

Furniture & cabinetmaking

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

Plane easy
*Building from
the inside out*

11 WAYS TO STORE YOUR CLAMPS

Build a low tech
saw vice with
high tech joinery

On site with
Festool's new
mobile extractor

Learn how to
produce sliding
dovetails by hand
and machine



Proven tradition and
consistent innovation for
perfection in woodworking



Thicknessers



Planers



Planer-Thicknesser



Spindle Moulders



Combination
Machine

Visit us at
our Inhouse
Show on the
15.04. - 16.04.2016



Edgebanders



Wide Belt Sanders



Bandsaws



Clean-Air
Dust Extractors



Panel Saws



Saw Spindle Moulder

Tel: 01908 635000, info@felder-group.uk, www.felder-group.co.uk
Joplin Court, Crown Hill, MK8 0JP MILTON KEYNES



Welcome to...

...decluttering

A change of use and several changes of hand have taken their toll on this ballroom ceiling at the Averard Hotel, Lancaster Gate



PHOTOGRAPH BY GMC/DEREK JONES

So how much kit have you got squirrelled away under the bench or high up on a shelf that's just a little too awkward to make it convenient to get to? Thought so, and you still keep telling yourself you're not a collector. Ever thought you might be a hoarder instead?

My personal decluttering process is still in full swing two months down the line, some things are harder to get rid of than others, but the criteria I'm using is roughly based along the lines of how would I cope with a specific task if I didn't have a tool specifically designed for it? Invariably the answer can be found in my skeleton tool kit, which on a good day is minimal to the point of miserly.

I can't remember who said they didn't own a shoulder plane because they'd taught themselves to cut perfectly acceptable shoulders straight from a saw instead, but I like that idea. How many tools do we have in our racks that are really just making up for a gap in our skills? Don't answer that straightaway if it makes you feel

uncomfortable, just say you'll give it some thought later, perhaps.

Scaling back is a whole lot easier to do if there's a reward at the end of it and what better incentive could there be than time. Don't forget if you have 50 chisels that's 50 chisels that need to be kept sharp and that's not a five minute job.

Unfamiliar territory

As well as the usual superb technical content in this issue, we've got an article that should start to ring alarm bells with furniture makers struggling with the whole 'who am I?' question. Am I an artist or a craftsman? A designer or a maker? How can I be both and which one pays the most? Again don't worry about it now but fast-forward to page 26 and our write-up by Karina El Helou and Yannick Chastang about the recent exhibition *A City Without A Song*. While it won't resolve the issue entirely, Karina is unravelling the loose ends of an unsustainable relationship between customer and craftsmen.

If further justification were needed then imagine the hammer coming down on a set of six chairs and a matching dining table made by a significant 21st-century designer-maker (who will remain anonymous) for £156. I kid you not, it happened just the other day. At the time of commission these chairs would have set you back somewhere in the region of £500 each and a table perhaps £3000. Now, the question is, did some lucky punter get the bargain of the century or are our talents so little in demand that within a decade the fruits of our labour are just a small step away from the scrap heap? Incidentally the venue for *A City Without A Song* was a disused hotel in the heart of London that despite surviving two world wars is currently fighting a losing battle of a different kind with time and red tape.

Derek Jones

Derek Jones

derekj@thegmcgroup.com

Furniture & cabinetmaking

EDITOR Derek Jones
Email: derekj@thegmcgroup.com
Tel: 01273 402843

ASSISTANT EDITOR Briony Darnley
Email: briony.darnley@thegmcgroup.com

DESIGNER Oliver Prentice

GROUP EDITOR - WOODWORKING Mark Baker
Email: markb@thegmcgroup.com

SENIOR EDITORIAL ADMINISTRATOR Karen Scott
Email: karensc@thegmcgroup.com
Tel: 01273 477374

ILLUSTRATOR Simon Rodway

CHIEF PHOTOGRAPHER Anthony Bailey

ADVERTISING SALES EXECUTIVE
Russell Higgins, Email: russellh@thegmcgroup.com

ADVERTISEMENT PRODUCTION & ORIGINATION
GMC Repro Email: repro@thegmcgroup.com
Tel: 01273 402810

PUBLISHER Jonathan Grogan

PRODUCTION MANAGER Jim Bailey
Email: jimba@thegmcgroup.com
Tel: 01273 402810

PRODUCTION CONTROLLER
repro@thegmcgroup.com

MARKETING Anne Guillot

SUBSCRIPTIONS Helen Christie
Tel: 01273 488005, Fax: 01273 478606
Email: helenc@thegmcgroup.com

PRINTED IN THE UK
Stephens and George Print Group

DISTRIBUTION Seymour Distribution Ltd
Tel: 020 7429 4000

Furniture & Cabinetmaking magazine (ISSN 1365-4292)
is published every four weeks by Guild of Master Craftsman
Publications Ltd

SUBSCRIPTION RATES (includes p&p)
UK Europe Rest of World
12 issues £51.00 £63.75 £71.40
24 issues £102.00 £127.50 £142.80

US subscribers visit www.lightningpublications.com for
subscription rates in USD \$.

Cheques made payable to GMC Publications Ltd
Current subscribers will automatically receive a renewal
notice (excludes direct debit subscribers).

Post your order to: The Subscription Department,
GMC Publications Ltd, 166 High Street, Lewes,
East Sussex BN7 1XU Tel +44 (0)1273 488005,
Fax +44 (0)1273 402866 Email: pubs@thegmcgroup.com
Website: www.thegmcgroup.com

Views and comments expressed by individuals in the magazine
do not necessarily represent those of the publishers and no
legal responsibility can be accepted for the results of the use
by readers of information or advice of whatever kind given in
this publication, either in editorial or advertisements. No part of
this publication may be reproduced, stored in a retrieval system
or transmitted in any form or by any means without the prior
permission of the Guild of Master Craftsman Publications Ltd.

© Guild of Master Craftsman Publications Ltd. 2016

Problems finding F&C? Call Jonathan Grogan, our
Publisher, on 01273 477374. Alternatively, save
up to 20% on the cover price by subscribing.
Visit www.thegmcgroup.com/publications



**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.**

Contents

Issue 244 May 2016



A place for nearly everything – see page 31
Front cover image courtesy of GMC/Derek Jones



Design & Inspiration

18 In the workshop with Karen McBride

Brian Greene speaks with a
Canadian perfectionist

26 Marquetry for a new era

Contemporary art curator Karina
El Helou and marqueteur Yannick Chastang
discuss their latest London exhibition and
the place of marquetry in contemporary art

50 Our correspondent – The genius of Tim Ross-Bain and Shakespeare's schoolroom

Dale le Vack reports on a fascinating
project commemorating the death of
William Shakespeare

80 Under the hammer

This month we look at a superb
example of marquetry

Projects & Techniques

31 A place for nearly everything

Derek Jones looks at introducing
production line efficiency to a classic
handmade object

39 Through sliding dovetails

In an extract taken from
*The Complete Illustrated Guide
to Joinery*, Gary Rogowski looks
at through sliding dovetails

46 Travelling light

F&C take Festool's new extractor
on site for some good clean fun

54 Build a dovetailed saw vice

Charles Mak built this saw vice for
his panel saws and shows you how he gang
cuts dovetails

61 Clamp storage

In an extract taken from *Best Tips
on Finishing, Sharpening, Gluing, Storage,
and More*, here's a selection of the best
clamp storage tips from *Fine Woodworking*

68 Japanese lacquer panels

Amber Bailey offers a multi-layered
approach to the restoration of a 19th-century
lacquered panel



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

Your F&C

1 Leader

Derek Jones welcomes you to this month's issue of *F&C*

4 News & Events

A round-up of what's going on in the world of furniture

8 F&CUK

We take a quick look at Warwickshire College's Furniture Making course

12 Editor's round-up

Having trouble sourcing the right tool for the job? Derek Jones sets about identifying the essential tools and equipment on offer this month

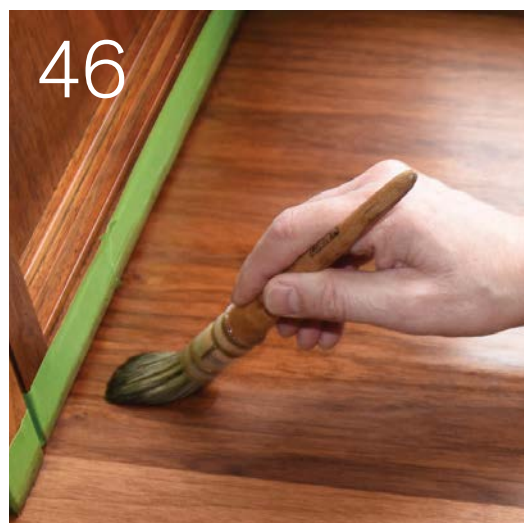
72 Workshop library

We review two books, *Building Doors & Drawers* and *Great Book of Shop Drawings for Craftsman Furniture*, plus we take a look at a new DVD on end grain woodworking

74 Next month in F&C

Get a peek at what we'll be bringing you in issue 245

31



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

Newark College furniture students create a unique curiosity cabinet for the National Trust



Some of the students involved in the project. *From left to right:* Dawn Glasscoe, Lee Taylor, Alicia Goode, Joshua Dakin, Emma Gale, Joshua Pengelly and Andrew Chamberlain. Other students in the team were Paul Robinson, Tim Dixon, Jordan Toole and Mark Rybaczk

Level 2 and 3 students from Newark College have been working on a project to design and produce a 'curiosity cabinet' that will be displayed at Gunby Estate, Hall and Gardens. Once finished the cabinet will be handed over to Gunby Hall and will be available for the public to view and interact with, as they learn about the conservation work that the National Trust does to protect its collections. Gunby Hall, owned by the National Trust, is a country house dating from 1700. Originally belonging to the Massingberd family, the house is set in Victorian walled gardens at the foot of the Lincolnshire Wolds. The cabinet will be decorated with the Massingberd family crest and the College logo will also be inlaid in veneer as a marquetry design. The piece will be displayed with information that tells the story of the design and creation of the cabinet.

Wendy Jackson, House Steward at the Gunby Estate, Hall and Gardens said: "This beautiful cabinet will be displayed

in the Family Exhibition Room at Gunby Hall. Curiosity cabinets are found across a number of National Trust properties; we commissioned this so that our visitors can enjoy a hands-on experience and also understand why we ask them not to touch many of the more delicate items in our collections. The cabinet is built to a high standard and it has certainly required skilled work from the students involved. It is great that the Trust has collaborated with the College for this, as it gives students valuable experience in planning, designing and ultimately building an item of bespoke furniture for a real client. This piece is intended to be a multi-purpose cabinet and it will stay at Gunby Hall on display in the future for our visitors to enjoy."

Student Dawn Glasscoe has been working on the cabinet: "This project allows us to work on something that will actually be used and on display to the public. Working with the National Trust is a valuable and



Student Dawn Glasscoe working on the cabinet

unique opportunity and will definitely help us with our future careers. Working on a real piece of commissioned work is a challenge but it really brings the group together as we work individually on some parts of the project but have to work together to make sure that the finished piece is spectacular. I am excited to see it on show!"

Richard Preece, Furniture Studies lecturer at Newark College, said: "This project is very exciting for those involved as they are learning skills and techniques that they may not otherwise have done while having to stick to a brief and deadline; it is great work experience as well as something to be proud of. It's amazing that this will be on show at Gunby Hall; one day the students may take their own children – or even grandchildren – along to see it and they can be proud of what they have achieved."

DETAILS:

Contact: Newark College

Web: www.newark.ac.uk

Historic Henry VIII panel sweeps the board at Bonhams million pound oak interior sale

A highly important Henry VIII oak (*Quercus robur*) panel sold for £184,900 at Bonhams Oak Interior sale in London on 25 February. Its sale price had been estimated at £20,000–30,000. Dating from the Tudor court, the oak panel is thought to have been designed by Hans Holbein the Younger, the Swiss-German artist famous for his iconic portraits of Henry VIII. Believed to depict King John, the panel bears a striking similarity to both a panel in the Victoria and Albert Museum and one in the Museum of London. Each features a regal central figure surrounded by the same foliated scrolls and decoration. It seems, centuries ago, they were once part of a single series of interior decoration. It is therefore likely that this panel shares the same remarkable provenance as the panel in the Museum of London, which reputedly comes from the London home of William Paulet, a civil servant whose career spanned the reigns of Henry VIII, Edward VI, Mary I and Elizabeth I and who ended his career as Lord High Treasurer of England in 1548.

David Houlston, Bonhams Senior Specialist in Oak Furniture, said: "This was a remarkable piece of craftsmanship with links to some of the most momentous periods in English history. I am not surprised it was in such high demand nor that it sold for such an impressive price." The sale made £1,010,025 with a sale by value of 80%. The next Oak Interior sale takes place at 101 New Bond Street London on 21 September, 2016. Bonhams' Oak Interior sales are unique. The twice-yearly sales offer 16th, 17th and 18th-century furniture alongside related works of art, including stone carvings and early metalware.



Parcel gilt, polychrome-decorated and carved oak panel



The panel is believed to depict King John



The panel is attributed to Hans Holbein

DETAILS: Contact: Bonhams Web: www.bonhams.com

Leigh jig demos in Axminster stores



Axminster Skill Centre students being shown how to use a Leigh jig

Axminster Tools & Machinery will be holding a series of demonstrations of the Leigh range of dovetail jigs at its stores throughout 2016. Just over a year ago, the company agreed a deal with Leigh giving Axminster exclusive rights to sell Leigh products throughout the UK and Ireland. Canadian company Leigh Industries, established over 30 years ago, is the world's most innovative and highest quality manufacturer of dovetail jigs. The Leigh range includes the award-winning D4R Pro, Super Jigs and the RTJ400 Dovetail Jig. All Leigh jigs come with a five-year warranty.

The Leigh system can be a complex piece of kit, but it is capable of producing excellent dovetails. A key member of staff in each Axminster store has been specially trained to show just how easy it is to create perfect dovetails. In addition, there will be the opportunity for customers to try before they buy and have their machine set up free of charge when they purchase a Leigh jig.

Anyone wishing to see a Leigh demonstration will be able to do so at the following stores:

- Cardiff – Friday 29 April with Peter Hibbin
- High Wycombe – Saturday 30 April with Chris Kirk
- Nuneaton – Saturday 7 May and Friday 23 & Saturday 24 September with Rob Sheehan
- Sittingbourne – Saturday 18 June with Peter Hibbin
- Axminster – Saturday 16 July with Shaun Vincent

If you are unable to make one of these events, there is the opportunity to contact your nearest store and arrange for a personal demonstration with a Leigh trained demonstrator. There will also be a chance later in the year to see Leigh jigs being demonstrated at the North of England Woodworking & Power Tool Show in Harrogate from 18–20 November. For a more in-depth familiarisation of the Leigh jigs, Axminster offers a one-day introductory course at its Skill Centres in Axminster (Devon) and Sittingbourne (Kent).

DETAILS:

Contact: Axminster Skills Centre Web: www.axminsterskillcentre.co.uk

Chichester College cabinet maker honoured at 10 Downing Street



Edward Harringman (right) presents his gold medal winning cabinet to Skills Minister Nick Boles (centre) at 10 Downing Street. They are joined by Christian Notley (left), a lecturer at Chichester College and a WorldSkills UK Expert for Cabinet Making

Former Chichester College student Edward Harringman, 22, who was named the best young cabinetmaker in the world at the 2015 WorldSkills competition, travelled to 10 Downing Street in February to present his gold medal winning cabinet. It will now be displayed at Number 10. Edward said: "To have my work displayed at Number 10 is a real honour. It took four years of training and a lot of sacrifices to win my gold medal at WorldSkills and I hope having my work showcased sends out a message to young people and their parents that technical careers really can deliver great employment opportunities."

DETAILS:

Contact: Chichester College
Web: chichester.ac.uk

TIMBER TRADE NEWS

Nutrient deficiencies in trees

'Nutrients' in terms of plant nutrition is usually taken to mean the chemical elements necessary for plant growth. Plants absorb these from the soil in the form of soluble salts. They are usually divided into major and minor or trace nutrients: potassium and phosphorus are major nutrients, manganese and cobalt are trace ones. Deficiencies occur for two reasons: either the relevant nutrient is actually lacking, or it may be present but the plant is unable to take it up. The former is uncommon, but may occur on very peaty soils with a low mineral content; the latter is more frequent and may be caused by drought, waterlogging or, in newly planted trees, severe competition from other plants. Symptoms include yellow or purple discolouration of the leaves, dieback of shoots and stunted growth. Treatment should be based on soil analysis. A special case of deficiency is lime induced iron deficiency: sufficient iron is present, but the alkalinity of the soil prevents uptake. In severe cases the leaves can turn almost completely white due to a lack of chlorophyll. The principal effect on timber quality is reduced growth rate; the timber may be denser than usual, with growth rings closer together.

Chris Prior



The effects of nutrient deficiency on a vine leaf

Courses

Beaten gold – the art of loose-leaf oil and water gilding

Students on this short course at West Dean will learn the traditional techniques of water and oil gilding for new surfaces. Water gilding, suitable for wooden objects, is practised as you gild a small mirror or frame by applying layers of gesso and coloured bole, before laying the gold leaf, burnishing and pattern tooling. Oil gilding, suitable for both interior and exterior uses, is also introduced and practised as you learn how to prepare small objects in a wide range of base materials to gild. The course is suitable for people at both beginner and intermediate level and is taught by Judy Wetherall.

Course dates: 17–21 April, 2016

Contact: www.westdean.org.uk

Picture framing

Experience and practise all aspects of the picture framer's craft. Using basic equipment, you will learn techniques for creative mount cutting, mitre cutting, joining mouldings, choosing colour, proportion and glass cutting. This short course at West Dean is taught by picture framer John Hill.

Course dates: 17–21 April, 2016

Contact: www.westdean.org.uk



Master the art of French polishing

French polishing

Despite the fact that we've all heard of the term French polish and shellac it's amazing to think that very few of us actually know what it is and how to do it. It has a reputation for being difficult to master, time consuming and not nearly as robust as some other finishes. Here's the bottom line. None of the above is true. To see what all the fuss is about and add this skill to your finishing repertoire, join Derek Jones at Robinson House Studio this April and October to get acquainted with the King of Finishes.

Course dates: 23–24 April, 2016

and 22–23 October, 2016

Contact: derek@lowfatroubo.co.uk



PHOTOGRAPH COURTESY OF YANNICK CHASTANG

This method of marquetry is done using a long-handled shoulder knife

Inlay marquetry

This four-day course will introduce students to a different way of making marquetry and will involve making your own tool. The technique is not too dissimilar to the 'window' technique practised with a scalpel, however, the differences arise because of the use of the special long-handled shoulder knife and the use of extra thick and hard saw cut veneers. A scalpel cannot deal with such hard veneers. The similarities between the window techniques and the inlay technique make the inlay technique a perfect introduction to more complex and advanced techniques, particularly anyone with some experience of the window technique. One of the greatest advantages of this technique is the complete flexibility of adding a detail or another at any time. The design can be continually adjusted while in the creation phase. Mastering this technique will open many new artistic avenues.

As well as making your own shoulder knife, you will produce a small panel over the four days, using extra thick saw cut veneer of contrasting colours. You will select the materials, learn how to lay the background veneer using animal glue, assemble and cut the veneer, learn how to shade the wood using the 'sand shading' or scorching technique and then learn to inlay your marquetry pieces.

This course will be taught and hosted by Yannick Chastang in his Kent workshop, the course size is limited to five students and completion of the bouille marquetry course is required. All tools and materials are provided. Yannick Chastang is the only person in the world to teach this technique. Following extensive research and close study of historical furniture, Yannick publicised the technique in his book *Paintings in Wood: French Marquetry Furniture*. This technique was ignored for years by furniture historians who believed it had vanished centuries ago. However, it is now accepted that some of the finest 18th-century royal furniture, including pieces by Chippendale, were made using the inlay technique. The inlay technique is very carefully described in Roubo and the course will present an opportunity to look at what Roubo can teach us.

Course dates: 1–4 May, 2016

Contact: www.marquetrycentre.com

Events

Weird and Wonderful Wood

This year's Weird and Wonderful Wood will be taking place over the weekend of 14–15 May. Demonstrations at the event will include furniture making, musical instrument making, displays by traditional fletchers and bowyers, chain saw carving, wheelwright, hurdle making, woodturning, pole lathe turning, sign writing, labyrinth making, flute maker as well as coracle making and traditional gypsy caravan displays. As well as demonstrations, there will be workshops available for both adults and children, free to all, including archery, willow weaving, spoon making, withy work, paper making, gypsy flower making and more!

When: 14–15 May, 2016

Where: Haughley Park, Wetherden, Nr Stowmarket, Suffolk, IP14 3JY

Web: www.weirdandwonderfulwood.co.uk



PHOTOGRAPH COURTESY OF WEIRD AND WONDERFUL WOOD

A range of woodworking skills will be on display at Weird and Wonderful Wood

ICFF

The 28th annual ICFF, North America's premier showcase for contemporary design, will once again exhibit the latest trends and highlight the best in international design. More than 750 exhibitors from all points of the globe will display contemporary furniture, seating, carpet and flooring, lighting, outdoor furniture, materials, wall coverings, accessories, textiles, and kitchen and bath for residential and commercial interiors. This remarkable throng of exhibitors creates an unparalleled opportunity to view a broad yet highly focused selection of the world's finest, most innovative and original avant-garde home and contract products side-by-side, under one roof.

When: 14–17 May, 2016

Where: Javits Center, 655 W 34th Street, New York, NY 1001, USA

Web: www.icff.com



PHOTOGRAPH COURTESY OF ICFF

The Luxe Interiors and Design Pavilion at ICFF

F&CUK

An open invitation for furniture makers
to let us know what you're up to...

Warwickshire College Furniture Making course

PHOTOGRAPHS BY WARWICKSHIRE COLLEGE



**For this month's
F&CUK, we look at
Warwickshire College's
Furniture Making course**

Students on the City & Guilds Level 2 Furniture Making course at Warwickshire College are on the home stretch of a two year course to become competent furniture makers. For the last 24 weeks they have been working hard to combine a range of skills and disciplines into a single project that will count towards their final assessment in June. The trinket box project (as course leader Jamie Ward refers to it) is more than just another box project, it's an ingenious metaphor for a life in making; all those tricks-of-the-trade and clever techniques are pearls of wisdom in their own right.

A trinket box doesn't necessarily have to be a complex design, but as the brief

calls for lapped dovetails, a hinged lid, a fitted lock, mitred plinth and an element of surface decoration this design asks a lot of the maker. It's worth pointing out that the amount of contact time between student and tutor on a college-based course is likely to be less in a class of 16, than in a smaller furniture making school. This makes their efforts all the more impressive.

Good technique will help you plan workflow and build with confidence, but there's no substitute for working with great materials; once experienced there's no going back. It's an invaluable concept to learn and one that's best cultivated early. The students are using the neat hinge and

locks from Hawthorn Crafts (aka jewellery box hardware). Like good quality tools, good quality hardware is a sound investment.

"I think it's far better for our students to experience working with top quality products early on in their career, as the results are more rewarding and encouraging," said Jamie Ward. "What we're trying to do is create a minimum level of quality as standard and for that to be extremely high. The habits we learn when we start out are hard to break, so let's make sure they are good ones".

Students

Abraham Scholder Franklin came to the

course with no previous experience in woodworking and has gained lots of woodworking skills to take on to his next role of working in his dad's joinery company. Abraham's box is made from American black walnut with a quarter match burr walnut veneered panel on the lid.

Abraham commented: "This course has really stretched my abilities. We have made a table, wall cabinet, a mirror frame and now a trinket box, lots of techniques to master in that lot!"

Simon Ferguson completed his trinket box last year. It was made from rippled sycamore and rosewood and he is currently continuing his studies on City & Guilds Level 3 Furniture Design and Make course. Simon will be moving to a bespoke workshop in Bristol in the summer to start his career in furniture making.

Andrew Varah Award

"Each year we have a number of awards during our end of year show including The Andrew Varah Award, which has been a great way to reward an outstanding student; a student who has excelled, produced high quality work and pushed their woodworking boundaries and excellence.

"Jan Waterston was the first recipient of this award, which was instigated by the highly regarded and local fine furniture maker, Sean Feeney (he designed the trophy and it was made by AV's makers). Jan set the bar extremely high and he went on to Rycotewood Furniture Centre and continues to win awards and is beginning to make quite a name for himself, and he still only in his final year of university" said Jamie Ward.

The future

There's no doubt that the skills being taught at Warwickshire College are preparing students for a future in furniture making,



Above: Abraham Sholder-Franklin marking out dovetails. Opposite: Keziah Burke shooting veneers

whether that be further education or a chance at employment. In the past the college has had a succession of high profile woodworkers from North American and the UK to deliver courses in-house.

One of the biggest challenges faced by the large teaching institutions is how to make them a more attractive proposition for potential high fliers in the furniture making trade of the future. Under the guidance of Jamie Ward, Warwickshire College has made significant inroads. The likes of Chris Schwarz, Roy Underhill, Peter Follansbee and Tom Fidgen have all made their UK teaching debuts

at Warwickshire. The furniture department feels like a proper workshop and although the focus might appear to be on traditional crafts there's a strong feeling that these basic skills are what underpins the technology of the future. Sometimes all it takes to get the next generation to assimilate craft with technology is to show them how closely related they are.

Warwickshire College's annual end of year show will be open to the public from 20 June–1 July, 2016. It's always a great event, so try to make the trip to Leamington Spa.

www.warwickshire.ac.uk



Box by Simon Ferguson



Box by Phil Honor

If you're a member of a collective and would like to raise your profile then submit a story to derekj@thegmcgroup.com

Clarke

TABLE SAWS

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

LEG STAND KITS
FOR CTS100
AND CTS111
ONLY £27.59
INC.VAT*

INCLUDES
LEFT & RIGHT
TABLE
EXTENSION

CTS100

MODEL	MOTOR	BLADE	EXC.VAT	INC.VAT
CTS800B	600W	200mm	£69.98	£83.98
CTS111	1500W	254mm	£139.98	£167.98
CTS100	1500W	254mm	£159.98	£191.98

Machine Mart

NOW 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°

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

£119.98
EXC.VAT
£143.98
INC.VAT

Clarke DUST EXTRACTOR/CHIP COLLECTORS

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

METABO
ALSO
AVAILABLE

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

MODEL	MOTOR	FLOW	BAG	RATE	CAP.	EXC.VAT	INC.VAT
CDE35B	750W	450 M3/h	56Ltrs	£129.98	£155.98		
CDE7B	750W	850 M3/h	114Ltrs	£149.98	£179.98		

Clarke POWER PLANERS

BLACK & DECKER

FROM ONLY
£23.99
EXC.VAT
£28.79
INC.VAT

- 82mm cutting width

MODEL	DEPTH	EXC.VAT	INC.VAT
Clarke CEP1	650W 2mm	£23.99	£28.79
Einhell RT-PLB2	850W 3mm	£49.98	£59.98
B&D KW750K - GB	750W 2mm	£57.99	£69.99

Clarke QUALITY CAST IRON STOVES

OVER 22 QUALITY STYLES ON DISPLAY

£89.98
EXC.VAT
£107.98
INC.VAT

POT BELLY

6.9kW

BARREL

6kW

LARGE & XL MODELS IN STOCK

FLUES, COWLS & ACCESSORIES IN STOCK

PRICE CUT NOW ONLY
£199.00
EXC.VAT
£238.80
INC.VAT

WAS £229.80 INC.VAT

BUCKINGHAM

150 KG (evenly distributed) Strong 9mm fibreboard shelves

350 KG (evenly distributed) Strong 12mm fibreboard shelves

ALSO EXTRA WIDE INDUSTRIAL UNITS AVAILABLE

Clarke RANDOM ORBITAL SANDER

CROS1

INC 5 DISCS

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

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

Clarke ELECTRIC POWER FILE

CPF13

- Variable belt speed
- Tilting head

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

MODEL	MOTOR	EXC.VAT	INC.VAT
CPF13	400W/230V	£44.99	£53.99
KA900E	350W/230V	£59.98	£71.98

Clarke HONEYWELL HEATERS

Huge range of quality electric models - From DIY, trade to Industrial

DEVIL7003

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

MODEL	VOLTAGE	HEAT OUTPUT KW	EXC.VAT	INC.VAT
CZ-2104EV1	230V	2.5	£39.98	£47.98
DEVIL 6003	230V	1.5-3	£49.98	£59.98
DEVIL 7003	230V	3	£54.99	£65.99
DEVIL 6005	400V	2.5-5	£74.99	£89.99
DEVIL 7005	400V	5	£79.98	£95.98
DEVIL 6009	400V	4.5-9	£119.00	£142.80
DEVIL 7009	400V	9	£137.99	£165.99
DEVIL 6015	400V	5-10-15	£179.00	£214.80

Clarke CLAMPS

HUGE CHOICE OF SASH, SPRING, SCREW, SPREADER AND G-CLAMPS

UP TO 1800mm CAPACITY

FROM ONLY
£3.99
EXC.VAT
£4.79
INC.VAT

Clarke HARDWOOD WORKBENCH

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

CHB1500

£129.98
EXC.VAT
£155.98
INC.VAT

Clarke BOLTLESS SHELVING BENCHES

Simple fast assembly in minutes using only a hammer

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

WHEN YOU BUY ANY MIX OF 5 FROM THIS RANGE SAVE AT LEAST £17.99 INC.VAT

CHOICE OF 5 COLOURS

RED, BLUE, BLACK, SILVER & GALVANISED STEEL

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

Clarke WOODWORKING VICES

STANLEY Record

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

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

Clarke Bolted	150/152/61	£13.49	£16.19
Stanley Clamped	72/60/40	£16.99	£20.39
Record V75B Multi Angle	75/50/32	£19.98	£23.98
Clarke VW7 Bolted	180/205/78	£24.99	£29.99

Clarke CORDLESS DRILL/DRIVERS

BOSCH Power Tools

Clarke CONTRACTOR

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

CON18Li

PSR18

MODEL	VOLTS	BATTS	EXC.VAT	INC.VAT
CDD180	18V	1	£36.99	£44.39
CDD240	24V	1	£39.98	£47.98
Bosch PSR18	18V	1	£54.99	£65.99
CON18Ni	18V	2 x Ni-Cd	£59.98	£71.98
CON18Li	18V	2 x Li-Ion	£84.99	£101.99

Clarke STAPLE/ NAIL GUNS

All models include nail/staple pack and tough moulded case

LITHIUM-ION

CONSN18LiB

FROM ONLY
£18.99
EXC.VAT
£22.79
INC.VAT

WAS £23.98 INC.VAT

NEW

SPARE NAILS / STAPLES IN STOCK

ELECTRIC AND CORDLESS MODELS IN STOCK

MODEL	TYPE	STAPLE/ NAIL GAUGE	EXC.VAT	INC.VAT
CESN1G1*	Electric	22/18	£18.99	£22.79
CCT42	Cordless	4.8V Ni-MH	£24.99	£29.99
CESN2G	Electric	18/18	£39.98	£47.98
CONSN18LiB	Cordless	18V Lithium-Ion	£99.98	£119.98

Clarke BELT SANDERS

Ideal for surface removal, sanding and finishing

Clarke

ABRASIVE SANDING BELTS IN STOCK

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

Clarke CONTRACTOR BELT SANDERS

Clarke BS1

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

MODEL MOTOR M/MIN EXC.VAT INC.VAT

Clarke BS1	900W	380	£29.98	£35.98
Clarke CBS2	1200W	480	£69.98	£83.98
Makita 9911	650W	75-270	£94.99	£113.99

Clarke PLANERS & THICKENERS

Ideal for DIY & Hobby use

Dual purpose, for both finishing & sizing of timber

FROM ONLY
£169.98
EXC.VAT
£203.98
INC.VAT

MODEL	PLANING WIDTH	MAX THICK. CAPACITY	EXC.VAT	INC.VAT
CPT600	6"	120mm	£169.98	£203.98
CPT800	8"	120mm	£199.98	£239.98
CPT1000	10"	120mm	£269.98	£323.98

airmaster TURBO AIR COMPRESSORS

tiger

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

8/250

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

HUGE RANGE OF AIR TOOLS IN STOCK

* V-Twin

Clarke ROTARY TOOL KIT

CRT40

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

Kit includes: Rotary tool, 1m flexible drive, 40x accessories/consumables

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

ROTARY PHASE CONVERTERS ALSO IN STOCK

CONVERT 230V 1PH TO 400V 3PH

FROM ONLY
£209.00
EXC.VAT
£250.80
INC.VAT

Clarke CIRCULAR SAWS

Great range of DIY and professional saws

Ideal for bevel cutting (0-45°)

CON185

FROM ONLY
£34.99
EXC.VAT
£41.99
INC.VAT

MODEL	MOTOR HP	FUSE	EXC.VAT	INC.VAT
PC20	2HP	10Amps	£209.00	£250.80
PC40	3.5HP	20Amps	£249.00	£299.80
PC60	5.5HP	32Amps	£299.00	£358.80

Clarke PORTABLE THICKNESSER

Max thickness cap. 25mm and 250mm wide

Planing depths adjustable from 0-2.5mm

Powerful 1250W motor

8000rpm no-load speed

FROM ONLY
£189.98
EXC.VAT
£227.98
INC.VAT

Clarke OSCILLATING BOBBIN SANDER

Provides exceptional finishes for deep & wide work pieces, front edges & narrow inner curves

- Dust collection port
- Inc. 6 sanding sleeves/bobbins
- 330mm table height
- 16mm oscillating stroke

ONLY
£119.98
EXC.VAT
£143.98
INC.VAT

Clarke SHEET SANDERS

CON300

FROM ONLY
£13.99
EXC.VAT
£16.79
INC.VAT

MODEL	SHEET SIZE	MOTOR	EXC.VAT	INC.VAT
COS200	190X90mm	150W	£13.99	£16.79
CON300	230X115mm	330W	£32.99	£39.99
Makita	112X102mm	200W	£54.99	£65.99

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

CS4-6D

FROM ONLY
£84.99
EXC.VAT
£101.99
INC.VAT

Clarke 6" BELT/ 9" DISC SANDER

Includes stand

1 HP/ 230V 1ph motor

CS6-9C

FROM ONLY
£209.00
EXC.VAT
£250.80
INC.VAT

Clarke 1" BELT/ 5" DISC SANDER

Includes 2 tables that tilt & lock

CBS1-5

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

Clarke 4" BELT/ 8" DISC SANDER

Includes two tables

550W 230V motor

CS4-8

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

Clarke 305MM DISC SANDER

Powerful, bench mounted disc sander • 900W

- No load disc speed: 1490rpm
- 305mm Disc Dia.
- (1 x 60 grit sanding disc included)
- Dust extraction port

CDS300B

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

Clarke POT BELLY

6.9kW

Clarke BARREL

6kW

Clarke BUCKINGHAM

6kW

Clarke FLUES, COWLS & ACCESSORIES

IN STOCK

Clarke PORTABLE THICKNESSER

FROM ONLY
£189.98
EXC.VAT
£227.98
INC.VAT

Clarke OSCILLATING BOBBIN SANDER

Provides exceptional finishes for deep & wide work pieces, front edges & narrow inner curves

- Dust collection port
- Inc. 6 sanding sleeves/bobbins
- 330mm table height
- 16mm oscillating stroke

ONLY
£119.98
EXC.VAT
£143.98
INC.VAT

Clarke SHEET SANDERS

CON300

FROM ONLY
£13.99
EXC.VAT
£16.79
INC.VAT

MODEL	SHEET SIZE	MOTOR	EXC.VAT	INC.VAT
COS200	190X90mm	150W	£13.99	£16.79
CON300	230X115mm	330W	£32.99	£39.99
Makita	112X102mm	200W	£54.99	£65.99

Clarke

10" (254MM) SLIDING COMPOUND MITRE SAW

- For fast, accurate cross, bevel & mitre cutting in most hard & soft woods
- 1800W motor
- Laser guide
- 78mm max. depth of cut

£129.98 ~~£155.98~~ **EXC.VAT**

CMS10S2

FOR OVER **15,000** PRODUCTS

INCLUDING **NEW** *Xtra*

SPECIALIST TOOLS & MACHINERY
visit machinemart.co.uk

NEW 500 PAGE CATALOGUE

over 1250

PRICE CUTS & NEW PRODUCTS

GET YOUR FREE COPY NOW!

- IN-STORE
- ONLINE
- PHONE

0844 880 1265

MITRE SAWS

TH-SM 2534

• Quality Range of Mitre saws and blades in stock

MODEL	BLADE DIA/BORE (mm)	MAX CUT DEPTH/CROSS	EXC. VAT	INC. VAT
Einhell 210/30	55/120mm	£56.99	£68.39	
TH-MS 2112	60/220mm	£119.98	£143.98	
Fury 3	75/340mm	£159.98	£191.98	
TH-SM2534	95/130mm	£199.98	£239.98	
Makita				
LS1040				

Clarke MORTISING MACHINE

CBM1B

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

£149.98 ~~£179.98~~ **EXC.VAT**

Clarke MITRE SAW STAND

CFMS1

• Suitable for most sizes/makes of saw

• Inc. outriggers & rollers

£59.98 ~~£71.98~~ **EXC.VAT**

NEW! FOLDING MITRE SAW STAND IN STOCK - CONHVI ONLY £119.98 INC VAT

Clarke DETAIL SANDERS

CDS-1V

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

£17.98 ~~£21.59~~ **EXC.VAT**

ALL MODELS INC. SANDING SHEETS

MODEL	WATTS	EXC. VAT	INC. VAT
PS105	105W	£17.99	£21.59
RT-0S13	130W	£22.99	£27.59
CDS-1V	280W	£24.99	£29.99

Clarke 12" DOVETAIL JIG

CDTJ12

- 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

£49.98 ~~£59.98~~ **EXC.VAT**

Clarke BOSCH JIGSAWS

CJS380

• "DIY" Professional

MODEL	POWER (W)	DEPTH OF CUT (WOOD/STEEL)	EXC. VAT	INC. VAT
Clarke CJS380*	420W	55/6mm	£12.99	£15.59
Clarke CON750*	750W	80/10mm	£24.99	£29.99
Bosch PS1700*	500W	70/4mm	£44.99	£53.99
Einhell RT-JS 85	750W	85/5mm	£49.99	£59.99

Clarke SCROLL SAWS

CSS16V

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

£69.98 ~~£83.98~~ **EXC.VAT**

MODEL	MOTOR	SPEED RPM	EXC. VAT	INC. VAT
CSS400B	85W	1450	£69.98	£83.98
CSS16V	120W	400-1700	£79.98	£95.98
TH-SA405E	1200W	400-1600	£79.98	£95.98

Clarke BISCUIT JOINTER

BJ900

- 11000rpm Operating Speed
- 860W Motor
- 14mm Cutting Depth
- Inc. dust bag and storage case

£49.98 ~~£59.98~~ **EXC.VAT**

Clarke ROUTER TABLE

CRT-1

Router not included

£59.98 ~~£71.98~~ **EXC.VAT**

• Converts your router into a stationary router table

• Suitable for most routers (up to 155mm dia. Base plate)

Clarke BENCH BANDSAWS

TH-SB200

£99.98 ~~£119.98~~ **EXC.VAT**

- Produce fast, precise mitre & longitudinal cuts
- Cuts in wood, plastic, etc.

MODEL	MOTOR	SIZE	EXC. VAT	INC. VAT
TH-SB200	180W	8"	£99.98	£119.98
CBS190	350W	7.5"	£114.99	£137.99

Clarke DRILL PRESSES

CDP152B

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

£59.98 ~~£71.98~~ **EXC.VAT**

NEW RANGE

B = Bench mounted
F = Floor standing
V = Variable speed

MODEL	MOTOR (W)	SPEEDS	EXC. VAT	INC. VAT
CDP5EB	350 / 5	£59.98	£71.98	
CDP102B	350 / 5	£69.98	£83.98	
CDP152B	450 / 12	£119.98	£143.98	
CDP202B	450 / 16	£159.98	£191.98	
CDP10B	370 / 12	£169.98	£203.98	
CDP352F	550 / 16	£199.98	£239.98	
CDP350V	550 / V	£219.00	£262.80	
CDP502F	1100 / 12	£449.00	£538.80	

Clarke MULTI FUNCTION TOOL WITH ACCESSORY KIT

CMFT250

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

£36.99 ~~£44.99~~ **EXC.VAT**

Clarke 13" MINI WOOD LATHE

CWL325V

£134.99 ~~£161.99~~ **EXC.VAT**

• Ideal for enthusiasts/hobbyists with small workshops

• 325mm distance between centres

• 200mm max. turning capacity (dia)

• 0.2HP motor

Clarke PROFESSIONAL BANDSAWS

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

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

£349.98 ~~£419.98~~ **EXC.VAT**

£449.00 ~~£538.80~~ **EXC.VAT**

MODELS ALSO FEATURE:

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

MODEL	THROAT	DEPTH	MAX CUT 90°	MAX CUT 45°	EXC. VAT	INC. VAT
CBS300	305mm/12"	165mm	115mm	155mm	£349.98	£419.98
CBS350	340mm/14"	225mm	160mm	160mm	£449.00	£538.80

Clarke BOSCH CONTRACTOR ROUTERS

CR2

• Powerful heavy duty machines ideal for trade and DIY use

£39.98 ~~£47.98~~ **EXC.VAT**

CR2 INCLUDES 15 PIECE KIT WORTH OVER £20

Clarke ROUTERS

CR1C

£39.98 ~~£47.98~~ **EXC.VAT**

• "DIY"

MODEL	MOTOR (W)	PLUNGE (mm)	EXC. VAT	INC. VAT
CR1C*	1200	0-50	£39.98	£47.98
Bosch	1400	0-55	£79.98	£95.98
POF1400ACE				
CR2	2100	0-60	£109.98	£131.98

Clarke BENCH GRINDERS & STANDS

• Stands come complete with bolt mountings and feet anchor holes

£29.98 ~~£35.98~~ **EXC.VAT**

6" & 8" AVAILABLE WITH LIGHT

£67.19 ~~£79.98~~ **EXC.VAT**

MODEL	DUTY	WHEEL DIA.	EXC. VAT	INC. VAT
CBG6RP	DIY	150mm	£29.98	£35.98
CBG6RP	PRO	150mm	£39.98	£47.98
CBG6RSC	HD	150mm	£49.98	£59.98
CBG6RSC	PRO	150mm	£49.98	£59.98
CBG6RWC	HD	150mm	£54.99	£65.99
CBG8W (wet) HD	150/200mm		£49.98	£59.98

VISIT YOUR LOCAL SUPERSTORE

BARNSLEY Pontefract Rd, Barnsley, S71 1EZ

B'HAM GREAT BARR 4 Birmingham Rd.

B'HAM HAY MILLS 1152 Coventry Rd, Hay Mills

BOLTON 1 Thyme St, BL3 6BD

BRADFORD 105-107 Manningham Lane, BD1 3BN

BRIGHTON 122 Lewes Rd, BN2 3DB

BRISTOL 1-3 Church Rd, Lawrence Hill, BS5 9JJ

BURTON UPON TRENT 124 Lichfield St, DE14 3QZ

CAMBRIDGE 181-183 Histon Road, Cambridge, CB4 3HL

CARDIFF 44-46 City Rd, CF24 3DN

CARLISLE 85 London Rd, CA1 2LG

CHELTENHAM 84 Fairview Road, GL52 2EH

CHESTER 43-45 St. James Street, CH1 3FE

COLCHESTER 4 North Station Rd, CO1 1RE

COVENTRY Bishop St, CV1 1HT

CROYDON 423-427 Brighton Rd, Sth Croydon

DARLINGTON 214 Northgate, DL1 1RB

DEAL (KENT) 182-186 High St, CT14 6BD

DERBY Derwent St, DE1 2ED

DONCASTER Wheatley Hall Road

DUNDEE 24-26 Trades Lane, DD1 3ET

EDINBURGH 163-171 Pierhead Terrace

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

EXETER 16 Trusham Rd, EX2 8QG

GATESHEAD 50 Lobley Hill Rd, NE8 4YJ

GLASGOW 280 Gt Western Rd, G4 9EJ

GLOUCESTER 221A Barton St, GL1 4HY

GRIMSBY ELLIS WAY, DN32 9BD

HULL 8-10 Holderness Rd, HU9 1EG

ILFORD 746-748 Eastern Ave, IG2 7HU

IPSWICH Unit 1 Ipswich Trade Centre, Commercial Road

LEEDS 227-229 Kirkstall Rd, LS4 2AS

LEICESTER 69 Melton Rd, LE4 6PN

LINCOLN Unit 5, The Pelham Centre, LN5 8HG

LIVERPOOL 80-88 London Rd, L3 5NF

LONDON CATFORD 289/291 Southend Lane SE6 3RS

LONDON 6 Kendal Parade, Edmonton N18

LONDON 503-507 Lea Bridge Rd, Leyton, E10

LONDON 100 The Highway, Docklands

LUTON Unit 1, 326 Dunstable Rd, Luton L4 8JS

MAIDSTONE 57 Upper Stone St, ME15 6HE

MANCHESTER ALTRINCHAM 71 Manchester Rd, Altrincham

MANCHESTER CENTRAL 209 Bury New Road M8 8DU

MANCHESTER OPENSHAW Unit 5, Tower Mill, Ashton Old Rd

MANSFIELD 169 Chesterfield Rd, South

MIDDLESBROUGH Mandale Triangle, Thornaby

NORWICH 282a Heigham St, NR2 4LZ

NOTTINGHAM 211 Lower Parliament St.

PETERBOROUGH 417 Lincoln Rd, Millfield

PLYMOUTH 58-64 Embankment Rd, PL4 9HY

POOLE 137-139 Bournemouth Rd, Parkstone

PORTSMOUTH 277-283 Copnor Rd, Copnor

PRESTON 53 Blackpool Rd, PR2 6BU

SHEFFIELD 453 London Rd, Heeley, S2 4HJ

SIDCUP 13 Blackfen Parade, Blackfen Rd.

SOUTHAMPTON 516-518 Portsmouth Rd.

SOUTHEND 1139-1141 London Rd, Leigh on Sea

STOKE-ON-TRENT 382-396 Waterloo Rd, Hanley

SUNDERLAND 13-15 Ryhope Rd, Grangetown

SWANSEA 7 Samlet Rd, Llanisamet, SA7 9AG

SWINDON 21 Victoria Rd, SN1 3AW

TWICKENHAM 83-85 Heath Rd, TW1 4AW

WARRINGTON Unit 3, Hawley's Trade Pk.

WIGAN 2 Harrison Street, WN5 9AU

WOLVERHAMPTON Parkfield Rd, Bilston

WORCESTER 48a Upper Tything, WR1 1JZ

24868RH

Calls to the catalogue request number above (0844 880 1265) cost 7p per minute plus your telephone company's network access charge

For security reasons, calls may be monitored. All prices correct at time of going to press. We reserve the right to change products and prices at any time. All offers subject to availability, E&OE.

OPEN 7 DAYS

4 EASY WAYS TO BUY...

IN-STORE
65 SUPERSTORES

ONLINE
www.machinemart.co.uk

MAIL ORDER
0115 956 5555

CLICK & COLLECT

Editor's round-up...

Having trouble sourcing the right tool for the job? Derek Jones sets about identifying the essential tools and equipment on offer this month

All sterling prices include VAT, correct at time of going to press



PHOTOGRAPHS BY GARY DEREK JONES

For the first time in a very long time I've been looking at machinery for personal use, nothing too big just a pillar drill, that's all. But then it occurred to me if I aimed a little higher up the evolutionary scale of kit I might be better off with some sort of milling/drilling machine, a two for the space of one kind of thing. If I said price wasn't an issue that would be misleading, what I'm after is precision drilling into wood and metal with milling capability when I've got my head

around the whole milling thing. Quite what I'm going to do with such a combination isn't clear right now but I'm sensing it could open doors into a whole new world of parallel skills. This may not turn out to be as selfish as it sounds so please do feel free to make suggestions if you're in the know.

Freehand shaping tools are some of the most enjoyable tools to use as they can release us from the tyranny of straight lines and square faces. Accuracy, all of a sudden,

becomes a matter of taste and, up to a point, subjective. I think you can tell a lot about a craftsman by the amount of shaping tools he has in his tool box and even more if they have seen a lot of use. Among this month's selection of tools and kit are tools that can shave a whisper off the most subtle of curves or grind out a death-defying slope for your senses to explore. Choose wisely, my friend, but more importantly have fun in the process.

Auriou large and small rotary rasps

Auriou's small hand-cut rotary rasp has a diameter of 50mm. It will cut (not burn) your wood and works well on an Arbortech long angled grinder. The large rotary rasp (with a diameter of 125mm) is not for the faint-hearted or inexperienced! It is intended for fast, aggressive stock removal using a good quality angle grinder. The hand-cut teeth act like hundreds of small plane blades efficiently cutting tiny shavings from your wood. Once you have mastered this rasp you will be pleasantly surprised with the speed at which you can shape your work.





PHOTOGRAPH COURTESY OF DICTUM

Mini hammer set

These mini hammers made by Japanese master blacksmiths are ideal for delicate work. Thanks to their drop-shaped handles, they are well-balanced and lie superbly in the hand. The forged heads are made of carbon steel and are differentially hardened to facilitate delicate and rebound-free strikes. The handles are made of hickory. These hammers are available as a six-piece set from Dictum.

BO6050J random orbit sander

Makita's new BO6050J random orbit sander has two modes of operation. In the traditional random orbit mode for fine finish sanding and buffing the motion of the pad is orbital action plus random action or free-rotation. This stops when firm hand pressure is exerted on the tool. The alternative roto-orbit mode is ideal for stock removal, coarse sanding and polishing. Here the motion of the pad is a combination of orbital action and power-driven rotation.

This mains-powered sander, with 750watt motor, will run the 150mm pad up to 6800 orbits per minute and deliver up to 13,600 sanding orbits per minute. The maximum orbit eccentricity is 5.5mm. The soft-start system smoothly accelerates the pad when the machine is switched on for operator protection. Variable speed settings can be selected by the dial, which is conveniently located on the slimline body. This narrow body with soft-grip gives excellent machine control, and the forward hand-mount enables accurate pressure to be applied directly to the pad. Once the machine is switched off the electronic pad brake swiftly stops rotation. The pad has a hook-and-loop fixing to make abrasive changes quick and simple, and the pad can be changed without the aid of tools. It weighs just 2.6kg and is available in 110v or 240v.

Dust extraction is a firm requirement in any sanding operation and the new Makita BO6050J has through-the-pad extraction, and a neat, slim connection tube below the body, which is positioned so it is not intrusive



for the operator and simply connects to a vacuum dust extractor.

A new design of narrow depth skirt above the pad, where the drive is housed, enables the pad and abrasive to get 'under' items to improve access performance. The skirt also acts as a front bumper so that the sanding disc doesn't graze any adjoining vertical surfaces during operation. For instance, when in-use in automotive body shops this slim pad feature enables the abrasive to get under a door handle to complete the sanding; this would otherwise be missed and have to be finished by hand.

Pégas scroll sawblades

Pégas scroll sawblades are manufactured in Switzerland from high quality carbon steel and contain the highest possible carbon content for sawblade applications. Pégas also makes use of a proven fabricating process that produces crisp, sharp, precisely formed teeth. All the blades are heat treated and tempered to maintain uniform grain structure and to achieve the highest hardness possible. This process creates long lasting durable blades, making them the finest in the world. Additionally, all Pégas scroll sawblades are capable of performing in power saw applications.



Pfeil carpenter chisel set

The blades of Pfeil's carpenter chisels are forged from K 510 steel, hardened up to 60 RC. The blades are finely ground and polished, they have a bevel angle of 25° and are razor sharp. The chisels are supplied with octagonal handles with oval section, and are made of strong oiled elm. This set of six carpenter chisels also includes a marking knife, all supplied within a wooden box. The chisel sizes included are 6, 10, 12, 16, 20 and 26mm.



Woodjoy spokeshaves

Woodjoy's professional spokeshaves have innovative micro-adjust hex key blade adjustment; the quickest way to fine-tune a spokeshave. The hex key has a notable advantage over hand tightening the blade, in that it only takes a tweak to lock the blade securely in place. There are no threaded posts or tangs on the blade; a benefit you will

appreciate when sharpening. The 3mm thick brass sole is longer than the mouth opening, allowing the fixing screws to be sited outside the cutting path of the shave, which gives an uninterrupted smooth contact with the workpiece. They are made with a durable and attractive maple body with extra thick A2 steel blades.



From £81

Chestnut carpenter's side axe



£29.50

This broad, straight-edged carpenter's side axe is used for rough shaping and sizing of material. Its 1.6lb head is cast in stainless steel and then forged to increase strength and edge retention. The 115mm face is bevelled on only one side to promote accurate

straight cuts, and the maple handle is box shaped to allow a centred grip for accuracy, stability and control. The axe is available in right-handed and left-handed configurations, each with a sewn and riveted leather sheath.

Orbicut

Orbicut is a new tool from Swedish manufacturers Kirjes. As you might expect from a Swedish brand, the Orbicut is designed to be safe and efficient. It features two replaceable HSS cutters inserted into a ball which project about 0.1mm. This small amount of projection makes the tool easy to control while producing thin shavings instead of dust.

The small Orbicut has a 20mm diameter head (the smaller of the two in the picture) and a 6mm shank. The large version has a 40mm head with an 11mm shaft. It works fast and efficiently at a low speed (5000Max RPM), stays sharp for a long time and is easy to control.

The Orbicut can be used in many types of rotary tools, such as flexible drives, drills, etc. It is an ideal tool for use on small to medium sized hollowing projects.



From
£54.94

MINI TEST: Evapo-Rust Super Safe Rust Remover

Ray Smith puts this rust remover to the test

I recently spotted this product on Amazon, although I have since seen it for sale elsewhere. It is available in a range of sizes, I purchased a couple of 32oz bottles just as a try-out as I am very keen on easy rust removal. I like to buy good quality, old carving tools, planes and spokeshaves, and then restore them to a rust-free, fully usable condition – they are not just collectables.

To test the Evapo-Rust I found the rustiest plane I have ever seen, plus a cleaner, lightly rusted plough plane and a couple of lever caps to make up a batch. I used 40 grit abrasive paper to remove the thick, fairly loose rust on the block plane then used Astonish engine degreaser spray – cheap but good. I used water to rinse off the cleaner and a lot of loose muck, then immersed the items in an old plastic container filled with the rust remover. I left them for a couple of days then used an old nail brush to give them a scrub under the hot tap to remove the black residues, then, to prevent flash rust, I dipped the parts back in the Evapo-Rust and wiped them dry.

I was very impressed with the effect on the block plane as it did not require any further soaking. I really did think it would be too far gone, but once I lap the bottom, strip all the old paint off, re-enamel it and



give it a good sharpen, it will be a nice little plane. The plough plane will also be OK once I find some blades for it, but I think the photos tell the story best.

Evapo-Rust is safe, non-toxic, reusable to a degree, and can be disposed of down a drain. And it works.

It can be purchased at various retailers online, including Amazon, Bic Warehouse and Frost (www.frost.co.uk). Prices do vary so be sure to shop around.



Contacts

Auriou large and small rotary rasps

Contact: Classic Hand Tools

Tel: 01473 784983

Web: www.classichandtools.com

BO6050J random orbit sander

Contact: Makita

Tel: 01908 211678

Web: www.makita.co.uk

Chestnut carpenter's side axe

Contact: Workshop Heaven

Tel: 01295 678941

Web: www.workshopheaven.com

Evapo-Rust super safe rust remover

Contact: Evapo-Rust

Tel: 00 1 888 329 9877

Web: www.evapo-rust.com

Mini hammer set

Contact: Dictum

Tel: +49 (0)991 9109 902

Web: www.dictum.com

Orbicut

Contact: Classic Hand Tools

Tel: 01473 784983

Web: www.classichandtools.com

Pégas scroll sawblades

Contact: Classic Hand Tools

Tel: 01473 784983

Web: www.classichandtools.com

Pfeil carpenter chisel set

Contact: Classic Hand Tools

Tel: 01473 784983

Web: www.classichandtools.com

Star-M Japanese F-type bit

Contact: Classic Hand Tools

Tel: 01473 784983

Web: www.classichandtools.com

Woodjoy spokeshaves

Contact: Workshop Heaven

Tel: 01295 678941

Web: www.workshopheaven.com



Star-M Japanese F-type bit

Designed specifically for use in cordless drills, F-Type non-self-feeding auger bits reduce load on motors and bearings and extend battery life. The innovative conical tip allows them to be used to ream out smaller diameter holes to a larger diameter and chase together holes drilled from opposite faces. The tip design also helps to reduce breakout on the exit side.



City&Guilds
of London
Art School

WOODCARVING & GILDING COURSES

3yr DIPLOMA, 2yr CERTIFICATE and 1 & 2yr POSTGRADUATE OPTIONS

BURSARIES AND SCHOLARSHIPS AVAILABLE

Our range of courses is designed to suit students from a wide range of backgrounds, and all can access bursary funding to cover varying portions of the fees. The courses are unique in that the teaching of the traditional craft skills of carving and lettercutting are complemented by the art skills of observational drawing and modelling. All courses are taught by practicing craftsmen and women which ensures that students leave the course well prepared for professional practice. Alumni regularly find work in the heritage sector and often set up their own businesses.

Applications Now Open

admissions@cityandguildsartschool.ac.uk | 020 7091 1683

www.cityandguildsartschool.ac.uk

Protect and enhance the natural beauty
of wood with Treatex Hardwax Oil



Vase by Mark Raby Wood Finishing

treatex
Naturally superior wood finishes



Treatex Hardwax Oil

protects and enhances the appearance of all types of internal wood surfaces. Treatex Hardwax Oil is manufactured on a base of natural sustainable raw materials: jojoba oil, linseed oil, sunflower oil, beeswax, candelilla wax and carnauba wax.

- Brings out the timber grain
- Adds warmth to wood
- Easy to apply
- Quick drying
- No sanding required between coats
- Low odour
- Resistant to water, wine, beer, coffee, tea and fizzy drinks
- Withstands high temperatures
- Very durable
- Easy to clean and maintain
- Spot repairable
- Suitable for flower vases
- Safe for use on children's toys

tel: 01844 260416
www.treatex.co.uk



MADE STRONGER. LASTS LONGER.™

25%
STRONGER*

IRWIN WELDTec™
CONSTRUCTION BLADE
WITH WELDED
CARBIDE TEETH

irwin.co.uk *When compared to IRWIN part number 1897209. Tested for durability on the most demanding applications.

IRWIN®
TOOLS



In the workshop with Karen McBride

Brian Greene speaks with a Canadian perfectionist

Karen McBride might not call herself a perfectionist, but many would. It seems there is no other way to achieve what she achieves. If a piece of furniture looks impossible, it's got her attention. Everything she builds is out of the ordinary. Her pieces are new and fresh and she has never built the same piece twice.

Background

A native of Canada's national capital, Ottawa, Karen came to professional furniture designing and making relatively late in life. After training as an engineer with a stint at auto mechanics, she spent many years as a successful computer systems consultant. How did she go from puttering with cars and computers and hobby woodworking to becoming a designer-maker of very fine furniture?

She says it was "an incredible combination of everything".

Years of restoring and refinishing antiques as a hobby gave her an appreciation for the well-grounded, classic lines of antique furniture. Her sense of the artistic and an interest in design combined with a talent for resolving mechanical problems has always been there.

The first items of furniture she made were Windsor chairs. "I made two and then I did a course with Michael Dunbar in New Hampshire to learn how. That's the way I learn!", she explains.

After building her shop she realised that, while furniture making gave her the freedom to follow her muse down whatever rabbit hole caught her eye, it was never intended to be more than a hobby. Serendipitously, Karen

saw a flyer for a new furniture making school, Rosewood Studio, opening just outside Ottawa. "It seemed unbelievable that here was a school minutes away from my door offering courses where I could learn the skills I was only just starting to appreciate."

In 2003 she took some courses at Rosewood and worked there at weekends assisting instructors prep for their courses. Her time at Rosewood enhanced her machine and hand tools skills and introduced her to the work of people like Garrett Hack, Michael Fortune and other top flight designer-makers who later became friends and mentors. "All of a sudden the pages of *Fine Woodworking* came alive for me", she says. At that point Karen was still working full-time as a computer systems consultant but she began professional designing and making part time.



PHOTOGRAPHS BY BRITANY GANLEY

'Patience' cabinet made from maple burl, ebony and shellac

Mentoring is critical

Her time at Rosewood was followed in 2005 with a three-month internship with Michel Fortune in Lakefield, Ontario, commuting home at weekends for two and a half months to the 50-acre farm she shares with her partner, Nonie. The time with Fortune was intensive and formative and Michael continues to be an important mentor to Karen. She says of him: "His love of machinery, his business sense, the methodical way his projects move through the various phases of production as well as his design techniques have had a big effect on the way I work. I very definitely see projects take shape in my mind first and worry later about how to build them."

Garrett Hack of Vermont, a veteran teacher at Rosewood, also shaped Karen's development as a furniture designer-maker. They have a lot in common. Both are engineers, they live a similar farming lifestyle and share a love of vintage machinery. They are both very emotional with big streaks of perfectionism and an almost insatiable curiosity. "Garrett is a true friend. He believes in me, supports my direction and has always been there for me when I have a technical issue with a project."

Jack Forsberg is an Ottawa area architectural millwright with a passion for vintage machines. "Jack has become a great friend," Karen explains. "I really appreciate his very well-developed design sense based on his historically sensitive design-build work. He has a huge knowledge of vintage machines and the ability to solve mechanical problems. Moreover, he understands what working from the heart is all about."

Karen explained that the support from these more experienced makers has been an immense help in her career. "Mentoring



PHOTOGRAPH BY EDWIN ROO MANDAY

Like her mentors, Karen has a passion for engineering and vintage machinery

has been critical because the work is so emotionally difficult. What does working from the heart mean? It's working as well as you can, doing the best you can. It means leaving nothing on the table because a part of you goes into every piece – you never get it back."

Very much related to this, Karen believes that developing confidence in yourself as a designer-maker is the single most important

aspect of the studio furniture maker's personality. As she sees it, to do truly great, original work means having the confidence to be vulnerable and to fail over and over again. That is how we learn and move forward.

Design ethos

Asked where her design ethos is rooted and without hesitation Karen immediately mentions the Art Nouveau and Art Deco

periods, especially the work of Emile-Jacques Ruhlmann (1879–1933). “I really appreciate the practitioners of what I call ‘nouveau art nouveau’, the furniture sculptured with cleverness, particularly the work of designer-makers like Marc Fish, Jere Osgood, Joseph Walsh and Matthias Pliessnig. Their furniture really moves me because it goes beyond what seems possible. It reminds me of why I choose to make furniture. This is what it’s really about: beautiful curves, complex mechanical issues, the seemingly impossible.”

Rinse and repeat

Wendell Castle advised furniture makers about not being in a hurry to build the first good idea; to not leave the design process too early. Otherwise, we can’t know that what we have is, in fact, the best. Karen’s creative process is like that, pretty intense.

“The most important tools in my shop are pencils and erasers. I test idea after idea. I go down the rabbit holes. Sketch, draw, model, make full-scale mock-ups; full-scale drawings, prototype, rinse and repeat! The drawings, models and full-scale mock-ups are easily half the work. I do it over and over many times until I get it right. I don’t rush to a solution, any old solution. That’s not what I’m after. I plod on, trying out all the ideas until I come up with the best solution. It’s a never-ending and addictive pursuit of the illusion of the design originally imagined – perfectly formed. That’s what I mean by rinse and repeat.

“If you give up you’ll never get the



Karen uses both power and hand tools

breakthrough you’re looking for. It’s inside you and you have to keep at it until it comes out.”

From there the making takes over. Karen’s shop is set up with large industrial machines, all of them capable of doing remarkably precise work. She favours machine processes but also uses hand tools

when that’s the best approach. “I do whatever works!”, she says.

Karen is well known for her curved work, particularly steamed work. She also favours the seemingly limitless possibilities of veneer and a vacuum bag. Almost every piece will feature a turned element, whether major or minor.



Much of Karen’s work features turned elements

The Log Shop

Karen's studio shop is a log house on a 50-acre farm about 30 minutes outside of Canada's national capital. Never one to take the easy way, Karen bought, disassembled, moved and reconstructed a 19th-century two storey log house. She and her father Jim, along with other helpers, worked on and off on the project for five years.

"I wanted to create a really nice, inspiring place to work. It was a great project and a huge challenge, but it was very definitely a bad business decision. However, the shop is built in a way that allows for conversion to a residence in its next life. Maybe the studio will be my legacy."

A three-part series of articles about Karen's shop can be found here: www.woodkiltonstudio.com/about.php?s=3



Karen dismantled, moved and reconstructed this 19th-century log house



Moving and reconstructing the log house took five years



The shop's white oak stairs feature a hand-carved inscription: "Perfection is achieved not when there is nothing left to add but when there is nothing left to take away - Antoine de Saint-Exupéry"

'Stern' chair.
A reproduction of
a classic Danish
design made from
walnut and leather



Two solid walnut side tables are attached to the veneered walnut headboard of the 'Feather bed'

Collaboration

Building the shop to a high standard reinforced for Karen the importance of collaboration. Her father Jim, now 80 years old, has been coming to the shop every Monday since retiring in 2000, first working on the building, now helping refurbish the massive pieces of vintage machinery that turn up on her doorstep with regularity.

Karen's apprentice, Ginny Honeyman, works with her three days a week. "I have always worked on my own. It's nice to have someone here with me to bounce ideas around. The give and take is wonderful," Karen says. Karen is also involved in a major creative collaboration for the first time. Working with Ottawa portrait painter Paul Wyse they are creating an art piano for Steinway & Sons that is expected to be unveiled later this year. "This is a big commission and it's been a fantastic experience. I couldn't have asked for a better colleague. We've been twice as good together as we would have been working separately. Trust is a huge issue and we have that in spades. It's neat to have someone push you to the limits. The process has helped me do my best work. As a result, my design and making skills have grown well past where they were before."

What does success mean?

The good news is that Karen has lots of work. She has been making furniture professionally for about 10 years with a very carefully thought out plan and approach. She's learned



PHOTOGRAPH BY KAREN MCBRIDE

'Nonie's bed' made from Karelian birch veneer, walnut, shellac, acrylic medium with water-based dyes and varnish

to design furniture and run an efficient business. Like most studio furniture makers, she struggles to balance efficiency with perfection in order to be profitable. Giving up the security of part-time consulting work has helped her sharpen her focus.

A mix of furniture repair work, usually antiques, as well as commissioned pieces, keeps the shop humming. The repair work is fairly lucrative, often interesting and usually fits in around the bigger projects.

It all seems to be working for her because Karen has enough work without the time and expense of speculative work and exhibitions.

The 100+ year rule

Karen is the first to say she is never satisfied unless the design and the execution are the best that she can do. For her, it's always about the integrity of the design. "The pieces I make have to last at least 100 years."

It's a tough standard. *F&C*



Karen in her workshop

Contact: Karen McBride Email: karen@woodkiltonstudio.com Web: woodkiltonstudio.com

ANDREW CRAWFORD BOX MAKING COURSES

What an adventure!
Andrew is a true master
of the craft, and expertly
shared and showed us
how to reach new levels
of craftsmanship!



- ◆ weekend courses
- ◆ 'gold' 5 day courses
- ◆ one-to-one tuition

www.box-making.com ◆ 01694 781318



DESIGN YOUR FUTURE

City of Oxford College offers advanced and beginner-level furniture courses from the nationally regarded **Rycotewood Furniture Centre** in the heart of Oxford.

Join us to train in professionally equipped workshops; learn from highly experienced teachers and get vocationally relevant training. We also offer full and part-time university-level courses: a Foundation Degree and BA (Hons) in Furniture Design and Make.

Our Rycotewood Furniture Centre has been highly respected in the industry for over 75 years. Our students are regular award winners in national competitions.

Start your career in furniture today:

- » Developing Woodwork Skills
- » Furniture Level 2 Intermediate Apprenticeship
- » Furniture Level 3 Advanced Apprenticeship
- » Furniture: Design and Make BA (Hons)
- » Furniture: Design and Make Foundation Degree
- » Introduction to Woodwork Skills
- » Principles and Practice of Furniture Making Level 1 City and Guilds Certificate
- » Principles and Practice of Furniture Making Level 2 City & Guilds Diploma
- » Principles and Practice of Furniture Making Level 3 City & Guilds Diploma
- » Upholstery Level 1, 2 and 3 Association of Master Upholsters
- » Woodcarving



Find out more at: www.cityofoxford.ac.uk



CITY OF
OXFORD
COLLEGE

Part of
ACTIVATE
LEARNING

Why Does Everyone Including You Need 'Sizzling Minerals'? **Essential for Health & Beauty**



Read about: Anti-Ageing, Joint Pain, More Energy, Amazing Hair, Beautiful Skin, Strong Nails, Arthritis, Heart Health & more...

Get your
FREE Sample



UNICEF and The World Health Organisation studies show alarming mineral deficiency in modern food & soil which is detrimental to health and beauty. Nutritionists, health consultants, beauty experts and sports trainers around the world have been searching for decades for the answer to optimum health and performance... now they've found it. These experts are now witnessing the amazing benefits after recommending 'Sizzling Minerals' to their clients. Plant Derived Minerals are essential for maximum performance and also to assist the aversion of diseases such as arthritis, asthma, diabetes, skin problems, osteoporosis, high blood pressure, alzheimer's and strokes to name a few...

"I've seen miraculous results in my clients" Dr David McCollum, Champion Body Builder And Nutritional Expert.

Call for an information pack and FREE SAMPLE 0800 0588 911
Simply Naturals ID.113652 www.PlantMinerals4Health.com Please Quote: F&CM



**Trial
Offer!**

FREE 1oz Travel Tub and 1/4oz Pocket Tub worth £13.45 when you buy a 4oz Tub for £22.50 + £3.95 P&P. (Offer only valid by Mail Order)

No More Cracked Hands or Feet!

100% No Risk Money Back Guarantee!
Skin Care Breakthrough

Our amazing Beeswax Barrier Hand & Foot Cream works fast healing your cracked hands and feet. It penetrates deeply moisturising your skin and is non greasy. It's water, chemical, oil and dirt resistant so protects your hands from getting stained and chapped. It also makes cleaning up after work so much easier and lasts for 5-6 hand washes too, so is very economical.

www.BeeProtX.com

To claim your TWO FREE Tubs quote Code: F&CM at checkout online or when you Call Free 0800 0588 911

Pay by Credit/Debit Card or Cheque. Richard Starkie Associates, F&CM Timber Cottage, Wistow, Leicester, LE8 0QF Email: sales@starkies.com

hapfo
Made in Germany
ULTIMATE WOODTURNING

COMING SOON
Hapfo 7000-CNC Woodturning Lathe



- > 3700mm between centres
- > Coping diameter 400mm
- > Centre Height 300mm
- > Weight - 1600kg

**G&S
Specialist
Timber**
TOOLS AND MACHINERY

www.toolsandtimber.co.uk
you can order online now



WE ARE EASY TO FIND:
1½ miles from the M6, J40.
Take the A66 towards Keswick,
turn left at first roundabout,
follow the Brown Signs to
The Alpaca Centre.

G&S SPECIALIST TIMBER

The Alpaca Centre, Snuff Mill Lane, Stainton, Penrith, Cumbria CA11 0ES.
Tel: 01768 891445. Fax: 01768 891443. email: info@toolsandtimber.co.uk

Open 8am to 5pm daily.
10am to 5pm Saturday.
Closed Sunday.

NEW WOODWORKING BOOKS



Quick Find Code: 25846
Great Big Toy Trucks
£17.99



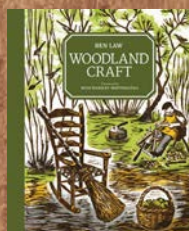
Quick Find Code: 26229
Cabinets, Vanities and Countertops
£16.99



Quick Find Code: 26228
All New Building Decks
£17.99



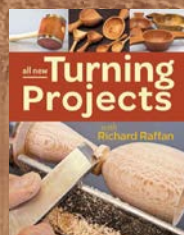
Quick Find Code: 25951
The New Small House
£17.99



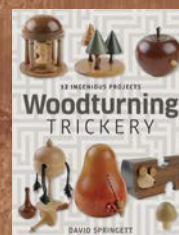
Quick Find Code: 21569
Woodland Craft
£25.00



Quick Find Code: 25390
The Woodburner Handbook
£7.99



Quick Find Code: 25948
All New Turning Projects
with Richard Raffan
£17.99



Quick Find Code: 24279
Woodturning Trickery
£16.99

Hundreds of inspiring Woodworking
and DIY books available.

Visit www.thegmcgroup.com
or call 01273 488005



WORKSHOP



schepach

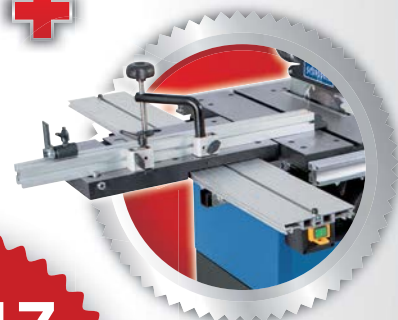


INCLUSIVE

**TABLE WIDTH
EXTENSION &
BASE UNIT**

INCLUSIVE

**SLIDING
TABLE
CARRIAGE**



**CAST IRON
TABLE**

£524.17

EX VAT

£629.00

INC VAT

CARRIAGE PAID UK
MAINLAND ONLY

**2 year
Guarantee**

PRECISA TS82 | 8" TABLE SAW WITH SLIDING TABLE CARRIAGE, TABLE WIDTH EXTENSION & BASE UNIT

THE NEW SCHEPPACH PRECISA TS82 CIRCULAR SAWBENCH IS THE PERFECT SOLUTION FOR THE SMALL WORKSHOP. IDEAL FOR THE DISCERNING HOME WORKSHOP USER AND LIGHT PROFESSIONAL USE.

- Sliding table carriage standard
- Powerful 1100 Watt induction motor
- Long life TCT blade – Ø 200 mm
- Sturdy, powder-coated sheet steel design and cast iron table-top
- Table width extension
- Blade guard with suction hose outlet
- Fully adjustable blade height by easy use of handwheel
- Sturdy parallel guide / ripping fence and mitre gauge

SPECIFICATIONS

Dimensions L x W x H	1430 x 1000 x 1060 mm
Saw blade Ø	200 mm
Table size	530 x 400 mm
Table size with extension	530 X 1000 mm
Table height	870 mm
Cutting depth at 90° max.	60 mm
Cutting depth at 45° max.	44 mm
Motor	230 V~
Input	1100 W

We have now
moved to our
new address :

Unit 1, Brookfoot Business Park
Brighouse, West Yorkshire
HD6 2SD

www.nmatools.co.uk

Tel: (01484) 400 488

Email: sales@nmauk.com



Marquetry for a new era



Yannick Chastang

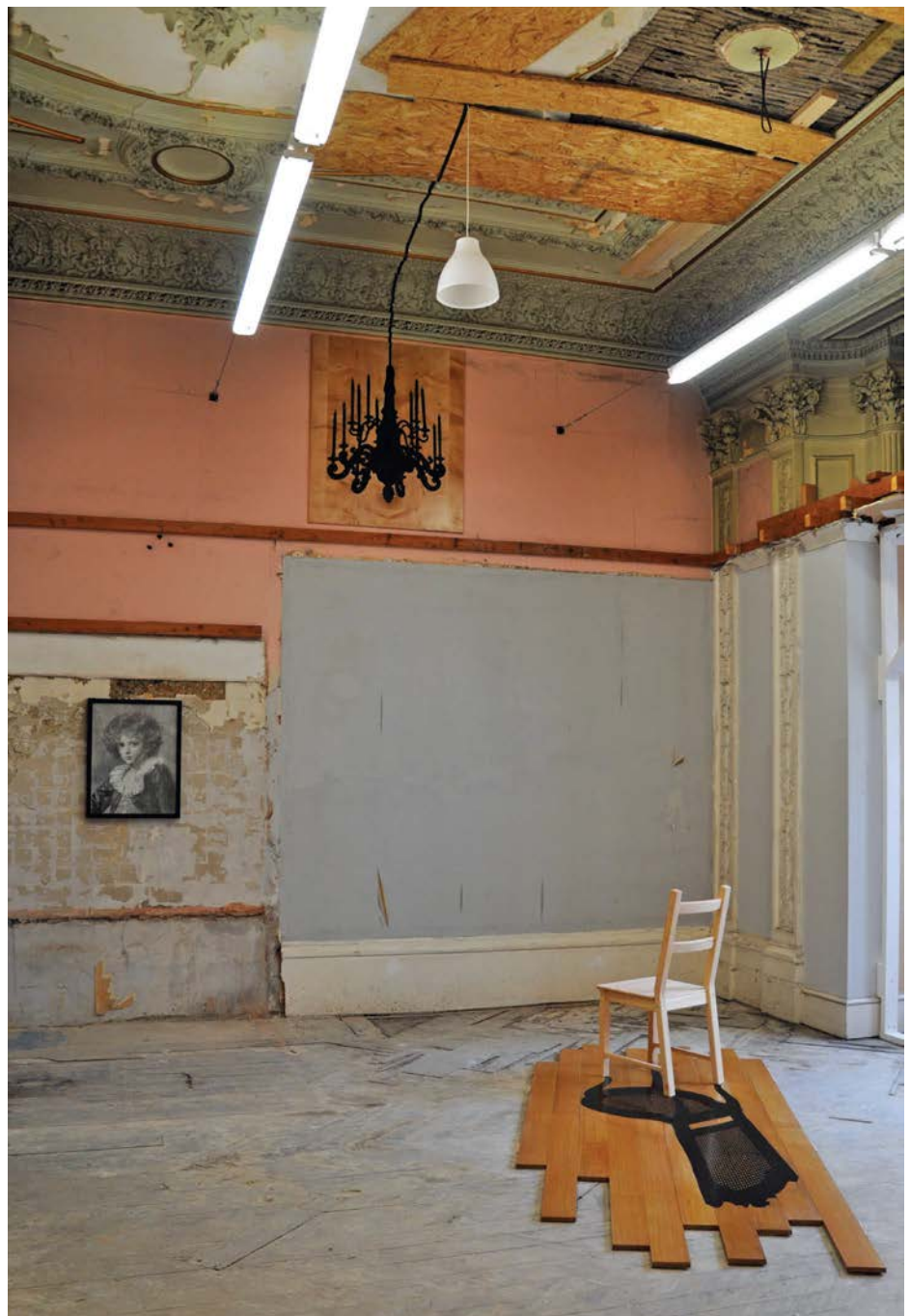


Art curator Karina El Helou

Contemporary art curator Karina El Helou and marqueteur Yannick Chastang discuss their latest London exhibition and the place of marquetry in contemporary art

Marquetry is an ancient art. It is time-consuming and expensive to produce and, as such, is generally reserved for the social and financial elite. In today's photographic world it has arguably lost its place and value and has become a redundant form of figurative art. Rare new marquetry designs in the form of decorative panels still grace, with various degrees of success, our modern furniture and the walls of our houses, or perhaps more often the luxury yachts of those fortunate enough to own them.

Marquetry has rarely been exhibited in the context of contemporary art installations. It is the meeting between the Paris-based curator Karina El Helou with the traditionally trained marquetry and furniture maker/restorer Yannick Chastang that sparked the desire to create pieces that would challenge our view on the place of marquetry in contemporary art. The first two pieces resulting from this reflection were exhibited at the dilapidated Averard Hotel in London, in the group show *A City Without A Song*. The lost Victorian oasis, where travellers and wanderers used to meet offered the perfect setting for this exhibition. The five selected artists Nika Neelova, Yannick Chastang, Ken Sortais, Raphael Barontini and Taisuké Mohri presented works on the traces of real cities. They reinterpreted designs from the past by removing their function and utility such as Neelova with the Alvar Alto stool chair, Chastang with the shadow in marquetry of an 18th-century chair from Waddesdon Manor and Ken Sortais with the mould of the Hector Guimard-designed Art Nouveau



Yannick Chastang's *Empreintes* exhibits

Paris subway stations. These forms made of moulds, copies and shadows of existing objects become representative of a material culture and a poetic recollection of a past era in dialogue with today's world.

The critically acclaimed exhibition also attracted the interest of visitors who weren't familiar with the technique of marquetry. In the *Saturday Times*, journalist Huon Mallalieu wrote about the marquetry works exhibited: "In his shadows, [Yannick Chastang] shows that there need be no division between art and craft".

Can marquetry become experimental and a contemporary language moving away from its decorative function?

Empreintes marquetry by Yannick Chastang

My two pieces titled Empreintes challenge our traditional views about the place and quality of antiques and collectors in modern society. I wanted to ask whether the disposable items of today really represent value for money and are the best use of our natural resources. What is the environmental impact of the plastics we so readily use, the fuels and energy involved in manufacture, related pollutants and the realities of disposal? Is there room for meticulous, quality workmanship and aspiration to the highest standards of human achievement in a world driven by novelty and economy?

My pieces explore man's connection with the past through decorative arts. Juxtaposing contemporary spare, minimal



The chair's shadow was made from ebony

and functional designs against the lavish, extravagant styles of a former age, I tried to uncover the shadows of the past that lie behind the evolution of all today's modern pieces. Within every object is an empreinte of a former time that has cast a shadow into the future. The shadowed designs may be aesthetically redundant but they are the moulds and inspiration for all modern designers who have, often unawares, absorbed these patterns of the past and created new designs based upon them.

Mass production of furniture, and the popularity and success of international conglomerates like Ikea, has enabled



Chandelier shadow made from ebony

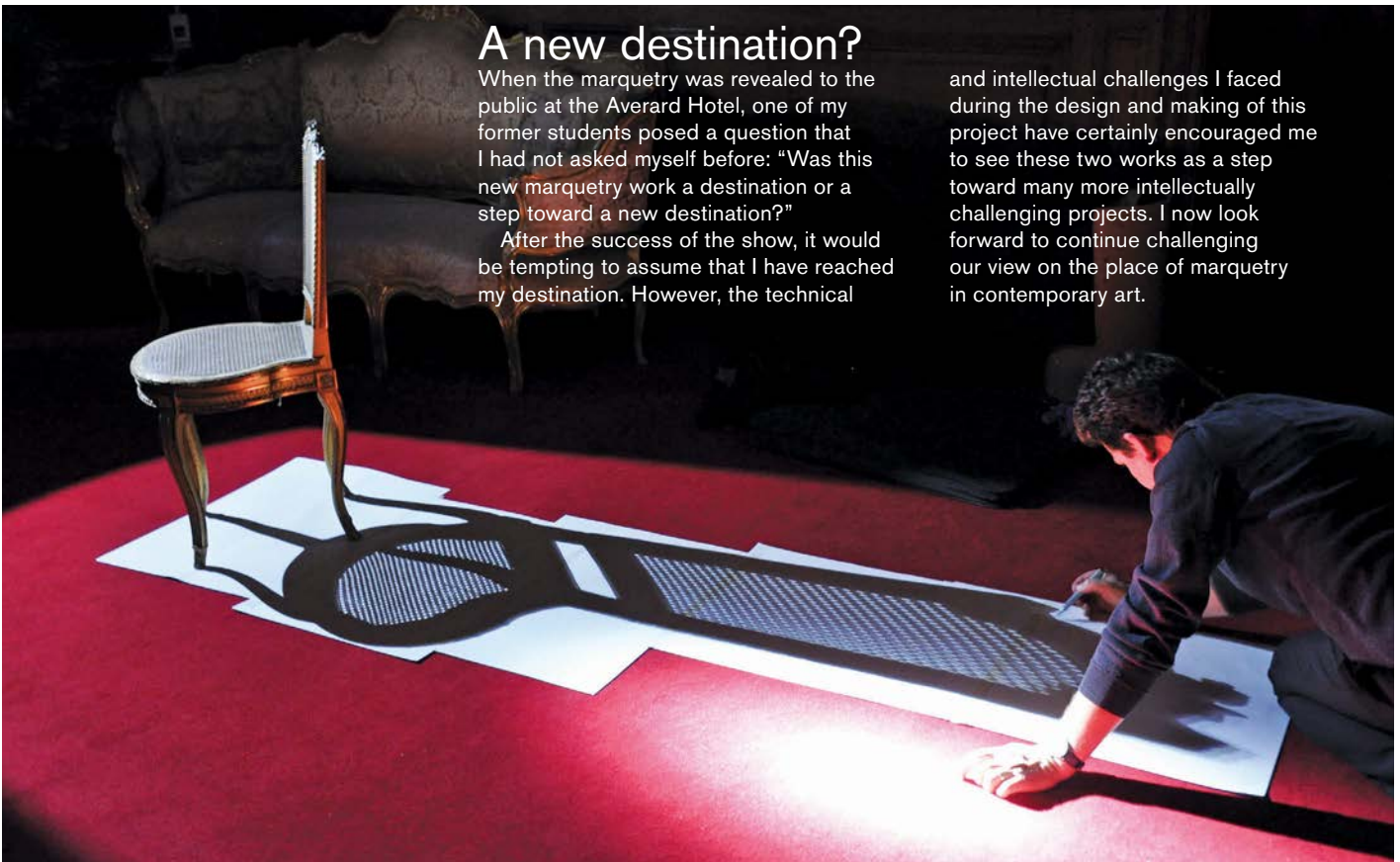
widespread and general access to new designs and functional furniture. Thanks to mass production everyone can now afford furniture however, at the same time, the result is a unification of art and style with little room for individuality. Marquetry by contrast is exclusive, not only because of the cost, but because each hand-cut piece is inevitably unique. A factory can make a pine chair by machine in only minutes, and can box and sell it for only £15. In contrast, the marquetry shadow has been laboriously cut and is made from ebony, not only one of the most luxurious and rarest materials of the past, favoured by kings and the rich, but also one of the hardest woods to work with and to process.

A new destination?

When the marquetry was revealed to the public at the Averard Hotel, one of my former students posed a question that I had not asked myself before: "Was this new marquetry work a destination or a step toward a new destination?"

After the success of the show, it would be tempting to assume that I have reached my destination. However, the technical

and intellectual challenges I faced during the design and making of this project have certainly encouraged me to see these two works as a step toward many more intellectually challenging projects. I now look forward to continue challenging our view on the place of marquetry in contemporary art.



Yannick Chastang drawing the shadow of an 19th-century chair at Waddesdon Manor

Contemporary art and crafts by Karina El Helou

A City Without A Song was an exhibition organised through my curatorial platform STUDIOCUR/ART. As a curator, I have an interdisciplinary and experimental approach. I appreciate working with artists who collaborate with scientists, archaeologists, craftsmen and historians. For this exhibition, I looked into mixing works by both artists and the luxury ébéniste Yannick Chastang in a conceptual contemporary art exhibition. This decision was based on my passion for marquetry as a technique and the risk turned out to be small, since Yannick's approach to the project was one of an artist.

The relationship between the arts and crafts has always been highly discussed, some argue craft is just a skill, and contemporary art intelligentsia refute its importance considering craft as decorative art for bourgeois interiors. However, when we look back at the highly acclaimed Ai Wei Wei exhibition at the Royal Academy in November 2015, it becomes obvious that traditional techniques are progressively

re-entering the contemporary art world. In Ai Wei Wei's example, crafts such as ceramics are an intrinsic part of the conceptual research and of the significance of the objects which he uses to reinterpret the troubled contemporary Chinese history.

In A City Without A Song, Yannick's marquetry symbolised the luxury of the past. By projecting the shadow of a chair taken from Waddesdon Manor deriving from an industrially made chair, it referenced the world after the French Revolution and the way our lifestyles were turned upside down. Many of the furniture pieces now at Waddesdon were part of French Royal inventories such as Versailles, the marquetry shadows represented a specific moment in history. Using ebony wood, one of the most expensive materials, reinforced this statement. The Empreintes pieces were therefore part of a general thinking on our interiors and furniture as storytellers comparable to archeological findings, they carry pieces of history within them. *F&C*



Nika Neelova's exhibit, *Untitled (Ikea Stools)*



Paris Metro station entrance designed by Hector Guimard



Exhibit by Ken Sortais, inspired by Guimard's Art Nouveau Paris Metro stations. This piece is called 'It is in nature always that one should seek advice'

Call us
01296 481220

osmo[®]

Learn more
osmouk.com

THE SPRAYABLE HARDWAX-OIL



SPRAY-WAX: Highest quality sprayable wood protection

✓ MICROPOROUS | ✓ NATURAL | ✓ OIL-WAX BASED | ✓ DURABLE | ✓ HIGH COVERAGE

WoodRat[®] THE ORIGINAL



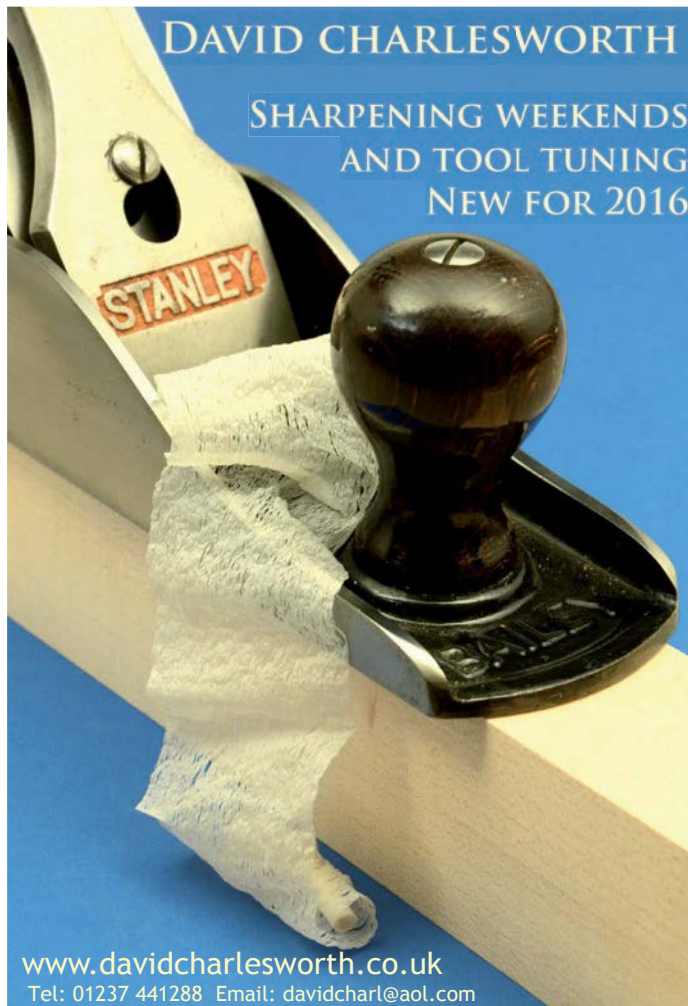
and still the best way
to joint wood

Uncluttered yet accurate,
quick to set and simple to use.

see it in action... woodrat.com

DAVID CHARLESWORTH

SHARPENING WEEKENDS
AND TOOL TUNING
NEW FOR 2016



www.davidcharlesworth.co.uk
Tel: 01237 441288 Email: davidcharl@aol.com

See your
US Stockist
Enquiries Welcome.
Tel/Fax 888-631-8311

Lacquers
•
Polishes
•
Waxes
•
Polish Enhancers
•
Wood Treatments
•
Polishing Brushes
•
Abrasives
•
Stains
•
Thinners
•
Applicators
•
Superglues
•
Buffing Systems
•
Acrylic Blanks
•
...and much more



CHESTNUT
P R O D U C T S
first for finishes



Used by woodturners of all abilities throughout the UK and the world, the Chestnut Products range of top quality finishes gives outstanding results every time; whatever you are making and whatever your preferred finishing system there is bound to be something in our range to meet your needs.

See your local stockist for more information
or for a catalogue/price list contact us at:

Chestnut Products
PO Box 260, Stowmarket,
IP14 9BX

Tel: 01473 890 118 Fax: 01473 206 522

www.chestnutproducts.co.uk
mailroom@chestnutproducts.co.uk

Stockist enquiries welcome

A place for nearly everything

Derek Jones looks at introducing production line efficiency to a classic handmade object

Part of the legacy with any skills-based discipline is that a finished object will leave behind a three-dimensional trail of information from which others can learn. For the originator of the piece the lessons learned cast an indelible imprint of data in the less tangible form we refer to as experience. While I enjoy the challenge of designing and learning a new technique, the linear process of actually making something is a recurring theme and one that fascinates me more than any other aspect.

For the most part the things we make are an amalgam of separate parts that reference off each other to form a single object. Orchestrating the arrangement of these co-dependant parts is as much a skill as the techniques required to produce them, and that's the approach I decided to capture in the building of this tool chest. It's a project that will be familiar to many readers especially those who have enjoyed Chris Schwarz's homage to the hand tool user, *The Anarchist's Tool Chest*. There's not a lot anyone can add to the building of a sturdy tool chest from wood that isn't already well documented.

This account, I hope, will help you to identify the links between separate components and how they are shaped to streamline the making process as a whole. Rebates, shoulders and grooves are all devices in their own right and should be part of your construction vocabulary.

Although I have wanted to build a chest like this for quite some time, the subject itself is not that important as the steps highlighted are fairly common among carcass construction. My addition to this workshop staple are some screw-in legs to bring the chest up to bench height and make it more convenient to work out of. They can be removed and stored inside the chest for transport. I chose to fasten the handles to the sides of the chest with machine screws located into threaded sleeves that are buried behind drawer runners on the inside. Everything else is pretty much standard and as you might expect.



PHOTOGRAPH BY CHRIS DEREK JONES

Straight down the middle

It's more of a concept really than a literal guide but the material we use for the bulk of our solid timber casework construction started out being in the middle of something else at some point in time. It's no coincidence perhaps that because of this we're not exactly short on metaphorical references to the basic human form in person or as a state of mind. Convenient then that my default method of drafting or setting out is to work from the centre outwards. For a draftsman this concept turns a piece of paper into the real space on site where everything can be positioned according to

dimensions that have a common and stable datum, albeit imaginary. Tapering alcoves, sloping fireplaces and winding hallways are all much easier to deal with in relation to a centreline. Centrelines are 'plumb', they are level and straight and up to a point cannot be anything other than what they set out to be. They are totally reliable and therefore a very powerful tool. In fact a majority of the reliable reference edges in rectilinear construction are projected from centrelines. A face and edge, for example, although relative to each other are also parallel to centrelines in two axes. As abstract as this may sound we actually use techniques based on this principle to great effect in the majority of the joinery that results in good case work; mortise and tenons, biscuits, Dominoes, dowels, lapped joints and even dovetails.

In keeping with the centreline's simplistic nature the tools we use to create and gauge it are also basic and few. The most common of these and the most frequently used on this project was a variety of hand plane.



At the heart of every log there are dozens of components waiting to be released

Commonality is no coincidence

The hero of the day on this project was undoubtedly the plough plane, closely followed by the rebate plane. Now, there are variants that will do the job of both and some that will do other things besides but for the purposes of this exercise we'll treat them as separate tools and begin with jointing boards to fabricate panels for the front, back and sides of the chest. Strictly speaking a well

shot edge-to-edge joint will be more than adequate to form a panel but the plough plane can be used to create reference edges, lips and grooves that interlock along the centre of a board edge; tongue and groove. The beauty of using the plough comes into its own when you are working with stock that has a common thickness across multiple components for example

the front, back, sides, lid frame and panel of this chest. They were all thickened to 19mm, although that's not nearly as important as them all being exactly the same. Accepting the principle that either a face or face edge is the datum from which any further work or reference is generated means that you can often set your plough up for one cut and keep it that way for several more.



A plough plane is a real 'shop workhorse



Matched sets of irons can create tongues for your grooves



As a glue joint it offers little strength but great alignment

Shoulder to shoulder

Shoulders are those little edges, steps and ridges that are generally used to prevent one component from moving in more than one direction from another. In this respect they are a point of reference and therefore can be used as a device to set the position of other joints. The planes used to create them are numerous. A classic vintage one like the Stanley 78 isn't hard to find and won't cost the earth. In my experience they are best suited to working soft timbers and not necessarily soft wood. There are limitations on the depth of cut and the scribing blade (or nicker) can sometimes be less than effective. Although a skew rebate block plane is relatively small it's

very effective and with some of the more modern features on board such as adjustable mouth, set screws and quality blade you might find it hard to put down once you've used it. The depth of cut isn't restricted on these tools but the width is if you intend to use the fence. The standard shoulder plane is very much an all-rounder and with the aid of a straight edge it can be used to cut accurate rebates. For large-scale work and an altogether better experience a skew jack rebate plane can't be beaten. With the low-angle blade and a user-made fence it will crank out metres of pristine rebates or raised panels when the fancy takes you.



An old Stanley 78 may not be the prettiest tool in the box



Try and find one with the nicker intact



Be prepared for some old school adjusting



A modern skew block plane will have all the whistles and bells



A shoulder plane cuts rebates as well...



... as shoulders in two axes

Backs to the wall

Never underestimate the usefulness of a straight edge however small. A rebate of 2 or 3mm is all it takes to help make the transfer of a long row of tails line up.



Long boards or short, you'll need a custom fence



Rebate the inside of the tailboards to a depth of a couple of millimetres



2mm is enough of a ledge to register the tailboard in place and help transfer knife marks for pins

Smooth, straight or square

In an ideal world we should strive for all of the above all of the time, but experience and a certain amount of sensitivity tells me that might result in a finished item lacking in character. There's something a little unnerving about ultimate perfection when applied to handmade goods. Things that are missing the mark of the maker can appear anonymous, cold and lifeless to me. Maybe it's my background of handling period furniture and getting excited when I discover pencil marks on the backs of drawers or layout lines that mean I don't feel the need to erase every trace of the craftsman from my own work. Whatever your viewpoint there will come a time when a compromise has to be made between either a smooth finish, a straight

edge or a perfectly square one. Square is generally good because it helps register mating components and is after all a sign of good craftsmanship. Smooth and straight on the other hand are subjective to the point of ambivalent.

A well-tuned smoothing plane will leave behind a very smooth surface albeit slightly rippled, which is very different to being flat or straight. It's certainly not a sign of shoddy workmanship in my book, merely a sign of workmanship and therefore to be noticed and appreciated. Overdo the effect though and the surface ceases to be a useful reference for other components. The wraparound plinth on this chest was sized to match the case. No need for measurements here, just a flat face for reference.



Outside faces are sometimes reference faces as well so be careful with that smoother



Use the workpiece as the template

Shapes and sizes

So far we've talked about using planes for very practical reasons to create reference edges for joints but they can obviously be used for decorative purposes as well. The base boards for the chest were rebated 50/50 on opposite faces to create a consistent row of boards with room for movement but without gaps through to the floor. These rebates are the perfect foil for

a moulded detail such as a bead from a moulding plane. The nails used to fasten them in place were a little short for my liking so a second rebate was cut to contain the heads and give the nails more bite into the bottom of the chest sides.

A similar process using rebates and a moulding plane was used to form the ovolo profile on the top edge of the wrap-around

plinth. The moulded part of the section is mitred first before dovetailing the material below. The chest sides were used as a template to generate baselines for all the joinery and as a former to glue the frame up. Packing tape was wrapped around the corners of the chest to prevent the plinth from sticking to it. The plinth was then glued to the chest as a complete frame the following day.



Set up and go with a dedicated rebate plane



Shape up with a moulding plane



You can hide a lot in a rebate, including nail heads



Shiny surfaces are also very functional. If it looks square in the 'mirror' it is square



One setting on the skew block plane equals two matching rebates and a custom ovolo



Check that adjoining corners have the same profile



Make the chest your transfer board

Topping off

The most rewarding part of this project was constructing the lid. I wouldn't admit to being bi-lingual when it comes to metric over imperial but let's just say I understand (or think I understand) more than I can speak. What I do know is that whenever there's a discrepancy there's a chance you can make it work in your favour. The Chinese word for 'failure' incidentally is also the same for 'opportunity', which is worth remembering next time you feel things aren't quite working out. With the plough already set up from grooving earlier on it was ready to put to work without further adjustment to cut the grooves in the stiles and rails for the frame that would hold the panel in the lid. The style of this lid mimics the one described in *The Anarchist's Tool Chest*

whereby the panel is made from the same sized stock as the frame components. Cutting identical grooves in the frame and around the edge of the panel means they can slot together with a slightly raised section on the top face. Very neat, very strong and very forgiving if things start to move. The only deviation I made from the original was to cut the grooves in the frame with the 6mm cutter and the grooves in the panel with the 1/4in cutter. A simple straight swap that gave me 0.22mm of extra clearance. Not essential I know but a useful trick to have up your sleeve. Notice from the readout on the Vernier gauge that a 6mm iron might not always be exactly 6mm. Failure or opportunity? It could be either.



Set the panel grooves in line with the mortises



Check the actual cutter size for the best fit...



... imperial equivalents may be closer than you think

Why a square chisel in a round hole doesn't work

Logic is great but it can also ruin your day. Take drilling out the waste for a mortise, for example. It certainly makes sense in principle but in practice, a lot of the time, it will work against you. Yes, you need to remove the waste efficiently but this also means doing it in a controlled way. When drilling, the obvious route to take is to select a drill bit slightly smaller than the thickness of the mortise and line up a series of tightly bunched holes. Unless you're a hand drill ninja or human milling machine the chances of doing this perfectly are virtually zero, even

on a pillar drill! Secretly we know this already and that's why we've selected a smaller drill bit in the first place. The series of holes, of which at least one if you're lucky will be off line, are now perfect pilot holes for your mortise chisel, and we know what pilot holes do; they guide things in their direction. The truth is your mortise chisel has all the GPS, Sat Nav, laser-guided accuracy built into it already, making a pilot hole nothing more than an unnecessary backseat driver that will cling tight to your chisel the minute it's driven into the hole. Very irritating.



Square pegs in round holes can be a recipe for disaster

Chop chop

Mortise chisels are shaped with deep sides for a reason and to thicknesses that correspond to common mortise and tenon joinery, 4, 6, 8, 10mm, etc. Older ones often have parallel sides, newer ones sometimes slightly tapered. The extra steel isn't just there for strength it's there to create and reference a hole of its own making and keep it in a straight line.

My tip here is never work to the full length of the mortise from the outset. Start work a couple of millimetres in from each end with a series of shallow chops with the bevel edge facing towards the centre of the mortise. Move halfway along the mortise and then come back from the other end to meet somewhere in the middle. The bulk of the waste material should now be just loose chippings and easily removed from the mortise. The void therein is your marker for subsequent, heavier cuts. Change the orientation of the chisel to suit and lever out the waste regularly. A crude but effective method of setting the depth of the mortise is to use a marker pen line on the side of the chisel.

Only when the depth has been achieved can you make the final adjustment to the length of the mortise and the top and bottom shoulders with the flat back of the chisel. Mortise chisels are brutal. Use them as they were intended.



Mortise chisels have wide sides. Mark them and use them

Create a path of least resistance

For panels that are set in line with a mortise, partially cut the groove beforehand to create a channel in which to place the mortise chisel. That's less marking, no wonky drilling and perfectly placed mortises every time.



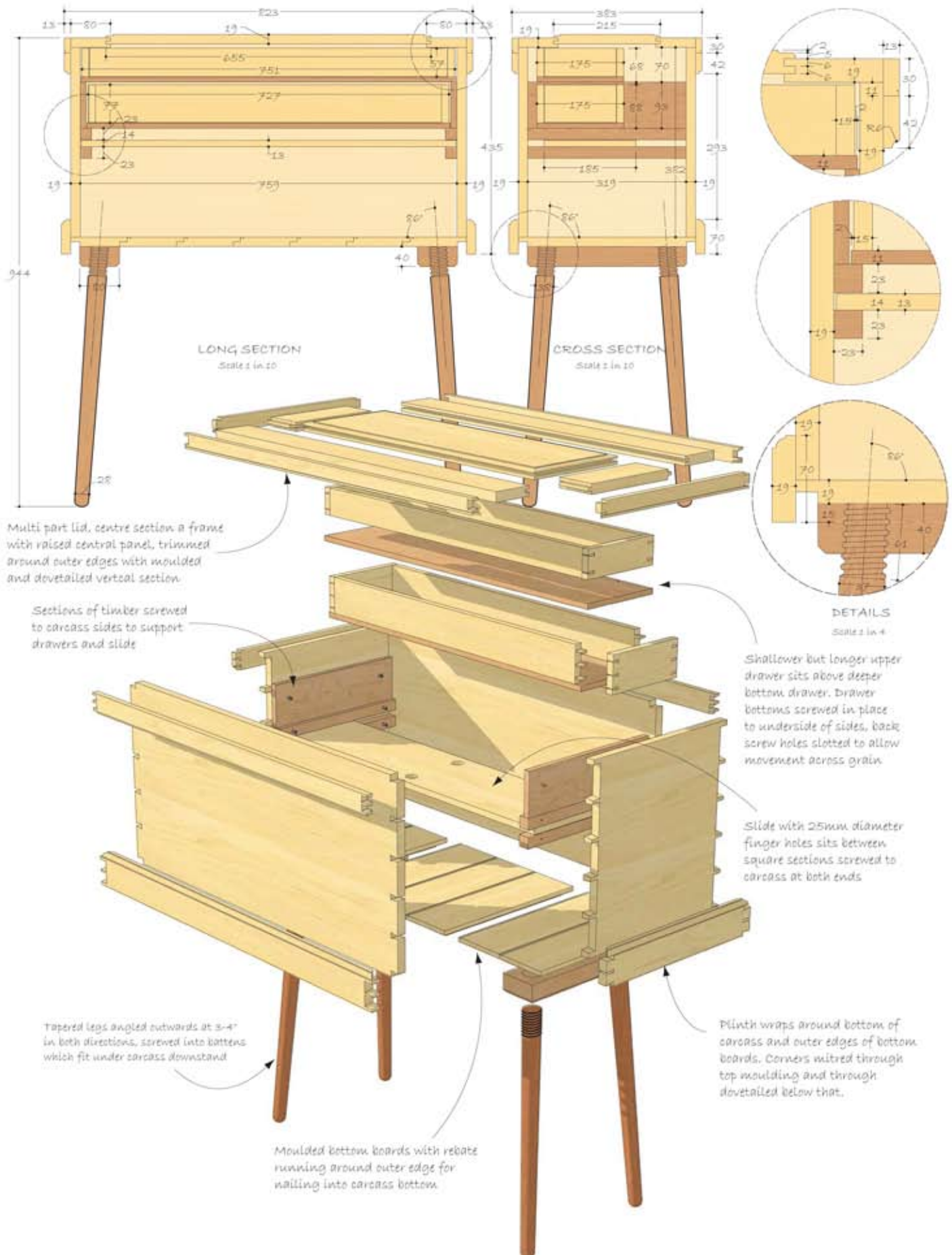
Create a groove to set the mortise in place and guide the chisel's first cuts

Conclusion

There's obviously a great deal that we haven't covered in this article for making this tool chest, but as there are some excellent books out there devoted to building them you shouldn't be short on information if you decide to build your own. The take home message from this article then is to have a fresh look at some of the tools on your bench and the jobs they do and how they can influence your build strategy. *F&C*



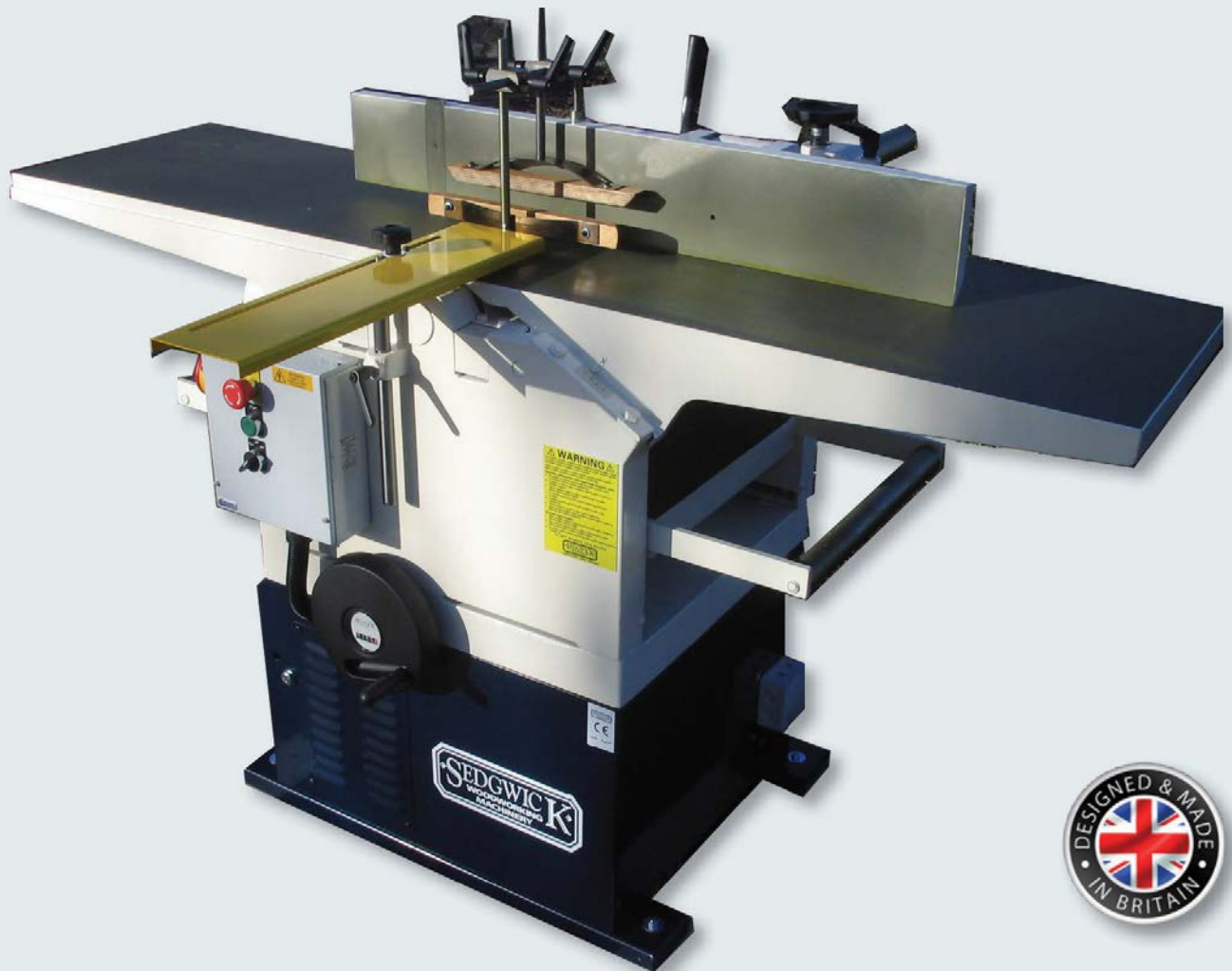
A tool chest fit for a journeyman, travelling light





CP 410X230MM PLANER THICKNESSER

The CP is largest of our three models of planer, and offers outstanding value for money, exceptional build quality and the assurance of accuracy and stability for the long term.



FEATURES INCLUDE:

- ▷ 4.0Kw Industrial Rated HIGH EFFICIENCY Braked Motor (1ph option also available).
- ▷ Dedicated motor and 2 speed gearbox to drive the thicknessing feed rollers.
- ▷ Large diameter 3 knife cutterblock (4 Knife TERSA option available).
- ▷ Cast iron tables with anti-friction planed finish.
- ▷ Mechanical digital readout to thickness table rise & fall.
- ▷ Robust cast iron fence with rack and pinion adjustment for accuracy when surfacing.
- ▷ Steel cutter guards & adjustable shaw guards for rebating.
- ▷ No time consuming mode changes: the surface tables remain in place when thicknessing, utilising instead a dual function chip collection hood.

For further details of this & our complete range of woodworking machinery please visit www.sedgwick-machinery.co.uk, or contact us at:

M. Sedgwick & Co. Limited, Stanningley Field Close, Leeds LS13 4QG

E: sedgwickmachinery@btinternet.com

Tel. 0113 257 0637

Fax. 0113 239 3412

Sliding dovetails

In an extract taken from *The Complete Illustrated Guide to Joinery*, Gary Rogowski looks at through sliding dovetails

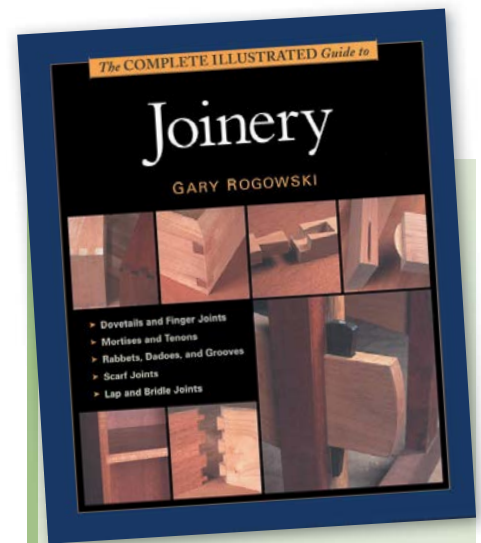
Through sliding dovetail

Before starting to cut sliding dovetails, make sure the stock is flat and remove all the milling marks. If you handplane, sand, or scrape your work after you cut the joint, you will affect its fit **(A)**.

Make the dovetail slot first. For a ½-in. dovetail, use a ¼-in. straight bit on the router table to rough out the slot. Leave this cut just short of full depth. Run the end of the board against a fence set so that the straight bit is centered in the final dovetail slot position **(B)**. Mount the dovetail bit and set it to full depth. You get only one try with this cut at full depth. Make a pass, keeping pressure down on the board to keep the cut consistent in depth. Run the pass twice if you have any doubts about it. Use a backer board to prevent tearout or cut the stock ⅜ in.

oversize in width so there will be enough wood to cut away the inevitable tearout. Use a table insert in the router table to cover up as much of the bit as possible **(C)**.

Cut the tail section on the router table, holding your workpiece vertically. Don't reset the bit height. It will perfectly match the first cut. Set the fence over the bit so only a portion of it is showing. Cut one face side of all the joints and then cut the other faces. Fine-tune and adjust the fence by cutting into a piece of scrap that's the same thickness. If you need to cut more off the tail, use a pencil to mark the fence position on the table, loosen the fence clamps, and then tap it a little away from the pencil mark to expose more bit. Each movement of the fence will give you two possible cuts, one on each face **(D)**.



Book details

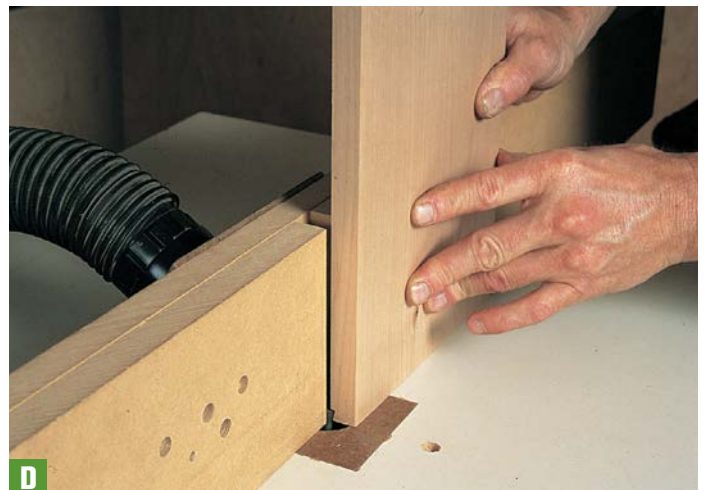
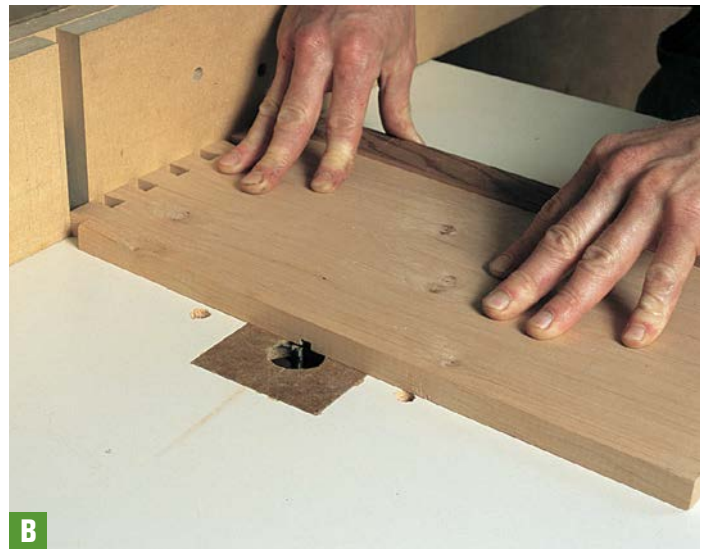
The Complete Illustrated Guide to Joinery

by Gary Rogowski

ISBN: 9781561584017

Price: £34.99

Web: www.thegmcgroup.com



If you think you're very close with the fit but don't want to risk it, hedge your bets by placing a paper shim between the fence and the workpiece. This will kick the work out a few thousandths of an inch from the fence. A dollar bill gives you a 0.003-in. shim (E). If the joint is still too tight, remove the shim



and take another pass. On narrower boards, a handplane pass off the board's face will put you that much closer to the bit for a slightly narrower tail cut.

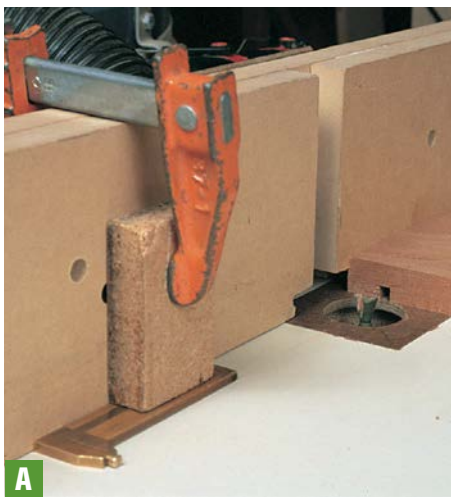
Before starting to fit the joint, take a single handplane pass off the end grain of the tail (F). This gives you just a little sliding room



and some room for glue. Alternatively, you could set the bit depth for the male cut just a hair lower than the height of the female cut. If the tail still binds up in the slot, double-check the depth of the cut with a depth gauge. Or use a combination square as a gauge. Make sure the depth is consistent (G).

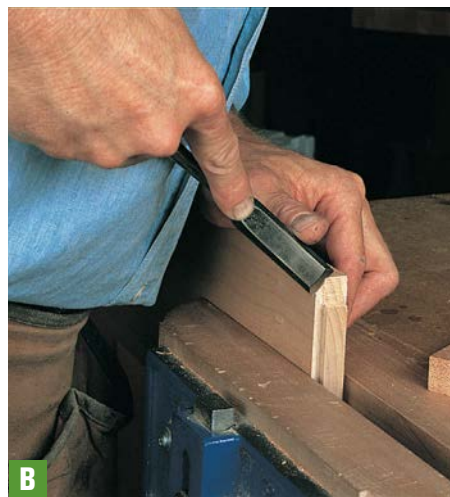


Stopped sliding dovetail



Cut a stopped sliding dovetail exactly as you would a through version, but put a stop on the router table fence to limit the cut. Use a spacer under the stop to raise it up so debris doesn't pile up against it, affecting the accuracy of the stop (A).

Chop the end of the dovetail slot square or leave it round and cut back the tail enough to miss the round corners. After cutting and fitting the tail, trim off a section of it to allow for the stop. Use a backsaw to cut away the waste. Then walk a chisel around from the router-cut shoulders to establish the flat (B). The shoulder can be slightly undercut. Or set up the table



saw to trim the shoulder accurately.

A sliding dovetail should slide about halfway together with just hand pressure before it binds up. But the only way you'll get it apart is with a mallet. Clamp a piece of scrap that fits just under the slot and use that as a stop to bang the board against. Make sure the dovetailed piece doesn't cant on you as you're banging it free. On a through sliding dovetail, you can check each end of the male and female parts of the joint, but with a stopped you can check the joint from only one side so be precise with your cutting (C).



Hand-cut single-shouldered sliding dovetail

A single-shoulder sliding dovetail is relatively easy to fit because one side remains flat.

Determine the angle of the tail and set up a sliding bevel (**A**). Mark out a board on both ends with this angle and plane it to match (**B**). Clamp the angled fence or saw guide onto the workpiece and place the saw against it to make the cut (**C**). Be sure to hold the saw tightly in place and don't saw past the depth marks.

Now use the other straight side of the saw guide to line up the straight cut. Make sure it's square to the board's edge (**D**). Then saw the straight side to depth (**E**).

Remove the waste with a chisel and mallet (**F**). Then use a router plane to take the cut down to depth (**G**). Use the sliding bevel to mark out the tail board with its angle and mark out the position of the tail's shoulder. Set the saw guide in the vise to line up with the tail marks and, using a wide chisel, cut out the tail (**H**). To fit the joint, use a handplane to take wood off the back face of the tail board (**I**).



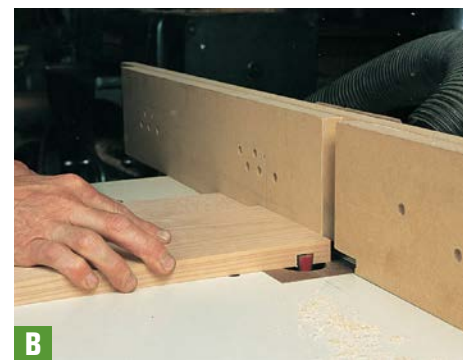
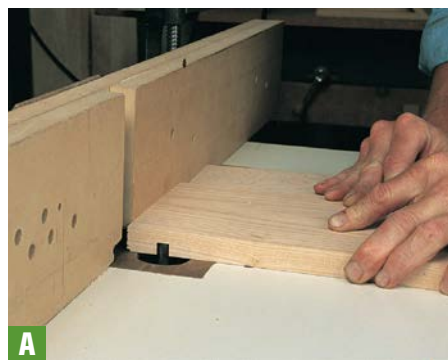


Single-shouldered sliding dovetail with a router

When cutting a single-shouldered sliding dovetail with a router, first mill the stock a hair thicker than the width of the dovetail bit so you'll have some fitting room. Use a straight bit first, but don't center the bit in the dovetail slot. Set the fence so that you cut one side of the dovetail slot with the straight bit. Set the bit for the full depth of cut after several cleaning passes and use a backer board to prevent tearout on the back edge of the piece (**A**).

Set the dovetail bit to depth and make one pass, cutting the dovetail side of the slot. Make sure that you're always moving into the rotation of the bit (**B**).

Cut the tail on one face only (**C**). Fit the tail by planing the flat side of that board. Draw pencil marks across the board and remove wood consistently across the face with a tuned handplane or even a scraper. This will make the tail a bit smaller. Recheck its fit until it slides home (**D**).



WARNING When enlarging a router cut slot, make sure that the feed direction for the second cut is into the rotation of the bit. You are usually contacting only one side of the bit, and a normal feed direction may actually yield a dangerous climb cut. You may have to feed from left to right, instead of the more common right to left, to avoid this.

Rabbeted sliding dovetail

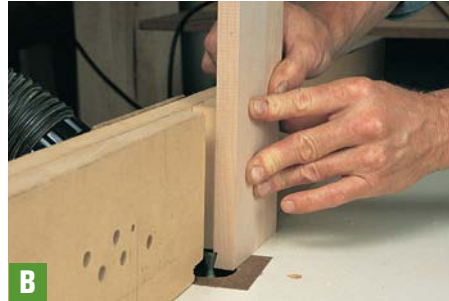
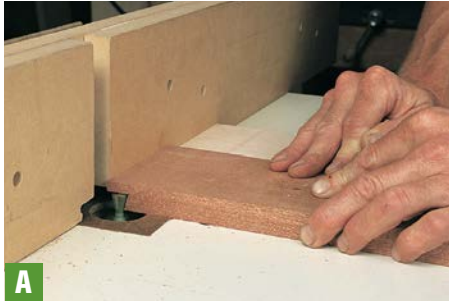
Make a rabbeted sliding dovetail in a drawer face just like any rabbet cut on the router table. Hold the board flat to the table, but use a dovetail bit to make the cut. Use a backer board to protect the back edge of the work from tearout.

Set up a fence so that the bit cuts at a depth

just less than the thickness of the stock **(A)**. Make a series of passes until the board rides along the fence for the final pass, or waste some wood first on the table saw and then make one cleanup pass on the router table.

Don't reset the bit height for the matching tail cut, as it already perfectly matches. Move

the fence over so that the bit is captured in the fence while holding the piece vertically **(B)**. Take a light pass and re-adjust the fence away from the bit until the two boards mate perfectly **(C)**. Reinforce the joint with dowel pins for the strongest construction.



Stopped sliding dovetail

Tapered sliding dovetails eliminate the binding and fitting problems of sliding dovetails. The joint has an angled slot and tail, which fit loosely right up until the joint is almost together, when it locks into place.

Use a right-angle guide with an auxiliary fence against it and clamp these onto the workpiece. If you mark the position of the dovetail slot in pencil, you'll be able to place the fence more easily using the dovetail bit in the router as an aid. Rough out the slot

first with a straight bit **(A)**. Cut to full depth with a dovetail bit, making sure to keep the router base tight to the auxiliary fence **(B)**.

Place a 1/16-in. shim between the auxiliary fence and the right-angle guide exactly at the lead edge of the workpiece. Then rout the tapered side of the slot. Be sure to put the shim at the edge of the board, not at the edge of the fence. If the sliding dovetail is a stopped cut, square up the end of the cut with a chisel. Use

a spacer block to index the cut for the matching carcass side. This will place it in the proper position **(C)**.

Rout the tapered tail on the router table using the same router bit, which should now be captured in the router table fence. Tape on the 1/16-in. shim to one face of the board right at its edge. This kicks the workpiece out from the fence to make the tapered cut. Cut the other side of the tail running the board's face flat to the fence **(D)**. *F&C*





www.norfolksawservices.co.uk

Visit us on-line or in-store for Woodwork Machinery, Power Tools & Accessories
from the UK's top brands



Norfolk Saw Services, Dog Lane, Horsford, Norwich NR10 3DH

Tel: 01603 898695



E-mail: sales@norfolksawservices.co.uk



**DOWNLOAD
FURNITURE & CABINETMAKING**
FOR JUST £1.99
AND GET 1 FREE ISSUE

Subscribe and get individual
issues wherever you are
+ save money!

6-month subscription £14.99
12-month subscription £26.99
Single issues £2.99

pocketmags.com

Logos for various app stores: nook, Google Play, Amazon, Kobo, Apple App Store.

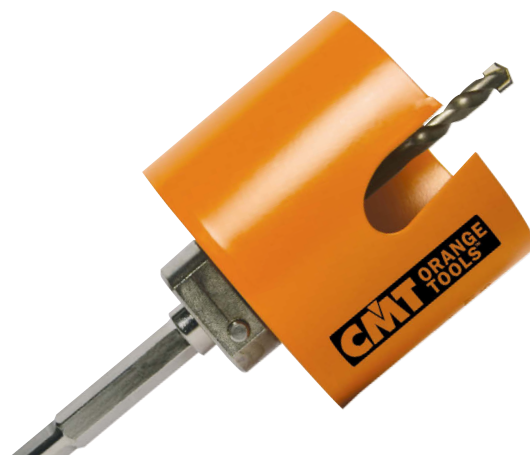
Other visible magazine covers include:
- 'Furniture & Cabinetmaking BOX CLEVER' (Build the ultimate workbench on a budget)
- 'Furniture & Cabinetmaking SIMPLICITY RULES' (Simplicity rules and other joined up thinking)
- 'Furniture & Cabinetmaking Plane easy' (Building from the inside out)



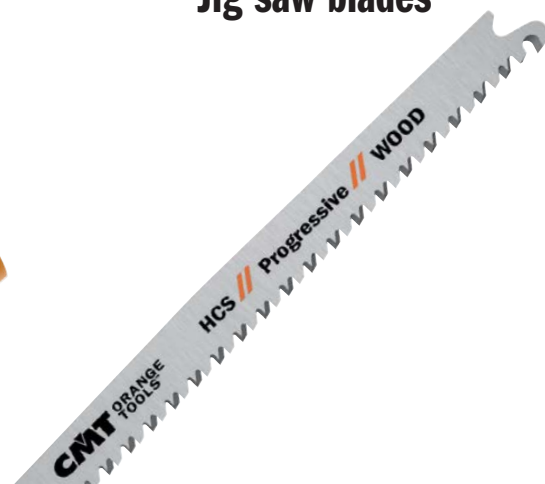
Saw blades



Hole saws



Jig saw blades



Sabre saw blades



**Tools with bore
& knives**



**Router bits
& sets**



THE WIDEST TOOLING RANGE



For more information and to find your nearest stockist
please visit www.tomaco.co.uk

Travelling light

F&C take Festool's new mobile extractor and mini palm sander on site for some good clean fun

Transporting you and your tools on-site to complete what would otherwise be a very straightforward operation back in the workshop can be a real pain sometimes. Packing for every eventuality is usually the best answer, lest we risk opening up the toolbox to find the one thing we need has been left back on the bench. There are times when a scatter-gun approach works well if you have the space to accommodate everything on the back of the van but even this has its downside; what goes to site must be unloaded then reloaded and brought back home again.

Tools for actually doing the job are only part of the inventory of course, with a whole range of ancillary items that might include dust sheets, rubbish sacks, safety gear and a vacuum. For years my travelling companion has been a Henry Hoover; reliable as the day is long and tough enough to hack it in the back of the van with all the tools and other site equipment. But a good vacuum for cleaning up at the end of the day is only half the battle, especially if you intend to fire up some power tools. For that you'll need something every bit as effective as the extractors back in the 'shop if you want to maintain the same professional standards for yourself and those around you. Although generally very portable these machines tend to be a little unwieldy in a tight situation and a bit clumsy to have around. Festool, however, have come up with an alternative, the CTL-SYS for when 'shop size extraction is just too much to lug around.



Festool CTL-SYS mobile extractor



Festool ETS EC 125/3 EQ eccentric sander



PHOTOGRAPHS BY SIMON JONES

CTL-SYS

Packed neatly into a Systainer the CTL-SYS has the same powerful motor that is fitted to their range of Cleanex machines so despite its size it packs quite a punch. Stacked on top of the motor casing is a removable section designed to accommodate the hose with an integrated handle and the option to clip on a shoulder carrying strap. The CTL-SYS includes two basic hose accessories, a fine nozzle (crevice tool) and a T-shaped head suitable for carpets and upholstery, pretty much all you need for clearing away dust and debris from the work area. A 13-amp auto switching socket completes the set-up for attaching any power tool with an extraction port fitted.

Obviously something has got to give to enable all this to be contained within the footprint of a regular Systainer and Festool have chosen to cut back on the waste bag capacity. The CTL-SYS has a 3.5L removable bag and filter. The unit can be pared down further to just the motor casing as the push fit hose connects directly into the top. Attach the shoulder strap to the front of the unit and you can use it 'Ghost Buster' style. Self-clean and air flow efficiency monitoring systems are one of the significant upgrades that determine either an L or M class extractor across all brands. These are not included in CTL-SYS hence the L rating. Should this be an issue? Well, yes and no. Yes if you buy one as an alternative to an M rated unit where



One of two locations for a shoulder strap

this level of extraction is a legal requirement, but not if you use it for short bursts when time, space and convenience are important factors, such as revisiting a clean site for minor works or servicing. Let's be clear about this; for prolonged use and in a shared working environment additional PPE should be considered. We got wind of just such a callout so decided to pair the CTL-SYS with the Festool ETS EC 125/3 EQ eccentric sander and put the two to the test.



Accessories are stored in the main motor casing



Cabling and switches are all contained within the footprint of a Systainer



A push fit elbow joint attaches in the top of the unit



Stripped bare the CTL-SYS is compact and very portable

Scope of works

The task involved stripping an existing wax finish from a number of walnut window sills, removing the odd water mark and then refinishing with stains, sealers and a top coat of Osmo within the confines of a recently decorated and now occupied living room. Under these conditions containing the amount of dust and debris created during each stage in a project like this is just as important as the finished result, so access to good extraction is very important. For a start, it will make your job a lot easier cleaning up as you go with the added bonus of instilling confidence in your client.



A simple enough job in the workshop, but a potentially messy one on site



A typical clean-up operation with paint stripper and steel wool

Mix to match

When it comes to colour matching with just oil stains, try combining stains with different tones to achieve the colour you want. When I'm teaching or demonstrating colour balance techniques I always encourage new practitioners to the craft to take the description on the label with a pinch of salt. Not literally of course. Although descriptive they're open to interpretation. Light oak (*Quercus robur*) for example will generally have a murky green tone that if labelled as such I'm guessing wouldn't be that popular a choice. But when blended with a red mahogany (*Eucalyptus resinifera*) the result is a very warm hazelnut shell brown colour especially when applied to walnut (*Juglans nigra*). In short you can use it to jump a few years' worth of UV exposure on fresh timber and sometimes unify the appearance of otherwise disparate components. The ratio on this project was $\frac{1}{3}$ red mahogany and $\frac{2}{3}$ light oak. After a couple of hours the oil stain was dry enough to brush over with a coat of shellac sanding sealer.



$\frac{1}{3}$ mahogany $\frac{2}{3}$ oak equals walnut (on this occasion)

ETS EC EQ

The ETS EC 125/3 EQ eccentric sander is a perfect match for this type of project being lightweight and compact. The 3mm orbit suits finer abrasives and refinishing although it will handle a moderate amount of material removal. Like most orbital sanders the sanding pad is interchangeable with a range of different pads suited to various media. A long arm hex key is provided to undo the single bolt holding it in place.

As well as electronic speed control the ETS EC 125/3 EQ also comes with a feature that disables the machine if it's not connected to an extractor. I'm not sure this will appeal to every user but the manual gives instructions on how to override it. Personally I can't see a problem with it unless you encounter issues with a non-compatible hose. The trickery extends to an Android-only app to manage the system which must be a first for a power tool.

The unit comes to an almost instant stop as soon as the trigger is released so no more waiting for the pad to stop spinning before you can let go. It probably doesn't sound like much of an improvement but when you have dozens of panels to sand it really helps with the workflow and reduces the chances of the machine launching itself off the end of your bench. As palm sanders go this is quite a low profile affair meaning you are less likely to accidentally lean on an edge and create dips in the surface. All in all this is a well balanced and comfortable machine to use.



A green warning LED and audible signal indicate the machine is set to disable mode and cannot be used unless attached to an extractor



Compact and manoeuvrable the CTL-SYS can go wherever you go

Conclusion

Before applying any stain the sills were sanded using the ETS EC 125/3 EQ and a range of Abranet abrasives up to 320 grit hooked up to the CTL-SYS. Such is the efficiency of this combination there wasn't a speck of dust on the work surface. Collecting dust this effectively at source can be quite disconcerting as there is little to suggest that either the machine or abrasive are doing anything. I'm almost tempted to say that maybe we've reached a new standard in small scale portable extraction.

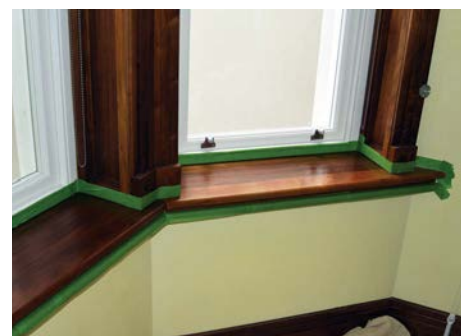
Festool are keen to point out that the CTL-SYS is not a replacement for larger machines and in some circumstances would not be at all appropriate. Try breaking down more than a full sheet of ply with your track saw for example and the 3.5L bag will soon fill up and cease to work efficiently. My advice here is exercise a little 'horses for courses' common sense.

Everything in the Festool range is part of a system, from the T-Loc on the Systainers to the range of consumables that are neatly designed to fit inside them so upgrading the CTL-SYS for use with additional hoses, pole extensions and other cleaning tools increases its potential. One thing we didn't

try but have on good authority that it works, is to convert the machine from one that sucks into one that blows. The hose can be repositioned to an exit port at the back of the unit behind a removeable grille. Apparently it makes lighting a barbeque that much easier. Please, please don't try this at home. *F&C*



Sealing oil stain in place with shellac sanding sealer



Stripped, sanded and sealed, just the top coat to do

The numbers

Festool CTL-SYS mobile extractor
Price: £307.20
Weight: 6.9kg
Protection class L

Festool ETS EC 125/3 EQ
eccentric sander
Price: £496.80
Weight: 1.2kg
Motor: 400w

special offers from



Adjustable Groover Set 4-15



£222

CMT Combi Rebate & Limiter



£100

CMT Variable Angle Cutter Head



£199

CMT part no:694.001.30

The CMT 694.001 set is a 3 part cutter for adjustable grooving using reversible disposable tungsten knives. These tools are the ideal for creating precision slots and grooves on material from 4mm up to 15mm deep. The set uses spur cutters on the side in order to give a sheer cut and minimise break out. *Special Offer is for 30mm bore only*

CMT part no:694.020.30

These cutter heads have been designed for using standard Euro limiter cutters and also integrate reversible tungsten knives on both edge and top to give a superb finish when rebating on top or bottom of the block. *Special Offer is for 30mm bore only*

CMT part no:694.018.30

These new adjustable chamfer cutter heads carry out precise cuts, accurate bevels and joints on wooden boards and solid timber. For use on your spindle moulder machines, *Special Offer is for 30mm bore only*

CMT Roundover Router Bit Set



£135

CMT part no:838.501.11

CMT's Roundover Sets give you the maximum flexibility for all of your projects by putting the most requested diameters in one package. Available in 12,7mm and 6,35mm shanks. Roundover radii are 6,35mm, 9,5mm and 12,7mm. These versatile bits are always in demand - the simple clean lines of a smooth roundover

CMT 694.011 Mitre Glue Joint



£135

CMT part no:694.011.30

CMT's lock mitre glue joint cutter blocks are ideal for milling mitre joints in stock with maximum 26mm thickness. Create boxes, stretcher bars, frames and any assortment of right angle or parallel joint projects. Two easy steps to produce perfectly fitting 45° mitre joints: first, position your workpiece horizontally, then vertically. Also, create

Adjustable Shaker Router Bit Set

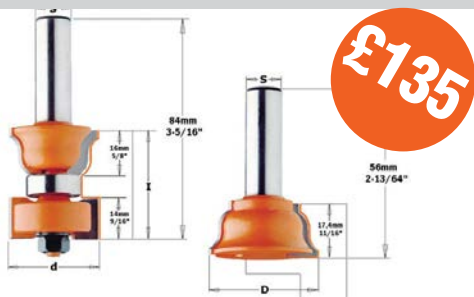


£135

CMT part no:800.624.11

These new bit sets are excellent for producing adjustable tongue and groove joints with a bevel, in order to eliminate the panel rattle that may come up with the production of standards cabinets. Cut precise grooves into your plywood veneered panels and make perfect rattle-free fits. *To be used on table-mounted routers. Avoid using these bits in hand-held power tools.*

CMT 955.801 Window Sash Set



£135

CMT part no:955.801.11

CMT designed this set so you can create window sashes that are as beautiful as they are functional. As an additional feature, the CMT window sash set will also mill perfectly joining 35 mm rail and stile parts for custom made doors.

CMT 800 Tongue and Groove



£135

CMT part no:800.625.11

Exclusive CMT design which allows the perfect fix for undersized plywood panel. The tongue cutter features opposing shear angles to obtain flawless finishing on a large variety of material such as plywood, softwood and hardwood. For use on a table-mounted router, not for handheld routers.

Flexible Template for Routing



£135

CMT part no:TMP-1000

The CMT flexible template is a guide strip for that can be curved and formed to use on spindle moulders & routers. It is easy to use - just screw it on to any kind of wooden panel, MDF or chipboard for creating you forms, arcs and curved elements. The flexible strip template is fixed plate with countersunk screws. *The CMT flexible template is made of a highly-resistant flexible plastic, which*



Dale le Vack reports on a fascinating project commemorating the death of William Shakespeare

Our correspondent

The genius of Tim Ross-Bain and Shakespeare's schoolroom

PHOTOGRAPHS BY DALE LE VACK, UNLESS OTHERWISE STATED

Over the years, *F&C* has acquired readers from all four points on the compass and since going digital in 2013, that trend has increased. As the content of the magazine is a true reflection of our readership, we like to take you on a workshop tour of the globe. Speaking of which, this year marks the 400th anniversary of the death of the Globe theatre's playwright, William Shakespeare. This month, we meet restorer and cabinetmaker Tim Ross-Bain who is making a unique contribution to the anniversary celebrations.

A leading antique restorer and cabinetmaker living on the edge of the Cotswolds is playing a major role in the celebrations of the 400th anniversary of the death of William Shakespeare this year. Tim Ross-Bain is recreating 18 oak (*Quercus robur*) benches and 12 oak rapier chests that would have been familiar to 16th-century schoolboys when the Bard was a pupil at what is now King Edward VI School in Stratford-upon-Avon.

Among the main events of the anniversary year will be the opening to the public for the first time of Shakespeare's Schoolroom and Guildhall thanks to a Heritage Lottery grant of £1.4 million obtained by the trustees of the school led by international

businessman Tony Bird OBE.

The opening of the restored schoolroom and the renovation of the Guildhall is the final link in the 'historic spine' that runs through the town. This comprises the properties open to the public that are administered and owned by the Shakespeare Birthplace Trust and two that aren't; the Guildhall and Holy Trinity Church where Shakespeare is buried.

Hundreds of thousands of visitors a year walk the 'historic spine' and they will soon see the room where the Bard is thought to have studied. Central to their multi-media experience will be the opportunity to sit on the reproduction oak benches upon which Shakespeare and his fellow pupils would have been seated during their lessons.

A traditional workshop

Tim Ross-Bain's classical reproduction work and repaired antiques adorn many leading country houses in the UK. He's most comfortable using the tools of his furniture-making predecessors. A 16th-century cabinetmaker could walk into Tim's workshop today, find all the familiar tools of his trade, and start work on an oak panelled room, a dining room table or any piece of classic furniture. He says of his work: "This is traditionally jointed furniture from the 1500s. You'll find it in Tudor houses. It compresses the dowel slightly so when you hammer it into the wood it expands. We use square dowels into a round hole so I imagine that's the origin of the old saying."

Tim uses modern mechanised power tools to cut the timber to smaller sizes upon which he can then use hand tools; his collection includes wooden spokeshaves, moulding planes and over 60 carving chisels some of which are more than 100 years old. Many of the tools still bear the names of the craftsmen who first used them. "I find the steel used in the old carving chisels is much harder and holds its edge much better. They're easier to sharpen too", Tim explains.

Tim left school at 16 and trained for three years as a journeyman apprentice cabinetmaker at Gordon Russell's school in Broadway where he discovered his love of restoration. "I liked restoration because there was more hand skill involved. I'd come to the conclusion that it wasn't possible to mechanise restoration; everything had to be done by hand and that pleased me", he says. When he completed his apprenticeship at Gordon Russell he went to work for Harold Greene, an eminent restorer in southern England. When he was still only 21, he returned to start up his own workshop near Stratford specialising in furniture making, conservation and interiors.

Nearly 40 years of restoration and cabinetmaking have resulted in a vast knowledge of the design, construction and history of furniture leading to a profound understanding of the base material, movement, veneers and working with solid timber. Tim undertakes projects ranging from classical panelled rooms, and bookcases through to large walnut dining room furniture. Now his work on Shakespeare's Schoolroom and Guildhall will be seen by millions of people during the 21st century.

The Schoolroom and Guildhall restoration

The four Warwickshire oak trees that will be used for Shakespeare's Schoolroom and Guildhall Project come from an ancient 10-acre wood at nearby Oakham Farm, which was once part of the Loxley Estate owned by the husband of Shakespeare's granddaughter, Elizabeth Nash. It's now the home of timber merchant John Hutsby. Four of his 200-year-old oak trees, the largest nearly one metre in diameter, have been air-dried for several years and later kiln dried to finish them off.

The restoration will be guided by an engraving of a rural classroom from



This year marks the 400th anniversary of the death of William Shakespeare



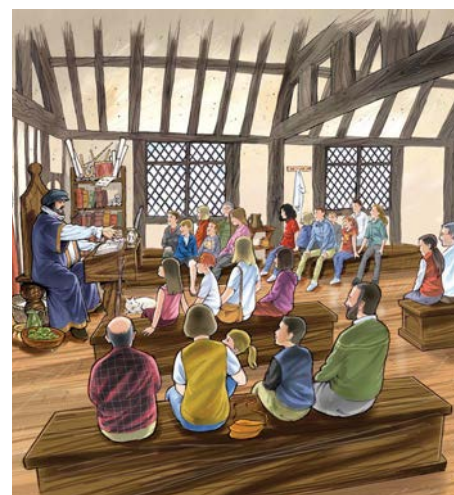
Tim's tools would be familiar to a cabinetmaker from the 16th century

Shakespeare's era in a book called *Catechismus Parvus* by Alexander Nowell. King Edward VI School trustee Professor Ronnie Mulryne, who is acknowledged as a world authority on the work of William Shakespeare, explains that the schoolroom behaviour implied in the engraving is not very disciplined. "Boys in the back row are behaving as boys do, with one tweaking the ear of his neighbour. Another is sneaking out or in. The Master has access to his birch, for discipline, as well as a dish of apples for reward. There's a dog gnawing a bone in the middle of everything. It's a crowded environment with no desks. It's been estimated that 40 to 60 boys aged from seven to 16 were taught together by one master in schoolrooms such as this. We intend to reproduce this environment and represent it on film using actors as part of the visitor experience in Shakespeare's Schoolroom and Guildhall."

Shakespeare's Schoolroom and Guildhall will open for the first time to the



The Schoolroom and Guildhall on Stratford-upon-Avon



An artist's impression of the restored Guildhall

general public in April. There are many special events planned to commemorate the playwright's death, including a new immersive theatrical exhibition at the Royal Shakespeare Company and a reimagining of Shakespeare's final home at New Place. For more details, see www.shakespeares-england.co.uk



Engraving of a school room from Shakespeare's time

Tim Ross-Bain
Web: www.rossbain.com

Furniture & cabinetmaking

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

Plane easy
Building from the inside out

11 WAYS TO STORE YOUR CLAMPS

Build a low tech saw vice with high tech joinery

On site with Festool's new mobile extractor

Learn how to produce sliding dovetails by hand and machine



SAVE UP TO 30% WHEN YOU SUBSCRIBE

**FREE
EARLY
DELIVERY** +

projects techniques design inspiration
profile workshop 20mins handtools
furniture events news workshop F&CUK

**+ DIRECT
TO YOUR
DOOR**

You pay less than £3 an issue!
by Direct Debit

3 EASY WAYS TO SUBSCRIBE

+44 (0) 1273 488005

www.thegmcgroup.com



FREEPOST RTHA -TGLU -CTSK,
GMC Publications Ltd, 166 High Street,
Lewes, BN7 1XU (please affix a stamp if posting from overseas)

YES! I would like to subscribe to Furniture & Cabinetmaking

Subscriber details		
Title	Initial	Surname
Address		
Postcode	Country	
Telephone	Email	
Subscription options (please tick the appropriate price)		
Pay by cheque/card	12 issues SAVE 10%	24 issues SAVE 20%
UK	☐ £45.90	☐ £81.60
Europe	☐ £57.38	☐ £102.00
Rest of World	☐ £64.26	☐ £114.24
Pay by Direct Debit (UK only) SAVE 30%		
UK only	☐ £17.85 every 6 issues	☐ £35.70 every 12 issues

The Direct Debit Guarantee: This guarantee is offered by all Banks and Building Societies that take part in the Direct Debit Scheme. The efficiency and security of the Scheme is monitored and protected by your own Bank or Building Society. Please see your receipt for details. Guild of Master Craftsman Publications will ensure that you are kept up to date on other products which will be of interest to you. If you would prefer to not be informed of future offers, please tick this box ☐ Offer expires 31/07/2016 Plus free gift with some issues, sorry not available overseas

Payment methods (please tick and fill in chosen option)	
☐ I enclose a cheque made payable to GMC Publications Ltd, or	☐ Please debit my credit/debit card
Card No.	
Start date	Expires Security code
Signature	Date
☐ Direct Debit	Instructions to your Banks or Building Society
Name of account holder	Originator's identification number 659957
Bank or Building Society account no.	Reference number (office use only)
Bank or Building Society sort code	Instruction to your Bank or Building Society:
Name and full postal address of your Bank or Building Society	Please pay GMC Publications Ltd Direct Debits from the account detailed in this instruction subject to the safeguards assured by the Direct Debit guarantee. I understand that this instruction may remain with GMC Publications Ltd and, if so, details will be passed electronically to my Bank/Building Society.
Name	Banks and building societies may not accept direct debits for some types of accounts.
Address	
Postcode	Signature Date

A4668



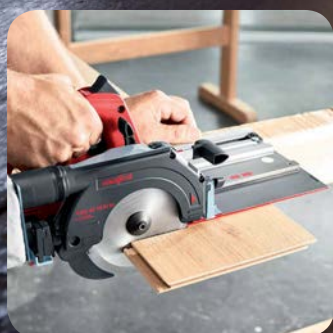
KSS Circular Saw Series

The most comprehensive crosscut saw range in the world

Mafell AG have a full range of their Multi Function 5 in 1 saw systems to suit all requirements. From the KSS300 which is ideally suited to the flooring industry to the KSS60 & KSS80 which have a bigger depth of cut and are ideal for roofing and cutting Jack Rafters easily & accurately.

All saws will allow the user to perform Cross-cuts, Mitres, Compound Mitres, Plunge cuts and Rip cuts.

Three models are also available as cordless versions.



The smart stop and adjustable fence allow the saw to be used for angle cuts from -60° to $+60^{\circ}$



The highly graduated scale permits very precise angle settings



Model	Crosscut at 90°	Cutting depth at 90°	Cutting depth at 45°	Angle cuts	Available in Cordless
KSS300	300mm	40mm	27mm	-45° to $+60^{\circ}$	Yes (18v)
KSS400	400mm	49.5mm	38mm	-60° to $+60^{\circ}$	Yes (36v)
KSS60	408mm	61mm	47mm	-60° to $+60^{\circ}$	Yes (36v)
KSS80	370mm	82mm	55.5mm	-60° to $+50^{\circ}$	No



Build a dovetailed saw vice

Charles Mak built this saw vice for his panel saws and shows you how he gang cuts dovetails

Shop-made saw vices come in all kinds of designs and sizes from the giant swinging saw vice featured in one of Roy Underhill's *Woodwright's Shop* episodes to the hinged saw carriage used by Thomas Lie-Nielsen to Paul Sellers' down-to-earth saw chop, which is simply a batten with a centre kerf ripped down from one end.

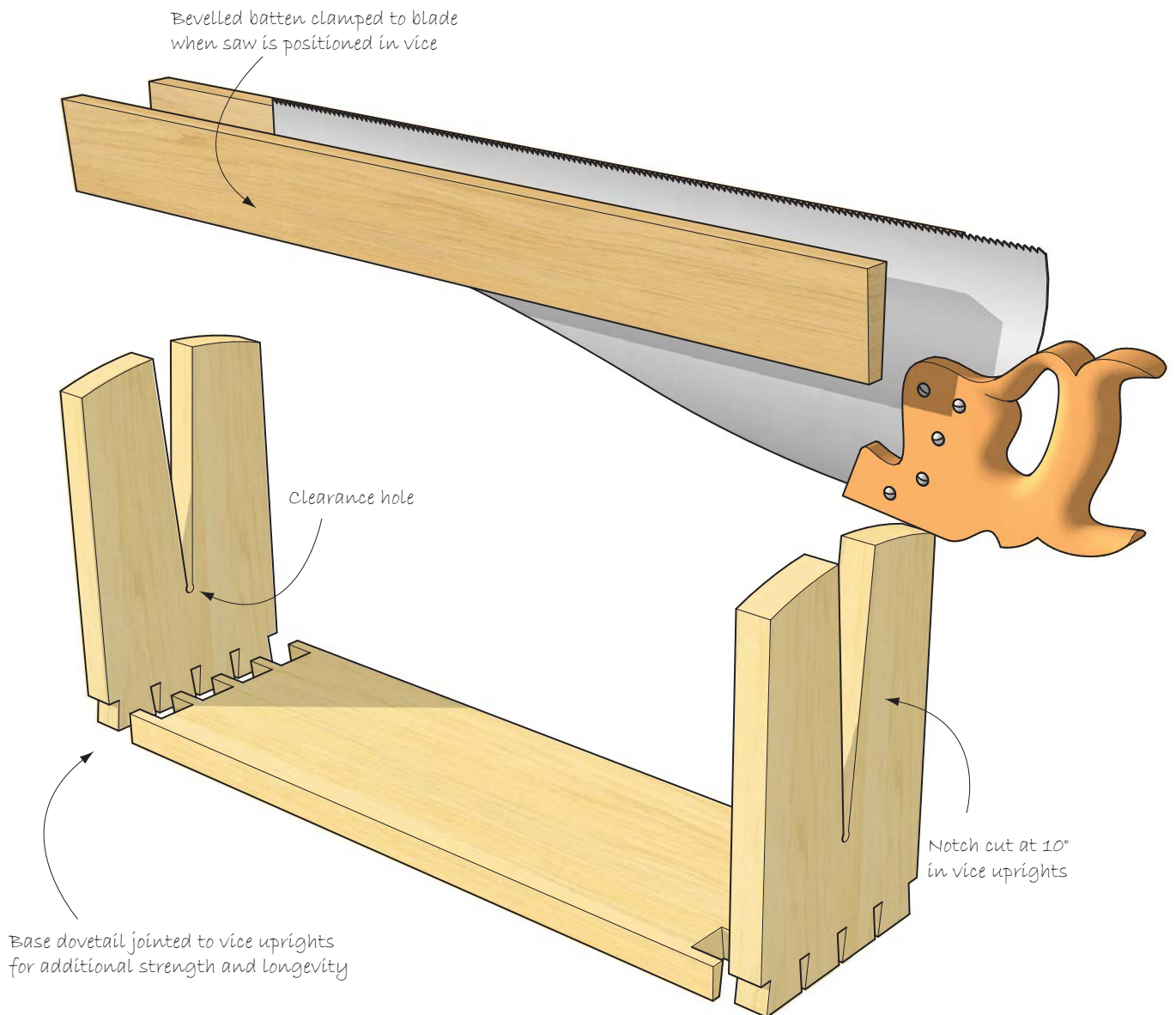
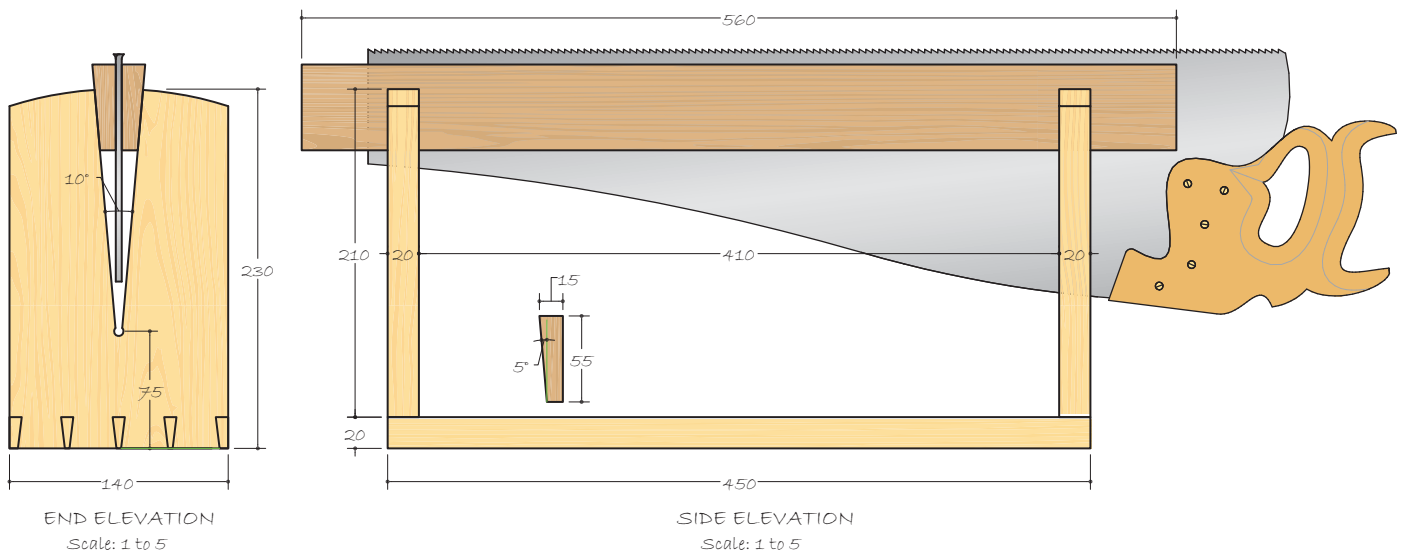
With the exception of the swinging vice, which has its own cramping element, most shop-built saw vices have one limitation: they need to be used with a bench vice or



the like. If your handsaw hits a hidden metal object on a job site, none of these shop-built saw jigs alone by themselves can allow you to make fixes.

I came across a home-brew saw vice that was somewhat coarsely put together using a nailed butt joint, but its design was clever and it was easy to make out of scraps. It had two V-notched uprights mounted on a base, with two wedge battens used to lock the saw blade into the notches (see the drawing opposite for suggested measurements).

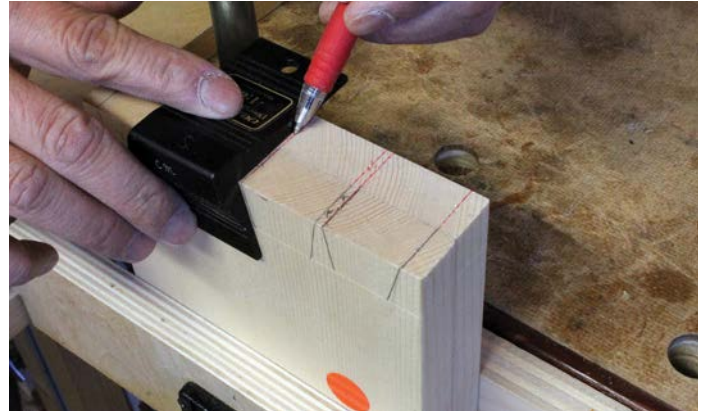
A generous friend, Robert Lee, has gifted me a metal saw vice and a couple of panel saws. The metal vice is good for dovetail and tenon saws, but too short for long handsaws. I decided to make a V-notched vice, but with one modification to the original design: I settled for a dovetail joint over nails. The stronger joint makes the jig sturdy and keeps vibration to a minimum. Less vibration means quicker sharpening and longer file life. I had some scrap pine and lots of leftover tigerwood (*Goncalo alves*) to use for this build.



Gang cutting – with inside faces facing outwards



I used a paper shim to set the marking gauge just shy of the board's thickness. The orange dot shows the inside face



Cramp both boards together with their inside faces facing out and extend the end grain lines to the second board

Tailboards can be cut individually or ganged up together. Derek Jones has offered a good analysis on the gang cutting technique recently (*F&C 238*). Here, let me share the way I gang cut, which is a little different from the common way particularly with how my tailboards are marked and placed.

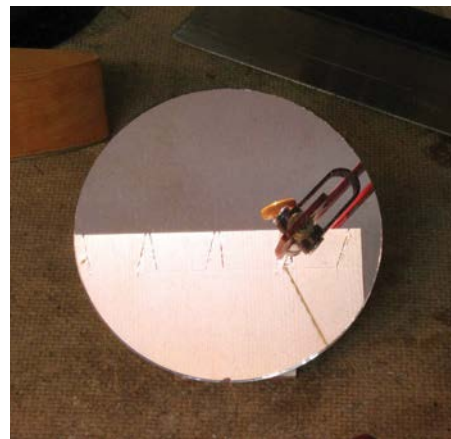
After labelling the inside faces of the tail (upright) and pin (base) boards, I scribed the baselines. To layout tails, I always use the Alan Peters method – with a set of dividers – to set the tail spacing, and a dovetail saddle marker to mark the sloping lines. But, in contrast to the usual tail marking, for gang

cutting, I mark the sloping lines on the inside (not outside) face of one of the boards.

Why mark the tails on the inside face? Because in gang cutting, I cramp tailboards with their inside faces facing outwards. With boards cramped in this manner, I can avoid sawing tear-out on the show faces of the boards.



The mirror helped me know when to slow down to avoid overcutting



If gang cutting hardwood, use a coping saw instead of a fretsaw for quicker results

To prevent sawing below the baseline on the back side, I placed a mirror at the back and made passing glances as I sawed down the slopes. As another time-saver in gang cutting, I removed the bulk waste on both boards at the same time with a fretsaw before chiselling out the rest to the lines.

Marking the pins with the tape trick

To mark a pin board, I use a marking knife rather than a pencil for precision. To knife the layout lines, I turned to another dovetail trick, this time for accuracy over speed, gleaned from

others such as Australian woodworker Derek Cohen and American author Michael Pekovich.

First, put a strip of coloured masking tape on the end grain and then transfer

the lines from the tailboard onto it with a knife. Peel away the waste and the tape gives precision incised lines for sawing. After cutting all the tail sockets, I ran a dry fitting before removing the tape.

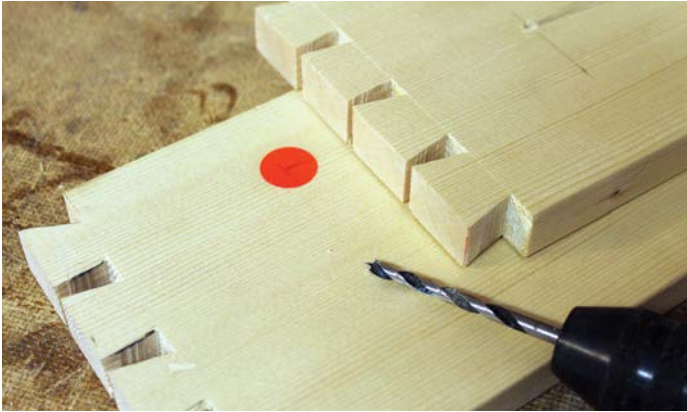


Mark the waste on the tape as soon as you knife the lines to prevent any peeling mistake



'Splitting the line' can be quite hard. Cutting against the tape edge is much easier

Cutting V-notches on the uprights



I stopped when the bit just broke through the board with its tip. I then bored the hole from the other side to avoid breakout



I drew two parallel lines instead of one line for each of the V-lines to guide the sawing

To cut the identical V-notches in the uprights, I first marked out the 10° notch and its clearance hole on one of the uprights and cramped the two uprights together. I bored a clearance hole through the boards to prevent splitting and then gang cut out the notches. Lastly, I knocked the corners off to a gentle curve.

Making the bevelled battens



Centre the battens with the V-notch and trace the bevel lines on the ends for a perfect match



I planed with heavy cuts to remove bulk waste at the start and then switched to fine cuts near the end

Use hardwood for the battens; my choice was tigerwood, which is close to purpleheart (*Peltogyne* spp.) in hardness. When put together, the angle of the bevelled battens should match the angle of the V-notch. You can use a protractor to layout the angle for bevelling, but there is an easy way

to mark the planing angle: raise and stand the V-notch against the battens and pencil the sloping lines on the ends. I honed the plane blade sharp and began my workout, planing down the battens to the line. It was winter here and the workout warmed me up in my not quite heated shop! *F&C*

Putting it all together

The glue-up was straightforward as the tails were proud of the pins and I could cramp the dovetail joints without using any cauls. After the glue cured, I planed everything flush. I usually don't put any finish on my shop jigs, but if you prefer, you can coat all surfaces with an oil finish such as boiled linseed oil.

To use the vice, cramp it down to a bench top and lock the blade with the battens into the notches. To sharpen on the opposite side, simply turn the whole jig around and re-crimp. To release the wedge battens, give a tap or two from below.

All set! Time to give your well used saws some teeth.



Tape and a sharp angle point cut on this expired gift card were my secret weapons to handling the glue squeeze out

About the author

Charles Mak is a woodworking author, tipster and teacher in Canada. He enjoys both hand and power tool use.

Email: thecanadianwoodworker@gmail.com

References

Jones, Derek. 'Gang cutting – the good, the bad and the ugly.' *Furniture & Cabinetmaking*. Issue 238. December 2015.

SUBSCRIBE TODAY SAVE UP TO 30%!

SAVE 10% ON ANY OF THESE MAGAZINES – OR 30% IF YOU PAY BY DIRECT DEBIT



Traditional woodworking with the latest tools & techniques

Woodworking Crafts covers a broad range of content, including upcycling, DIY, restoration, and 'green' woodworking, step-by-step guides, community features and a broader range of skill levels.



The best-loved woodturning magazine

Woodturning is the world's best-selling magazine for woodturners. Every issue is packed with projects, essential advice for both the hobby woodturner and professional, and features on turners around the world.



Guidance and inspiration for ambitious carvers

Through fantastic projects and instructional techniques from top professional and talented amateur carvers, *Woodcarving* offers something for everyone. Project include wildlife, chip carving, relief, and stylized carving.

3 EASY WAYS TO SUBSCRIBE

1 CALL
01273 488005

2 VISIT
www.thegmcgroup.com

3 POST
FREEPOST RTHA -TGLU -CTSK, GMC Publications Ltd,
166 High Street, Lewes, BN7 1XU

Please quote
order code
A4808

Subscriber details

Title	Initial	Surname
Address		
Postcode		
Country		
Telephone		Email

Subscription options (please tick the appropriate magazine and price)

	Pay by cheque/card SAVE 10%	Pay by Direct Debit SAVE 30%
☐ Woodworking Crafts (12 issues)	☐ £45.90 (UK), £57.83 (Europe), £64.26 (Overseas)	☐ £35.70 (UK only)
☐ Woodturning (12 issues)	☐ £42.66 (UK), £53.33 (Europe), £59.72 (Overseas)	☐ £33.18 (UK only)
☐ Woodcarving (6 issues)	☐ £21.33 (UK), £26.66 (Europe), £29.86 (Overseas)	☐ £16.59 (UK only)

The Direct Debit Guarantee: This guarantee is offered by all Banks and Building Societies that take part in the Direct Debit Scheme. The efficiency and security of the Scheme is monitored and protected by your own Bank or Building Society. Please see your receipt for details. Guild of Master Craftsmen Publications will ensure that you are kept up to date on other products which will be of interest to you. If you would prefer not to be informed of future offers, please tick this box ☐ Offer expires 31/07/2016. Plus free gift with some issues; sorry not available overseas

Payment methods (please tick and fill in chosen option)

☐ I enclose a cheque made payable to GMC Publications Ltd, or ☐ Please debit my credit/debit card			
Card No.			
Start date	Expires	Security code	
Signature		Date	

☐ Direct Debit	Instructions to your Banks or Building Society	
Name of account holder	Originator's identification number	659957
Bank or Building Society account no.	Reference number (office use only)	
Bank or Building Society sort code	Instruction to your Bank or Building Society: Please pay GMC Publications Ltd Direct Debits from the account detailed in this instruction subject to the safeguards assured by the Direct Debit guarantee. I understand that this instruction may remain with GMC Publications Ltd and, if so, details will be passed electronically to my Bank/Building Society. Banks and building societies may not accept direct debits for some types of accounts.	
Name and full postal address of your Bank or Building Society		
Name		
Address		
Postcode	Signature	Date

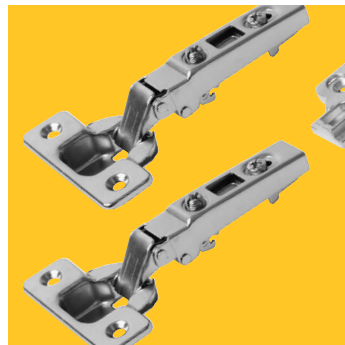
IronmongeryDirect

MASTERS OF OUR TRADE

UK'S BIGGEST RANGE



15,000 PRODUCTS IN STOCK FOR NEXT DAY DELIVERY



CALL
0808 168 28 28
OR GO ONLINE
TO GET YOUR
FREE
CATALOGUE



ORDER BY 8PM
GET IT NEXT DAY



FREE DELIVERY
OVER £45*



FREE RETURNS
WITHIN 30 DAYS



MINIMUM
5 YEAR
GUARANTEE



LOW
TRADE
PRICES

DOWNLOAD OUR FREE APP

Available on the
App Store

GET IT ON
Google play



CALL 7am-8pm 7 days a week

0808 168 28 28



ONLINE Shop 24/7!

IronmongeryDirect.com

FIND US ON >



*Ex VAT

Dowelmax

Tables, chairs, stools, kitchens, bedrooms, desks, bookcases, sideboards, beds, benches, doors, windows, steps, cabinets, **make them all and more with the Dowelmax Doweling Jig**

Dowelmax Doweling Jig - No need for biscuit jointers, tenoners, morticers, screws, loose tenons etc, **make joints faster, more accurately and stronger with Dowelmax**

The ultimate doweling jig for woodworkers!

See us on  and visit:

www.dowelmax.co.uk
for more info, video and ordering.

 **Dowelmax** 

Tel: **01352 781168** or **07773 718758**

Thomas Flinn & Co.

Saw & Hand Tool Manufacturer
Sheffield, England



The UK's last remaining traditional saw manufacturers.

Now also manufacturing Clifton Planes including a **NEW Block Plane!**

 **E.T. ROBERTS & LEE**  

www.flinn-garlick-saws.co.uk
orderonline@flinn-garlick-saws.co.uk
Tel: 0114 2725387

ADD A NEW DIMENSION TO YOUR WORK WITH

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

metalcraftTM

Easy to use tools that do not require heat or power



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

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

Call today for our free Catalogue and if you quote the promo code "MFCM16" we will send you our new demo DVD free of charge

J & CR Wood Ltd, Dept MFCM16, 66 Clough Road, Hull HU5 1SR
01482 345067 | info@janderwood.co.uk

www.metal-craft.co.uk



The leaders in water based finish technology

NEW Pearl Effects

Our new decorative acrylic paint is designed to create speciality pearlescent finishes.

Pearl Effects may be applied over General Finishes Milk Paints, stains and water based top coats to create translucent metallic pearl effects.



- Over 40 technique videos on our YouTube channel
- See web for shops & online stockists
- Trade & stockist enquiries welcome



Samples shown glazed using 10% Extender & dry brushed over Lamp Black Milk Paint.

Tel: +44 131 661 5553 info@generalfinishes.co.uk
Unit 13, Peffermill Parc, 25 King's Haugh, Edinburgh, EH16 5UY.
www.generalfinishes.co.uk

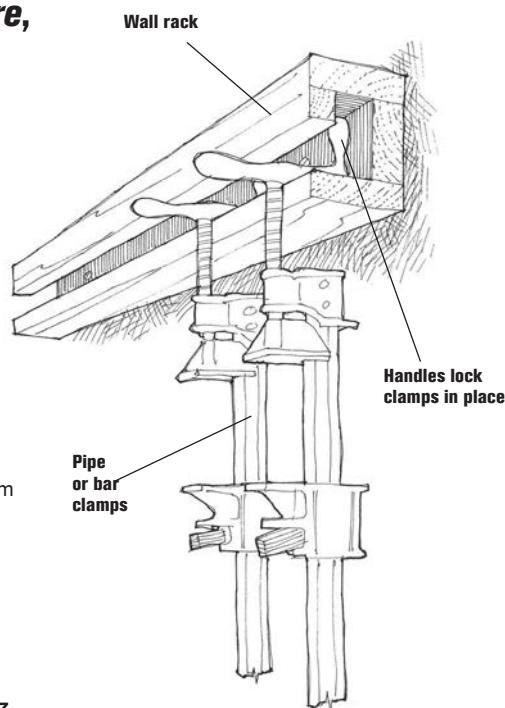
Clamp storage

In an extract taken from *Best Tips on Finishing, Sharpening, Gluing, Storage, and More*, here's a selection of the best clamp storage tips from *Fine Woodworking*

A simpler pipe-clamp wall rack

Here's a pipe-clamp wall rack that is simple, compact, and elegant. It's just four boards glued together and then screwed into wall studs. What makes the system unique is how quickly clamps can be stored and removed. To store a clamp, you just slide the handle in at an angle, which allows the pipe to hang vertically. Angling the pipe away from the wall frees the head in one easy motion.

— Jeff Sales, Tucson, Ariz.



Book details

Best Tips on Finishing, Sharpening, Gluing, Storage, and More

ISBN: 9781600853388

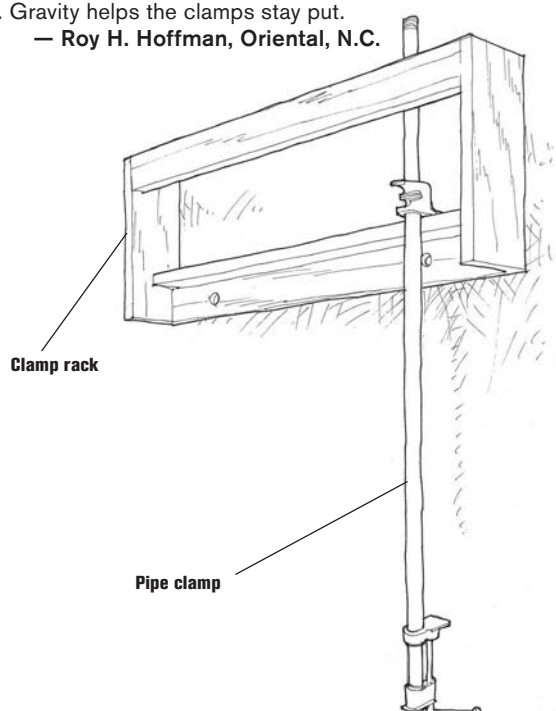
Price: £14.99

Web: www.thegmcgroup.com

Pipe-clamp rack

This simple rack not only stores clamps securely, but it also allows you to remove them quickly with just one hand. Simply grab a clamp and pull it toward you. Gravity helps the clamps stay put.

— Roy H. Hoffman, Oriental, N.C.



Hang 'em high



I work in a basement shop, where wall and floor space are at a premium. I found the best place to store my long pipe clamps was to hang them from the floor joists with heavy-duty hooks. Problem solved!

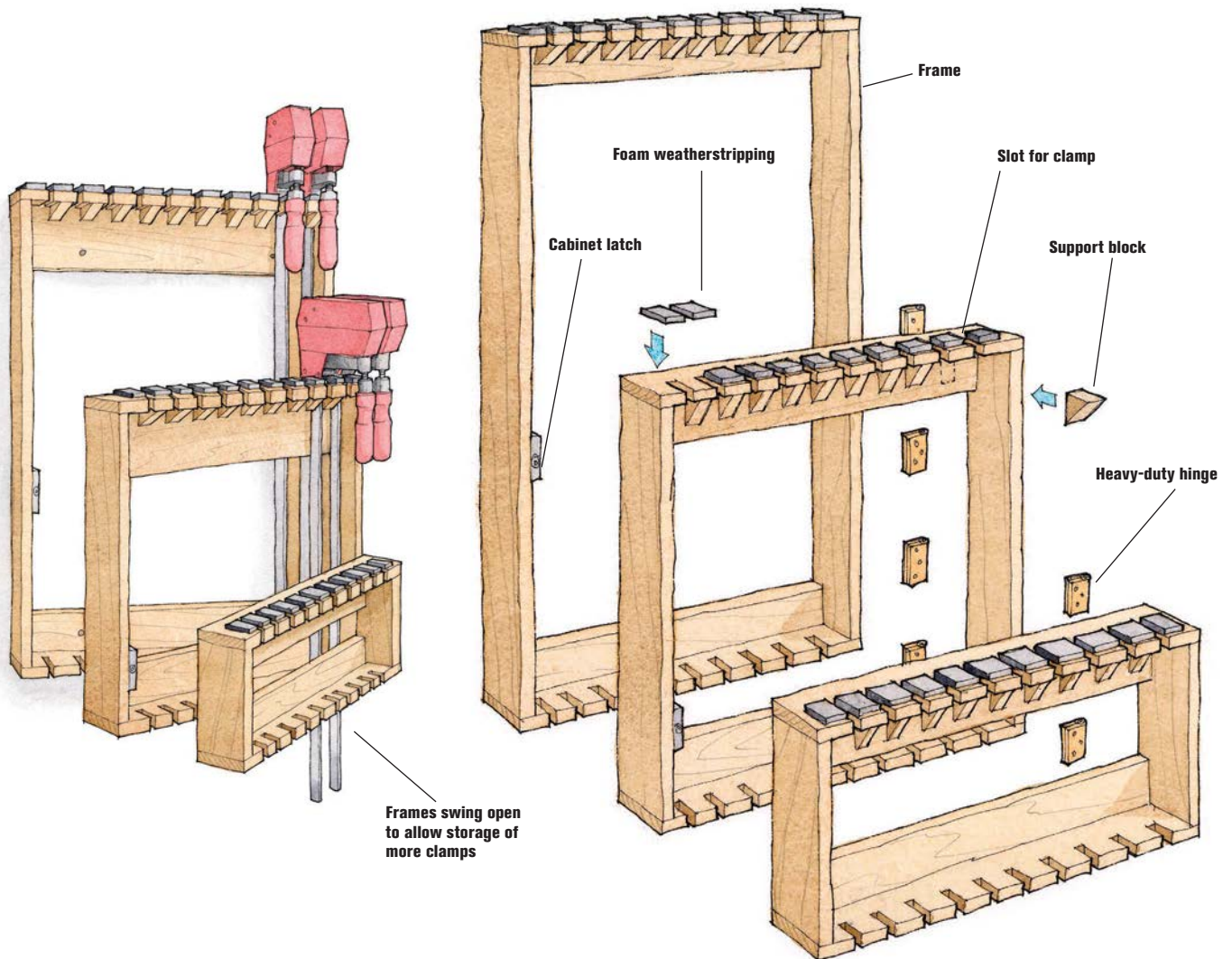
— Serge Duclos, Delson, Que., Canada

Space-saving rack for bar clamps

As my bar-clamp collection grew, I found that clamp racks were taking up precious wall real estate. To solve the problem, I built this space-saving rack. The design is simple – just three wood frames of varying heights attached to each other with hinges. The hinges let the frames open like a book. Now I can store 30 clamps in a space that used to be limited to 10. To make the racks, cut all the pieces and notch the top and bottom member of each rack. Size the notches wide enough for the thickest bar clamp and space them to allow the

clamps to fit side by side. Assemble the three frames with biscuits, glue, and screws. Use heavy-duty hinges to join the frames so that they won't sag from the weight of the clamps. Reinforce the notches with support blocks. Also, add small pieces of foam weatherstripping between the notches on the top of each rack. The foam pieces serve as protective cushions and keep the clamps from moving around when you open the frames. Two magnetic cabinet-door latches keep the frames closed.

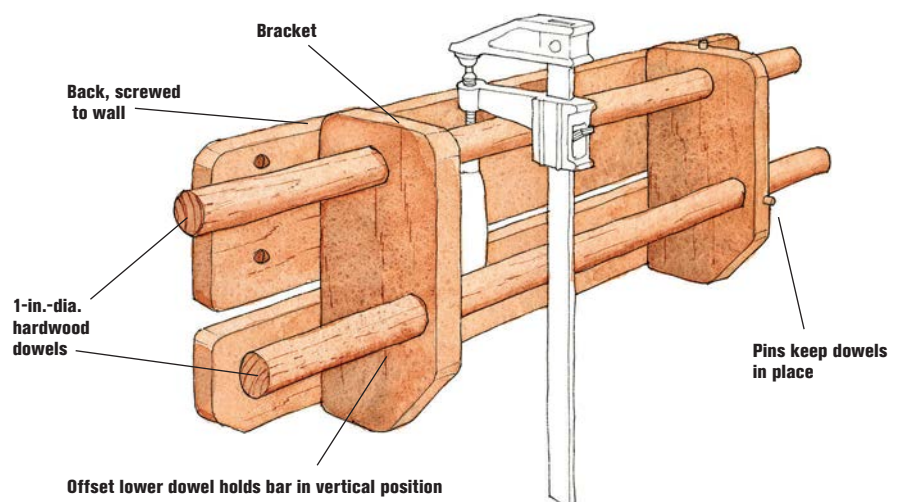
— Suwat Phruksawan, Pleasant Hill, Calif.



Clever bar-clamp rack

I store my bar-clamp collection on a simple rack, consisting of two 24-in.-long, 1-in.-dia. oak dowels supported by two oak brackets that are mounted, in turn, to two oak backs. The dowels are positioned in the brackets so that the clamp handles slide down behind the top dowel and the clamp bars are supported vertically by the lower dowel. To fix the position of the large dowels, I use smaller dowels to pin them in the right-hand bracket.

— Andrew Belouossov,
Bolton, Ont., Canada



Wall rack for bar clamps

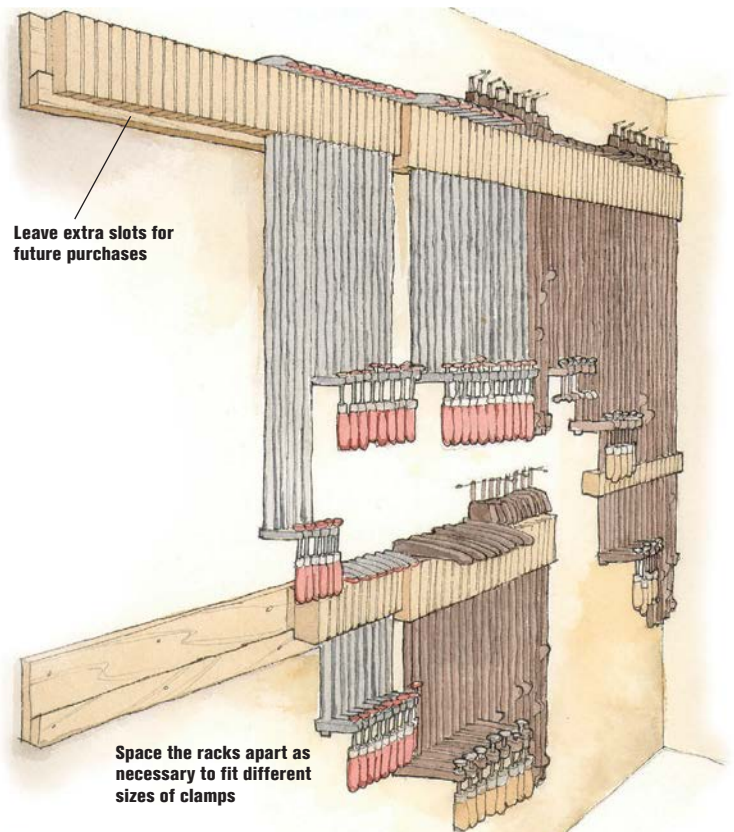
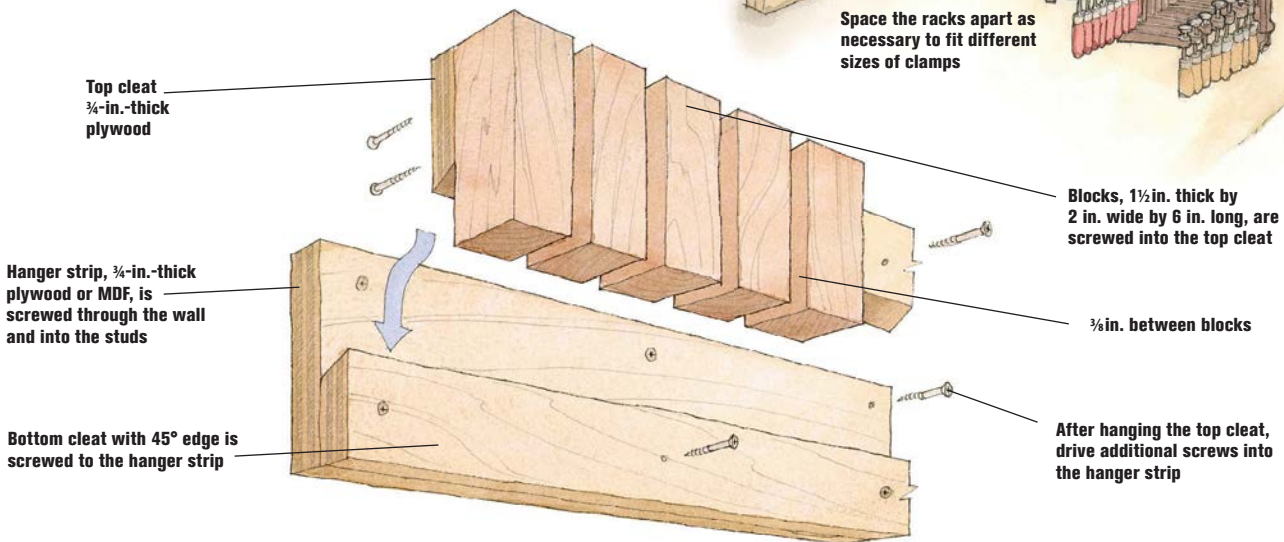
When I moved to a smaller shop, I had to find somewhere to store my fairly large collection of bar clamps and hand clamps. I decided against a fancy rack that rolls around the shop on casters because the floor space it would require is too dear. I wanted my clamps near the area where large glue-up projects will be done, but I also wanted to keep them out of the way when they're not needed.

The solution was to hang them on the wall. The racks I designed are quite simple, and they can store a variety of different-size clamps. I fastened a $\frac{3}{4}$ -in.-thick hanger strip to the wall, using two screws at every stud location. Along the bottom of the hanger strip I screwed a $\frac{3}{4}$ -in. plywood cleat with a 45° cut along the top edge. Then I made a matching plywood cleat with a 45° cut along the bottom edge to mate with the bottom cleat (the system is called a French cleat).

I screwed blocks of wood into the front face from behind; clamps will hang between these blocks. After hanging the top cleat, I screwed it to the hanger strip for additional strength. Depending on the type of clamps, they will hang better facing in or out, because of how the weight is balanced. You can arrange the racks on the wall to accommodate clamps of different sizes.

— John West, Ridgefield, Conn.

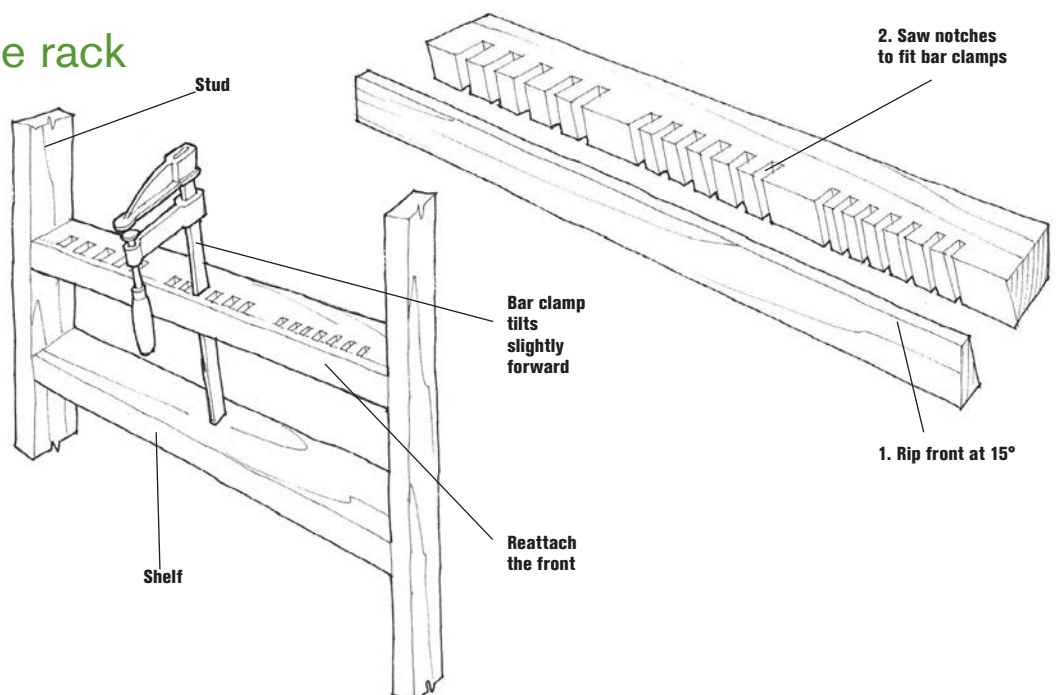
Cleat detail



Bar-clamp storage rack

When I built my workshop, I came up with this easily made rack to store bar clamps. It fits neatly between the wall studs and works well. The clamps are stored efficiently, yet each is readily available for use. I made the rack by ripping off the front edge from a piece of framing lumber at an angle of 15°. Then I cut slots at different depths, widths and spacing to accommodate my selection of clamps, with some extra slots for future purchases, of course (one can never have enough clamps). After that, I glued the front back on, mounted the rack between the studs and installed a shelf below the rack to complete the job.

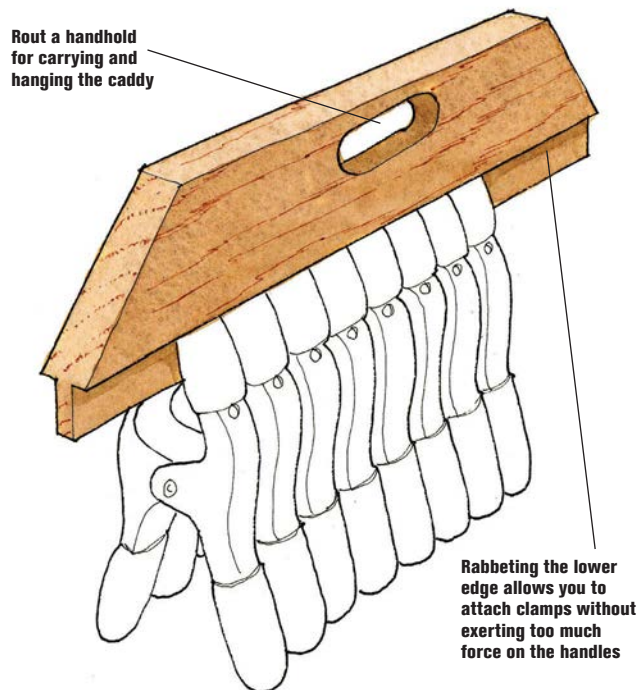
— Nick Rowe, Greenlane,
New Zealand



Easy way to carry and store spring clamps

I use this caddy to organize my spring clamps. To make it, cut a 1-ft.-long handle, thin the lower edge with opposing rabbets, and pop the clamps onto the caddy. You can carry the clamps from place to place, where they stay neatly out of the way until you need them

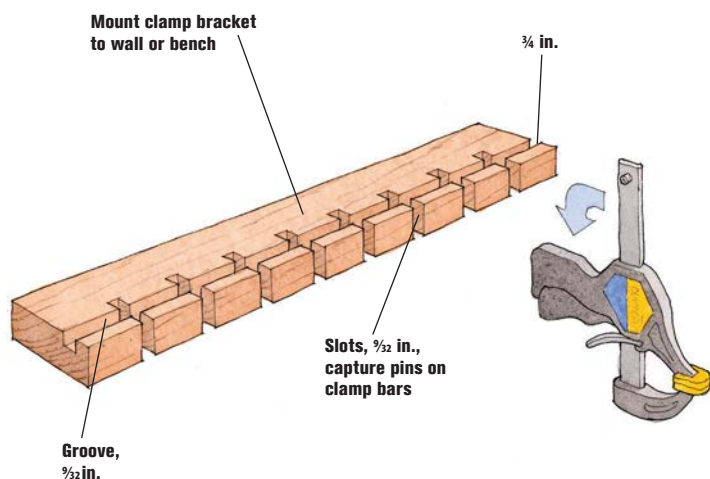
— Jack Hegarty, Tottenham, Ont., Canada



Rack for Quick-Grip clamps

Everyone I have talked with loves Quick-Grip® clamps. Here's a simple hanger bracket that efficiently stores the awkward-to-hang clamps. Using a couple of side-by-side sawcuts, cut a groove just over 1/4 in. wide and as deep, about 3/4 in. from the edge of a board. Then cut slots, again just wider than 1/4 in., into the board every couple of inches or so. Mount the board to a cleat on the wall or on the end of your workbench. Hang the clamps in the slots by the little compression pins in the ends of the bars.

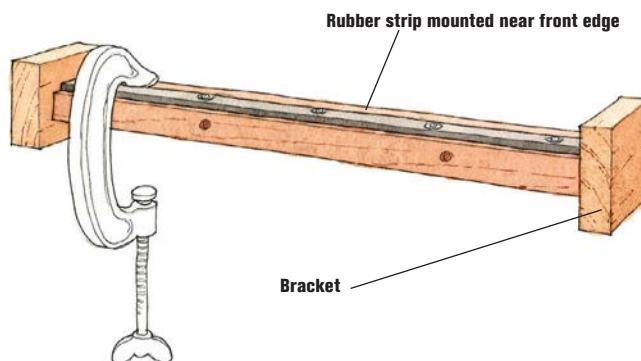
— Lloyd W. Wood, Virginia Beach, Va.



C-clamp rack

I store C-clamps on a narrow shelf. A rubber strip, cut from a black rubber stretch tie-down, prevents the clamps from falling off the front, while brackets prevent the clamps from falling off the ends. This storage shelf has several advantages. The clamps will stay put without having to screw them closed, and it is easy to pick out a particular clamp because they are all visible. If you have several sizes of C-clamps, build a shelf for each size.

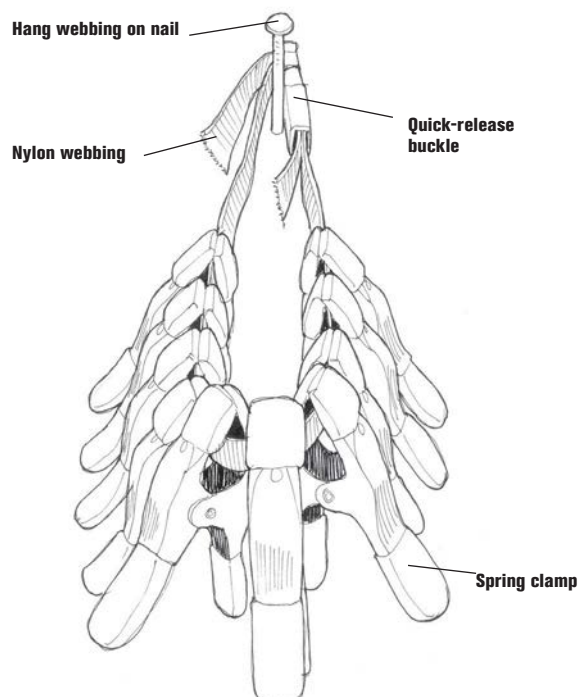
— John Beal, Excelsior, Minn



Storing spring clamps

I have several dozen spring clamps, and I've struggled for years to find a simple, organized way to store and transport them between jobs. Recalling how my climbing buddies keep large amounts of gear organized and available on slings, I made a simple sling with a 2-ft. length of 1-in.-wide nylon webbing (available at most camping and climbing stores). This sling easily holds 10 of my 2-in.-capacity clamps. Keeping the same number of clamps on each sling is an easy way to quickly grab the number you need without counting. Use a narrower width of webbing for smaller clamps. The sling makes it easy to carry a large number of clamps and to hang them over a nail or peg in my workshop or at a job site. You can tie the sling with a loose knot or use a quick-release buckle (also sold at camping stores). You can open the sling easily to dump the clamps onto a work surface, or thread them back onto the sling without having to squeeze them all.

— Philip Jacobs, Saint Paul, Minn.



"Out of trust,
I only work with
THE ORIGINAL"

- Josche Frankenberger, prop maker and
furniture designer

Das Original
Seit 1967

www.fein.com/original

New range of FEIN oscillating tools now with:

STARLOCK

It makes tool changes possible in just **3 seconds**.
At the same time, it guarantees a perfect fit for accessories
and therefore maximum power transmission. Resulting in even
more work progress in every application.

FEIN. Unverwüstliche
Elektrowerkzeuge.



www.fein-uk.co.uk



FEIN.UnitedKingdom



FEIN_UK



YOU CAN STILL OBTAIN BACK ISSUES DIRECTLY FROM US!

A back issue of Furniture & Cabinetmaking magazine costs £5.25 in the UK and £5.75 overseas.

To check availability and to order:

CALL OUR SALES TEAM ON
+44 (0) 1273 488 005 OR
VISIT OUR WEBSITE:
WWW.THEGMCGROUP.COM



boat built by a student for himself as part of the 38 week course

Learn to make
boats
furniture
and more...

3 day to 38 week hands-on courses by the sea
www.boatbuildingacademy.com



Portable Vacuum Presses



Veneer & Laminate all your flat and curved panels with the UK's No.1 Vacuum Pressing Systems



BenchPress Vacuum Membrane Press



Glue Spreaders

Veneering and Laminating Adhesives



View our full range of products at www.airpress.co.uk or call for more info on 01725 514426



Woodworking & Furniture Making Courses

Learn to craft wood and make fine furniture on our long and short courses at purpose-built workshops in Worcestershire

Short Courses Include
French Polishing & Refinishing
Wood Machining
Dovetailing & Drawer Fitting
Veneering & Laminating
Routing
Sharpening
'Make a Box'
'Make a Table'
Beginners Course



Sam Carter
9 month student



Rick Howie
9 month student



Veneering & Laminating
4 day course



Paul Smith
9 month student

Call us on 01684 591014
or find us online for information on all the courses
www.peterseftonfurnitureschool.com

The Threshing Barn, Welland Road, Upton upon Severn, Worcestershire, WR8 0SN



Japanese lacquer panels

Amber Bailey offers a multi-layered approach to the restoration of a 19th-century lacquered panel

Several years ago I was asked by a client to restore two 19th-century Japanese lacquer panels; they came with a variety of problems and, on completion, I swore never to work on lacquerware again. In reality, though, it was a matter of weeks before I was being handed them left, right and centre. They went from one of those things that I'd never before noticed to being everywhere I looked!

As an art form, lacquerware is evident as far back as the 16th century, but pieces were rarely seen in the UK until the 19th century when an influx of lacquerware was imported into the country, mostly adorning dark and heavy wooden furniture. As interior designs have changed, however, these vast, imperial pieces have fallen out of fashion and the lacquerware most frequently found today has been cut down from its original groundwork and fitted into less commanding surroundings. My original Japanese lacquer panels, for instance, were in frames despite starting out as a two-part folding screen. Since then, as I hinted earlier, I have gone on to complete numerous such restorations. So many, in fact, that I am now happy (and only too able!) to convey the process in a series of manageable steps. Here, I am illustrating the procedure by returning to its former elegance, this rather lovely but poorly kept framed panel.



The panel prior to restoration



PHOTOGRAPHS BY AMBER BAILEY

Layered history

Lacquerware is an Asian decorative treatment where lacquer coats an object. Urushi lacquer is typically used, with the urushiol sap extracted from the *Toxicodendron vernicifluum* tree. The sap is applied in layers often onto a wooden groundwork that has a layer of paper or fabric overlaid. Lacquer is a very durable coating that is both waterproof and glossy. The urushiol sap itself is extremely toxic with workers often suffering severe damage to the hands.

Health and safety tip

This project involves the use of paint stripper, which can irritate and burn the skin. The chemical make-up of paint stripper is now regulated so that it is much weaker unless bought in industry volumes. It is always advisable, however, to wear hand protection and wash immediately with water if skin contact is made.



Restoring the frame

The surface finish of the frame was chipped and worn, revealing a wood that was much lighter than the varnish would suggest. This dark colouring didn't work in conjunction with the lacquer panel and past experience told me that a lighter frame would be better suited.

Taking the finish back to the wood required a mixture of processes constantly being repeated. Paint stripper was applied, neutralised with water then scraped with modelling tools, particularly for all the fine

carved detail. As the wood is very fibrous it was important not to let the frame get too wet in case it became almost furry with damaged fibres during the scraping process.

One corner of the frame was coming loose largely because of the inaccuracy of the angles when the joint was originally made, so a slither of veneer had to be glued into place before being carved down to the appropriate level. The aim with the frame was not to go for a brand-new look; adding back

in some artificial shadow helped with the definition of the frame carving. Sections were painted over a mixture of dark gouache painted before the entire frame was lightly coloured with Van Dyke paste.

Once dry the frame was finished in shellac, beginning with a sealing coat of transparent polish and isopropyl alcohol at a 50:50 ratio before a number of layers at a 75:25 ratio. The frame could then be waxed over using microcrystalline wax.



The frame was scraped back in stages to stop the paint stripper from drying out too quickly



A layer of artificial ageing was applied



The finished frame after polishing, still dark but with much more definition

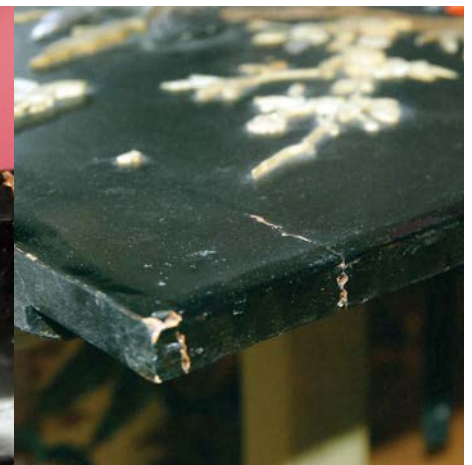
Lacquer groundwork

The major problem affecting lacquerware is movement of the wooden groundwork. As the object undergoes changes in temperature and humidity the wood twists and bends while the lacquer stays unyielding, causing the lacquer to crack in lines across the surface.

Before the damage to the lacquer can be dealt with the groundwork needs to be realigned. The best way to go about this is to drill tiny access holes on the edges of the panel down the lines of the cracks. These holes can then be pumped with water to soften the wood before filling with fish glue (colle de poisson) using a syringe. My panel was then clamped to pull the pieces of wood back together; quick grips were ideal as I didn't want to inflict too much force.



Holes drilled to enable the groundwork to be realigned



Replacing missing inlay

Firstly, remember that when you are replacing precious materials such as mother-of-pearl and bone it is important to source responsibly and in line with CITES regulations. In my panel, large sections of the mother-of-pearl and bone inlay were missing because of the glue drying out and cracking as well as the occasional incident of pest infestation because of the appetising sugars found in protein glue. Any remnants of the old glue were scraped away to reveal a clear groundwork.

To re-cut the missing sections, a paper template had to be made which was stuck

onto a new piece of material and cut out with a fretsaw. It is hard to judge the shape exactly so a few trimming attempts did occur! Once fitted tightly, these could be carved. As there is no evidence of exactly how these pieces should look it takes some guesstimating based on the existing pieces. A rough design was drawn onto the bone or mother-of-pearl and then carved out using jeweller's files and a scalpel blade.

The new sections were adhered into place using a mixture of fish glue and the bulking agent, Microlite. This makes the glue thicker and creates more contact between the two

surfaces, this is especially useful with the mother-of-pearl, which in itself was naturally curved then fitted to shaped pieces of wood to form the birds.

A variety of gouache paints were then used to 'age' and match up the new sections of detail. To eliminate any chance of losing colour a coat of transparent polish was applied before all the detail was buffed up using microcrystalline wax. Although the general look of the lacquer panel was to be clean but slightly aged, buffing up the mother-of-pearl as much as possible was an exception as it can gain a really impressive shine.



The panel missing some significant sections



Working out the suitable pieces of blank material



Drawing out a design onto bone

Health and safety tip

The dust produced from these substances is a carcinogen so respiratory equipment is advisable. It can also irritate the skin so wash hands after use and apply a layer of hand cream for protection.



Cut and marked out for carving



A number of pieces of pearl also needed to be replaced



A section of blank bone cut to fit



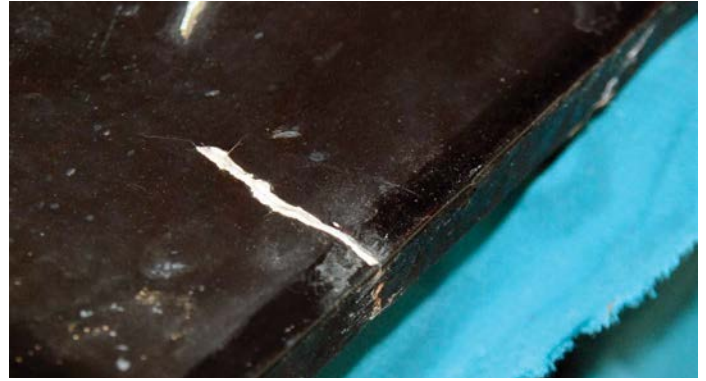
The same piece after it has been carved and coloured up

Cleaning and repairing the lacquer

The final stage was to restore the actual lacquer, cleaning any evidence of dirt from the surface involved several applications of white spirit and the ever-faithful 'enzyme' cleaning – more commonly known as spitting onto a cloth. NEVER use water as this will leave water stains on the surface that are next to impossible to remove.

The damage produced when the groundwork split needed to be scraped back with a scalpel to leave the surface as smooth as possible. Lacquering is a highly complicated and skilled technique that isn't practical for repairing minor damages. Instead the damage can be covered up using a fine natural fibre brush and applying gouache paint in the appropriate colour. To seal this, a layer of transparent polish was coated on, making sure not to leave any obvious brush marks.

To give the lacquer a final clean and polish, the surface was buffed up using microcrystalline wax. This wax has an abrasive texture that helps polish out any scratches. *F&C*



Scraping the surface flat will make the lacquer touch-up far less obvious as it should not catch the eye in the same way



The panel with all detail complete and most of the damage to the surface hidden

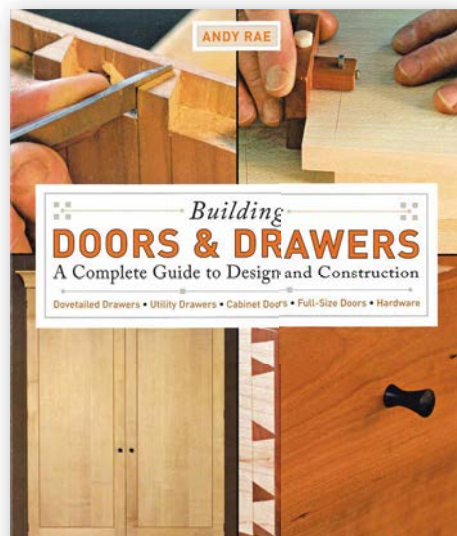
Suppliers

For all materials visit: www.liberon.co.uk or a well-stocked DIY store.

Workshop library

We review two books, *Building Doors & Drawers* and *Great Book of Shop Drawings for Craftsman Furniture*, plus we take a look at a new DVD on end grain woodworking

BOOKS



Building Doors & Drawers by Andy Rae

Andy Rae's book opens with the assertion that, "Drawers hold secrets, and doors open to reveal wonders worth seeking", however, as well as adding functionality and interest they also have the potential to elevate or spoil a piece of furniture depending on the success of their design and execution. In *Building Doors & Drawers* the author focuses on both design ideas and effective methods of making these key components. The beauty of a technique rather than a project-led book is the incredible amount of detailed information that can be included, which other books tend to take-for-granted or simply do not have space for.

The book is divided into two parts, the first examining drawers and the latter doors. Within these sections Andy explores designing, building, fitting and finishing and lastly special ideas and details for each. There are inspirational and useful photographs and illustrations that reinforce the written word and Andy Rae communicates his wealth of knowledge in an engaging and accessible style. This is a user-friendly reference book with a comprehensive index and logical layout, which means that information can be easily found.

There is equal focus on form and function throughout with clear explanations on how to achieve well-fitting drawers and doors, as well as how to ensure the overall proportion and design is appropriate. The book puts lots of ideas and techniques at your disposal from elements you might expect to find such as hinge types and their correct application to some fun and interesting ideas, using bamboo skewers to reinforce a rabbit joint for example



or how to include hidden compartments.

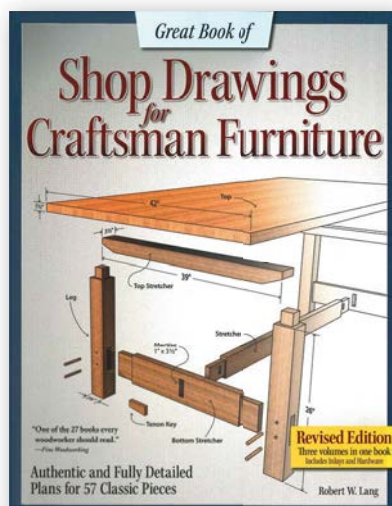
It is the small details that add up to a big difference in the quality of a finished piece and this book enables the reader to really consider and refine their furniture. If you question why your doors and drawers are letting your work down or if you are curious about exploring new ideas then *Doors & Drawers* is a great place to find the answers or provide a spark for the creative process.

Susan Chillcott

Published by Taunton Press
ISBN: 9781561588688
192 pages £16.99

Great Book of Shop Drawings for Craftsman Furniture

by Robert W. Lang



This volume by renowned woodworking writer and master cabinetmaker Robert Lang collates measured drawings for 57 iconic pieces of Gustav Stickley's Craftsman furniture. This revised edition is compiled from three of Lang's previous books: *Shop Drawings for Craftsman Furniture*, *Shop Drawings for Craftsman Inlays & Hardware* and *More Shop Drawings for Craftsman Furniture*.

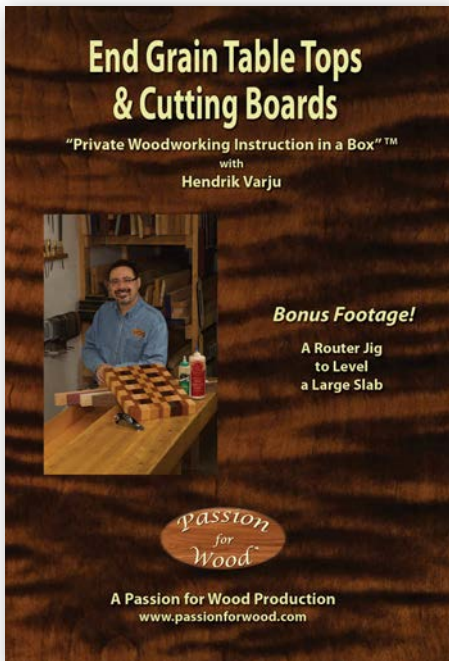
Each of the 57 pieces is presented in a number of different elevations and transparencies, together with a cut list. The drawings are clear and detailed, and contain useful notes on specific features of each piece of furniture. Every type of furniture is represented here: from trestle tables, love seats and nightstands to corner cabinets, rockers, tabourets and more. A bonus section on inlays and hardware offers original designs that add colour, lyricism and a graceful flourish to the ever-popular Craftsman furniture.

As an in-depth study of Stickley's furniture this book is an excellent resource, and comes highly recommended. Lang does assume a certain level of skill of his readers, and the focus of the book is very much on providing the plans from which to build the projects, rather than being a 'how-to guide'. That being said, the introductory chapters provide a useful overview of the fundamentals of Stickley's style, materials, and construction methods as well as a brief history of Craftsman furniture.

Kieran Binnie

Published by Fox Chapel Publishing
ISBN: 9781565238121
328 pages £19.99

DVDS



End Grain Table Tops & Cutting Boards by Hendrik Varju

Another Passion for Wood marathon DVD course clocking in at 6.5 hours on three discs. As with the other DVDs from this company, the author and host is Hendrik Varju, a fine furniture designer-maker based in Canada. As it says on the cover, Hendrik's DVDs offer 'Private Woodworking Instruction in a Box'!

In this DVD, Hendrik shows you a coffee table he built using the 'end grain up' technique, traditionally used for cutting boards and butcher blocks. He then proceeds to teach you all the required techniques while building a cutting board using multiple species of wood. All steps are covered from choosing the wood species and the milling of the lumber to the required glue-ups and levelling of the final surface, all shown in real time. Small details include decorative routing and applying a simple food-safe finish. Hendrik doesn't assume any prior knowledge, so even a beginner will be able to follow the process.

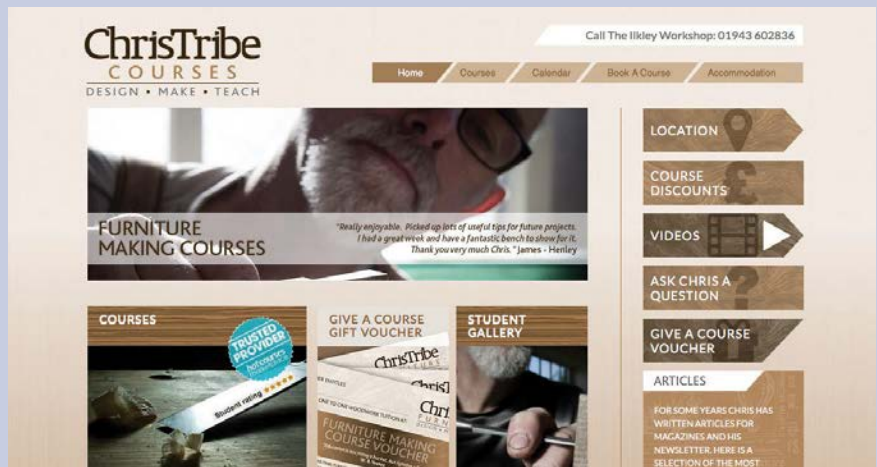
The 30-minute bonus footage covers Hendrik's own design for a simple router jig that can be used to level the surface of larger slabs, which can also be used for large irregular surfaces such as burls.

The DVD can be ordered via the Passion for Wood website, where you can also view a preview clip. The DVD's table of contents is also available as an online PDF.

This is another top notch production from Passion for Wood and in next month's Workshop Library we'll take a look at their DVD on making handcut dovetails.

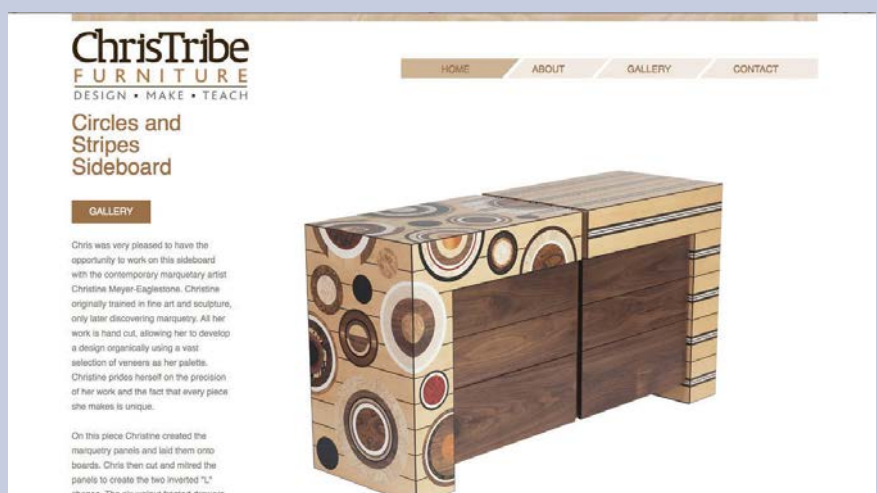
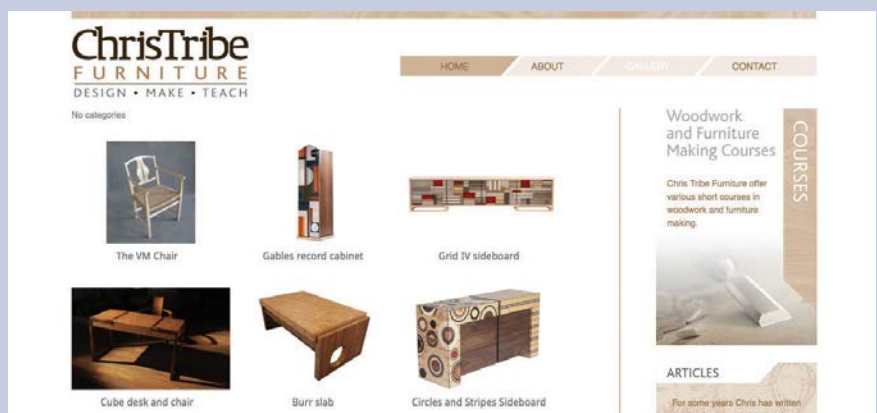
Published by Passion for Wood
www.passionforwood.com/woodworking/
dvds.htm
ISBN: 9780988128071
6.5 hours on 3 DVDs, CDN \$79.95

Website of the month Chris Tribe Furniture



The Chris Tribe Furniture website brings together the two arms of the business – designing and making contemporary furniture and running short courses in furniture making. The home page focuses on the making side, featuring a gallery of recent works and links to upcoming events, a blog and a newsletter. You can also read some of Chris' articles for F&C. The Courses section features

everything you need to know about the tuition on offer, courses range from beginner to advanced level and there are also weekly afternoon and evening classes. There are links to several helpful videos covering topics such as honing, sharpening and cutting dovetails. Another nice feature is the 'Ask Chris a Question' button, which gives you an email shortcut so you can contact Chris for help.



Website: www.christribe.co.uk

NEXT MONTH in

Furniture & cabinetmaking

**ISSUE 245
ON SALE
12 MAY**

Deconstruct

Buildings with influence

Project

Westminster library steps

On test

Makita RT0700C

Restoration tech

Imitating the look of Bakelite

Construction tech

Bending hardwood lippings



Wood Working Wood Turning Wood Carving

Carving
pre-cut carving
blanks and tools

Wood Turning
tools, bowl, spindle
and pen blanks

Timber
kiln dried hardwoods
from around the world

Machining Service
cutting to size, moulding,
planing, sanding



Good Timber
New Creation Farm
Furnace Lane
Nether Heyford
Northants
NN7 3LB

Quotes over the phone and online
01327 344550 goodtimber.com

TOMACO

THE TOOL MARKETING COMPANY

DISTRIBUTORS OF QUALITY PRODUCTS



Chisel and plane iron sharpener - take anywhere and sharpen in seconds.

narex[®]

Quality range of woodworking hand tools made in Europe.

COLT[®]
PROFESSIONAL TOOLS

A quality range of professional Drill bits and accessories from Germany.

T TOMAHAWK
TOOLS

A quality range of professional tools and accessories.



Range of the toughest tool bags with a 5 year downtime warranty.

CMT ORANGE
TOOLS[™]

Quality cutting tool range which includes Router cutters, Spindle Moulding, saw blades, holesaws and many more from Italy.

FOR YOUR NEAREST STOCKIST VISIT
www.tomaco.co.uk



JOHN LLOYD
TO BE THE BEST
TRAIN WITH THE BEST

 www.johnlloydfinefurniture.co.uk
+44 (0) 1444 480388 | SUSSEX



WILLIAMS & CLEAL
FURNITURE SCHOOL

BE INSPIRED
DESIGN
CREATE

www.williamsandcleal.co.uk
01984 667555



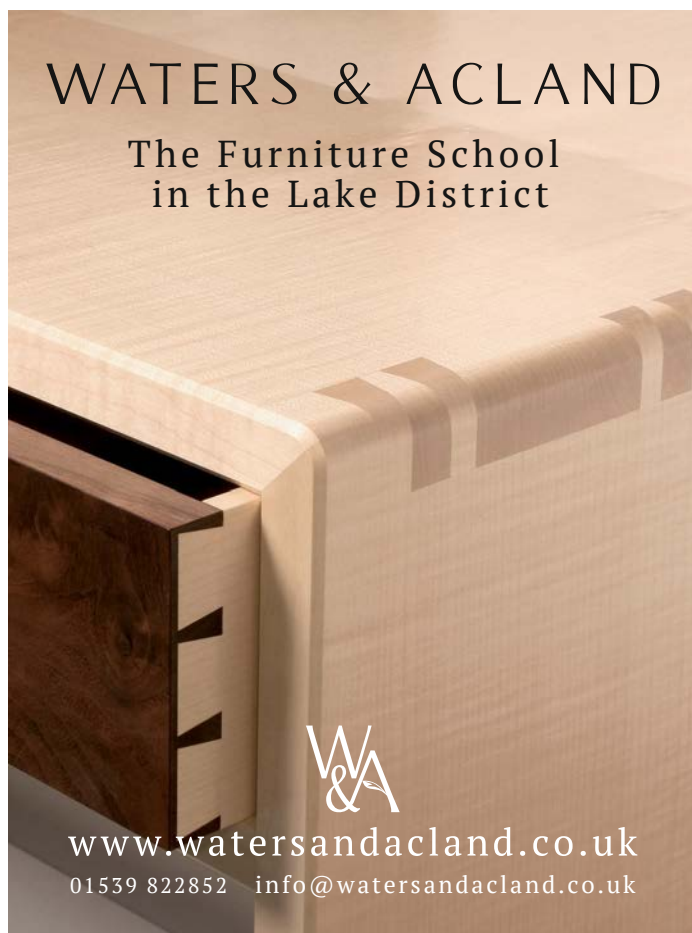
IAN PARKER
furniture school

www.ianparkerfurniture.co.uk / near Tunbridge Wells
01892 861009



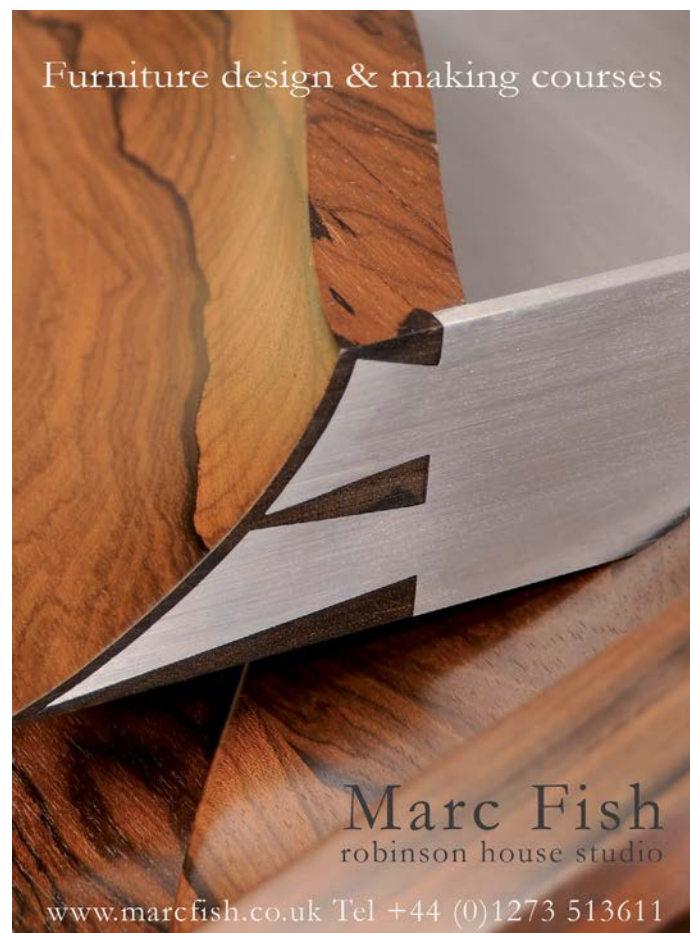
THE
CHIPPENDALE
INTERNATIONAL
SCHOOL
OF
FURNITURE

www.chippendaleschool.com



WATERS & ACLAND
The Furniture School
in the Lake District


www.watersandacland.co.uk
01539 822852 info@watersandacland.co.uk



Furniture design & making courses

Marc Fish
robinson house studio

www.marcfish.co.uk Tel +44 (0)1273 513611

Old exotic timber and veneers for sale

Veneers include:

- Packs of 1.5mm birds-eye maple (300mm wide)
- Packs of fine - stripe macassar ebony (130mm wide)
- Packs of rippled European walnut (270mm wide)
- Pack of crotch mahogany (920mm x 490mm) • Leaves of 2mm Elm burr
..... And much more!

Timbers include:

- Indian rosewood (18mm) • Satinwood (20mm) • Pippy Oak slab • Yew

Selling because I need to free-up space in the workshop. Please feel free to contact me on 07542 066261 or ben@ebony-hill.co.uk

[EBONY HILL]



woodworkersinstitute.com

The UK's No. 1 source of information from the world of woodworking

Furniture & cabinetmaking Woodturning CARVING Woodworking CRAFTS



- Latest news • Projects • Reviews • Techniques
- Competitions • Blogs • Forums • Giveaways

Europe's largest woodworking website offering expertise and a vibrant community

JUST WOOD

ONE OF SCOTLANDS LARGEST WOODTURNING CENTRES

STOCKISTS OF

NAREX - FLEXCUT - CHESTNUT PRODUCTS - LIBERON

PLANET - ROBERT SORBY - BRIMARC

TURNERS RETREAT - CROWN HANDTOOLS

FULL RANGE OF ACCESSORIES - FINISHES - ABRASIVES

LARGE SELECTION OF KILN DRIED, NATIVE & EXOTIC BLANKS

OPEN MONDAY - TUESDAY - THURSDAY - FRIDAY - SATURDAY 10.00 - 4.00

SUNDAY 10.00 - 3.00

CONTACT CHARLIE ON TEL: 01292 290008 MOBILE 07775 722736

E-MAIL: CHARLIEJUSTWOOD@SKY.COM WWW.JUSTWOODONLINE.CO.UK

12A LIMEKILN ROAD, AYR KA8 8DG



Whether you have one log or hundreds we'll come to you and cut exactly what you need for your next project.

For all your ideas in wood... starting right from the log is both cost effective and satisfying. Bringing the sawmill to you gets you hands on right at the start of your project!

William Ellis

mobile: 07577 483625
email: will@mobilesawmill.co.uk
web: www.mobilesawmill.co.uk

Durable British grown European larch can also be cut and supplied to your requirements - ask for details.



Need a tradesman you can trust?

For quality, skill and expertise go to...

findacraftsman.com

The only place to list members of The Guild of Master Craftsmen exclusively





STERLING TOOL WORKS

Fine Tools that Inspire! www.sterlingtoolworks.com



W.L. West & Sons Ltd
Selham, Petworth, GU28 0PJ
t: 01798 861611 f: 01798 861633

- Hardwoods
- Wood finishes
- Australian Burrs
- Exotic Timbers
- Woodturning Blanks
- Woodturning Courses (see website for dates)
- Woodworking Tools
- Fencing, Gate & Decking Products
- Bespoke Garden Furniture

Timber, Tools & Machinery for D.I.Y • Carving Woodturning • Furniture Projects
shop@wlwest.co.uk

Off A272 Midhurst to Petworth road opp The Halfway Bridge Inn

Open: Mon-Fri 8-5 & Sat 9.00-1.00pm
www.wlwest.co.uk



TIMBERLINE

Suppliers of fine and rare timbers
Veneers and inlays, tools and sundries
For the craftsman in wood

Unit 7, Munday Industrial Estate,
58-66 Morley Road, Tonbridge, Kent TN9 1RP
Tel: 01732 355626 Fax: 01732 358214
email exotic.hardwoods@virgin.net
www.exotichardwoods.co.uk

INTERESTING TIMBERS

since 1986

EXTENSIVE RANGE OF ENGLISH GROWN HARDWOOD TIMBERS

Air or kiln dried.
Quarter Sawn Oak usually available.
Turning and carving blanks, full machining service.
Mail Order available - No order too large or small.
Contact us for details or come and see us (please ring first)
We'll ensure a helpful personal service.

DAVID and CATHERINE SIMMONDS,
Wells Road, Embsay, Near Bath BA3 4SP
Tel: 01761 241333 www.interestingtimbers.co.uk

JOIN US ON FACEBOOK

Like our page for regular updates!

 **WoodworkersInstitute**



WEALDEN TOOL COMPANY

- Router cutters
- Spindle tooling
- CNC tooling/collets/toolholders
- Bandsaw blades, jigsaw blades
- Circular saw blades

www.wealdentool.com



Kendal Tools & Machinery

Try our wood cutting Band Saw Blade Service
Any length, width or tpi
Order online, fast efficient service
www.kendaltools.co.uk Tel. 01539 733774



D B KEIGHLEY MACHINERY LTD

70 years service to woodworking industry. 70 machines always on show.
Repairs to power tools and machines. part-ex and lease a pleasure.
New and second hand machinery

Vickers Place, Stanningley, Pudsey, Leeds, West Yorkshire LS28 6LZ
Tel: 01132 574736 Fax: 01132 574293
Website: www.dbkeighley.co.uk

SURREY TIMBERS Ltd

Your One-Stop Wood Shop

Hardwood Timber Merchant
stocking local & Imported Timber



Buy one piece or one pack!

Please come & select from our range:

OAK, YEW, WALNUT, SAPELE, APPLE, MAPLE SYCAMORE & More!

All welcome
• Woodturners • Joiners
• Cabinetmakers

Call in and see
our huge range at Loseley Park,
Guildford, Surrey, GU3 1HS

07795 663792  **01483 457826**

www.shop.surreytimbers.co.uk

£3,000–5,000

UNDER THE HAMMER: Syrian parquetry inlaid desk

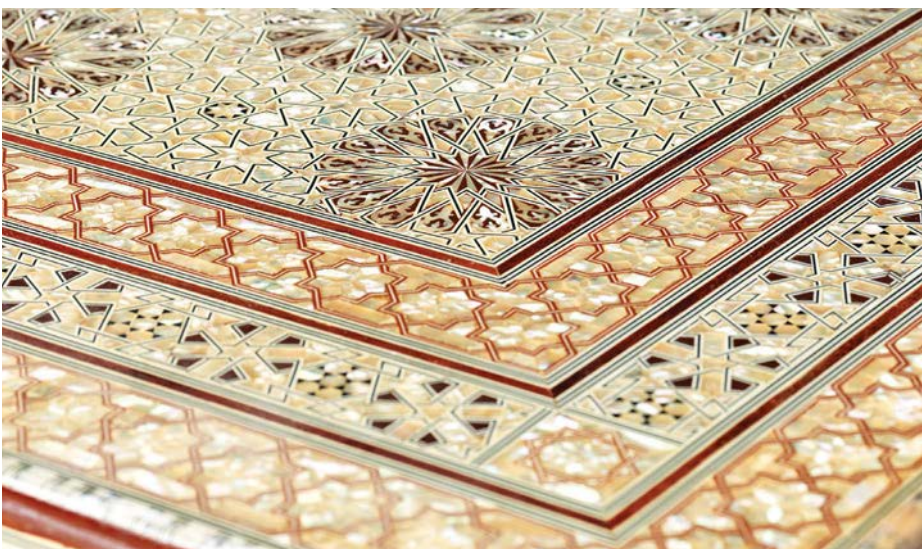
This month we look at a superb example of parquetry



Syrian mother-of-pearl, bone and ebonised parquetry inlaid hardwood desk

This hardwood desk was recently auctioned by Bonhams as part of the 'Home and Interiors' auction, a regular sale that brings together a wide range of specialist items. The desk features mother-of-pearl, bone and ebonised parquetry inlaid overall with geometric, star and lozenge shaped segments and

patterns within chequer inlaid borders. It measures 1770 x 970 x 820mm. The date of manufacture is unknown but it was probably made in Damascus. Mother-of-pearl has been traditionally used as a decorative element in Syrian furniture due to the ready availability of oysters in the Euphrates River.



Detail of the geometric patterns



PHOTOGRAPH COURTESY OF BONHAMS

The desk is inlaid with geometric, star and lozenge shaped segments and patterns

For the perfect finish – **every time.**

The new ETS EC 150



You'll never work alone.

SERVICE
all-inclusive



Designed to meet the demands of a modern working environment.

The ETS EC 150 is perfectly balanced to tackle all fine sanding applications. Combined with perfect ergonomics the ETS EC 150 performs effortlessly. For performance at the highest level the unique vibration control system maintains the smooth performance but when required the sanding pad brake brings the ETS EC 150 to a halt quickly and effortlessly.

The brushless EC-TEC motor ensures reliable working. To experience the difference visit your dealer or www.festool.co.uk

FESTOOL

Tools for the toughest demands

www.festool.co.uk

PT107 10" x 7" Heavy Duty Planer Thicknesser

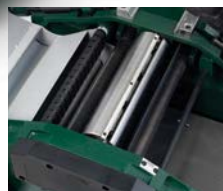
The PT107 is perfectly suited to the discerning woodworker who expects professional and **reliable performance** from a **solid, durable** and **compact machine**. Whilst compact enough for smaller workshops and ideal for serious home or trade users, this machine boasts some impressive industrial features and is exceptionally smooth and accurate in operation. If you are in the market for a good planer thicknesser then check this out at one of our display stockists to fully appreciate the value on offer.

Only

£999^{.99}



Central Column
The thickening table is supported by a sturdy central column for superior stability and easy rise and fall adjustment.



Cutter Block
The three knife cutterblock ensures an excellent finish.

Sturdy Fence System
The fence can tilt up to 45° and is supported by a strong mounting system.

"The PT107 is extremely well built, with heavy cast iron tables polished to a fine finish.

This machine feels more like a proper industrial model in use. The sheer weight minimises any vibration."



The Woodworker

"Top Quality" - This is a very well made machine with full adjustment of both infeed and outfeed tables. This is unusual in a home workshop machine and allows very fine adjustment to eliminate any gouging at the end (snipe)...Results are excellent, chip clearance is good and the changeover from planing to thicknessing is quick and easy."



DesmondW, Online Review

Price valid until 31.08.2016. E&OE.

See the value the **PT107** offers for yourself at the following stockists:

ENGLAND

Aldermaston Tool Company Youngs Ind Est, Paices Hill, Aldermaston, Berkshire, RG7 4PW **0118 981 1470**

Grahams Machinery Deva House, Knutsford Way, Chester, Cheshire, CH1 4NX **01244 376 764**

Westcountry Machinery 4 wood
Beacon Kilns, High Street Village, St Austell, Cornwall, PL26 7SR **01726 828 388**

Jaymac (Derby) Ltd 852 London Road, Derby, Derbyshire, DE24 8WA **01332 755 799**

Toolite Co Unit 3/2 The Mews Brook Street, Mitcheldean, Gloucestershire, GL17 0SL **01594 544521**

Tewkesbury Saw Co Ltd Newtown Trading Estate, Tewkesbury, Gloucestershire, GL20 8JG **01684 293 092**

John Davis Woodturning The Old Stables, Chilbolton Down Farm, Stockbridge, Hampshire, SO20 6BU **01264 811 070**

D.B. Keighley Machinery Ltd Vickers Place, Stanningley, Yorkshire, LS28 6LZ **01132 574 736**

J Carr & Son Ltd 9-10 Horncastle Road, Boston Lincolnshire, PE21 9BN **01205 351 555**

D&M Tools 73-81 Heath Road, Twickenham, Middlesex, TW1 4AW **0208 892 3813**

Norfolk Saw Services Dog Lane, Horsford, Norwich, Norfolk, NR10 3DH **01603 898 695**

Snainton Woodworking Supplies
Barker Lane, Snainton, Scarborough, North Yorkshire, YO13 9BG **01723 859 545**

Oxon Fastenings Systems Academic House, Oakfield Ind Est, Stanton Harcourt Rd, Eynsham Oxfordshire, OX29 4AJ **01865 884 022**

Yandle & Sons Ltd Hurst Works, Martock, Somerset, TA12 6JU **01935 822 207**

Kraftkabin 248-254 London Road, Stoke on Trent, Staffordshire, ST4 5RH **01782 416 102**

DJ Evans (Bury) Ltd St Botolphs Lane, Bury St Edmunds, Suffolk, IP33 2AU **01284 754 132**

Elmers Hardware Ipswich 59-61 Edmonton Road, Kesgrave, Ipswich, Suffolk, IP5 1EQ **01473 623 381**

Scott and Sargeant Woodworking Machinery Ltd
1 Blatchford Rd, Horsham, West Sussex, RH13 5QR **01403 273000**

RS Paskin & Co Ltd Oldington Trading Estate, Stourport Road, Kidderminster, Worcestershire, DY11 7QP **01562 829 722**

WALES

Data Powertools Ltd 427 Cowbridge Rd West, Cardiff, CF5 5TF **0292 0595 710**

SCOTLAND

MacGregor Industrial Supplies
15-17 Henderson Road, Longman Industrial Estate, Inverness, Inverness-shire, IV1 1SN **01463 717 999**

Further branches available throughout the highlands.

Please contact for more details.

Brodies Timber The Old Sawmill, Inver, Dunkeld, Perthshire, PH8 0JR **01350 727 723**

IRELAND

WH Raitt & Son Ltd Main Street, Stranorlar, County Donegal **00353 74 913 1028**

Joe McKenna Ltd 54-56 Parnell Street Limerick, County Limerick **00353 61 413 888**

JJ Ronayne Ltd Dublin Road, Thurles County Tipperary **00353 5042 1033**

RECORD POWER

ESTABLISHED 1909®

Over
100
years

Experience • Knowledge
Support • Expertise

RECORD POWER
ESTABLISHED 1909®

STARTRITE **CORONET**

BURGESS **CamVac**

Incorporating some of the most famous brands in woodworking, Record Power have been manufacturing fine tools & machinery for over 100 years. Built to last we provide support for thousands of machines well over 50 years old, which are still in daily use. Testimony to the sound engineering principles and service support that comes with a Record Power product.

www.recordpower.co.uk Tel: 01246 571 020