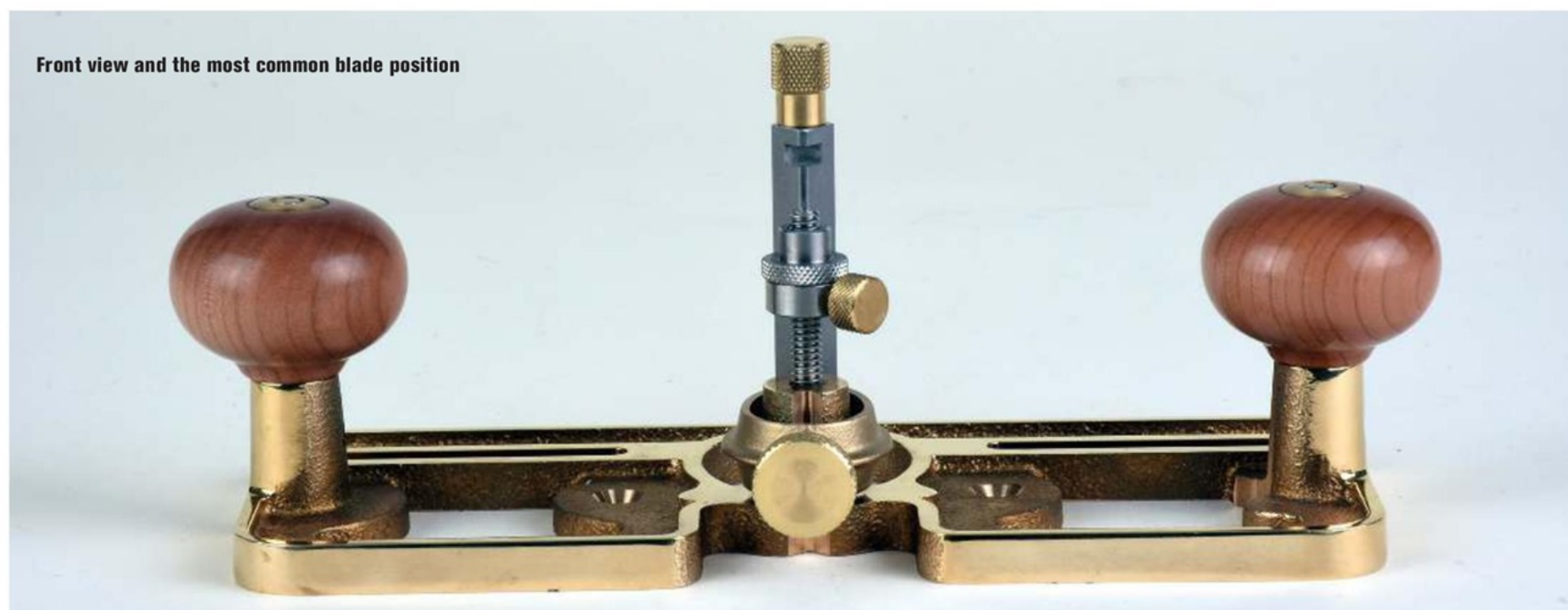


Set the bar into a honing guide for convenient and repeatable results

Location, location, location

The main advantage the WM2500 has over the Stanley pattern planes and it's one it shares with the Preston is the ability to relocate the cutter to three main positions around the body; one at either end and one in the middle. There are variations to be had at each position by altering the orientation of the post as well. Veritas have a similar feature on their router plane whereby the tool post can be rotated 180° to face either into the body of the tool (closed mouth configuration) or outwards for an open mouth set up. In some of these positions there are compromises to be made in the performance of the tool; better stability vs improved access. This, by the way, extends to both sole patterns. You can't, as they say have your cake and eat it. Or can you? The WM2500 has a few more tricks up its sleeve that test that theory and make

it more versatile than its contemporaries. By rotating the blade on the tool post you gain more options. I've counted 10 so far but there could be more. Not all of them are text book examples I'm sure as in some positions the body obscures the cutter from view but they work nonetheless and could be a life saver in some circumstances. The key to this enhanced versatility is undoubtedly the removable cutter tip. A single row of ridges machined onto the cutter tip correspond to a cross hatch pattern of ridges on the base of the tool post allowing you to reposition the cutter at 90° increments around it. In practice that means you have the option to work in multiple directions without the need to either adjust the depth setting, the position of the tool post or the orientation of the body.



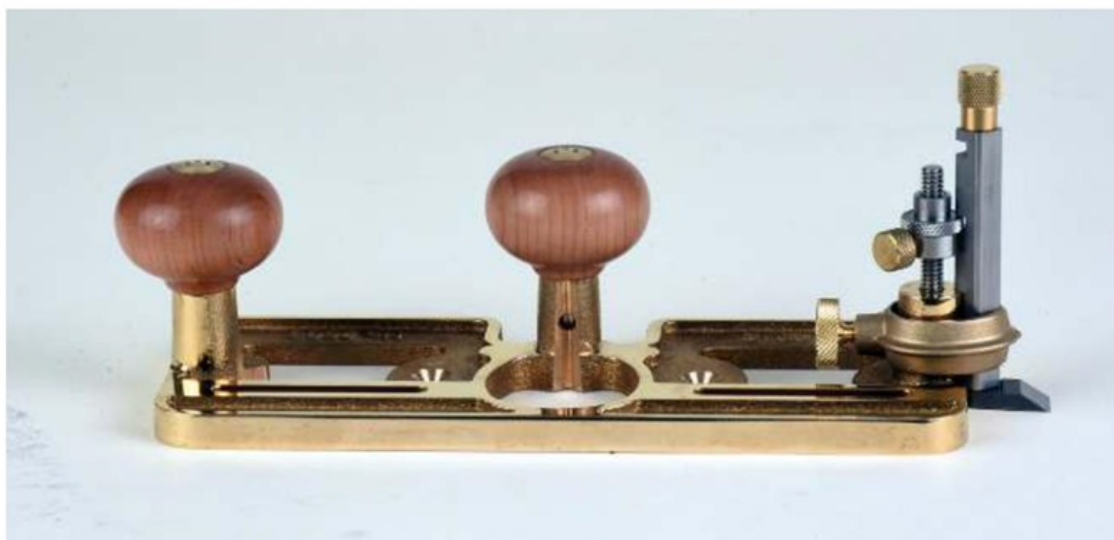
Front view and the most common blade position



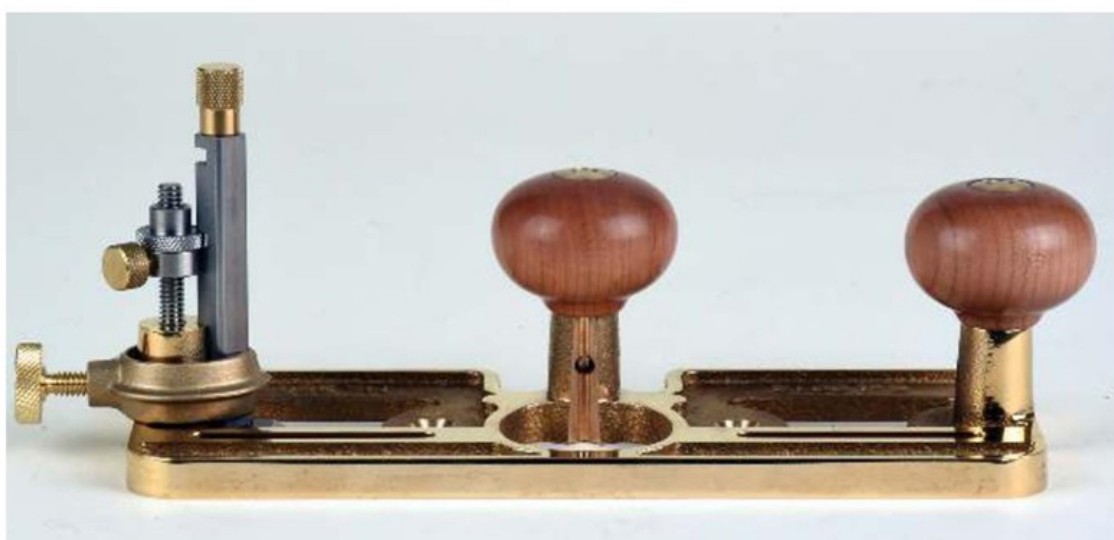
The tool post set up for open mouth work



The tool post set up for closed mouth work



The tool post set up for work at the end of the body for open mouth work



The tool post set up for work at the end of the body for closed mouth work



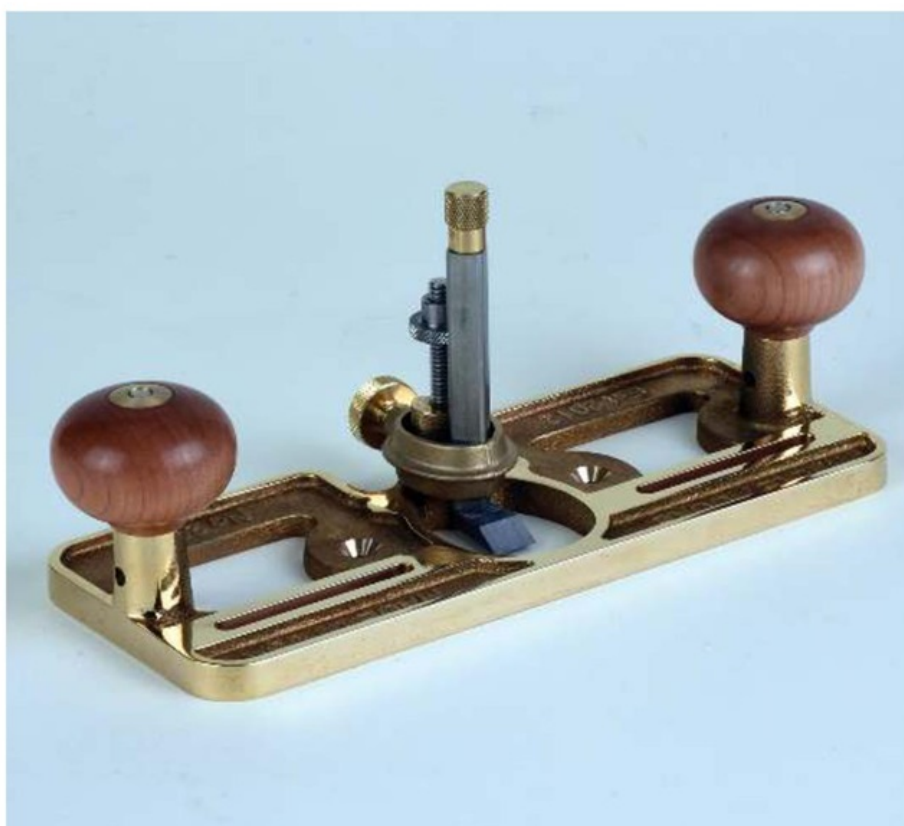
The plane can access small areas while in this configuration

Getting a grip

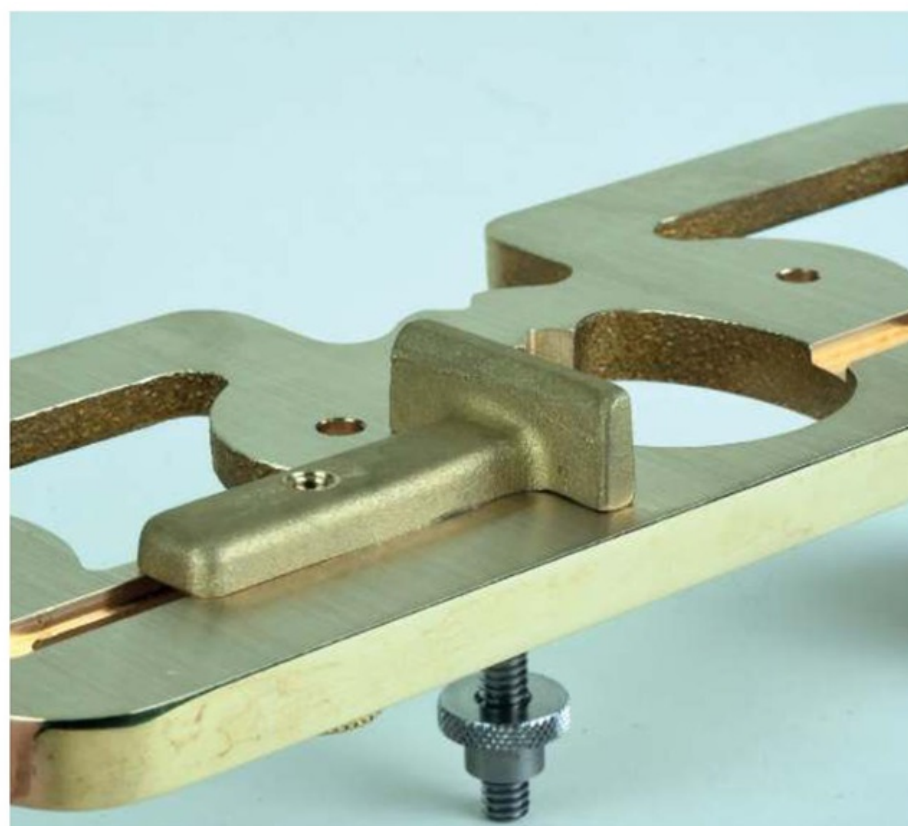
The correct hang or angle at which a handle presents itself to the user is something no two woodworkers ever seem to agree on. There's a science to it, I guess, but I do seriously wonder if sometimes we're guilty of over thinking things. After all, we are a collection of articulated parts capable of minute adjustments in response to any situation so does a degree here or there really matter that much? The knobs on the WM2500 are beautifully finished with brass inserts that make repositioning them a breeze. They are presented vertically and are no worse for that. Other router planes, such as the Veritas, lean theirs out a little. If this is more comfortable or allows greater control I've never noticed it. Whichever knob

position you're presented with I guarantee it will feel natural after about 30 seconds.

The least used feature of any router plane in my line of work is the parallel fence. I can't ever remember using it, let alone the last time so I'm prepared to accept that it works without trying. For the record, it can be fitted either side of the blade into a machined slot with a brass knurled screw. There's no wobble when it's locked down so expect it to function as you'd wish. The long edges on my tool are machined parallel but not square to the sole but then they are not expected to be. It does mean though that I could run the tool in a channel created by two straight edges if the need arose.



Straight handles don't impede access as much as angled ones



The cast manganese bronze fence can be attached to the base either side of the blade when the tool post is in the middle position

Conclusion

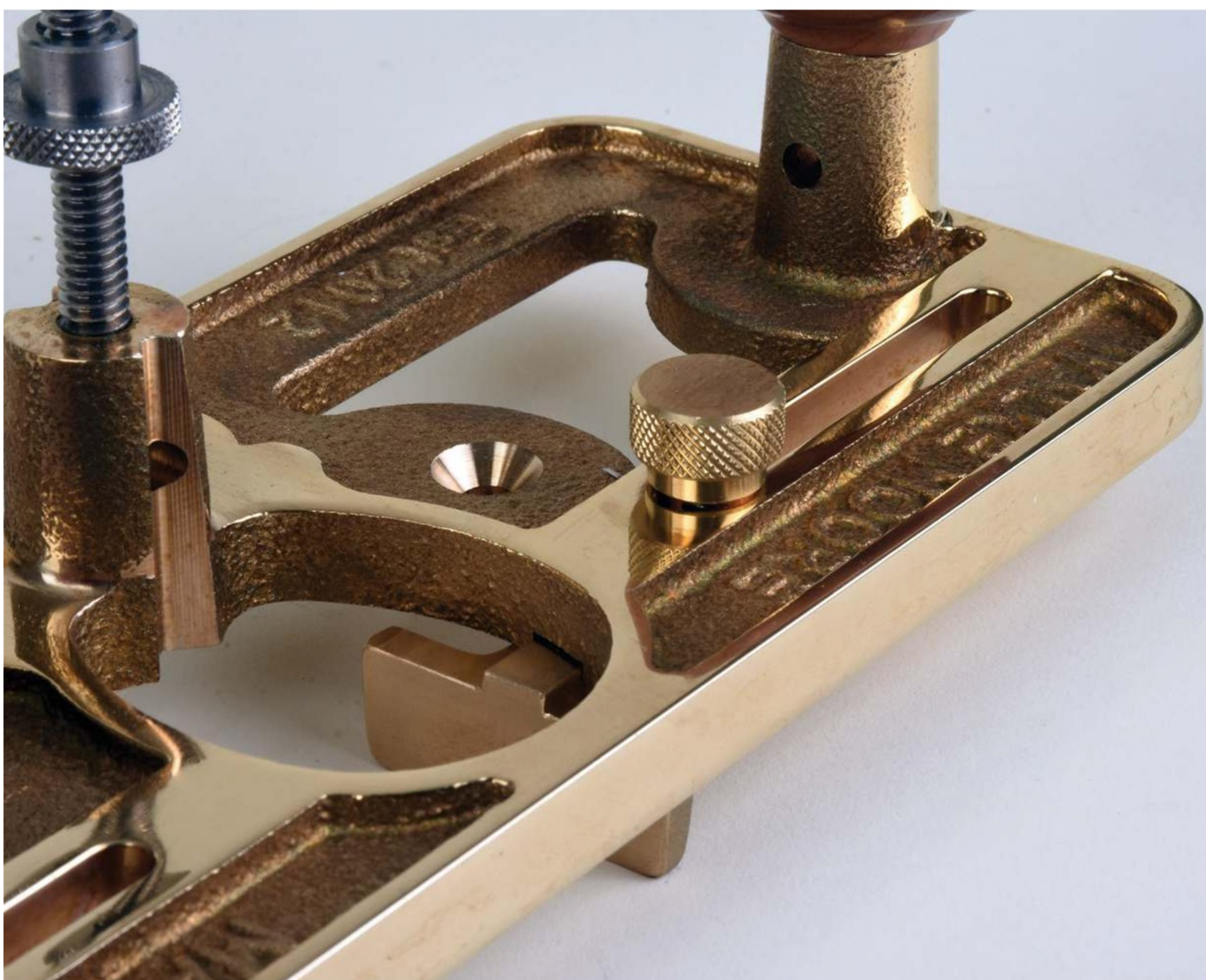
In summary, I'm extremely happy with my purchase. The WM2500 performs exactly as I'd hoped and has a number of features that aren't present on my other router planes. It's larger than my Veritas but with the extra tool post positions that may not be a problem. I've heard people comment on the marks left behind on light timbers from bronze planes and it's certainly something you need to consider if you work predominantly in maple or ash, for example. Waxing the sole helps to alleviate the problem for a short while but it's not a permanent fix. For that you'd need to apply a wooden base and there are predrilled and countersunk holes for that very purpose. If I had one gripe about the WM2500 it would be the edge around the machined recess at one end for the internal position for the tool post. It's a tad sharp and made a ridge in

my thumb after some heavy use. As I'm inclined to soften the sharp edges on all new planes and chisels to make them a little more user friendly it hardly constitutes a fail. A couple of swipes with a fine abrasive is all it takes and is surely part of the running-in process.

I suppose we should talk about price and availability and I've a feeling both will be a barrier to some customers. The WM2500 retails in the US at between \$285 for the matt unpolished version and \$315 for the polished version shown here. Add to this a separate amount for shipping, conversion to pounds sterling and import tax and you're looking at about £360. That's a fair sum however you look at it, especially compared to the Veritas and Lie-Nielsen router planes that can be bought for around £150 and £140 respectively. So the obvious question is,

is the WM2500 more than twice as good as the competition? Ordinarily in such situations I'd say no, but when you consider there are more than twice the number of possible working positions on the WM2500 than the Veritas and LN planes combined, then quite possibly yes. Which leaves a vintage Preston. Well, if I told you they're as rare as hens' teeth and have been known to change hands for sums in the region of £400 suddenly the WM2500 seems like a bargain, especially as you're not going to have to struggle to sharpen the one-piece cutter. As far as availability is concerned, the WM2500 comes around a little more often than a Preston, but not as often as a Veritas or Lie-Nielsen. My advice is to register your interest with the company and be prepared wait. It'll be worth it, don't worry.

From: www.walkemooretools.com



Holes have been provided for the attachment of a sub base

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Festool Rebating Head

Derek Jones tries out Festool's 30 x 50mm separate head and spindle rebate cutter

Ask a room full of woodworkers why they bought the machines they have and I bet they'll have 50 different reasons backed up with research and a spreadsheet tucked away somewhere to answer your question. I don't suffer from insomnia but if I did this would undoubtedly be my cure. One of the root causes of all this often painful deliberation lies fairly and squarely with the manufacturers who have sought to bridge gaps in the market by developing smaller machines that do operations associated with larger ones. Combination machines, for example, might be one such development. Drills that power lathes and sanders might be another. These machines obviously suit some users better than others and I doubt I'm the first to find out the hard way when they don't. For the most part the levels of commercial production become either more sophisticated or robust depending on a number of factors which relate mainly to the volume of output. Table-top routing is one of those areas where the convenience of running a small machine with a reduced footprint and cheaper tooling can compete with a larger one.

Spec vs spend

There are a couple of basic principles that determine the effectiveness of a given process and they relate as much to hand tool woodworking as machine processes. The first is good work holding, the second is the tooling itself. Just as you might struggle to get good results with a hand plane from the DIY big box store for £12 compared to one with flat surfaces and a properly seated frog for £100, machine tooling is no different.

For a couple of months I've been engaged in some small-scale production runs of casework for numerous storage items where rebates of different sizes feature a lot. In a commercial workshop I'd generally tackle these on a spindle moulder using a single block and cutter set-up for each one and for the most part complete the task in a single pass. No such luck on this occasion, however, so instead I searched for a suitable router cutter for use on a table-mounted router and came up with the Festool Rebating Head FK D 50x30.

Fine-tuned for better performance

As router cutters go it looks remarkably like spindle moulder tooling. The spindle, you could call it an arbor if you wish, fits into the router by removing the standard collet arrangement and using a special nut designed to accommodate a tapered shank of between 15 and 17mm diameter.



The cutter is balanced for smooth running by removing material from the head

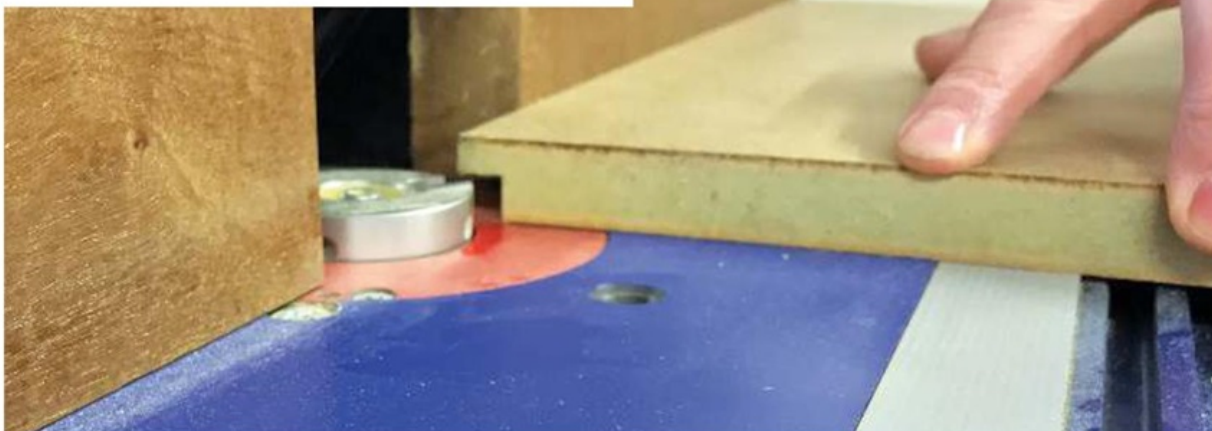
PHOTOGRAPHS BY DEREK JONES/CMC PUBLICATIONS

The maximum shank thickness for standard router cutters is 12.7mm or 1/2in so the extra thickness helps minimise any deflection under load and thus general accuracy. A smaller shank version is available for routers that take 6–8mm shank cutters. The spindle is compatible with other makes of router and not just Festool machines. The head is a separate component that fits onto the spindle and is held in place with a 5mm hex key. The heads are balanced at the factory for smooth running by removing minute amounts of material from the block by drilling a small strategically placed blind hole. The head is fitted with two replaceable TCT blades that use a Torx key. The blades are reversible as well, which I guess makes them feel as if they last longer.

At 50mm across the tips the cutter requires a reasonably large opening in a fence if the full depth of cut is to be achieved, and with this much tooling on display you might want to consider using a breakthrough fence.

Quick and easy breakthrough fence

Create a simple breakthrough fence by first attaching a sacrificial board to the front of your fence with clamps and either raise the cutter through the tabletop or through the fence while it's running. The benefits are threefold: improved accuracy as the workpiece will remain in constant line with the fence and therefore the cutter during the pass, hands or push sticks are shielded from the cutter and finally, improved extraction.



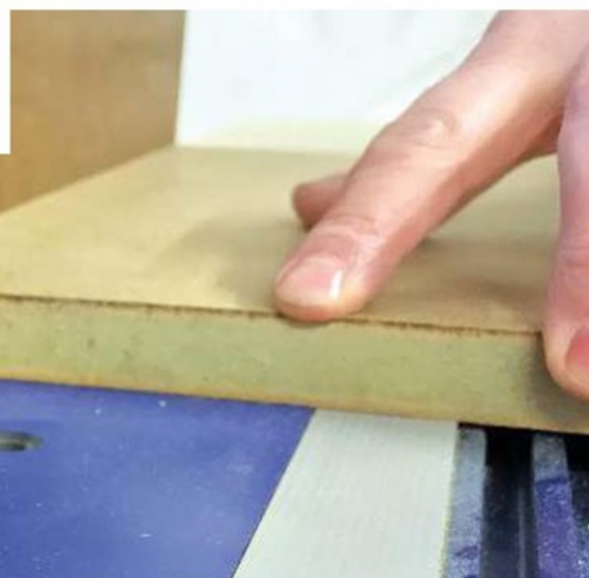
Spindle moulder performance from a table-mounted router

F&C verdict

With the growing list of expensive accessories available for tricking out your router table it's quite easy to get seduced into buying parts with dials and scales that suggest better performance. While they look the part and manufacturers will claim all kind of benefits, the reality is that you just need to get the basics right first. And by that I mean a good solid base or insert for your machine and fence. This may turn out to be a factory-made example or one you've made yourself as long as neither part deflects from straight and



It's worth mentioning that the cutter doesn't come with a Torx tool to swap out the replacement blades



true during use. Don't assume that scales improve accuracy, they don't and relying on them alone is not a great idea. Far better in fact to make fine adjustments by carrying out a series of test cuts and checking dimensions with a set of calipers. Good quality tooling should be at the heart of your set-up if consistent results are required and the Festool Rebating Head FK D 50x30 certainly fits the bill. At the moment the spindle only takes the rebate head but who knows, in time other profiles might be available. Let's hope so. *F&C*

Where to buy

Online is as good a place as any to start your search but prices differ quite a lot. Things start off at around £87 for the rebating head, £28 for the cutter spindle and £18 for a set of replacement blades, and go up to £94, £34 and £23 respectively. You won't find all the items listed on all the websites either, which makes any comparison a little awkward and none that I found mentioned what the blades were made of. I had to contact Festool UK direct for that piece of information. Use the six-digit product codes (48.... and 49....) and the following information for best results.

Rebating head FK D 50x30 – 489284

Cutter spindle ASL20/OF1400-OF2200 – 490131 for CMS-OF 1400, 2000, and 2200 (6-12.7mm collet)

Cutter spindle ASL20/OF1010 – 489285 for CMS-OF1010 (6-8mm collet)

Reversible blades WP 30x12x1.5 – 489286



Cold bent lamination

Richard Wile shows how bent laminations can bring a curvy dimension to your work

Many times the role of the woodworker becomes one of a problem-solver. We are presented with a challenge which requires us to explore the various options for a given technique and select the one that works best for the situation. Joinery often presents us with one such challenge; when designing a piece such as a drawer, do we use dovetails (through or half-blind), locking joints, or butt joints with nails or screws? All these options (and others) provide a usable drawer with the choice often driven by prioritised factors such as aesthetics, the maker's skills, time budget or others.



Laminations can be used structurally to create dramatic visual effects

PHOTOGRAPHS BY RICHARD WILE

Often when a design employs a long curved component, cutting the lumber for the piece can result in short-grain sections that are structurally weaker and may not be fit for purpose. Many makers employ curved pieces of wood, such as branches, or crotches which have the necessary shape 'grown' into the tree to ensure they have continuous grain in the final piece. For many of us, this is not an option so we need to find creative options to yield curved pieces for our projects. Cold bent lamination is an alternative to consider that requires few new tools or skills for most woodworkers. Compared to steam bending which uses heat and steam to change the wood internally to hold its new shape, cold lamination uses thin strips and glue which, when cured, retain the shape of their former mould.

Indeed, some very well-known creative

woodworkers use laminations as a point of emphasis in their work to great effect.

So, what is this cold bent lamination? Simply stated it is bending thin strips of wood around a form and gluing the strips into a monolithic piece that, once dry, will hold the shape of the bending form with very little springback. This technique is very effective for curved structural or decorative components as the resultant piece is quite strong and stable.

Laminating as an alternative to steam bending

Often the traditional choice for a curved component, such as a chair crest rail, has been to steam bend the piece. While still a

viable option for many and indeed preferred by many prominent makers, the average builder is often challenged to make this approach work consistently. Conventional wisdom seems to suggest that kiln-dried material does not take to steam bending, and my own experience confirms this. In my experience kiln-dried oak, cherry or walnut often splinters and if you do get it to bend, it wants to return to its original flat shape as it dries. As wood gets thinner, its flexibility increases, minimising breaking, and a glued lamination helps the strips to hold their form with minimal springback.

Many makers of traditional designs employ laminations to make curved components such as chair backs, continuous arms, crest rails, rockers and decorative stretchers, to name only a few.

Preparing the material for bending



Simple plywood forms to make chair leg braces in two sizes, for front (l) and rear (r) legs. Four 3mm strips yield one 12mm-thick leg brace



This selection of walnut and ash braces will make four chairs. The two walnut braces on the left are story sticks for drilling the attachment holes



The braces mortised to the leg and screwed to the seat in this shaker bench

Depending upon the timber and the minimum radius of the bend, the thickness of the wood to be bent is key. A tight radius often requires the strips to be thinner to minimise explosive splintering of the piece during bending. Many factors impact the bending a piece of wood, however, grain direction is perhaps the greatest. While the ideal grain orientation for bending is clear quartersawn strips, this is not always available. I have considerable experience easily bending wood with the grain well in excess of 45° from quartersawn. Flat-sawn material is bendable if desired, a test piece will determine if the wood needs to be thinner or better supported through the bend. If using a mixture of strips, placing the flat-sawn ones in the middle supports them better and decreases the chances of wood failure in the bending process. I always do a rehearsal of the bend before adding glue – wood failure at this time is much easier to deal with than during the actual glue-up.

Wood species impacts the flexibility of the strips, with domestic choices such as ash, oak, walnut and cherry bending easily. Where wood choice is not a factor, such

as painted pieces, I will use ash or maple which yields consistent and predictable results. Many of the exotics are quite hard with significant grain run out making them difficult to bend; I have had good success cold bending straight-grained mahogany and poor results from any of the rosewoods, due to their hardness.

In a few situations where I absolutely wanted that difficult piece in the lamination, I pre-bent it by steaming, clamped it and let it dry before doing the actual glue-up.

Once the timber is chosen, the laminating strips or lams need to be prepared. My target thickness for lams is 3mm and a quick test bend will tell me if I need to go thinner, much thicker and the thickness makes bending harder to complete, especially in a large stack of lams. Thin strips can be sawn from larger stock on the tablesaw or bandsaw, the quality of the cut edge will determine if further treatment is required. In my experience on the tablesaw, smooth cuts are easier to achieve with a good rip blade, a thin-kerf saw blade reduces the amount of material turned into sawdust. A high-quality zero-set resaw blade on the

bandsaw produces an excellent edge and wastes the least amount of material during the cutting process. Any unevenness in the sawn edge will translate into gaps in the final lamination, both unsightly and structurally weaker. I usually run the strips through a thickness sander with an 80 grit belt to clean up the faces and make the lams consistent in thickness; this yields an almost invisible glue line.

A form needs to be built in the final shape of the bent piece, allowing for minimal springback. For curves less than 15° I add 1° for springback to the form. My form to make 12° braces for my chairs is actually 13°. For laminations that have eight or more laminations, I usually do not see any springback at all. The mould needs to have plenty of places to attach clamps to hold the lams in place while the glue dries. The

choice of using a backer board for the mould is often driven by the project itself. For simple bends (like the letter C) I employ a back on the curved section which helps to reduce blowout and ensures I have a consistent curve. For more complex bends (like the letter S) or thick laminations, I always use a backer piece of the same shape to keep everything aligned. This also ensures any gaps between the lams are completely compressed during the clamping process.

The entire lamination stack should be slightly over width to allow trimming later on to final size. The lams also like to slip a bit in the form, so this gives the necessary breathing space on the final lamination. To yield a final 12mm width I cut my strips to 15mm to start. A quick run over the jointer or a hand plane removes the glue

squeeze-out and finishes the edge.

To avoid your lamination becoming welded to the form, it needs to be lined with something the glue does not like; a trick I use is to cover the surfaces with masking tape and then add some furniture wax for good measure. I refresh the furniture wax every few laminations to ensure it does the job. You will need to clean up the edges of your piece with a plane or sander, so there is no risk of wax contaminating your project.

Based upon experience, the successful laminator needs to be patient. If not properly cured, the lamination will spring back more than desired. Some springback needs to be allowed for, but leaving thinner pieces to cure for a full 24 hours and thicker pieces for 48 hours will improve your luck. This ensures the glue inside is fully cured and will keep the final form.



This rocker form is made from sturdy plywood, and a custom-built backer strip to ensure consistent pressure along the length



Using the backer strip and lots of clamps to hold the rocker lams in place to cure. Note the angle-iron strips and quick-grips to keep the lams aligned



These cherry boards are prepped (left) and resawn (right) to make laminating strips for two Maloof-style rocking chairs. Witness marks allow the lams to be stacked back together for colour consistency



The completed rocker carved with a smooth transition to blend perfectly into the leg

Cold bent laminations add many options to a builder's bag of tricks...

Many commercial furniture makers use laminated components as it is not only an efficient use of materials but it is also easier to shape complex forms. Large curved laminations allow designers to express their design in interesting ways while using strong structural components that are visually very interesting; making the most efficient use of the timber.

The colour of the timber used in the lams also allows the builder to express themselves in many ways. Using flitch-cut lams allows the piece to look like a single bent component; in a chair crest rail, one would have to look very closely to see the piece is laminated and not a single bent piece. Alternatively, layering different types of wood in a lamination can be used to create some interesting effects in the final piece.

A word on glue choice

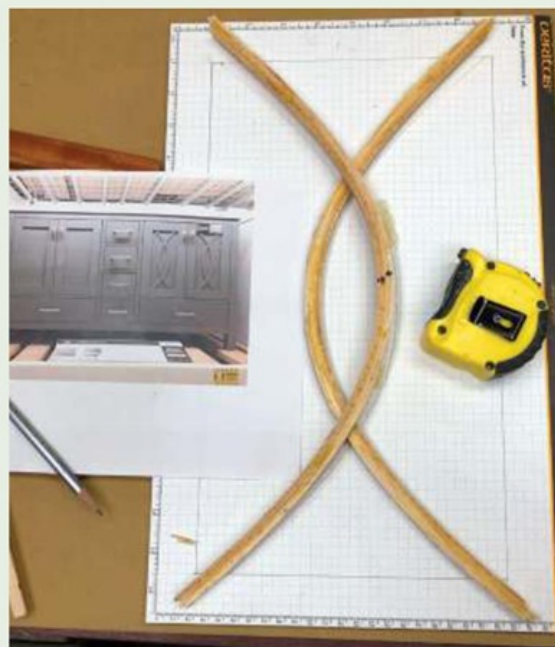
Many types of glue exist for the wannabe laminator, for the home workshop user regular Titebond III checks all the boxes; easy to use, inexpensive and ideally suited to the task. I wrote to Franklin Intl. several years ago to determine Titebond III's suitability for laminations; they advised that this glue was formulated for skateboard deck builders, outdoor suitable and flexible in use – this was enough for me. I use Titebond II if I am gluing lighter woods and want to avoid a brown glue line. In situations where flexibility is not an asset, such as acoustic musical instruments, an adhesive that cures hard, such as epoxy or instrument glue has been my choice to maintain resonance.

The final word

Cold bent laminations provide the maker with an alternative to steam bending that is easily employed and provides an option for structural and decorative elements in many projects. I hope you give it a try on the next project that you undertake. *F&C*

Cabinet door

Recently I was asked to make a door for a vanity cabinet that had curved details within a normal Shaker-style frame. While the picture provided was likely CNC'd from one piece of MDF, this was not an option for me without a CNC machine. Instead I chose to make a traditional Shaker door and create the curved inlays with bent laminations glued to the panel in the door. The door was to be painted so I used maple curves glued to the Baltic birch panel and the blend was perfect. One could imagine using contrasting woods here to create a nice effect on a natural wood door. All without a CNC!



The original request based upon a photo from box store and the bent strips fresh from the forms, placed on my original sketch; notice the minimal springback at the top



Cutting the pieces to install in the door face, after being thickened to 6mm to be flush to the front of the door frame. The offcuts are clamped in place to provide spacers for the bows



My quick form built from scraps, lined with masking tape holds these four strips of 3mm maple in place while curing

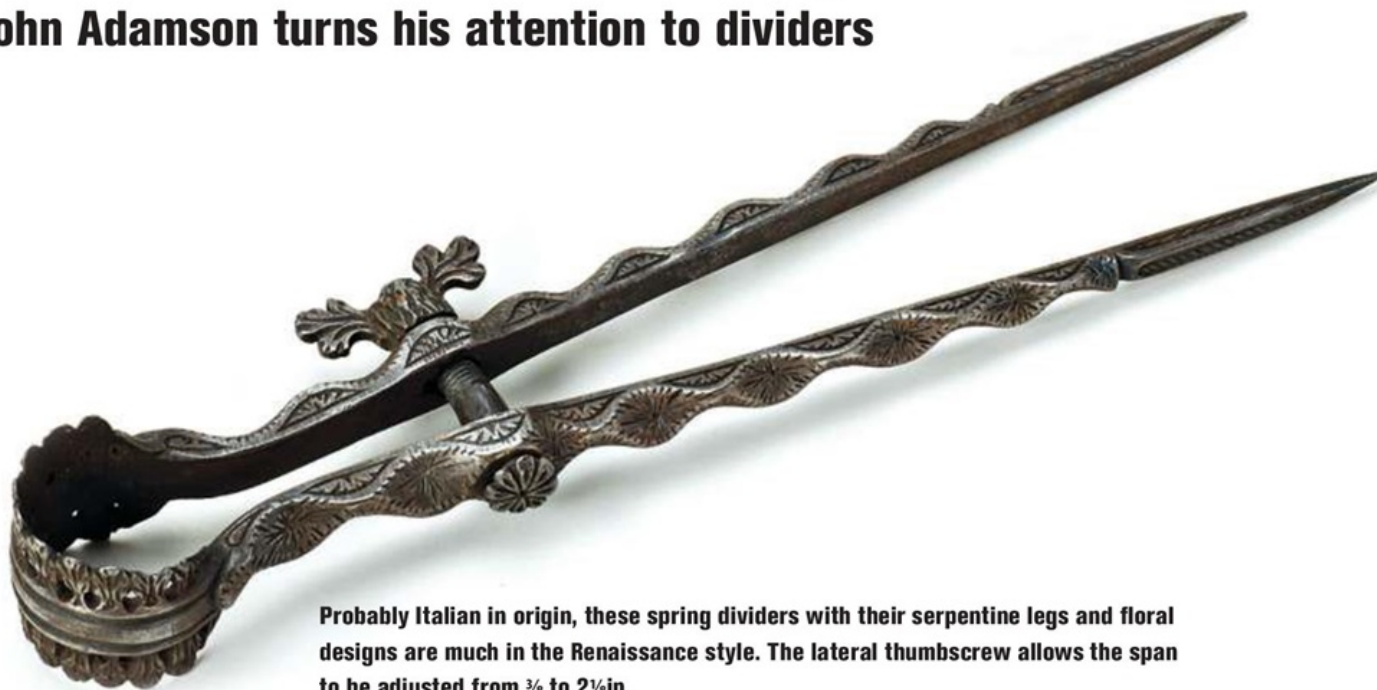


The final door arrangement for the vanity with inset curve detail, ready for painting

KEEPING WITHIN COMPASS: a history of dividers

In the latest in his series on tool collecting,
John Adamson turns his attention to dividers

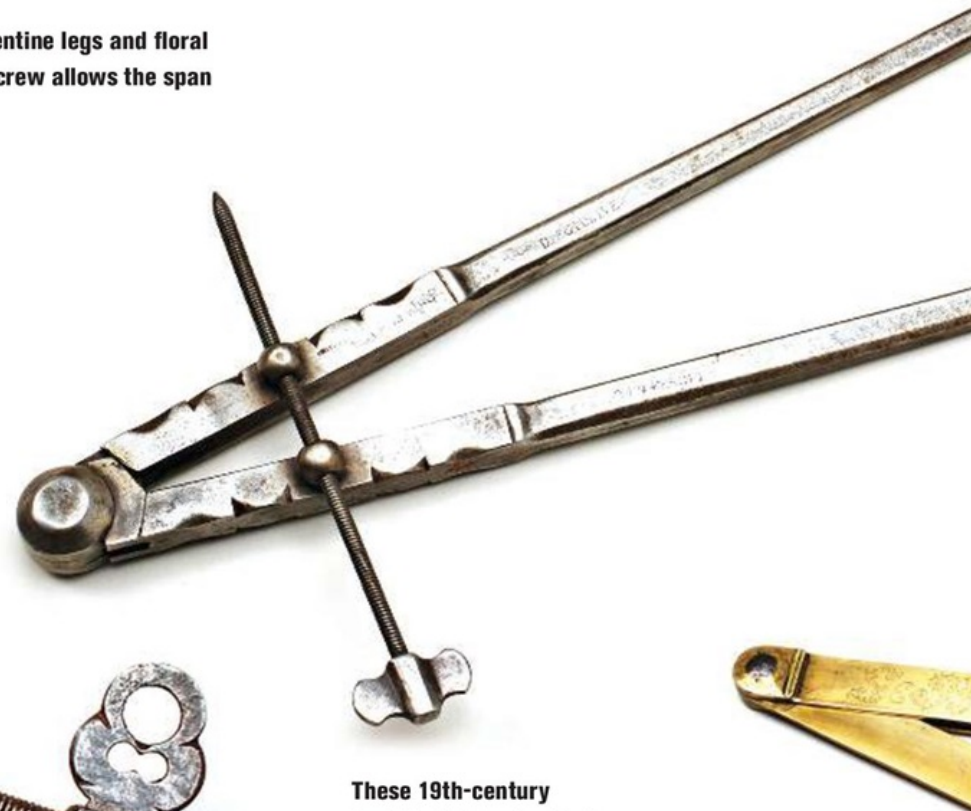
PHOTOGRAPHS BY JAMES AUSTIN, COURTESY OF THE DAVID R. RUSSELL ESTATE, UNLESS OTHERWISE STATED



Probably Italian in origin, these spring dividers with their serpentine legs and floral designs are much in the Renaissance style. The lateral thumbscrew allows the span to be adjusted from $\frac{3}{8}$ to 2 $\frac{1}{2}$ in.



The double trefoil screws on these handsome German 17th-century thread-adjustable dividers or *Zirkel mit Stellschraube* are a striking feature.



These 19th-century English dividers in steel and 18 $\frac{1}{2}$ in in length, with a 24in span are stamped with the partially erased mark: 'SMITH & M [...]'.




In patinated copper alloy, this pair of dividers is much akin to Gallo-Roman compasses, such as those at Vesunna, the Gallo-Roman museum in Périgueux, France. How little the design has altered between the Roman period and today.



With stylish stop-end chamfers and heart-shaped openwork on the thumbscrews, this pair of late 17th- to early 18th-century French wing dividers (*compas à quart de cercle*) is engraved with scales on the quadrant: 0 to 90° on one side and 1 to 16 on the other. The legs and wing are in brass and the removable spikes in steel.



The Cupid's bows, quivers of arrows, garlands of leaves and pierced heart along one of the legs of this 27½in pair of compasses from the 18th century with brass legs and wrought-iron points are likely symbols belonging to the *compagnonnage* or French system of guilds of highly skilled craftsmen. The scroll-work makes this a handsome tool. On one leg is engraved the owner's name 'SeBastien Cuirel' [*sic*] and on the other his initials in monogram.

The youthful Icarus fell headlong into the sea because he had flown too near the sun and the wax of his feathered wings had melted; his cousin Perdix fell from a tower because his uncle Daedalus had thrown him off in a fit of jealousy. Or so Ovid tells us in his narrative poem *Metamorphoses*, written in about AD 8. But why was Daedalus, the ingenious craftsman and legendary founder of carpentry, jealous of his nephew? The boy had been committed to his care by his mother for the benefit of his education, but it had soon become clear that the child's genius far surpassed his uncle's skills. And how had the boy's talent manifested itself? He had, so Ovid's tale goes, invented two tools: the saw and the compass. As luck would have it, the goddess Minerva, protectress of the Arts and Sciences, taking pity on the boy, bore Perdix up as he fell and transformed him into a partridge, so that he landed unscathed.

Ovid describes, though does not name, the measuring device the boy was said to have invented: 'And he was the first to bind two iron legs from a knot, so that while they remained the same distance apart, one leg should stay fixed and the other describe a circle' (A. S. Hollis's translation).

Defining dividers

Although no mention is made of the pointed ends to the legs, the instrument is clearly a compass in its simplest form. The merchant, printer and prolific translator William Caxton in his rendering, completed in 1482, of a French prose adaptation of *Metamorphoses* is more specific: 'The chyld hade not xij. yere of age, but he was moche subtyl & engenyous. . . . He fonde first and contryued th'arte to make compaas & and the sawe to sawe wod with.'

Caxton was by no means the first to use the word 'compass'. The word is attested in Geoffrey Chaucer's *Treatise on the Astrolabe* as well as in other early Middle English works many decades before Caxton's translation. Yet there is still no sign of the word 'dividers' in our lexicon of the time, however, and no clue as to when that term came into the language and what exactly it might have meant when it did. Looking at the etymology of the French word *compas*, whence our English word 'compass' came, helps us at least to understand the shared roots of these two words in the conjectured low Latin verb *compassare*, to step together. Nevertheless, Alain Rey in his *Dictionnaire historique de la langue française* states that while the noun *compas* has been attested in French since the 12th century, it soon lost its dynamic meaning of measure to refer specifically to the measuring tool itself with its two legs designed to describe a perfect circle.

Indentured apprenticeship contracts from the 16th century entered in enrolment books now in Oxford's city archives record the tools, apparel and lump-sum payments that trade apprentices might expect to receive at the end of their term. The entry of 20 February 1579 for Richard Elliott, a cooper's apprentice, promises the

These three fine late 18th-century carpenter's compasses from France of between 27½ and 33½in in length all boast elegant foliate or pelagic decoration.



Lively ornament, including fishes' and dolphins' mouths marks the junction of the legs and their points on these carpenter's compasses.

provision of double apparel, 26 shillings and 8 pence, four craft tools, namely an adze, wimble [gimlet], drawing knife and a pair of compasses; whereas that dated 10 October 1585 for another cooper's apprentice, Jedeon Turner, agrees provision of double apparel, 5 shillings and 5 tools, being an adze, a broad axe, a heading knife, a jointer and again a pair of compasses. In both cases, the tools being offered were doubtless deemed essential tools for a freeman to set up a cooperage.

The earliest documentary evidence I have found for the word 'dividers' occurs nearly a hundred years later when in 1668 Joseph Moxon, the royal hydrographer and later the author of *Mechanick Exercises*, alludes to the instrument in his booklet *Mechanick Dyalling*, which, as its rambling subtitle suggests, teaches any man, though of an ordinary capacity and unlearned in

mathematics, to draw a true sundial on any given plane only with the help of a straight rule and a pair of compasses, and without arithmetical calculation. Although added as little more than a helpful tip, Moxon unwittingly gives us the earliest known definition of 'dividers' when he writes: 'Note, That you may in small *Quadrants* divide truer and with less trouble with Steel Dividers (which open or close with a Screw for that purpose,) than you can with Compasses.' The implication seems to be that 'dividers' (spelt thus in the booklet's first edition) are easier to use and truer than compasses when working on a smaller scale and that their accuracy stems from being fitted with a threaded adjustment mechanism.

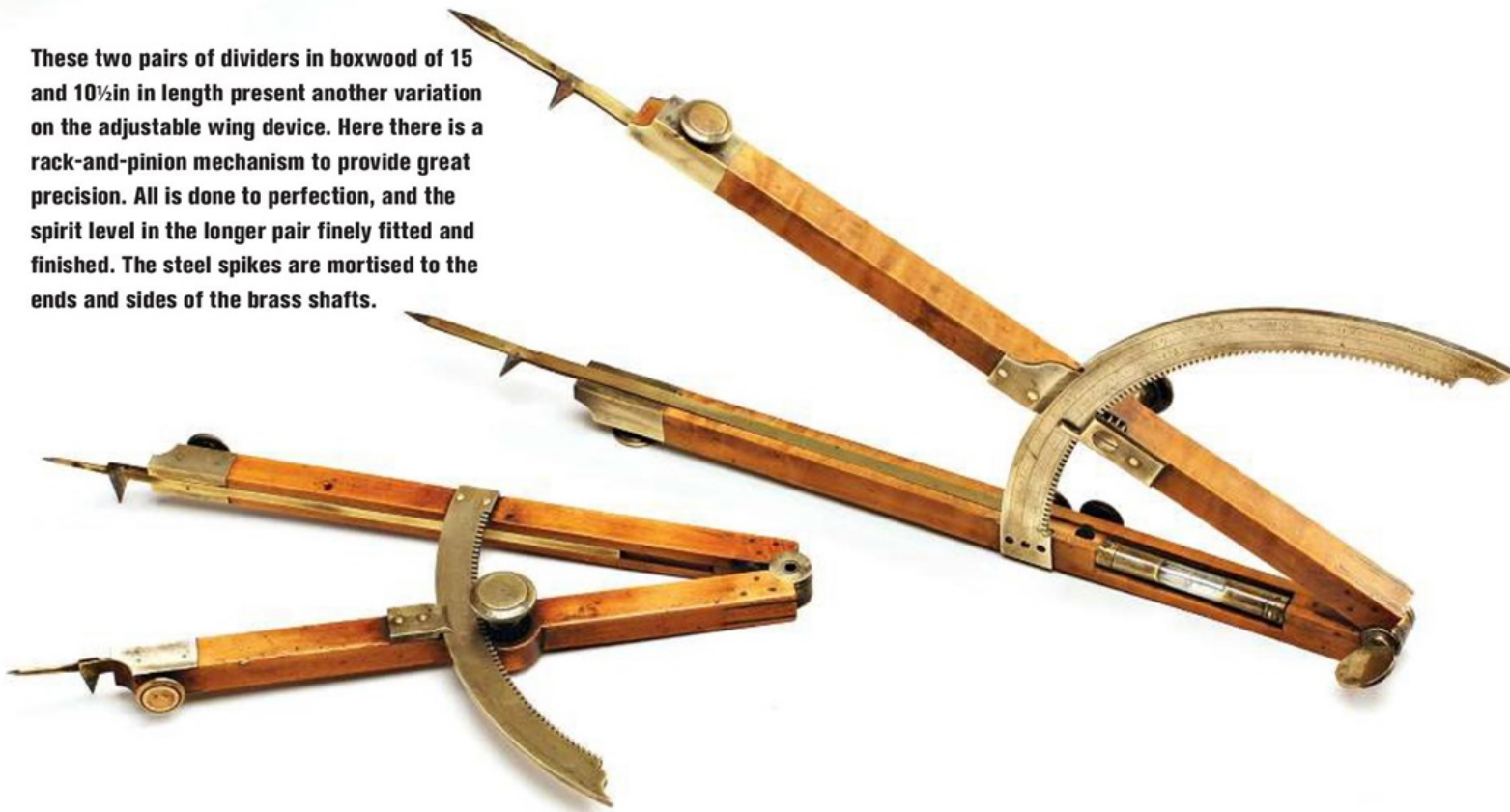
To some extent this is borne out by Nathan Bailey in his *Universal Etymological Dictionary* first published in 1726 when he defines dividers as 'a Pair of mathematical

Compasses', with overtones of scientific precision implied in its use, whereas for him a pair of Compasses is 'an instrument for drawing circles, etc.' Later, around the mid-century when Dr Samuel Johnson brought out his *Dictionary of the English Language*, the divider (in the singular) is given a wonderfully unspecific definition: a divider, he baldly writes, is 'A particular kind of compass'.

Knight's *American Mechanical Dictionary* in its 1898 edition furnishes a systematic definition that in fact echoes Moxon by saying that it is a 'form of compasses usually with an adjusting and retaining arrangement. . . the fine thread of the screw admitting of a very delicate adjustment'.

The *Oxford English Dictionary* today is consistent with that definition by describing dividers as having a screw mechanism 'used for measuring or setting off very small

These two pairs of dividers in boxwood of 15 and 10½in in length present another variation on the adjustable wing device. Here there is a rack-and-pinion mechanism to provide great precision. All is done to perfection, and the spirit level in the longer pair finely fitted and finished. The steel spikes are mortised to the ends and sides of the brass shafts.



Probably from Austria or Germany, this elegant compass (*Bleistiftzirkel*) in fruitwood or service-tree came from the Dermot & Cynthia Roche Collection. With its shell motifs, punchwork, carved legs, ivory hinge and neatly inset steel pencil holder, this instrument is far removed from the traditional English schoolboy's pencil compass.

intervals'. The dividers so described would seem to be of the spring-loaded type, on which a spin-wheel on a threaded rod fastened to one leg and passing through the other affords remarkable precision. But the dictionary omits describing wing dividers, on which instead of a threaded rod there is a wing fastened to one leg that passes through the other and can be locked at the required setting with a thumbscrew.

Yet all is not straightforward, for the OED then proceeds to give a second definition that is much more general: dividers are 'a simple pair of compasses with steel points'. We have, so to speak, come full circle! Here the lexicographers are not being at all prescriptive when they note how the word is often used thus in common parlance.

Form and use

Whether dubbed dividers or compasses,

this instrument patently has a very long history indeed. The story of Perdix borrowed from Greek mythology highlights the huge importance attached to the device and hints at its genesis in Antiquity or even earlier. In its simplest form it has hardly changed since Ovid's time: it still consists of two straight legs of the same length held together at one end with a swivel joint. And there is no reason to suppose that its principal functions have changed either: transferring measurements from rule or pattern to workpiece or from workpiece or pattern to another location; describing circles or arcs; and scribing. The instrument can also be used to step off proportional relationships in a work, without the need of units of measure, or, as Moxon pointed out, without having to resort to arithmetic. Even the subtle proportions of the golden rectangle require no more than a set

square and a pair of dividers. Little surprise then when we see throughout its long history how such a simple instrument should have acquired so many symbolic meanings in the visual arts. A fundamental tool of astronomy and geometry, it became the attribute of the allegorical personification of these disciplines. Dividers portrayed next to a sitter tend to identify the likeness as being that of a navigator or an architect, or even an artist with a command of geometry and proportion. Eduardo Paolozzi's sculpture, set on a high plinth outside the British Library, is modelled on William Blake's depiction of Newton from the 1790s, in which a naked Isaac Newton measures the Universe with his dividers. But it is also Paolozzi's self-portrait and shifts the symbolism away from Blake's explicit criticism of science to encapsulate the fruitful meeting of the arts and the sciences.



PHOTOGRAPHS BY JEAN-PAUL MULLER



PHOTOGRAPH BY JOHN ADAMSON

The statue of Sir Isaac Newton by Eduardo Paolozzi (1924–2005) outside the British Library, London.

Tips for collectors

If you plan to use the dividers that you buy, ensure that they have good points and that the hinge is stiff. The latter is particularly important for dividers without thread adjustment.

Many pairs come on the market and are very affordable. Those by renowned makers like Holtzapffel or Moore & Wright of Sheffield come at a premium, whereas decorated antique pairs may fetch high prices according to their aesthetic appeal.

Contemporary makers (e.g. Format, Star Tools) offer traditional wing, spring or plain designs, as well as those designed to hold a pencil. Others like Crucible in Indiana take an innovative approach as to how to hinge the legs.



Plain traditional dividers have been given a contemporary twist by Crucible Tool LLC in Indiana. Rather than using a peened rivet at the hinge, the new way of attaining the exact stiffness of the joint on these 6in unhardened steel dividers is by means of a mechanism that allows easy adjustment with a spanner insert bit.

Antique Woodworking Tools

Their Craftsmanship from the Earliest Times to the Twentieth Century

David R. Russell

with Photographs by James Austin



If you're enjoying our series on tool collecting you will find more examples of the items featured so far in *Antique Woodworking Tools: Their Craftsmanship from the Earliest Times to the Twentieth Century* (ISBN 978-1-898565-05-5).

For more information see www.antiquewoodworkingtools.co.uk

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release the button to
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Rapid A3 Profil drawing board

There was a time when I was completely conversant with two separate CAD drawing applications, Vectorworks and AutoCad, which was no mean feat given that they were designed for use on different operating systems. Depending on which office I was in, I could usually pick up where I left off to create or amend 2D and 3D layouts without too much downtime. I've heard it said that in a fraction of the time it took to learn a skill you can lose it if you don't use it and for a lot of things in life I'd agree. However, for some reason manual skills and the dexterity that goes with them seem to stick around for longer. Or at least that's what I found when I sat behind an old-school drawing board with parallel slide and set square for the first time in a couple of decades.

The Rapid A3 Profil drawing board is an entry level drawing kit consisting of a board with T-square onto which a rotating drafting square and set square can be mounted. The sliding T-square can be locked at either end for the most accurate results with simple slide controls. While I know there are more sophisticated products out there I also know they come with an equally sophisticated price tag making the Rapid A3 at round £45 an excellent alternative to a professional rig.

The board is made from a shock-proof plastic with corner tabs and full length and width magnetic clamps to hold the paper in place. It takes just a couple of seconds to secure the media and away you go. Scales along the top and side make it easy to reference points on the page and there is a separate compass plotting scale at the bottom of the board for picking off radii easily. A couple of removable feet raise the board a few degrees off horizontal.

With most of the similarly priced drawing boards mimicking the professional spec with either wire or tooth and cog mechanisms, the Rapid is much simpler and in my opinion more robust as a result. The plastic doesn't scream quality but then neither does chip board and edge tape but once you've come to terms with that there's really nothing to dislike. This kit came in a box that doubles as a permanent storage container complete with handle that will keep all your drawing equipment in one place. There's plenty of choice of where to buy one if you search online, just look for Rapid A3 drawing board. Some are clearly badged as Rotring – a well-known and respected brand of drafting equipment – others are not and there seems to be little or no difference in quality. Expect to pay around £55 for a Rotring one and £45 for a non-branded kit. Ideal if you don't need a full-size drawing board or don't have room for a permanent fixture.

From: Various outlets, including www.amazon.co.uk, www.ryman.co.uk and www.rotring.com/uk/

Bosch Connectivity Floodlights



From £80



Bosch have added two new cordless floodlights to their Connectivity system for professionals. Both the GLI 18V-1200 C Professional and the GLI 18V-2200 C Professional can be controlled via the Bosch Toolbox app meaning you can switch off and on, dim the lights, couple multiple floodlights or activate the timer – all with the tap of a finger. You can also check the battery's charging status or PIN the floodlights to control access. Further advantages are a longer runtime and their high IP64 certification for dust and splash protection

meaning they can be operated both indoors and outdoors.

The Bosch GLI 18V-1200 C Professional and Bosch GLI 18V-2200 C Professional are powered by high-performance 18-volt lithium-ion batteries which are part of Bosch's 'Flexible Power System'. This guarantees compatibility with all new and existing professional power tools and chargers within the same voltage class, leading to greater productivity in day-to-day work.

From: www.bosch.co.uk

Clarke Tool Chests and Cabinets

These professional quality, heavy duty, lockable tool chests and cabinets are perfect for keeping tools secure and tidy. They feature extra large drawer pulls with protective anti-slip drawer liners and ball bearing runners for super smooth sliding action; industrial chrome spoked wheels with foot brakes, rubber grip side handles and extra large chrome steel side handles for easy movement; safety 'push-lock' drawer design preventing drawers accidentally opening when tilted and all drawers lock simultaneously when the top lid is closed; and protective top mats that prevent the top chest from moving and provide a non-slip working surface.

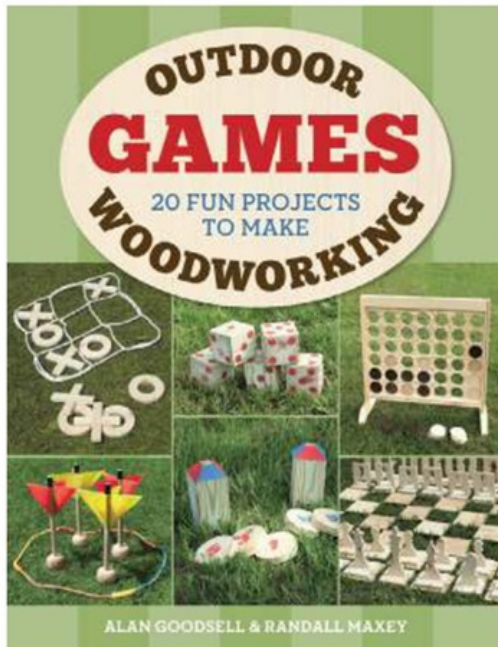
The chests and cabinets are available in a range of colours including Blue Line Industrial, Black and Gold as well as Clarke Contractor yellow. The CBB209B 9 Drawer Chest is available for only £143.98 while the CBB217B 7 Drawer Mobile Cabinet is priced at £287.98. Three-drawer step-up cabinets and two- to eight-drawer side lockers can also be added to this model, available from £81.58.

From: www.clarketooling.co.uk

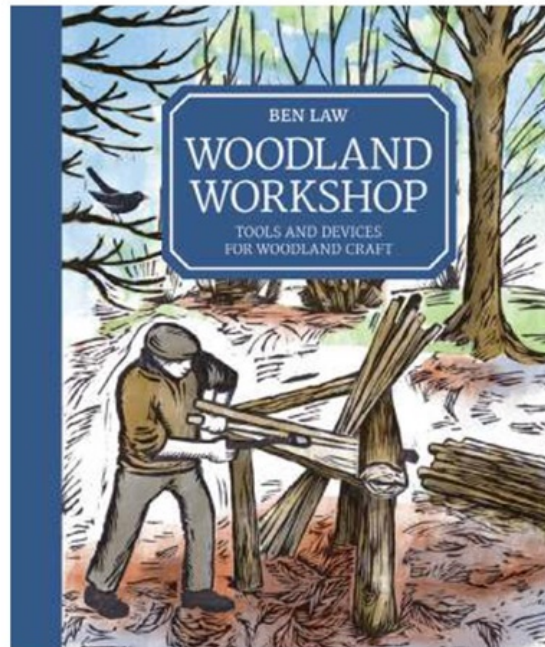
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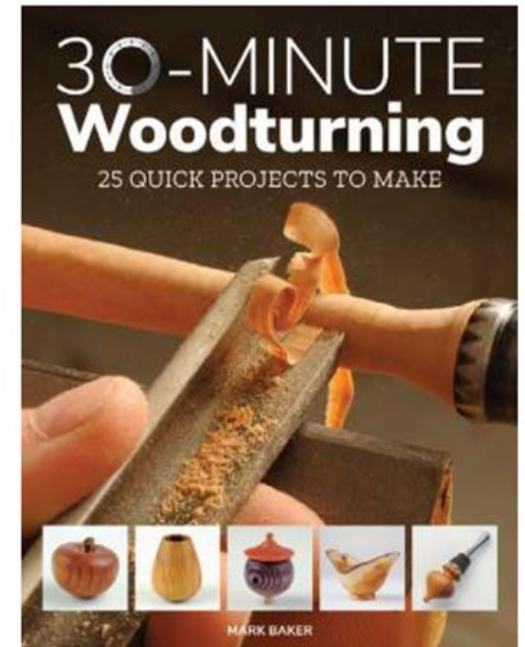
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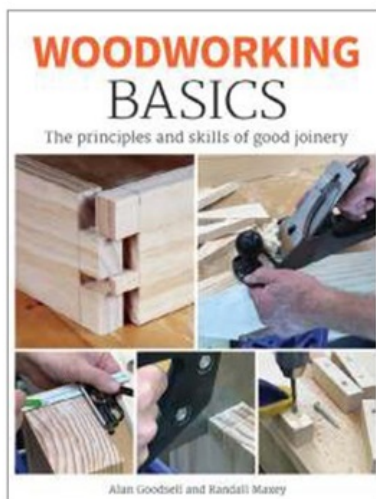
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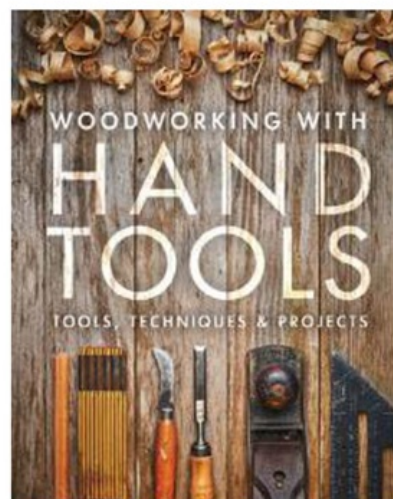
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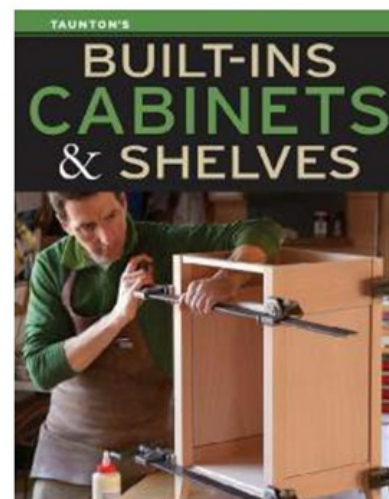
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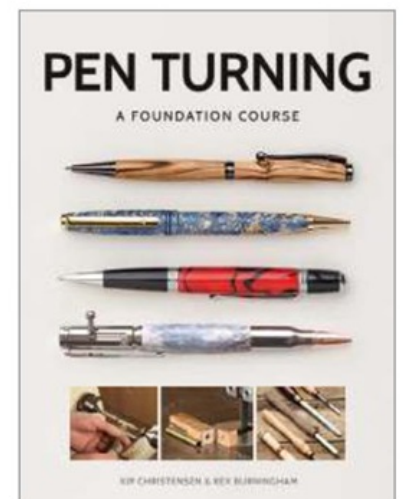
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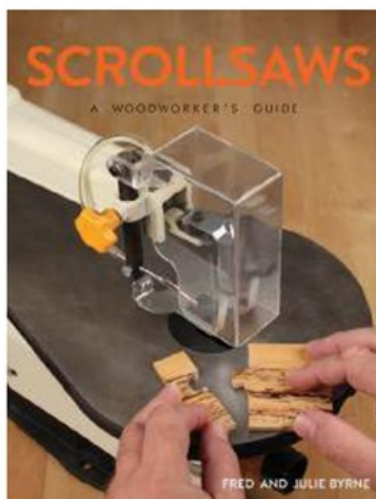
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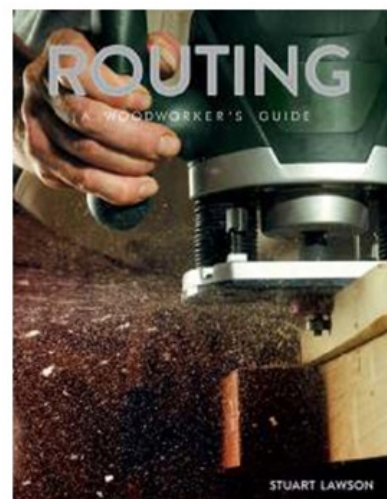
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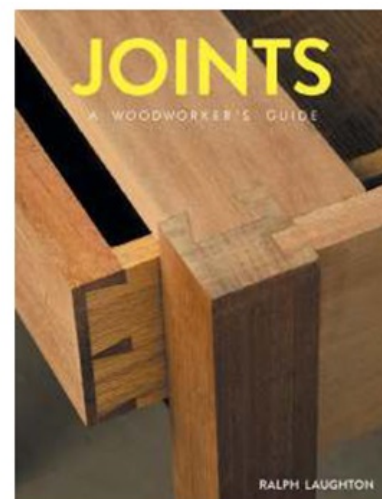
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www.woodrat.com

Block planes

No woodworker be they cabinetmaker, carpenter or chair maker could possibly get by without a block plane. In fact I've even known plumbers and electricians to have them in their tool boxes as well, such is their usefulness. But what are the things to look out for when buying your first one and how much do you have to spend? Our guide this month has all the answers.

Size and spec

There are literally dozens to choose from and you can discount most of them by avoiding anything priced under £60. Yes, that might mean you're going to have to dig a bit deeper than you expected but trust me, get this purchase right and you'll only have to do it once.

Block planes are designed to be used single handedly although not exclusively, so choose one that allows you to wrap your fingers around the whole plane for better control. Typically, block planes come in two basic sizes, one with a 36mm-wide blade and one with a 41mm-wide blade. There are variations of course, but these are the most common sizes. For cabinetwork and box making, a smaller plane would be preferable.

Tips and tricks

1. Choose a low-angle plane as it will handle end grain as well as long grain.
2. Choose a plane with an adjustable mouth so you can set it for aggressive cuts like chamfering or fine cuts for tuning up mating parts.
3. Buy a second blade and grind a curved edge so you can use the plane as a smoother.
4. Soften the edges of the sole with some 150, 240 and then 320 grit abrasive to protect them from dents and prevent the tool from marking the surface of finished boards.
5. Clean and sharpen often to make sure your block plane remains a precision instrument.

Axminster Rider No. 60½ Deluxe Block Plane

This is a fine example of the enduringly popular 60½ pattern low angle block plane. This 60½ Deluxe a little bit extra, especially with its polished bronze cap. The blade is used bevel-up bedded at 13.5°, giving great performance especially on end grain and soft woods. The main casting is ductile iron chosen for its high strength and impact resistance. It has an adjustable mouth for fine or coarser work. The plane features micro depth adjustment and lateral blade control to achieve the thinnest of shavings. The sole is 155mm long with a 35mm wide blade. The sole of the plane is flat and accurate to +/- 0.04mm. Weighing only 815g, it is almost indispensable for most small trimming tasks.

Rider planes only require the bare minimum of initial preparation. The blade comes honed with a secondary bevel ready to take shavings. Each blade is oil quenched, high carbon spring steel, hardened and tempered to HRC 63. Every plane undergoes careful inspection in Axminster to ensure consistent quality. The No. 60½ Deluxe comes with a plane sock and instruction booklet.

From: www.axminster.co.uk



Axminster Rider No. 69½ Deluxe Low Angle Block Plane



The Rider No. 69½ Deluxe Low Angle Block Plane is a hybrid plane incorporating the best attributes of both its parents. It has the low blade angle of the No. 60½ (13.5°), coupled with the size and width of a No. 9½ (41mm). The blade is used bevel-up. As with the 60½ Deluxe, the main casting is made from ductile iron, it has an adjustable mouth for fine or coarse work and features micro depth adjustment and lateral blade control. The sole is 158mm long with a 41mm wide blade. The sole of the plane is flat and accurate. A weight of 950g, combined with the blade angle and extra width gives you a plane with outstanding potential.

The blade comes honed with a secondary bevel ready to take shavings. Each blade is oil quenched, high carbon spring steel, hardened and tempered to HRC 63. The No. 69½ Deluxe comes with a plane sock and instruction booklet.

From: www.axminster.co.uk



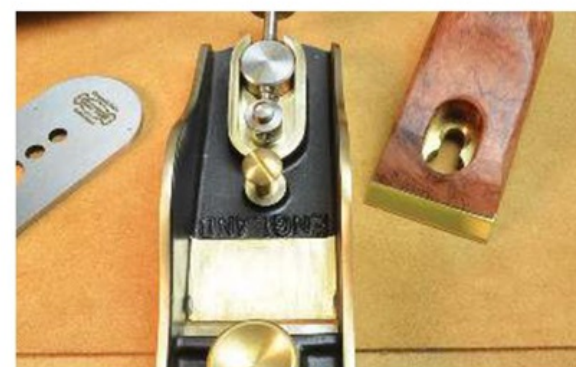
£288

Clifton Low-Angle Block Plane

The new Clifton block plane is based on the proportions of a No. 9½ low-angle block plane. It is a little broader than the 60½ with a generous cutting width of 1-5/8in. Clifton block planes are made from vacuum-cast bronze, a technique that ensures a very high integrity casting with no voids or porosity. Like the Clifton bench planes, each one is individually machined and then finished and assembled by

hand. The blade of the Clifton is made from roll-forged O1 carbon steel and given the same superb heat treatment as the bench plane irons. Adjustment comes courtesy of an elegantly incorporated Norris adjustment mechanism, complete with little nubs in the bed to hold the blade centrally and ensure that it pivots consistently. The cap, laminated from solid brass and hardwood, makes a wonderfully tactile interface and brings an element of nature into your little gold bar. Over time both the bronze and the hardwood will mellow and take on a beautiful rich brown patina, with polished spots where your fingers fall.

From: www.workshopheaven.com



£153.50

Veritas Low-Angle Block Plane

Veritas' block plane uses a Norris-style combined sideways (lateral) and up and down adjustment, which gives you greater control when adjusting its 1/8in thick by 1 1/8in wide PM-V11 blade. This plane also overcomes one of the drawbacks of other block planes in having higher side wings (ideal for shooting) with multiple finger grips in each side. The combination of accuracy of adjustment and fine machining makes it a pleasure to use. With a 12° bed angle and 25° bevel angle, the plane excels at working end grain. It has the adjustable mouthpiece and compact size of other low-angle block planes. The 6in long by 2in wide body is made from ductile iron. Optional handles can convert the plane into a small low-angle smoothing plane.

From: www.classichandtools.com



€71.90

Dictum Block Plane, 12°, SK4 Blade

This Dictum plane is designed for use on fine cuts and end grain. It has a bevel angle of 25°, which results in a cutting angle of 37°. This is a compact, solid block plane that, thanks to its polished cap iron, sits well in the hand. The mouth opening can be adjusted according to the application, using the configurable shoe. Blade-depth adjusting and cap iron fixation is done with the easy-to-adjust brass screw and knob. It comes with a plane sock made of a jute-cotton blend with a drawstring.

From: www.dictum.com



£162

Lie-Nielsen No 60½ Block Plane

The Lie-Nielsen No 60½ Block Plane is based on the old Stanley No 60½. This little block plane is useful for all woodworking jobs, in particular trimming end grain. The movable shoe in front of the blade allows you to easily adjust the mouth opening – fine mouth for finishing your work and wafer thin shavings or the wider opening for more aggressive cuts. The ductile iron body is surface ground flat and square to a tolerance of .001in or better. The large, comfortable bronze cap is tensioned with a 1 1/2in brass spinwheel. As with other Lie-Nielsen block planes, the blade is adjusted with a captive nut for precise control with minimal backlash. The blade is bedded at 12° for fine cuts and end grain work. A standard replacement blade and a toothed blade are also available. A toothed blade is useful for heavy stock removal in difficult grain.

From: www.classichandtools.com



£79.50

Quangsheng Low Angle Block Plane (Type 3)

This Quangsheng plane is available with three cutting irons giving 37, 50 and 62° pitches for planing end grain, general trimming and sorting out patches of gnarly grain respectively.

From: www.workshopheaven.com

Out & about:



St Fagans National Museum of History

This month we take a tour of Wales' most-visited heritage attraction

If you enjoyed our extract from John Brown's *Welsh Stick Chairs* on page 32, then a visit to St Fagans National Museum of History should be high on your travel agenda. This open-air museum near Cardiff presents Welsh history, culture and crafts, and is one of Wales' most popular tourist attractions.

History

The museum is located in the grounds of St Fagans Castle, a Grade 1 listed building and one of the finest Elizabethan manor houses in Wales, though much of the interior was remodelled during the 19th century. The house was built by a local lawyer, Dr John Gibbon, in 1580, though he may never have actually lived here. The house and estate were purchased in 1616 by Edward Lewis of Y Fan, Caerphilly, and it was Edward and his wife Blanche who completed many of the internal fittings of the building in 1620. Their initials EBL and the date 1620 can be seen on panelling and on firebacks within the building.

In 1850 a huge refurbishing scheme was begun to provide a home for the heir to the estate, Robert Windsor-Clive, and his new bride. From the mid-1880s Lord Robert Windsor spent part of every summer at St Fagans with his wife, three sons and daughter, and their many guests. The rooms

are now furnished to reflect the lives of the family in residence at the beginning of the 20th century.

In 1947 the Windsor-Clive family gave the house and grounds to the Amgueddfa Cymru – National Museum Wales. After being inspired by open-air museums in Scandinavia, poet and scholar Iorwerth C. Peate founded the museum at St Fagans,

then known as the Welsh Folk Museum. At the time, a museum that reflected the everyday lives of ordinary people was a radical concept. The museum opened to the public on 1 July 1948; it was the first open-air museum in the UK. Over the years, a collection of buildings were added to the grounds representing hundreds of years of Welsh history.



The museum explores Welsh history through a range of objects



The museum is set in the grounds of St Fagans Castle



Bryn Eyr Iron Age roundhouses

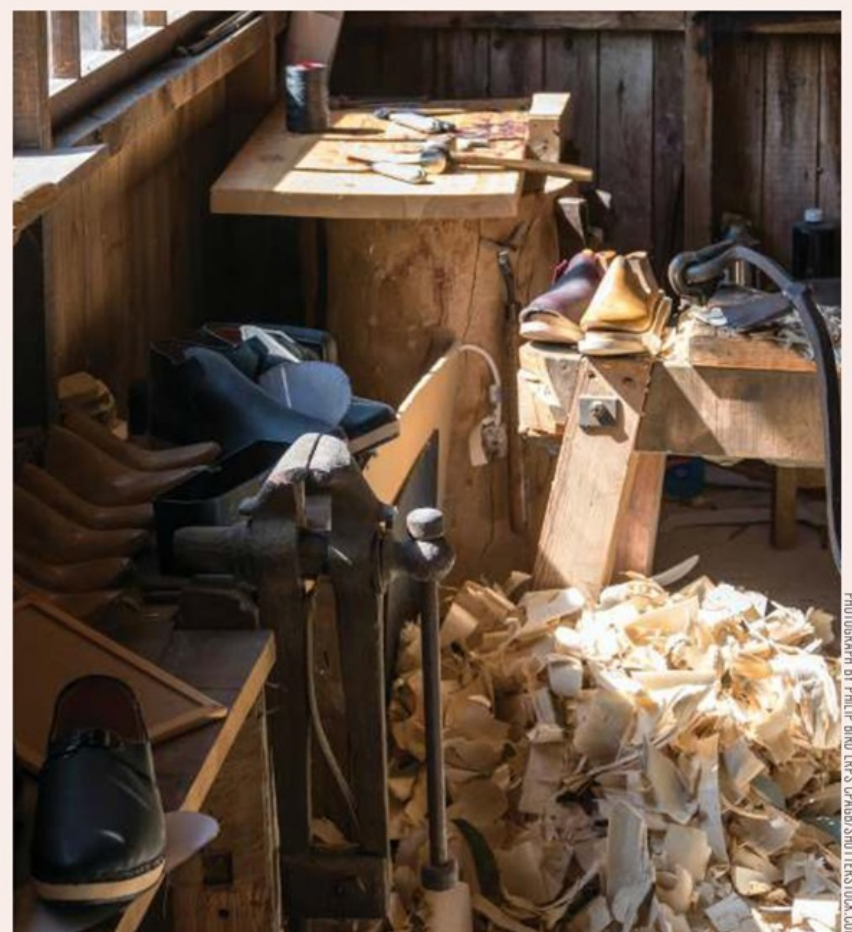


Llys Llywelyn re-creates the 13th-century Royal Court of the Princes of Gwynedd

Traditional crafts

St Fagans is very much a working museum where traditional crafts and activities are preserved. Craftsmen demonstrate their skills in the re-created workshops, such as the smithy, woollen mill, bake house and corn mill. Native breeds of livestock are kept in the fields and farmyard and traditional farming tasks are demonstrated on a daily basis.

Visitors can acquire some of these skills for themselves as St Fagans runs regular courses and workshops on crafts such as spoon carving, basket making, blacksmithing and many more. As the museum's slogan suggests, 'don't just visit history, be part of it!'



The saddler's workshop

What to see

The Wales Is... gallery presents the history of Wales from prehistoric times up to the present day. The Gweithdy gallery celebrates the skills of Welsh makers from across the years, with objects ranging from stone axes to stick chairs. The space is also used as a craft workshop where visitors can try out various skills, such as patchwork quilt making or blacksmithing.

Over 40 original buildings from different historical periods have been re-erected in the 100-acre parkland. As well as the castle, visitors can explore Iron Age roundhouses, a medieval royal court, farmhouses and cottages, churches and chapels, schools, shops and mills. In these buildings, traditional items of furniture can be appreciated in their original context.



Interior of an aluminium prefab from 1948

The Gweithdy gallery has an extensive collection of Welsh crafts, including traditional chairs



PHOTOGRAPH BY PHILIP AND LARS SPANIS/SHUTTERSTOCK.COM



WHERE ELSE TO SEE... Welsh history and crafts

National Museum Cardiff

Cardiff, UK
museum.wales/cardiff/

National Slate Museum

Llanberis, Gwynedd, UK
museum.wales/slate/

National Waterfront Museum

Swansea, UK
museum.wales/swansea/

National Wool Museum

Llandysul, UK
museum.wales/wool/

Information for visiting

Address: St Fagans National Museum of History, Cardiff CF5 6XB

Website: museum.wales/stfagans/

Opening hours: Open daily
10am–5pm; closed 24–26 December
and 1–9 January

Charges: Free entry

Information correct at time of publication, check
the museum's website before making your visit

Social media dashboard

Bringing you a round-up of the best from the online world, plus a selection of the latest projects that have caught our eye

In this section of the magazine we bring together the best furniture and woodworking related content from social media. Here we'll recommend who to follow, where to comment and which online communities to join. We also feature projects we love, readers' letters, comments from the Woodworkers Institute forum and pictures of readers' work. If you'd like to see your furniture on these pages, email derekj@thegmcgroup.com

Website: Gordon Russell Design Museum

As well as a way to find out practical information about visiting the museum, the Gordon Russell Design Museum website is a valuable resource for anyone interested in the history of British furniture. It has a comprehensive biography of Gordon Russell

including audio and video clips, and the museum's 'virtual tour' allows you to take a closer look at some of his key works.



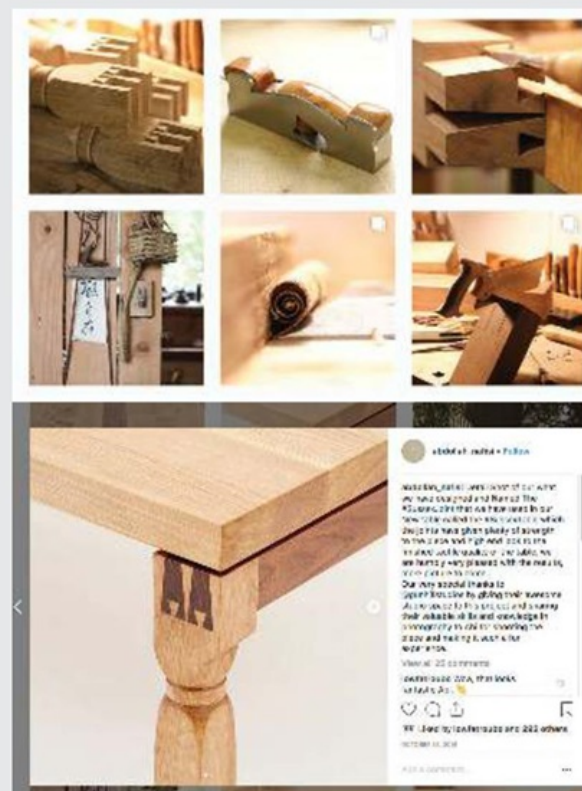
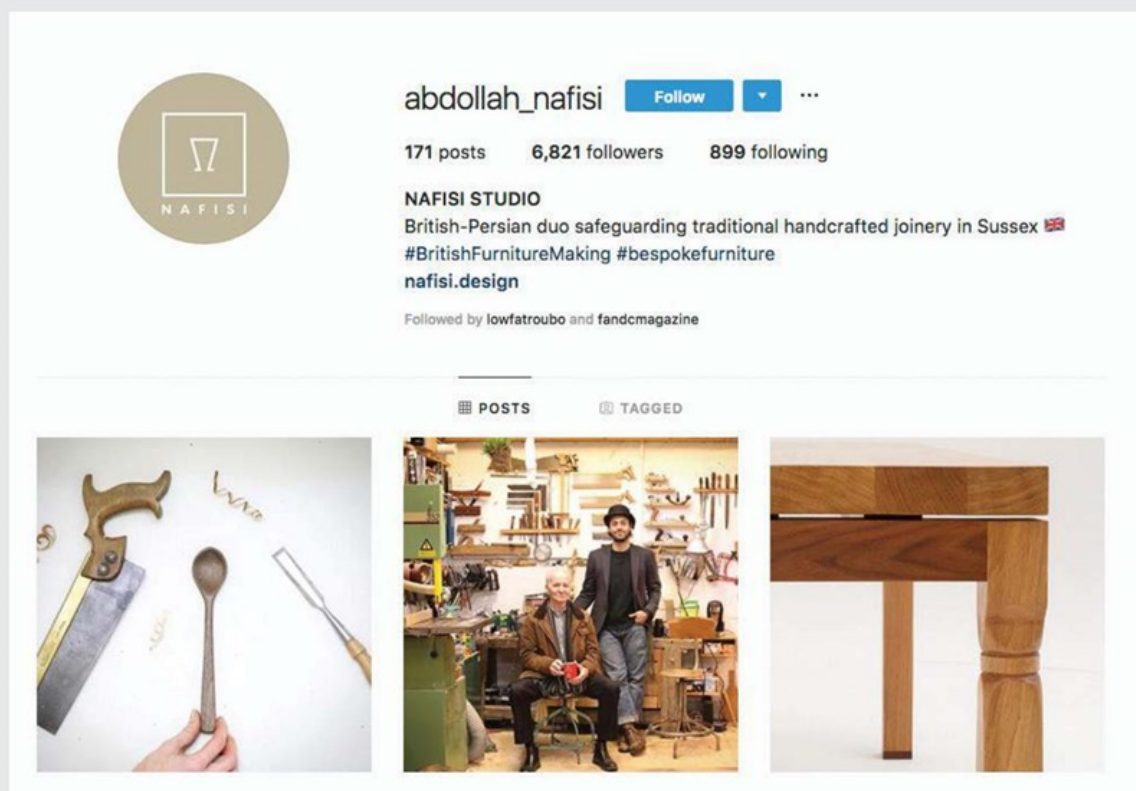
Address: www.gordonrusselldesignmuseum.org

Instagram: Nafisi Studio

Nafisi Studio is a bespoke furniture and sculpture studio based in Horsham, West Sussex and run by husband and wife team Abdollah and Kate Nafisi. Their work combines traditional joinery with modern luxury. Originally from Iran, Abdollah is one of the

stars of the new BBC series, *The Victorian House of Arts and Crafts*. You can get a feel for their work on Instagram, and look out for articles by Abdollah in future issues of *F&C*.

Address: [@abdollah_nafisi](https://www.instagram.com/abdollah_nafisi)



YouTube: The Chair Maker: Lawrence Neal

Master craftsman Lawrence Neal has been handcrafting exquisite ladder back chairs for over half a century. The Chair Maker is a 14-minute video that explores his making process, the historic lineage of ladder back chairs and the existential threat facing

modern craftspeople. It was made by Falcon Productions in association with Marchmont Farms Ltd. and The Heritage Crafts Association.

Address: tinyurl.com/ydydmkn5



The Chair Maker: Lawrence Neal

450 views



The Chair Maker: Lawrence Neal

450 views



The Chair Maker: Lawrence Neal

450 views

Projects we love

Here we highlight the latest furniture and woodworking projects from around the world that we think deserve to be shared with our readers. If you're a member of a collective or a student group and would like to see your work here, then submit a story to: derekj@thegmcgroup.com



Latest projects from the Woodworkers Institute forum

The Woodworkers Institute is *F&C's* online home, and provides a virtual community for woodworkers from around the world. This month, we're sharing a couple of projects from the gallery section of the Woodworkers Institute's forum.

First up is a TV stand by Forum user Lost Head. He based the design on a bookcase seen on YouTube. The finish was

achieved by using an abrasive scouring pad on the orbital sander to apply the last coat of 50/50 polyurethane.

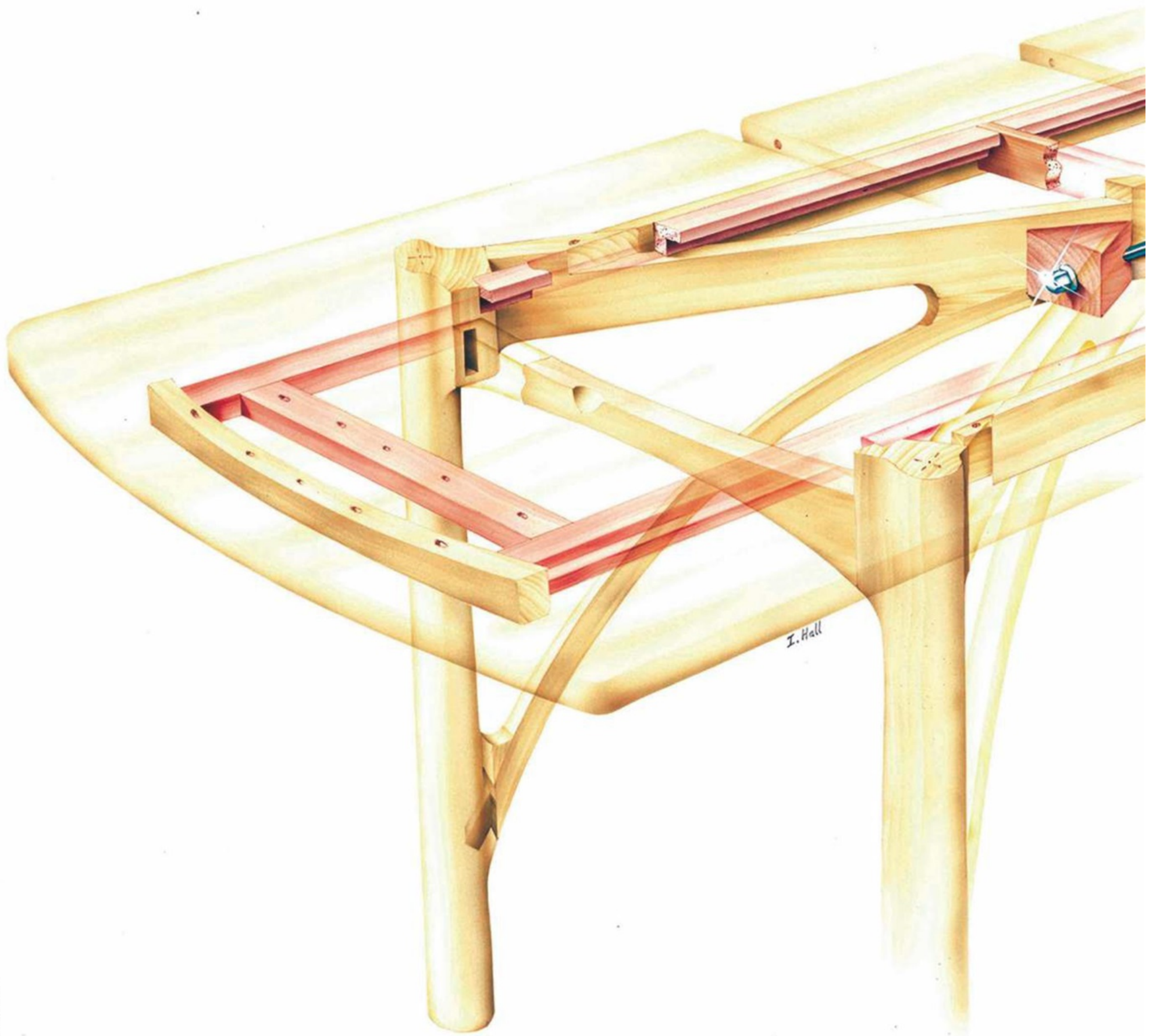
The second project is an oak foot stool by Forum user Dalboy. The light wood top is intended to be hidden by a padded seat that can be fitted then screwed back in place from inside the lid.

www.woodworkersinstitute.com



An airbrush with the past

This month we're going back to March 1999 and issue 26 for another look at David Gregson's curvaceous expanding dining table



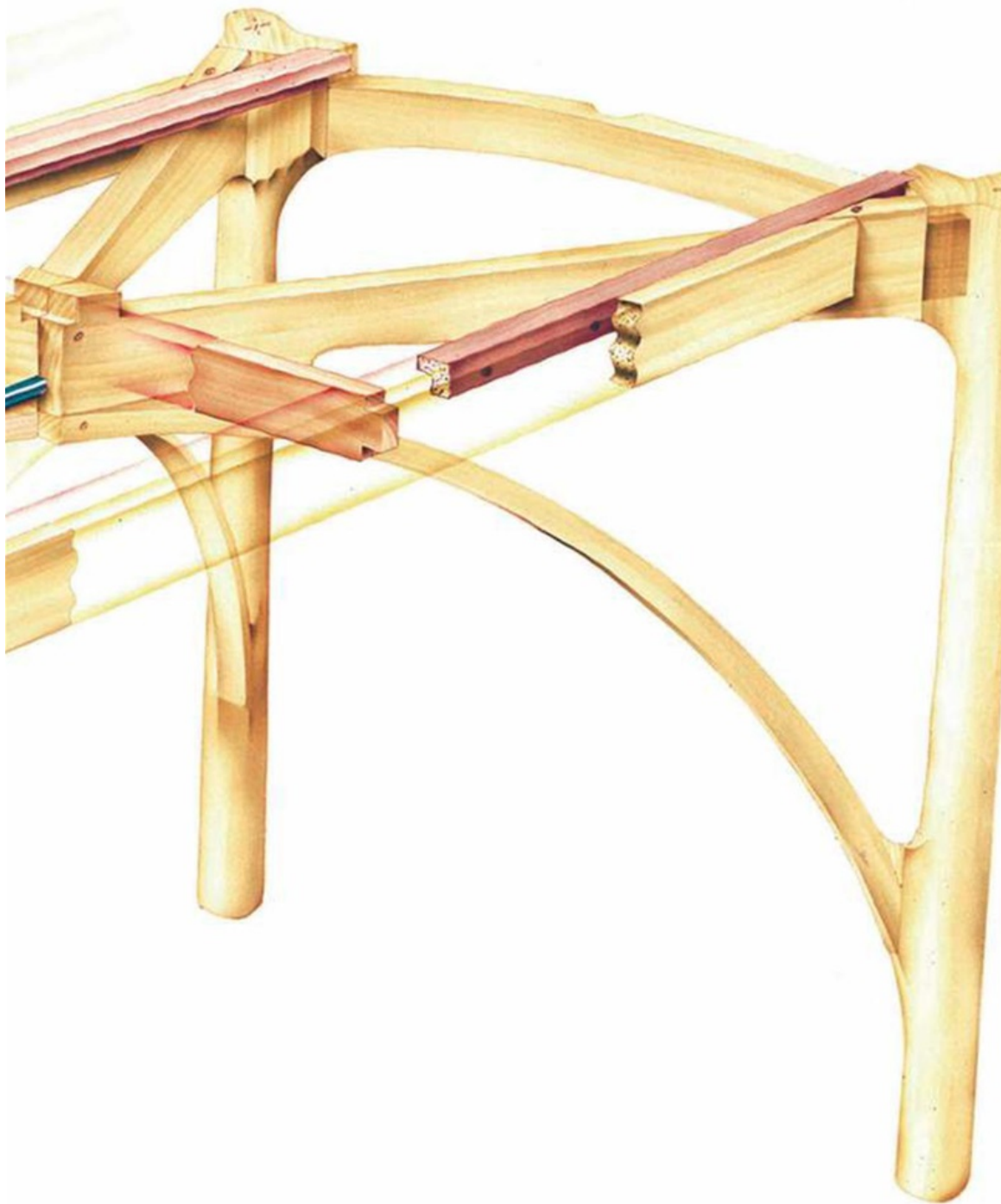
Today if you were looking for words to describe David Gregson's table you might go down the Mid-Century Modern route to assimilate the design with that style. And while it definitely bears more than a little resemblance to those Scandinavian masterpieces, there's no mention of them being an influence on his work. It's no great surprise I guess, nobody really sets out to replicate the furniture of their parents now do they? Or at least not until they become parents themselves. David's inspiration for the piece is a simple love of curves and geometry

that evolved into a series of complicated forms and structures that resulted in a commission for an entire suite of furniture including chairs, a sideboard and a mirror. That in itself is a concept from another time as open-plan living has largely done away with themed rooms and matching pieces.

What's unmistakably current, however, and never out of fashion in the bespoke maker's workshop, is an array of techniques, old and new that complement one another. Laminated sections truncate into turned legs with sculpted abutments and mortise and tenons. Elsewhere, slotted screw holes allow for expansion or contraction of the table-top leaves and a stainless steel threaded rod anchors the whole structure together.

The arches that run from corner to corner appear to cross in the middle and solve a problem that has bugged architects and engineers for centuries; how to introduce strength into a structure without adding mass. From the most humble dwelling to the cathedrals of the 19th century, arches have spanned pillars and posts and prevented millions of tons of masonry from crashing to the ground. In the 1st century BC, the Roman architect and civil engineer Marcus Vitruvius incorporated them into his aqueducts, and Greek architect Anthemius of Tralles made good use of them to build the Hagia Sophia in 537 AD. For a while the temple was the world's largest building and an engineering marvel of its time thanks mainly to its enormous dome, which is said to have changed the history of architecture. Augustus Pugin and Alfred Waterhouse, architects of the Palace of Westminster and Manchester Town Hall respectively, were both hopelessly attracted to arches and gave us what we now refer to as the Gothic arch. In fact, if there's a problem to be solved on your next project the chances are somebody out there already has the answer.

Made out of solid maple and oak, the table can accommodate six diners comfortably when closed and up to 10 when extended, which makes it an incredible feat of engineering in anyone's book.



Next month

We're heading back to October 1997 and issue 10 for another look at Bill Clayden's dome lidded chest.

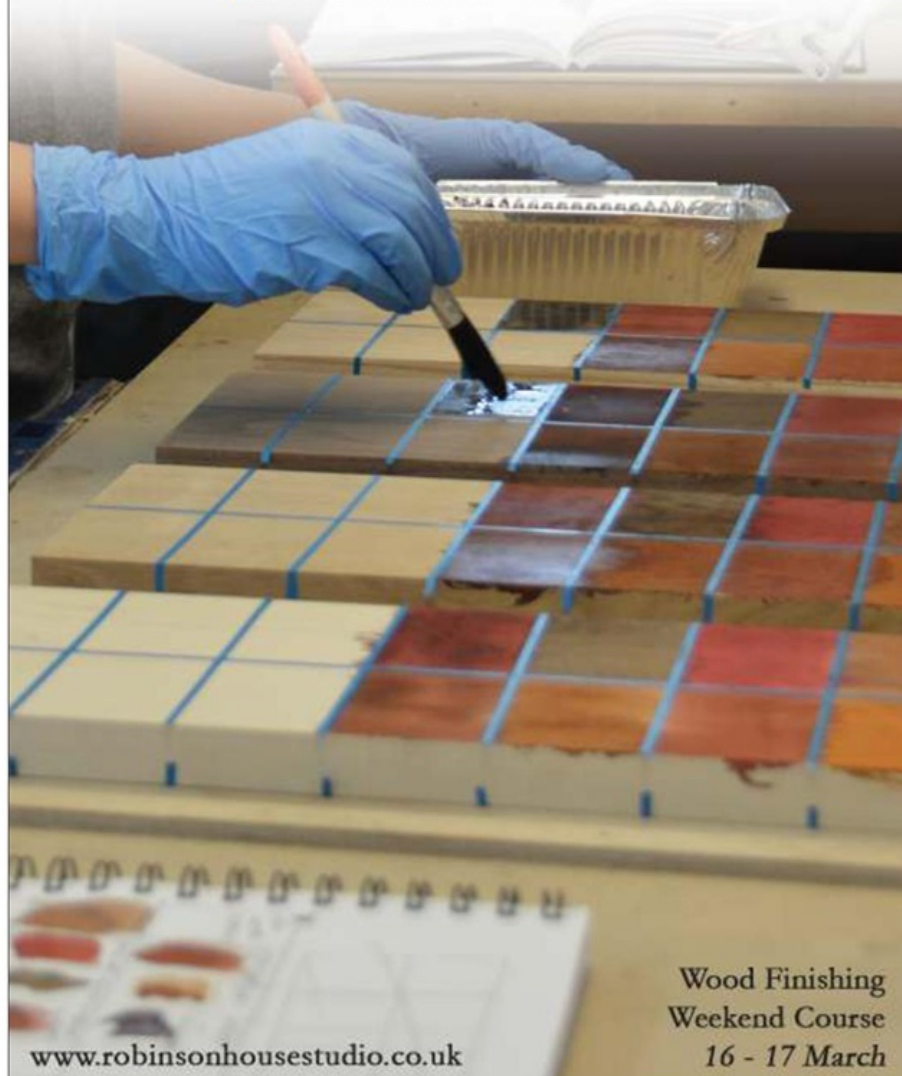


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