

Furniture & cabinetmaking

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

Every panel tells a story

Make plain veneers
shine with the perfect
sunburst technique

Clock sharpening
demystified
with Mark Harrell

PROJECT

Portable shoulder vise

**Rock solid
bench build**

Are your irons
sitting comfortably?



IF IN DOUBT.. ...USE A HAMMER



Combination Machine

C3 31

Saw Spindle Moulders



B3 perform



B3 winner



B3 basic

Panel Saws



K4 perform



K3 winner comfort



K3 basic

Bandsaw



N4400
N3800

Horizontal Mortiser



D3

Mobile Dust Extractor



S01

Belt sander



HS 2200



Welcome to...

...diversity

PHOTOGRAPH COURTESY OF CRAIG THIBODEAU



Blue Ulysses Sideboard

I'm going to let you into a little secret. Up until recently there were two things in the workshop related to tool maintenance that I had failed to get to grips with; saw and scraper sharpening. For years I could just about get them to a point where they'd work but not a lot more. If I'm honest, to tune them so they really perform wonders is still a bit of a mystery, but I'm comfortable with that, more so perhaps in the case of saw sharpening. Don't get me wrong these are fine skills to have, but am I really going find the time to put in the hours necessary to sharpen a 15tpi plate like a pro when I could be doing a host of other things far more effectively? Not any time soon that's for sure.

Now of course I don't expect you to take my lead, each to their own and all that, because for you the time may turn out to have been well spent. So to help you with that goal and as we begin to slowly wind down our series of Saw Doctor articles it's

crunch time, the Holy Grail if you like, as Mark Harrell is shaping up to explain the fundamentals of saw sharpening.

Maybe not quite at the top of his game yet is Oliver Sparks; a fine and talented young craftsman in the business of making tools that make furniture makers look good. Oliver has been turning heads with his superb handmade planes for a couple of years now and we're very excited to have him back in the magazine to demonstrate a centuries old technique for ensuring contact between blade and bed on his wooden planes. Serious tool refurbishers should pay very close attention.

Good design when it's easy on the eye can often be found lurking in the shadows of far more complex and showy pieces especially in an exhibition gallery. Our main project this month comes from Edward Wild and features his Burnett Sunburst table that appeared at the Arts & Crafts Legacy

exhibition last year. The simpler the design it seems the more attention you have to pay to details. Knowing how to harness the effect of grain and light is nothing short of magical when it's done well so I think you'll enjoy this masterclass in simplicity.

Our gallery pages this month are inspirational with no holds barred. The students at Marc Fish's Robinson House Studio are encouraged to experiment across all media to find a unique design voice somewhere between art and furniture. Craig Thibodeau, on the other hand, mirrors the triumphs and tribulations of past masters to make his work stand out.

So whatever your taste, this month, I think we've got it covered.

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 Bulley
Email: jimb@thegmcgroup.com
Tel: 01273 402810

PRODUCTION CONTROLLER
repro@thegmcgroup.com

MARKETING Anne Guillot

SUBSCRIPTIONS Helen Christie
Tel: 01273 488005, Fax: 01273 478606
Email: helen@c@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 242 March 2016



Campion table by Craig Thibodeau – see page 16.

Front cover image courtesy of Craig Carlson

Design & Inspiration

16 In the workshop with Craig Thibodeau

We head to America's West Coast to
find out how this award-winning designer
combines traditional and modern techniques
to create stunning bespoke pieces

22 In the spotlight

We take a look at some of the
stunning work by recent students at
Robinson House Studio

38 Our correspondent... Dancing about architecture

Kieran Binnie channels the late Frank Zappa
as he frets over how best to describe furniture

40 In the workshop with Liam Gardner

From heritage pieces to 'miniature'
cabinetry, senior craftsman Liam Gardner
recommends following the best approach
to the task in hand – be that modern,
traditional or a combination of both

80 Under the hammer – Equation clock

This month we look at the Louis XV
ebony veneered equation clock,
recently auctioned by Bonhams

Projects & Techniques

27 Rock-solid workbench

In an abridged extract taken from
Workstations and Tool Storage, Jon Leppo
looks at making vises to anchor your work

34 The art of smoke fitting

Plane maker Oliver Sparks explains
how the use of soot helps to seat an iron
and wedge

45 Deconstructing the Sunburst Burnett Table

Edward Wild shares his technique for
creating deceptively simple but perfectly
stunning sunburst panels from plain veneers

53 Making a portable shoulder vice

This shop fixture by Charles Mak adds
a shoulder vice functionality to a regular
bench and can turn any solid table into
a light-duty workbench

58 The saw doctor will see you now

Mark Harrell explains the process of
clock-sharpening to get your saw teeth in
perfect formation and ready to do battle

62 Rosewood chiffonier side cabinet – part 5

Derek Jones prepares his chiffonier
for another 100 years service

68 A new life for grandpa's plane

Anne Briggs Bohnett finds new life in her
grandfather's old Stanley planes with some
elbow grease and a few Hock blades



45



27

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 & readers' letters

Here at *F&C* we're always keen to see what our readers have been up to. This month, we take a closer look at this marquetry memory box made by Yuri Karpov from a special piece of burr elm

10 Editor's choice

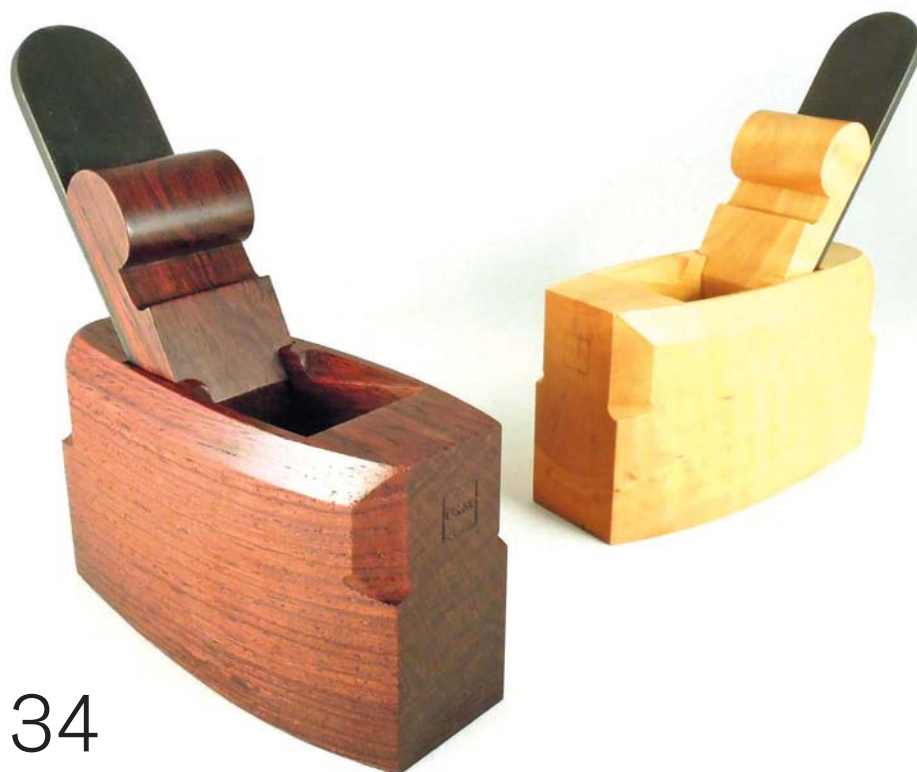
Having trouble sourcing the right tool for the job? Derek Jones sets about identifying the essential tools and equipment on offer this month

72 Workshop library

Matthew Pearson reviews *Taunton's Complete Illustrated Guide to Using Woodworking Tools*, Kieran Binnie reviews *The Toolbox Book* and Tricia Pearson looks at *Devon's Ancient Bench Ends*

74 Next month in F&C

Get a peek at what we'll be bringing you in issue 243



34

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



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

News & Events

Yannick Chastang pays tribute to Pierre Ramond, 1935–2015

Pierre Ramond was one of the last great, traditionally trained, marqueteurs.

He was an expert in his field, teaching at the École Boulle, the Sorbonne, the École du Patrimoine and at Buckinghamshire Chilterns University. He was the author of five major books on marquetry furniture (*La Marqueterie, Chefs d'Oeuvre des Marqueteurs vols I, II and III* and *André-Charles Boulle*). His first book, *La Marqueterie*, was first published in 1977 and has been reprinted seven times in three languages. It is still regarded today as the definitive book on the subject. Pierre was also a member of the advisory conservation committee at the Wallace Collection in London and widely shared his expertise amongst the museum world.

Even after academic acclaim, he remained primarily a simple man, always ready to help others and full of human kindness. He never liked being called 'doctor' and was known to many as Pierre.

Originally from the south west of France, Pierre learnt cabinet making and marquetry in the small town of Revel, famous for the traditional manufacture of luxury French furniture. He later moved to Paris to head up the marquetry workshop of Pierre Rosenau. At the closure of Rosenau's workshop, he opened his own studio with his wife Gigi near Paris. At the same time, Pierre started teaching marquetry at the École Boulle in Paris. It is at the École Boulle that Pierre spread his influence the furthest, fostering in those of us privileged to be taught by him a love of marquetry and historical furniture. In the 1970s, marquetry was not taught as a primary subject at École Boulle, however, once Pierre was invited to join the staff, he quickly developed a workshop with a worldwide reputation. While just as formal and exacting as other teachers at École Boulle, he was warmer in nature and more approachable and the marquetry workshop was the most desired workshop amongst the students. However, among the younger students discipline and hard work was strongly enforced. The teaching was traditional and Pierre taught making marquetry the old way. Making piercing saw blades by hand was mandatory. Students would compete to make blades as quickly as possible to impress Pierre, however the quality had to remain excellent. Pierre would raise the blade up to the light to check the setting of the teeth



Pierre Ramond and his 1964 Renault Dauphine

and every Boulle student would dread his blunt 'pas bon' if the blade was not up to scratch. The blade was then broken in two and we were left holding the pieces with no option but to start again. The marquetry work had to be of the same high quality. Working as precisely as to tenths of millimetres, the marquetry, all cut by hand on traditional Parisian marquetry donkeys, had to be perfect. Pierre would never judge a marquetry that had just been assembled. Water from the glue often made the joints very tight and therefore deceptively perfect. The marquetry designs would stay on his desk for several days to dry before he even looked at them. Then the marquetry exercises were marked, one of his methods being to hold them up to strong light and, if any light came through, the score and comments were once again not very tactful. If he was really unimpressed then the marquetry work would end up in pieces beneath the bandsaw. He was a perfectionist who felt that perfection should be the aim for every student he taught.

It is largely due to Pierre's work that marquetry thrives today. He was passionate in his speech and his interests, which also extended to a great passion for motorbikes, another thing he passed on to many of us students!

He died on 24th October, 2015 in Paris after a long battle with cancer. Pierre Ramond will be greatly missed by those of us who were privileged to be taught by and work with him. He will be remembered as a teacher, friend, expert, historian and enthusiast. His legacy will inspire future generations of marqueteurs and furniture historians.

Yannick Chastang

Bucks New University Furniture student wins Robin Day Centenary Design Project



Bucks New University Furniture student Sebiha Macit receives her award from Paula Day, daughter of Robin Day OBE

Bucks New University Furniture student Sebiha Macit has been awarded a prize for her concept work in the first of the two-stage Robin Day Centenary Design Project. Sebiha, 22, studying BA (Hons) Furniture, collected her prize, a copy of the book, *Robin and Lucienne Day: Pioneers of Contemporary Design*, from Paula Day, Robin Day's daughter and founder of The Robin and Lucienne Day Foundation.

Sebiha's project was inspired by traditional Turkish stools and she presented a scale model and full-size detail of how it would look when constructed. She said: "I was pleasantly surprised to receive the award as there were so many other great design ideas. My design took inspiration from traditional Turkish stools used in Turkish cafes for both outdoor and indoor use. It was about having a stool that was light and practical that would also look good in both settings, as well as being portable, making it easier for the user to carry the stool without any hardship."

Robin Day OBE was born in High Wycombe in 1915 and studied at Bucks New University

in the 1930s when it was called High Wycombe College of Art and he was awarded an Honorary Doctorate by the University in 2003. He would have turned 100 last year.

Fiona Davidson, Senior Lecturer in Furniture at Bucks New University, commented: "Robin Day was, without doubt, one of the pioneers of British post-war design. He was born and bred in High Wycombe and is one of Bucks New University's most illustrious alumni. In this, his centenary year, BA (Hons) Furniture is privileged to run this project with The Robin and Lucienne Day Foundation. It represents our own Bucks homage to Robin Day's enduring and inspirational design legacy."

Paula Day said: "There was an excellent range of work and some students had used the model-making process to investigate and develop their design concept to good effect. We look forward to returning to Bucks New University next June to see the progress made by students on their designs and to award a prize."

Robin Day was one of the most significant British furniture designers of the 20th century and among his many achievements he designed the world's first injection-moulded polypropylene chair. It was originally designed in 1963 for the firm of S. Hille & Co. and is still in production today by its successor, Hille Educational Products. The Robin Day Polypropylene chair was the first polypropylene shell chair ever created and tens of millions have been sold worldwide.

Amos Marchant, furniture technician with The Robin and Lucienne Day Foundation, set up and oversaw the Robin Day Centenary design project with lecturers Fiona Davidson and Alex Hellum.

Details:

Contact: Buckinghamshire New University

Web: www.bucks.ac.uk



Sebiha's award-winning work

TIMBER TRADE NEWS Mechanical damage to trees



PHOTOGRAPH COURTESY OF WIMPEY

Damage can cause crown dieback

Damage done to trees by deer and lightning have been covered in previous issues, but many other forces can damage trees.

A common cause of damage is metal or plastic ties that are allowed to remain after the time they should have been loosened or removed. These then dig into the bark as the trunk expands. The ties constrict the movement of water and nutrients and may ultimately weaken the trunk so that it snaps.

Adverse weather can obviously also damage trees; particularly high winds, but also snow and ice. Machinery used in forest maintenance, such as tractors, can also cause considerable damage and if the bark is torn or split, decay fungi can enter and damage the timber. The symptoms of these various types of damage often include crown dieback, because they impose stress by causing a reduction in nutrients available to the crown.

A less well-known type of mechanical failure is caused by delayed graft incompatibility. When a section is grafted, it must be compatible with the rootstock. Often incompatible grafts fail immediately, but sometimes 20 years or more may elapse before the graft suddenly breaks. Timber quality from trees with delayed graft failure is not significantly affected.

Chris Prior



PHOTOGRAPH COURTESY OF WIMPEY

Timber quality is not always affected by damage

Dovetailors experiment with Formica

The team at Dovetailors have been experimenting with colours, and more particularly with Formica, one of the most interesting of recent developments in retro-inspired interiors. Formica has been around for more than a century and is now available in an incredible range of colours. Its classic look is perfect for today's minimalist mid-century styles and Dovetailors are enjoying coming up with some creative ways to incorporate it in their furniture making. "Formica is a beautiful product to work with. It's strong, sleek and versatile. We believe it adds character and individuality to a piece and we hope some of our customers will embrace the possibilities so that we can use it to create even more innovative products," they told us.

The elegant Desk One design now has a Formica option and can be made in an extensive range of colours. The birch (*Betula pendula*) ply based Formica is used to construct the desk carcass and soft-close drawers with solid walnut (*Juglans regia*) legs and detailing to create a really stunning contemporary freestanding desk.

DETAILS:

Contact: NCFM

Web: www.northernfurniture.org.uk



Dovetailors' Desk One design is now available in Formica in a range of colours

Chippendale School wins Global Business Excellence Award

The Chippendale International School of Furniture has been named winner of the Outstanding Educational Service category at the 2015 Global Business Excellence Awards.

The Chippendale school in East Lothian, Scotland is acknowledged as being one of the finest furniture design and restoration schools internationally and last year celebrated its 30th birthday.

The Global Business Excellence Awards pride themselves on having a large panel of independent expert judges who select winners according to strict criteria for each category and sector; focussing on financial results, innovation, customer, employee, investor and community benefits.

The chairman of the judges said: "Congratulations to the Chippendale International School of Furniture for putting British education in furniture design on the international map.

"The school runs intensive 30-week courses and by combining its own in-house expert tutors with a rota of visiting experts, it offers training in old techniques and those using the latest technology. It has a reputation as a beacon of excellence, attracting pupils from all around the world and it is showcasing the UK as the place to go for expert training in furniture making."



The School's teaching staff. From left to right: Anselm Fraser (Principal), Clare Charleston, Gus Bennett, Graham Davies, Mattie Brebner, Alan McGovern

Last year, the school was also named winner of the Best Business category in East Lothian at the 2014 Best of the Best Business Awards, and a Best Business Award in the small to medium-size category.

Anselm Fraser, principal of the School, said: "We are absolutely delighted to have won this prestigious award, which underlines our status as an internationally recognised furniture school. Furniture design and making is an age-old craft that also uses

modern techniques and computer technologies – a something-old and something-new teaching course. We're very pleased to have been recognised as an international place of learning in a niche area of education," he said.

Details:

Contact: Chippendale International School of Furniture

Web: www.chippendaleschool.com

Exclusive offer on Rob Cosman's online workshops

Wood Workers Workshop has a great offer for anyone buying a WoodRiver Hand Plane on their website. The exclusive offer gives free access to Rob Cosman's amazing interactive online hand and power tool workshops.

Rob has worked with many of the world's best craftsmen – including Alan Peters, Sam Maloof, Tage Frid, Monroe Robinson and Peter Korn. Rob is based in Canada and has been an active demonstrator at international woodworking shows for over 10 years. He brings his well-respected techniques to your home workshop over the internet.

Rob has been instrumental in the development of the US brand of WoodRiver Planes and these are sold exclusively by



Wood Workers Workshop in the UK and Europe after owner Peter Sefton bench tested them at his Furniture School; he and his students were so impressed, they now use them on a daily basis.

Anyone purchasing one of the US-designed WoodRiver Planes gets three months' free subscription to 75 30-minute sessions alongside access to over 1,100 previous episodes with five new ones each week.

Details:

Contact: Wood Workers Workshop

Web: www.woodworkersworkshop.co.uk

FEIN and Bosch collaborate to develop new standard mounting system for oscillating power tools

FEIN and Bosch, world market leaders in oscillating power tools, have launched a jointly developed tool mounting for oscillating power tools: the Starlock mounting system. The joint venture aims to offer users one common standard and even better performance in the form of faster work progress and more precise results.

The unique motion of oscillating multi-function tools means they can be used in a wide range of applications; the technology is now globally accepted as a standard way of working. Thanks to their oscillating movement, they can be used to drive accessories for sawing, sanding, scraping and polishing, but they only work reliably and economically if the motor's power is transferred to the saw blade or backing pad with as much contact as possible. Therefore, the way the tool is mounted is crucial to rapid work progress and precise results.

Willi Fellmann, responsible for the joint venture project at Bosch, said: "These days there are numerous mounting systems available for oscillating power tools. The number of products from different manufacturers is confusing. Users also have to accept reduced performance when using an adapter. This is where the new Starlock tool mounting comes in. FEIN and Bosch are establishing one common standard and ensuring maximum power transmission."

The patented Starlock mounting works reliably with oscillating power tools from FEIN and Bosch and tools with a 12-point mounting from other manufacturers. This makes the accessories compatible with most tools on the market. Rainer Warnicki, head of product development at FEIN, said: "Through its three-dimensional geometry, the Starlock accessory achieves even better results than previous systems. As the inventor of oscillating power tools, when developing the Starlock tool mounting, we were consciously looking for a new approach: the joint project combines the know-how of both brands. We firmly believe that Starlock will become the system standard."

Accessories with the Starlock tool mounting are available now under the FEIN and Bosch brands. FEIN and Bosch are offering three performance classes: Starlock, StarlockPlus and StarlockMax. These performance classes ensure that only the accessories suited to the tool's output can be clamped on. Over the next few months, FEIN and Bosch will also be presenting new power tools with the Starlock mounting.

Details:

Contact: FEIN

Web: www.fein-uk.co.uk

Events

Ecobuild

Ecobuild is the leading exhibition and conference for the UK construction and energy market. The 2016 event will focus on housing, infrastructure, technology and innovation with over 800 exhibitors offering visitors a first look at thousands of new products. Other features of this year's event include learning 'hubs' for building performance, design, energy and digital building, plus the 'Smart' area, which is dedicated to the latest technologies.

When: 8–10 March, 2016

Where: ExCeL London, One Western Gateway, Royal Victoria Dock, London E16 1XL

Web: www.ecobuild.co.uk



Design Shanghai

Design Shanghai is Asia's leading international design event, breaking new ground and setting a precedent in China's ever-growing design community. Showcasing the best design brands from across the globe, Design Shanghai provides a unique and exciting platform to network and establish long-term business relations with Asia's top architects, interior designers, property developers, retailers and private buyers. Both contemporary and classic design styles will be represented, and there will also be a Collectibles Design Hall, showcasing the highest level of global artistry and design, presenting extraordinary one-off masterpieces.

When: 9–12 March, 2016

Where: Shanghai Exhibition Centre,

Web: www.designshowshanghai.com

The Midlands Woodworking & Power Tool Show

Now in its third year, the Midlands Woodworking & Power Tool Show has quickly become one of the most popular events on the woodworking calendar. The 2016 event will feature demonstrations by woodturners and carvers, sharpening with Nic Westermann and scroll saw demonstrations by Wayne Mack. Advance tickets, which save money and queuing – are available via Nelton's website and the ticket hotline – 01474 536535.

When: 18–19 March, 2016

Where: Newark Showground, Lincoln Road, Winthorpe, Newark, Nottinghamshire NG24 2NY

Web: www.nelton.co.uk

Burr elm memory box

Here at **F&C** we're always keen to see what our readers have been up to. This month, we take a closer look at this marquetry memory box made by Yuri Karpov from a special piece of burr elm

Elm – (*Ulmus spp.*) originating from Central Asia, spread across Northern Europe and the UK millions of years ago. In the early days of furniture making, due to its imperfection in pattern and rapidly and inconsistently distributed tension between the grain, elm was not considered a suitable material for woodworking. However, developments in furniture-production technology during the 20th century meant that hand power could be replaced by a machine, so difficult types of wood such as elm became the most precious and desired materials for home furniture and ornaments.

Marquetry memory box

I was commissioned to make a memory box by Mr Christopher Hooper. The material for this commission came from a project between Edinburgh Council and Scottish Furniture Making Association (SFMA). The decision was made by the Council that, instead of destroying the elm trees affected by a deadly disease, they would cut them down and give them to the SFMA as a material source for the potential production of furniture items. The trees were numbered and planked for further seasoning and kiln drying and then sold to members of the Association for a reasonable price.

When Mr Hooper approached me with his request to make a special present for his girlfriend, I immediately thought that the use of Edinburgh elm for this commission would be the best possible choice. In order to make this item special and personal my client suggested depicting his girlfriend's two favourite horses in marquetry inside the lid of the box.

An impromptu and secretive photographic shoot was carried out to capture suitable images from which a design could be taken. The elm plank chosen for the box was cut and planed to an approximate size with material to spare, then left to rest for two weeks in stickers. During that time, as expected, the elm moved. I had to reject a few parts either because they had distorted in shape or split beyond repair. The remaining good material

was dimensioned once again, still oversize and left for another week. Seeing this wild behaviour of kiln-dried wood with my own eyes, I was beginning to worry: would it ever stop moving in time for it to be used or worse continue to do so after the box was made?

The process

The planks for the sides and top of the box were carefully chosen to make a continuous sequence of the flow and picturesque wildness of the grain. I decided to rebate and pin the sides and the top with oak wooden nails, custom made to suit the size of the walls. As you can see, there are plenty of little knot-holes on the elm surface. I decided to fill them with transparent glass-looking resin to

make sure that the surface would look flat when finished. The box construction has no nails or screws in it. A perfect fit and tight joints are the key to success in all woodworking especially boxes! This is what I was taught during my six-year apprenticeship in Russia. After 19 years working solo I totally agree.





The planks for the sides and top were carefully chosen to showcase the grain pattern

The marquetry was cut using a custom-made marquetry knife crafted by myself and eight different types of wood. In total, there are about 90 individual pieces of wood attached together, making one picture. By gluing the picture to the top lid section, not attached to the box yet, the tension created by the glue applied on one side of the lid resulted in the 25mm thick plank moving again! A period of solitary confinement in the corner of the workshop somehow allowed the panel to correct itself. Placing and gluing the top lid plank on the box was a bit tricky as all the side joints were mitred to have a perfect crisp line on the outer perimeter of the top. The top of the box was shaped by hand using a plane into four very shallow chamfers radiating from the centre out towards the edges.

It took two whole days to ensure the crisp edges and the points where the chamfered surfaces meet were straight and equal. Elm wood fibres are generally rather soft, compared to something like European oak (*Quercus robur*), but this burr had a high concentration of mineral deposits that were punishing to edge tools. Using a Japanese laminated blue paper steel iron in my hand plane, I had to re-sharpen every four to five passes to complete just one facet of the lid.

The bottom oak plank was rebated into the sides of the box and Macassar ebony feet were attached to it in each corner. The interior was lined with burgundy-coloured leather. The initials were cut out of solid 5mm thick planks of holly (*Ilex spp.*) and Honduran mahogany (*Swietenia macrophylla*) and carefully inlaid into the lid

using hand chisels. The keyhole featured a heart shaped inlay of cherry (*Prunus avium*) wood. The hinges, key, lock and handles are solid brass. The finish is a satin OSMO oil.

Together with the box, Mr Hooper also received a little brochure explaining the origin of the elm that was used for his box and the making process with photos and a map of where the tree stood in Meadows Park in Edinburgh.

A year or so later, I contacted Mr Hooper, just a few days before New Year's Day 2016, to enquire about the box's state and for permission to use information and photos for this article. To my surprise, the box had behaved impeccably, obviously content in it's new surroundings. What a relief and pleasure at last!



The marquetry pattern was based on a photo of the recipient's favourite horses



ABOVE & RIGHT: All of the box fittings are made from solid brass



The initials on the top of the box were made from holly and mahogany



The interior is lined with leather

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

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 SIMON DREW JONES

I've made a couple of chests in the last few months and although they've all been for very specific purposes there are some very obvious similarities; namely the construction. This part I've got down to a T and I doubt there's a lot more I could do to make the process run smoother without losing some of the handmade attraction. Where I've struggled the most to claw back time is in the fitting up of locks and hinges. I'm as guilty as the next man of putting hardware too far down my checklist of things to do. Repeating the same mistakes in quick succession has highlighted these issues so next time hopefully I'll be little more prepared.

The broad take-home message here is never stop evaluating a process even if you've done it a thousand times before. It's not until we can perform a task without thinking too much about it that we can actually really start to think about how we're doing it. You might only shave a few seconds off your personal best, or in our case a few thou' but it could make all the difference.

So it is with this firmly in mind that we've hand picked a few items this month that will help you raise your game a little or, who

knows maybe even a lot. The little things can make a huge difference so whether it's double-sided tape you're after or a no-nonsense reamer for your next chair project, we've got it covered.

Free 15-piece cutter set with a T11 router

Trend are currently offering a free 15-piece 1/2in shank cutter set with the purchase of a T11 router. The T11 is a 2,000 watt variable speed workshop router with a built-in height adjuster. It uses electronic full wave variable control of spindle speed under load to ensure a fine finish on all types of material and has a 'soft start' to eliminate sudden movement on startup. Its two-column precision base with large phosphor bronze brushes make plunging accurate and it has an adjustable twin rod parallel side fence guide with integral micro-adjuster for straight-edge work. Other features include a three-position revolving depth stop for fast adjustable settings, a router fine height adjuster and an extra large base aperture for large cutters. The 15-piece cutter set



contains a range of popular cutters that are suitable for grooving, profiling and moulding. They are suitable for use on softwoods, hardwoods, MDF and plywood. The set is worth £54.41 and is supplied in a plastic carry case.

EasyAirWedge

The EasyAirWedge is an inflatable wedge that replaces the need for carpenters and craftsmen to use wedges in woodworking and cabinetmaking projects. The innovative, cost-effective device helps with levelling and fitting of cabinets, carcasses and worktops as well as installing and fixing windows and doors. The versatile new tool is an inflatable bag manufactured from heavy-duty TPU, which simply slides into awkward or narrow gaps and around windows and doors. The bag is then easily inflated or deflated with a few quick pumps of the hand pump to ensure the unit is held in just the right position. The EasyAirWedge makes the awkward task of fitting, levelling and adjusting heavy doors and other weighty objects a thing of the past. It can safely lift an impressive 120kg and means that individuals can safely carry out tasks themselves without the need for assistance – saving time and money. The wedge comprises a unique patented rigid plastic core which is hidden inside the bag and ensures the device will not buckle or bend while in use.

The EasyAirWedge is a handy tool box essential that is also ideal for lifting, levelling and adjusting white good and kitchen units, cabinets and office equipment, water tanks, furniture and much more.



Variable angle fence for Veritas planes

This plane fence doesn't limit you to right angles – it allows accurate and consistent planing of any angle from 45° to 135°. Angles are set using a square or angle gauge, or directly on an angle you wish to match. The spring-loaded lever, which locks the fence, can be rotated out of the way if necessary. Through-holes in the 280mm long aluminium fence allow the attachment of a wooden extension, or a tapered spacer for planing angles less than 45°. It mounts with stainless-steel thumbscrews to the tapped holes in the sides of Veritas' custom bench planes, shooting plane, bevel-up jointer plane and jack rabbet plane.

Crescendo PPE ear plugs

Personal Protection Equipment Ear Plugs -20dB (PPE 20) is a unique industrial hearing protection solution utilising technology normally associated with expensive custom-made hearing protection. Using filter technology initially designed for custom moulds PPE 20 is able to provide uniform, or flat, attenuation resulting in reduction of sound levels equally over all frequencies, contributing to natural sound and clearer speech. This makes working in noisy conditions safer as speech and warning signals are still heard.

Developed for industrial, construction and other loud noise environments PPE 20 provides the ultimate universal fit hearing protection experience. Crescendo PPE 20 ear plugs reduces sound levels by 20dB making it safe for up to 8 hours continuous use in any environment up to 105dB. Crescendo PPE 20 is a universal fit hearing protection solution that ensures accurate reproduction of environmental sound but at safe levels. The patented filter technology attenuates all frequencies by the same amount, resulting in 'flat' attenuation. With flat attenuating filter technology high frequency sounds are not masked, which is typical of foam protectors and earmuffs, allowing speech and alarms to be heard.

Safe hearing protection use requires that the correct level of attenuation be used. In many cases workers are over protected through the use of protection with attenuation that is too high for the situation. Crescendo products are available with various levels of attenuation through the use of removable, washable filters.

We're not sure if they will cancel out the inane drivel emitting from your local radio station or a co-worker's poor taste in music. For that at least there's still the off switch!

\$49.95
plus p+p



➤ **Bad Axe Stiletto .015 gauge dovetail saw**

The Bad Axe 12in dedicated dovetail saw will likely be the last dovetail saw you'll ever own. The additional 2in of throw, light weight, exquisite balance and results-oriented action will give you the kind of accuracy you want with unmatched precision. And because they size the handles, the Stiletto will fit your hand. The .015 gauge plate is thinner than their standard .018 so specifically designed for use within a range of 6–18mm thick stock. Perfectly suited to smaller scale work, the thinner plate rivals that of a Japanese pull saw for wafer thin kerfs. The hammer set toothline is filed at 16ppi for ripping, which is one more than the thicker plate. At the toe of the plate the first 2in are filed with a relaxed rake of 10° with 10° bevel helping the saw 'knife' into the cut. The remaining 10in of the toothline is filed 5° rake with 5° bevel. With a range of timbers to choose from as well as fittings you can customise your dream dovetail saw.



\$245 plus
p+p



£22.96

Inside and outside callipers

Turners Retreat is now stocking two new 200mm digital callipers – one for internal and one for outside measuring – which help to eliminate guesswork involved with using traditional callipers. These fractional display callipers can be preset to a specific measurement or simply used to display the size of work being measured. The 8in inside callipers are made of aluminium, are spring loaded for easy operation and feature a large handle for convenient use. The easy-to-read display shows measurements in fractions, decimals or millimetres and will measure up to an 8in diameter. The battery is included.

Rockler Center/Offset Marking Tool

Rockler Woodworking and Hardware has introduced an inexpensive new tool that makes it quick and easy to mark the centre on a board's edge as well as scribe precise lines for rabbets or reveals along the board's face.

The Rockler Center/Offset Marking Tool accepts a common #2 pencil and has two posts that straddle the board's edge. The user twists the tool to bring the posts against the board, perfectly centring the pencil, and moves the tool along the board to mark the centreline. It works on stock up to 1½in thick.

To mark for rabbets, reveals, molding offsets or mortise locations, the user simply flips the tool, presses it against the edge, places the pencil tip at the desired offset and slides the tool to make the mark. The tool has marked offsets ranging from ⅛in to ½in in ⅛in increments.

"Anyone who's tried using a tape measure or a combination square to mark the centreline on the edge of a board knows how awkward it can be. This tool makes it simple – and ensures absolute accuracy," said Steve Krohmer, Rockler's vice president of merchandising and proprietary. "And for marking offsets, it doesn't get any easier."

Made from durable plastic, the Center/Offset Marking Tool houses a magnet in one of its posts for convenient storage on shop machines and also features a slot for storing the pencil.



\$9.99



\$9.99

10.8V Lithium-Ion slide battery

Makita has launched a fresh 'CXT' range of 10.8V tools featuring a new slide battery. The new 10.8V Lithium-Ion slide battery has multi-contact terminals to ensure stable contact even under extreme work vibration conditions. The slide battery fits easily into the tools and new chargers and has the same high level of structural strength as well as having built-in protection to prevent overload or over discharging.

These new slide batteries have protection overload circuitry, will operate down to -20°C and have a 4-stage LED fuel gauge indicator. The new 10.8V slide battery is fitted to the latest 'CXT' range of tools,

which includes a Combi Drill, Drill Driver, Impact Driver, Reciprocating Saw and 85mm Circular Saw.

The latest 10.8V slide battery range will continue the expansion of this sector of the Makita range where the power and manoeuvrability of these precision tools has seen sales grow continuously since 2012, with thousands of the current two-piece drill and impact driver kits already being sold annually. The latest two-piece 10.8V kits feature the impact driver paired with the either the drill driver, or combi drill, supplied together in the robust Makpac case with charger and two 2.0Ah batteries.

Chair reamers

A reamer is used to make tapered mortises as are commonly found in the construction of Windsor chairs. As you twist the reamer to taper the mortise, the top of the tool is used as a sighting aid in conjunction with a square and a sliding bevel to adjust the angle of the hole and bring your parts into their intended alignment. The process is easily controlled and simplifies working with compound angles.

This reamer is made by chairmaker Tim Manney, the subject of a recent F&C 'Website of the Month'. It is made of hard maple, has a brass sighting tip and has a depth of cut adjuster. The taper is 6° and the reamer works in holes from 3/8in to a maximum of 1-3/16in diameter. Its overall length is 14in. The reamers are available via Tim's blog and, as they are made to order, the wait time for each tool is around four weeks. Once you've got hold of your reamer, it's worth paying another visit to Tim's website to check out his step-by-step tutorials for using the tools.



\$120

Contacts

10.8V Lithium-Ion slide battery

Contact: Makita

Web: www.makita.co.uk

Bad Axe Stiletto .015 gauge dovetail saw

Contact: Bad Axe Tool Works

Web: www.badaxetoolworks.com

Chair reamers

Contact: Tim Manney

Web: www.timmanneychairmaker.blogspot.com

Crescendo PPE ear plugs

Contact: Crescendo

Web: crescendo-hearingprotection.com

EasyAirWedge

Contact: Easy Innovations

Tel: 01227 712833

Web: www.easyinnovations.co.uk

Free 15-piece cutter set

Contact: Trend

Tel: 01923 249 911

Web: www.trend-uk.com

Inside and outside callipers

Contact: Turners Retreat

Tel: 01302 744344

Web: www.turners-retreat.co.uk

Rockler Center/Offset Marking Tool

Contact: Rockler Hardware & Machinery

Tel: 1-877-ROCKLER

Web: www.rockler.com

Variable angle fence for Veritas planes

Contact: Classic Hand Tools

Tel: 01473 784 983

Web: www.classichandtools.com

Clarke

TABLE SAWS

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

LEG STAND KITS
FOR CTS100
AND CTS11
ONLY £27.59
INC.VAT*

INCLUDES
LEFT &
RIGHT
TABLE
EXTENSION

CTS10D

MODEL	MOTOR	BLADE	EXC.VAT	INC.VAT
CTS800B	600W	200mm	£69.98	£83.98
CTS11	1500W	254mm	£139.98	£167.98
CTS10D	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

FROM ONLY
£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	RATE	BAG	CAP.	EXC.VAT	INC.VAT
CDE35B	750W	450 M ³ /h	56Ltrs	£129.98	£155.98		
CDE7B	750W	850 M ³ /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 MOTOR OF CUT	EXC.VAT	INC.VAT
Clarke CEP1	650W 3mm	£23.99	£28.79
Einhell RT-PLB2	850W 2mm	£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

POT
BELLY

6.9kW

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

BARREL

6kW

FROM ONLY
£209.00
EXC.VAT
£250.00
INC.VAT

SAVE £60
INC.VAT

FLUES,
COWLS &
ACCESSORIES
IN STOCK

PRICE CUT
NOW ONLY
£199.00
EXC.VAT
£238.00
INC.VAT

WAS £229.00 INC.VAT

BUCKINGHAM

150
KG

PER SHELF

(evenly distributed)
Strong 9mm
fibreglass
shelves

Clarke RANDOM ORBITAL SANDER

CROS1

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	£66.99
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

FROM ONLY
£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

150
KG

PER SHELF

(evenly distributed)
Strong 9mm
fibreglass
shelves

350
KG

PER SHELF

(evenly distributed)
Strong 12 mm
fibreglass
shelves

ALSO
EXTRA WIDE
INDUSTRIAL
UNITS
AVAILABLE

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
Clarke CHT152				
Stanley Clamped		72/60/40	£16.99	£20.39
Record V750		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

MODEL	VOLTS	BATTS	EXC.VAT	INC.VAT
CCD180	18V	1	£36.99	£44.39
CCD240	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

NEW

SPARE NAILS /
STAPLES IN STOCK

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

WAS £23.98 INC.VAT

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

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

airmaster TURBO AIR COMPRESSORS

tiger

airmaster

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

8/250 Super range ideal for DIY, hobby & semi-professional use

MODEL	MOTOR	CFM	TANK	EXC.VAT	INC.VAT
8/250	2HP	7.5	24ltr	£79.98	£95.98
8/250	2HP	7	24ltr	£89.99	£107.98
11/250	2.5HP	9.5	24ltr	£109.99	£131.98
8/510	2HP	7.5	50ltr	£119.98	£143.98
11/510	2.5HP	9.5	50ltr	£139.98	£167.98
16/510	3HP	14.5	50ltr	£209.00	£250.00
16/1010	3HP	14.5	100ltr	£259.99	£311.98

Clarke ROTARY TOOL KIT

CRT40

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

Kit includes:
• Height adjustable stand with clamp
• 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
£250.00
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

Includes
laser guide

MODEL	MOTOR	MAX CUT 90/45 (mm)	EXC.VAT	INC.VAT
CCS185B	1200W	65/44	£34.99	£41.99
CON185	1600W	60/40	£54.99	£65.99
CCS2	1300W	60/45	£59.98	£71.98

WAS £68.39 inc.VAT

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

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
£250.00
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 DISC SANDER (305MM)

- 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 SHEET SANDERS

CON300

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

MODEL	SHEET SIZE	MOTOR	EXC.VAT	INC.VAT
CON200	190X90mm	150W	£13.99	£16.79
CON300	230X115mm	330W	£32.99	£39.99
Makita	112X102mm	200W	£54.99	£65.99
B04555*				

Clarke PORTABLE THICKNESSER

- Max thickness cap. 125mm and 250mm wide
- Planing depths adjustable from 0-2.5mm
- Powerful 1250W motor
- 8000rpm no-load speed
- CPT250

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

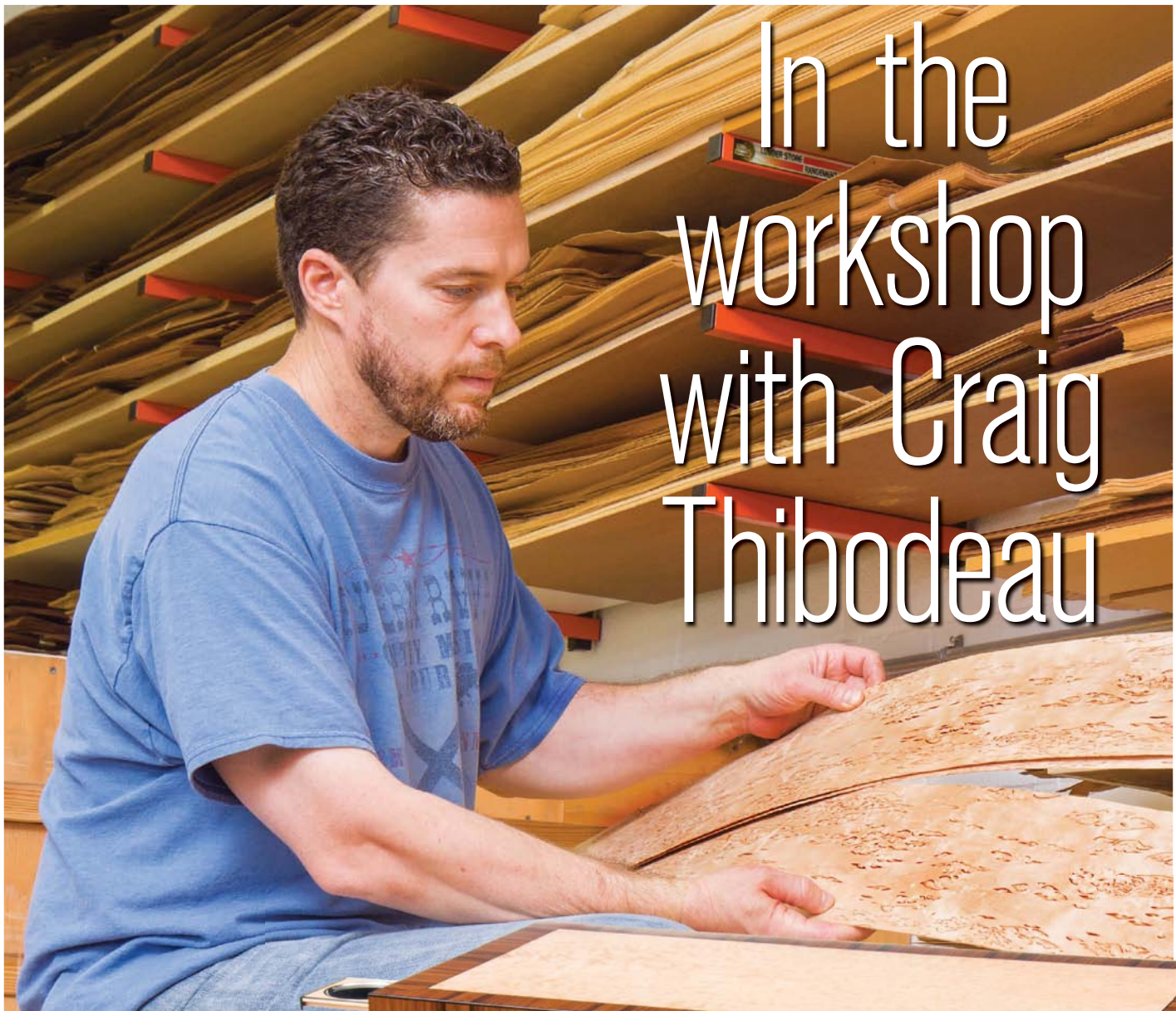
Clarke OSCILLATING BOBBIN SANDER

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
- COBS1

ONLY
£119.98
EXC.VAT
£143.98
INC.VAT

In the workshop with Craig Thibodeau



We head to America's West Coast to find out how this award-winning designer combines traditional and modern techniques to create stunning bespoke pieces

Woodwork runs in the family for San Diego-based Craig Thibodeau. His father always had a 'shop at their family home in California and the young Craig had access to a variety of standard tools – not that he used them! "I don't recall ever working on anything when I was young," he admits, "but I'm sure that having the early exposure to tools helped form my understanding of how to build things and influenced me enough so that even after leaving home I always found a way to have a woodshop... once it was in the living room of my apartment."

After graduating from San Diego State University with a degree in mechanical engineering, he undertook consumer product

Craig's Art Deco table with Trompe L'oeil Interior



design work while learning how to build furniture in his spare time. Eventually the sideline became more important than the day job and he switched to full-time furniture making about 16 years ago. Initially he worked from a 'shop in the backyard of his home, expanding it several times before finally taking some industrial space in San Diego, where he has been for the past seven years.

Self-taught maker

Apart from a few week-long courses on marquetry, Craig classes himself as "an

essentially self-taught furniture maker" with most of his learning acquired through much trial and error and long hours spent in the workshop. The lack of formal furniture-making tuition hasn't held him back, however. Over the years, his work has been critically acclaimed and he has won a number of awards, including several first place and Best of Show prizes at regional and national exhibitions. In particular, he says it was "a great honour" to win the grand prize at the Veneer Tech Craftsman's Challenge in 2013 with his Art Deco table with Trompe L'oeil Interior.



Buffet in cherry, maple, mother-of-pearl and ebony



Maple leaf buffet in honduran mahogany, spalted maple and maple



Campion Table in pau ferro, satinwood and silver

< Drawing on history

Even self-taught makers are influenced by the designs and styles of those who have come before them, however, and in addition perhaps to subconsciously drawing on the time spent in his father's 'shop, Craig says there are three specific people whose work has had a significant impact on his craft.

The first is Siberian-born woodworker, furniture maker and lecturer James Krenov (1920-2009) whose works grace museums in Sweden, Japan, Norway and the US. "Krenov's books opened up to me a world of fine detailing and fine workmanship that I hadn't realised was possible before reading them," he says, "and his work continues to help me push higher the attention to detail I bring to my own work."

Second up is Parisian Émile-Jacques Ruhlmann (1879-1933) whose furniture was acquired by the Metropolitan Museum of New York and the Cairo Museum among others. "The Art Deco work that came out of his workshop 100 years ago is still some of the finest furniture ever made in my opinion. His use of luxurious materials and refined detailing has inspired me to include those things in my own work more and more over the years. The decorative inlay work I do now is due partly to the work of Ruhlmann." The last major influence on Craig's designs is German cabinetmaker David Roentgen (1743-1807). This is apparent in his most recent mechanical work. "Roentgen's mechanical furniture has been a great inspiration to me and

has opened new avenues of complexity in my work. Seeing what he and his team were able to accomplish without the aid of modern technology has driven me to add more complex mechanical movements to my furniture when possible (and when the client budget allows)."

This broad spectrum of influences comes through in Craig's work which isn't limited to any specific design style. Instead he prefers to be open to a variety of projects and designs based on what his clients need and want in their pieces. He does add, however, that his work has "an Asian/Arts and Crafts blend of styling." He also endeavours to incorporate a slight curvature in each piece, where appropriate, to give the work more visual interest.



Blue Ulysses sideboard and detail (below) in wenge, ash burl, maple, stone and abalone with various marquetry woods





Asian sideboard in teak, poplar and woven bamboo

Break with tradition

Another element Craig would like to include in his work is more reclaimed materials, but while he says there is a trend in the US for such recycling and 'slab furniture' it is not a style that suits the bulk of his current clientele. "I have built pieces using both of those materials in the past but they simply don't form a large enough percentage of my workload for me to consider them sustainable. But my heavy use of commercial veneer could be considered a sustainable practice as it is the most efficient way to use the material and reduces waste significantly."

He follows traditional working methods in veneering with nearly everything cut by hand, but after that he admits to "breaking pretty hard with tradition", using modern glues, sheet materials and joinery in all of his work. He explains that they allow for increased productivity without any detrimental impact on the quality of the finished pieces. He does concede, however, that there are limits to this approach. "I never use contact cement in my veneering," he explains, "and much of the joinery still functions in the traditional way, i.e. using Dominos instead of traditionally cut mortise and tenons." His finishing regime is also fairly modern. "I use a professional finishing shop that sprays lacquer, conversion varnish, polyester and several automotive finishes. I tend to limit the in-house finishing I do and

only rarely apply an oil or shellac finish as I prefer to have it done somewhere else so as to limit my exposure to harsh chemicals. The finishing shop I use has a well-equipped spray booth with high-quality filtering."

Designed for life

When it comes to the actual design of commissioned items, Craig, like the majority of furniture designer and makers, has to keep in mind the client's requirements. But that doesn't mean he totally hands over the reins of any project. "I do inject as much of my influence as possible into those designs while keeping the overall design focused on the client's vision. Occasionally I have clients who are less restrictive in the design process and allow me much more freedom in my work. These tend to be the most exploratory pieces I build and really push the limits of my work in decorative veneering and inlay." Regardless of the design, one constant in his work is "the desire to continually push the boundaries of quality and workmanship in each new piece. I try to make each new piece I build better than the previous one, either in the quality of the design or workmanship or in the complexity of the inlay and construction."

Given the number of pieces he has produced, does Craig have any favourite item of furniture? "I'm not sure," he answers cautiously. "I tend to like most the piece

I'm working on currently and can't wait for finished pieces to leave the shop and get delivered to the client. One piece I do have an attachment to is the 'Automaton Table' that I recently completed for a local client. This piece was inspired by the furniture of Roentgen and is the most complex piece I have ever designed and built. With a variety of mechanical movements and hidden details it makes quite an impression and I was sad to let this one go. Luckily the client is letting me borrow it for an upcoming exhibition so it will be seen by a larger audience."



Chess table in Macassar ebony, holly, bubinga and mother-of-pearl

Mechanical future

Mechanical movement is also likely to feature in Craig's new work. "My direction involves more mechanically driven moving pieces and more complex decorative inlay. The mechanical work that I've started is again influenced by Roentgen, although it is very simple in comparison to what they were able to accomplish 200 years ago without CNC technology and ready access to mechanical components.

"I intend to continue developing the complexity of my mechanical work as time goes by. I also see myself expanding the

use of exotic materials in my inlay work and pushing the boundaries of what can be done with inlays in furniture. Recently I completed a project with inlays of abalone and Ammolite, which are essentially fossilised molluscs, and there are a variety of other new materials that I would like to explore."

Luckily, the young Craig's apparent lack of enthusiasm for his father's 'standard' workshop tools clearly hasn't hindered his older self from combining traditional craftsmanship with a thoroughly 21st-century approach. *F&C*



Craig's Roentgen-inspired 'Automaton table' in pau ferro, maple burl, maple, ebony, mahogany and quilted maple



Craig has been influenced by fellow maker Brian Newell. This 60in-wide Zitan cabinet (above and right) is a 2006/2007 example of his work

Maker's maker

"My initial interest in marquetry came after seeing the work of Paul Schürch up close in an exhibition. I followed his work for a



Paul Schürch

number of years and finally took a week-long class with him to learn his marquetry methods. His teaching skill and relaxed personality truly helped me learn marquetry and develop my own skills and designs. Since then I have attempted to take my marquetry work in new directions and Paul has been highly supportive the entire time.

"Brian Newell is one of my favourite makers of custom furniture; I consider him to be the best furniture maker in the world for the past 20 years. His work is of amazing complexity and has wild flowing lines sculpted out of solid wood. I have spent quite a bit of time with Brian over the years and have seen a variety of his work in person. The compound curvature he creates is simply astounding as is his calm persona and the depth of his knowledge of the furniture field.

"I consider both of these makers to be very good friends and we have had the chance to experience a variety of life events together over the years."

Visit schurchwoodwork.com for details of Paul Schürch's work and classes. For examples of Brian Newell's furniture, visit www.briannewellfurniture.com.



ZITAN PHOTOS BY YOSHIOKA KATO

Contact details:
Email: info@ctfinefurniture.com
Web: www.ctfinefurniture.com

special offers from

CMT

Adjustable Groover Set 4-15



£222

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 Combi Rebate & Limiter



£100

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 Variable Angle Cutter Head



£199

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

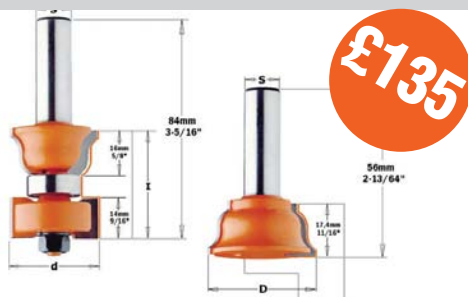


£135

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*

In the spotlight

We take a look at some of the stunning work by recent students at Robinson House Studio

Marc Fish's Robinson House Studio is renowned for its innovation and experimentation in the field of contemporary furniture design. Students on the various courses available at

the studio are encouraged to mix media and push boundaries, and the results are truly impressive. We thought we'd take the opportunity to showcase some fantastic work by five of the studio's recent students.



Adam Attewell's Atlas Table in sycamore and bronze

Adam Attewell

Adam Attewell describes his time at Robinson House Studio as 'game changing'. He says "I found my passion and without the social pressures of school, I was able to really make the most of my year there, focusing on developing a small body of work that I believe represented me as an individual." This work included the Atlas Table, a complex piece that was inspired by ancient Greek sculpture and incorporates the techniques that Robinson House Studio is renowned for. "Being at Robinson House Studio, where lamination is done at some of the highest levels in the country, I wanted to try my hand at it while surrounded by the knowledge that Marc and his team possess." His iO Cabinet is a contemporary European take on a traditional Chinese console table, featuring balanced dimensions with a striking façade. "Six piston fit drawers and two hinged doors made this a great learning experience early on in my woodworking career, showing me that patience is key."



Adam Attewell's iO Cabinet in fumed oak and steamed Swiss pear

Christian Watson

Christian Watson describes his Emerson gentleman's chair as 'a contemporary twist on Art Nouveau'. The aluminium legs were cast from a pattern that Christian made by hand and painstakingly sanded until it was perfect for casting. The leather is upholstered over a fibreglass shell that was designed from scratch to give the user maximum comfort. His other piece, Iliad, is a lady's writing desk made from walnut (*Juglans regia*) and sycamore (*Acer*

pseudoplatanus). "This classic combination lends itself to the simplicity of the design and function of the piece. The desk has a leather insert, which can be removed for replacement, and a laminated surround, which encloses the writer and contains a shelf", Christian explains. The piece is named after Homer's epic poem, suggesting that "this desk is where the greatest of works can take place."



Christian Watson's Emerson chair in chromed aluminium, leather and fibreglass



Christian Watson's Iliad writing desk in walnut and sycamore

Gary Adams

A professional draughtsman, Gary Adams took the 20-week course at Robinson House Studio in order to improve his skills. "Having spent most of my working life as a draughtsman drawing fitted furniture, I always knew I wanted to learn how to make furniture to the highest standard possible. Marc's coaching is professional, patient and friendly. It has gone above and beyond the course

programme. I worked for a number of weeks renting a bench at Robinson House Studio after the course ended, and this gave me the opportunity to increase my confidence before going it alone in a workshop elsewhere." The inspiration for Gary's contemporary dressing table came from rippled sycamore, "it has a stunning grain effect and is perfect for the sophisticated, feminine style I was seeking", he explains.



Dressing table in rippled sycamore by Gary Adams

Dressing table drawer detail

Jo Bailey

Jo Bailey says her inspiration comes from 'a lot of daydreaming and cerebral musings'. She explains: "Being able to translate these onto paper is key; it's essential in translating that foggy mist of an idea into something visual – something from which a form can be derived. Once the form has solidified into an actual design, I incorporate as much functionality as possible.

It's at the forefront of my mind with every decision I make during both the design phase and the making of the piece." With her desk, her aim was to combine two aesthetically pleasing design features (the sliding top and the suspended box) to provide the functional storage you would expect to find in a standard piece.



Jo Bailey's desk in ebonised walnut and rippled sycamore

Roi Klifi

Roi Klifi moved to the UK to study at Robinson House Studio. "Working and learning under the guidance of Marc Fish has opened my mind to a different approach to design. Not only has this course given me the hand skills to create the pieces I dreamed of, it has also given me the confidence to realise such pieces as a reality and not just a fantasy." With the Dionysus cocktail cabinet, Roi aimed to create an elegant and impressive piece, "I wanted to distance myself from the traditional cocktail cabinet, and create something modern and unusual that evokes emotion from those who surround it." *F&C*



The open cabinet showing the shelves made from rippled sycamore



Roi Klifi's Dionysus cocktail cabinet in black Valchromat



GET INSPIRED

SIMPLIFY MEASURING & LAYOUT TASKS.

The Multi-Mark™ is an incredibly handy multi-purpose marking and measuring tool, perfect for a wide variety of household and jobsite applications.

Includes 3 scale configurations & built-in level

Imperial & metric scale

Find your nearest stockist
kregtool.eu

KMA2900



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 30/06/2016. 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
Bank or Building Society account no.	Reference number (office use only)
Bank or Building Society sort code	
Name and full postal address of your Bank or Building Society	
Name	
Address	
Postcode	
Signature	Date

DAVID CHARLESWORTH
SHARPENING WEEKENDS AND
TOOL TUNING WEEKS START
JANUARY 2016



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

AIRPRESS DEVELOPMENTS



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

Call us **01296 481220** **osmo** Learn more **osmouk.com**

ITS CHILD'S PLAY



WOOD WAX FINISH: Highest quality colour and protection

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

the hot spot .co.uk

Distributors of the original RELAX workshop stoves

- Cast iron tops
- Superior air controls
- Unbeatable quality
- Range of 7 stoves
- Best workshop stoves on the market
- Still sold with a personal service

Phone: 01889 565411
Dovefields Industrial Estate, Uttoxeter ST14 8GA
Find us on Facebook "thehotspotuk" 
www.thehotspot.co.uk



Rock-solid workbench

In an abridged extract taken from *Workstations and Tool Storage*, Jon Leppo looks at making vises to anchor your work

I knew that when I eventually got around to building my dream workbench, it would have to meet a few basic requirements. It would have to be sturdy enough to last a few lifetimes. It would have to have storage underneath. And it would have to have good front and end vises so that I wouldn't have to do a lot to get a workpiece held securely. In 1998, I finally built my bench. And I'm pleased to say that after years of heavy work, it has fulfilled my expectations, and then some. It's rock-solid and has plenty of useful storage, thanks to 15 drawers and an area of open space between the base and the top. Building such a large workbench can be an intimidating task, but it's actually basic woodworking. The only part of the bench that calls for anything other than straightforward biscuit and mortise-and-tenon joinery is the end vise. Whether you decide to build this bench using the plans that follow or add the end vise to a bench you already have, this chapter walks you through the process.

Vises & bench dogs

The front and end vises, along with bench dogs and a board jack, offer plenty of clamping options. In the front of the bench I had planned to use a typical cast-iron

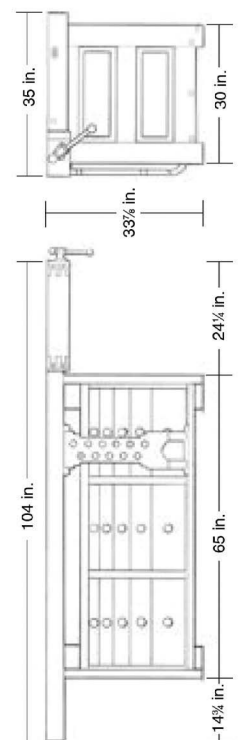
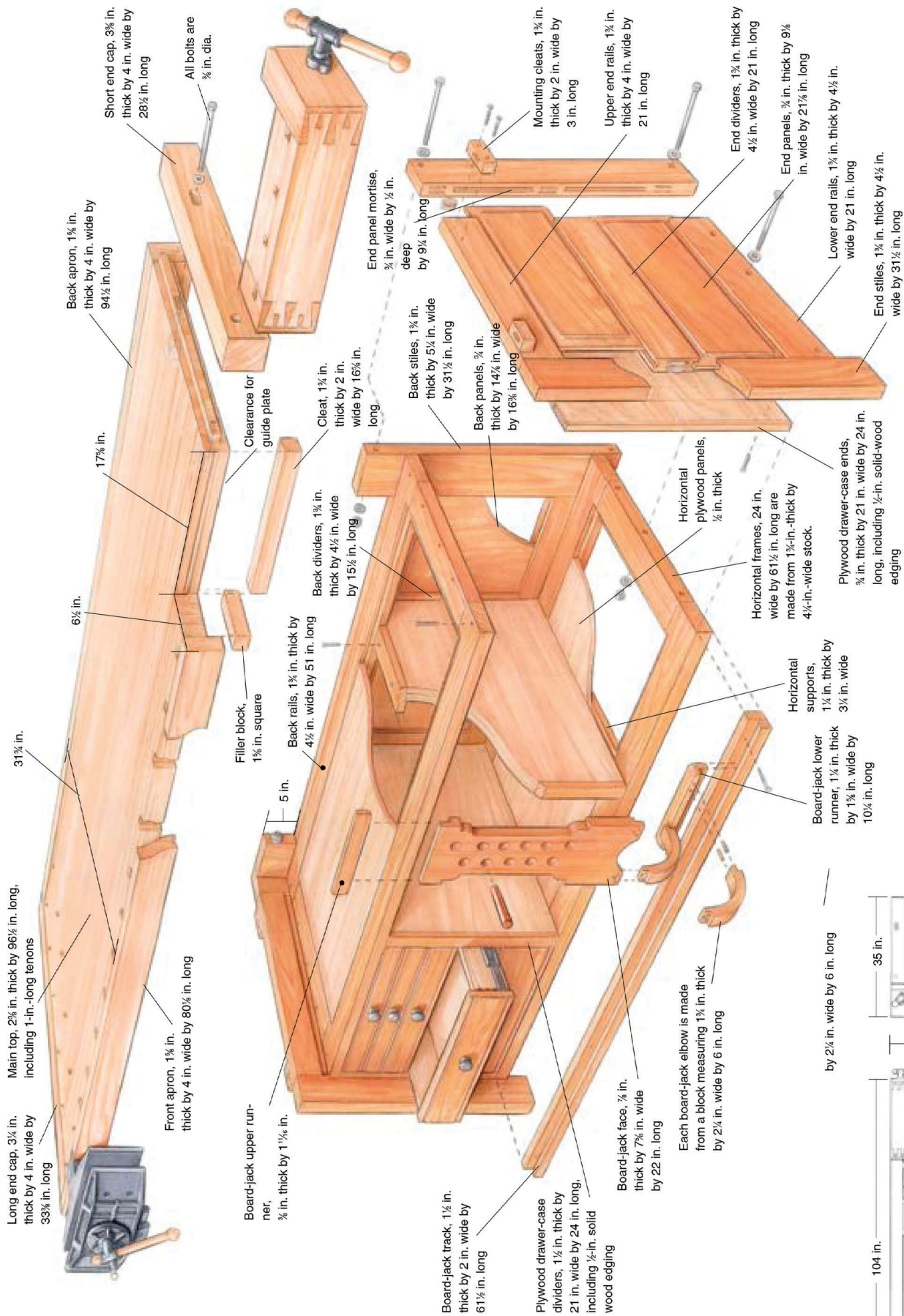
vise with wood jaws until I ran across an Internet ad for a used patternmaker's vise, and I couldn't resist the temptation to buy. The vise, built in the 1930s by the Emmert Manufacturing Co., allows me to clamp a workpiece in almost any position. Patternmakers favor this type of vise because it adjusts in several planes, making it possible to hold work of almost any shape.

A sliding board jack helps support long, wide stock, with the front end of the stock held in the Emmert vise. The board jack is adapted directly from one I found in *The Workbench Book* by Scott Landis, modified only slightly to fit my bench. The bottom track screws to the bottom frame, capturing the board jack. An occasional application of paste wax to the tracks keeps the jack sliding smoothly.

Adding versatility

I originally considered a commercially made twin-screw end vise, but in the end the extra versatility that a traditional vise offers has made the effort worthwhile. Whether you build my bench from the ground up or not, adding an end vise to a work bench will make it much more user-friendly. Building the end vise is also the trickiest part of the process.

The end-vise hardware consists of four parts (the vise hardware is available from Woodcraft – www.woodcraft.com): a main plate that includes a cylindrical nut; a long screw with a flanged bracket and handle collar; a top guide plate with a lengthwise groove and a pair of threaded bolt holes; and a bottom guide plate with a corresponding groove and a pair of countersunk through-holes. A pair of bolts is also included. By the way, it's important to have the hardware on hand before making the vise. Some of the dimensions are taken directly off the steel parts. The main plate is screwed to the edge of the benchtop. All of the other parts, effectively working as one component, simply slide along the main plate. One end of the long screw is attached to the outside end of the vise, while the other end is threaded into the nut on the main plate. As the screw is turned, it threads in or out of the fixed nut, and in the process the vise is carried along for the ride. The top and bottom guide plates connect the vise and the main plate while allowing the vise to slide. The secret here is the single lengthwise groove near one edge of each guide plate. The grooves in the guide plates simply slide over the main plate, held apart by the wooden core.



Anatomy of a sturdy bench

The base of this bench, modeled after the one master woodworker Robert Whitley built for his bench, consists of five frame-and-panel assemblies – two end frames, a back frame and two horizontal frames – bolted together with carriage bolts. And while I wouldn't exactly call this a knockdown bench, it can be disassembled. I joined the panel frames with a double row of #20 biscuits, mostly because of speed and convenience. The base carcass sees mostly compression loads on vertical grain members rather than racking forces, which would stress the biscuit joints. A purist would have used mortises and tenons here. But I've had no trouble using biscuits in this kind of application. The top is made from hard-maple laminations faceglued together. Each end of the bench has a long tenon. Later, when a pair of caps is made, each tenon fits into a mortise in the corresponding cap pieces. I used a circular saw to

cut the tenons. With a straightedge clamped to the benchtop to guide the saw, I made several crosscut kerfs and chiseled away the waste. Both the long and short end caps are mortised to accept the tenons on each end of the bench. To allow the top to move, the end caps aren't glued in place. Instead, each one is held in place with a pair of bolts. One of the bolt holes on each end cap is slotted so that it can move with the top. Once I had the end caps mounted, I flattened the entire benchtop using handplanes and winding sticks. Mounting an Emmert vise is relatively simple, although they are often heavy (mine is about 85 lbs.). The vise itself mounts on a large hinge that's mortised into the top face of the benchtop and also the front face of the front apron. To allow clearance for the vise screw, a channel is cut into the underside of the apron and the benchtop.

A vise with good moves

The jaws on an Emmert patternmaker's vise adjust in three planes, a feature that can prove useful when clamping odd-shaped parts. The Jaws rotate 360 (left), pivot 90 (centre), and taper (right).



Core prevents a sloppy fit

The core maintains the correct distance between the top and bottom guide plates. To make the core, start by measuring between the top and bottom guide plates while the two parts are assembled to the main plate. Add $\frac{1}{4}$ in or so for clearance, then rip the core to width. Now clamp the two guide plates to the core and try sliding the core along the main plate. If the fit is too loose,

remove the plates, then run the core through a thickness planer, but make the cut an especially thin one. Repeat as needed. If the fit is too tight, add shim stock between the core and a guide plate. Cut the core to length and drill a clearance hole for the vise screw in one end. Then hollow out the center of the core using a Forstner bit, and clean up what remains with a chisel. Now

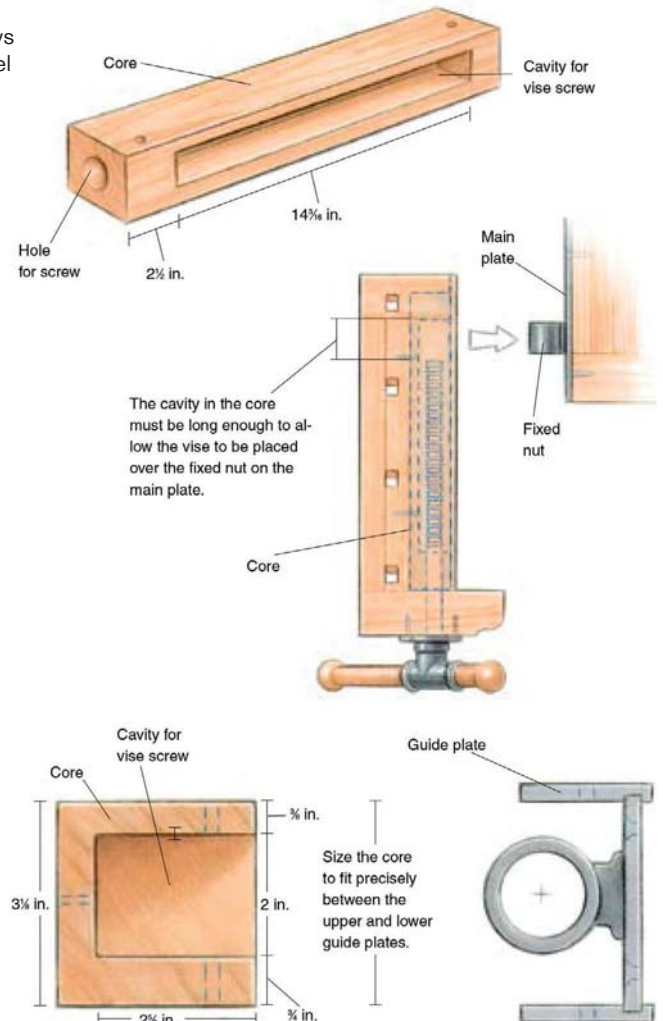
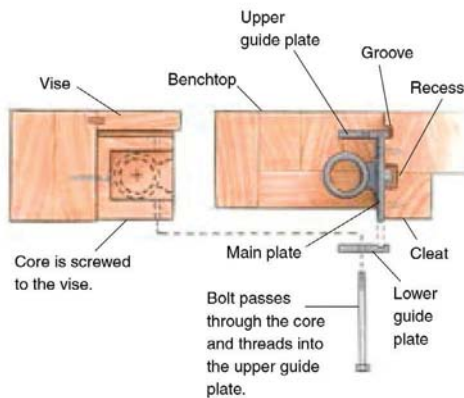
use the top guide plate to mark the locations of the mounting holes on each end of the vise. The end of the plate should be flush with the drilled end of the core. To provide a little clearance between the core and the main plate, the slot in the guide plate should extend past the edge of the core by no more than about $\frac{1}{2}$ in. Once marked, use a drill press to bore the holes.

Cut and assemble the end-vise parts

After cutting the front, end, top, jaw and doghole block to size, it's time to tackle the double dovetails that join the front to the end and the jaw. Double dovetails simply are small dovetails cut between larger ones. They require a lot of chopping by hand, even after hogging out much of the waste with Forstner bits. Plus, it takes special care to avoid breaking the pins at the narrow end. Mark the tails on each end of the front, then use a backsaw to remove a good part of the waste. Finish the work with a chisel. Now mark the pin profile. I clamped the jaw on end in the Emmert vise and used a chisel to mark most of the pin profile, reaching places my marking knife couldn't. Remove the pin waste using the drill press. You can

do this with Forstner bits and then finish with a chisel. Repeat the steps to cut the pins on the end piece. The dog-hole block has three tenons on each end that fit into mortises cut into the end and the jaw. Cut the dog holes first, then use a router to expand the top end slightly, creating a small step. The top piece has a spline groove on three edges. Cut matching grooves in the end, the jaw and the dog-hole block. After dry-fitting all of the parts to make sure everything goes together okay, glue and clamp the end, the jaw, the top and the dog-hole block. Then you can glue the front in place.

THE CORE CONNECTS THE VISE TO THE HARDWARE



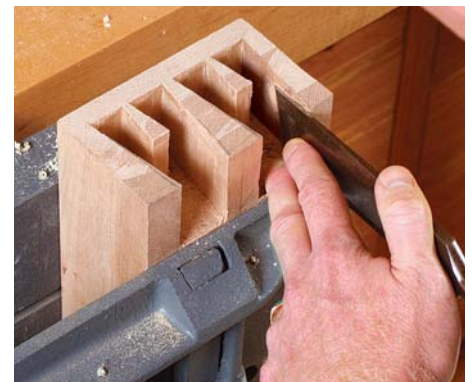
Dovetailing the end caps and front of the vise



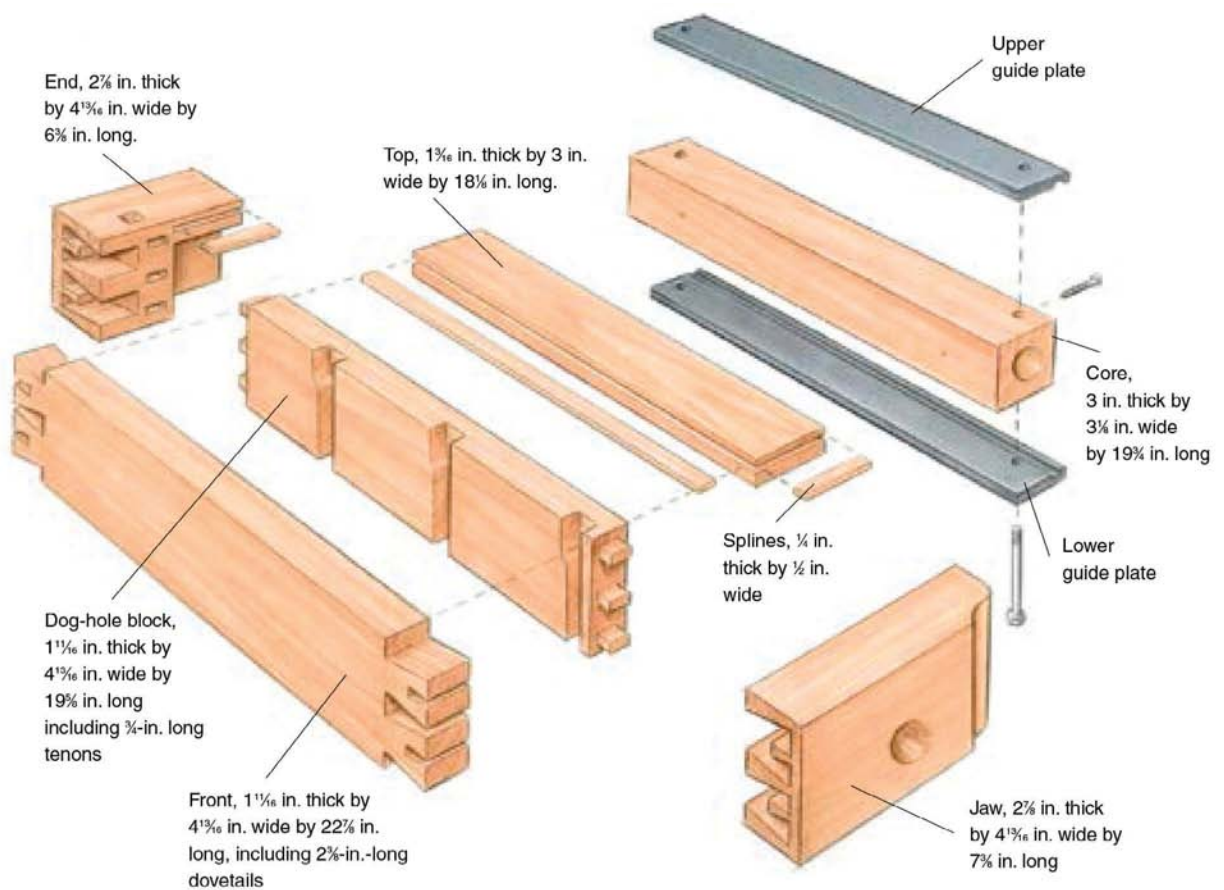
Cut the dovetails. Use a fine-toothed backsaw to cut the sides of the dovetails



Mark the pin locations on the outside and inside ends. With the end cap clamped in a vise, the front piece is used as a template to mark the pin locations



Cut the pins. Use a Forstner bit to remove most of the waste material from the pin ends. A chisel takes care of any waste that remains



Assembling the vise



Begin gluing the vise parts. Glue the end, the jaw, the dog-hole block and the top. You'll need several clamps to squeeze the four parts together



Add the front piece. Apply glue to the tails on the front piece and the pins on the end jaws, then use a mallet to tap the front into place

Mount the vise

The entire vise hangs on the main plate that mounts at the notch in the right end of the top. But, before the vise can be mounted, you need to cut a groove in the edge of the top to provide clearance for the upper guide plate. A router and an edge guide, with the router operated horizontally, can be used to create most of the groove. A chisel is used to extend the groove to the corner of the notch. Before the main plate can be mounted, a shallow hole must be drilled in the edge of the benchtop to provide clearance for the bolt head on the back of the plate. Finally, glue the cleat in place. The top edge of the main plate must be parallel to the benchtop, and the front edge of the plate must be flush with the

front of the end cap. It also must be located a distance from the benchtop that's equal to the thickness of the top plus the thickness of the top guide plate, minus the depth of the groove in the guide plate. Once everything is lined up, drive a couple of screws to secure the main plate in place. The remaining screws will be installed after the vise has been test-fitted. Next, add the core. Temporarily place the top guide plate on the core and slide the two parts into the vise. While squeezing the plate between the core and the underside of the top, drive four screws through the back of the core and into the dog-hole block. Once the core has been installed, remove the plate. Now drill a hole in the jaw and slip the screw

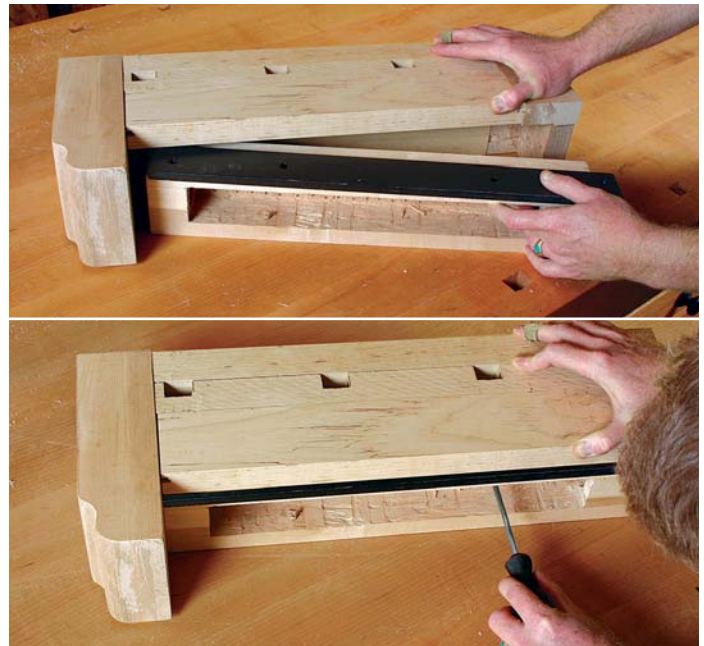
through the hole and into the core. A pair of screws driven through the flange secure the screw to the vise.

Next, with the top guide plate resting on the main plate, slip the vise over the guide plate. Position the vise so that the cylindrical nut ends up in the opening between the end of the screw and the back of the core. To complete the vise assembly, insert the two bolts supplied with the hardware through holes drilled earlier in the core. Snug up each bolt with a few turns of an adjustable wrench. The wood handles are made from maple dowels, with ends made from hardwood balls that are available from a number of woodworking mail-order outfits. *F&C*

Making the core



The core provides a means to secure the vise hardware. The core is made from a glued-up block of wood. After drilling out the cavity, use a chisel to clean up any waste that remains



Mounting the core. With the upper guide plate temporarily placed on the core to serve as a spacer, slip the core and plate into the vise cavity. Then attach the core to the vise by driving four screws through the core and into the dog-hole block

Installing the end vise



Secure the main plate. Position the top edge of the plate slightly above the bottom edge of the groove in the top. Slide the top plate onto the main plate. When properly located, the top guide plate should slide smoothly along the main plate without interference



Mount the vise. With the cylindrical nut on the main plate roughly aligned with the open space at the back end of the core cavity, slip the vise onto the guide plate. Then thread the screw into the nut



Bolt the guide plates. After slipping the lower guide plate onto the bottom edge of the main plate, add the two bolts that thread into tapped holes in the upper guide plate

Book Offer: Workstations and Tool Storage

ISBN: 9781561587858

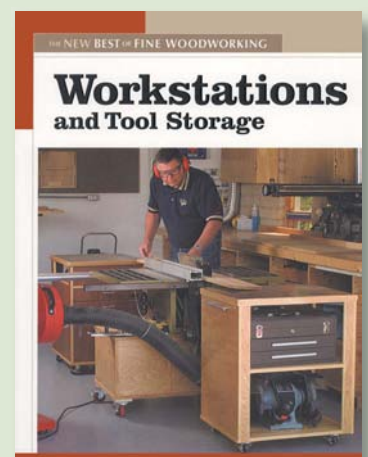
RRP £12.99, offer price
£9.09 plus p&p

To order please call
01273 488005 or go to
www.thegmcgroup.com
and quote code: R5015

Closing date:

19th May 2016

Please note: p&p is £2.95
for the first item and £1.95
for each additional item



The art of smoke fitting

Plane maker **Oliver Sparks** explains how the use of soot helps to seat an iron and wedge

When it comes to wooden planes, I have read many times that having a correctly seated iron and wedge is vital to a plane's performance. I agree, and yet there seems to be little instruction out there on how to achieve this. In this article, I will be using the 'smoke fitting' technique to do just that on a matched pair of wooden thumb planes.

Whether the smoke fitting technique is applied to a shop-made or a vintage plane, the method set out here will transform that temperamental tool into a well-behaved instrument.

Smoke fitting is a very old process used extensively by gunsmiths to fine-tune the fit between parts that must mate exactly. The theory is a simple one – a layer of

soot is deposited onto a component using a smoke lamp. When the part is offered up to its mating component, soot is transferred between the two, but only where they touch via high spots. These high spots are then removed and the process repeated until a satisfactory fit is achieved. This is a simple way of achieving a high degree of precision.

Equipment required



The smoke lamp consists of an oil reservoir, wick and burner



Grinding the cutting face of a bench chisel at 90° turns it into a flat scraper



You can see how effective this tool is by looking at the shavings!



These are the two irons that I'll be fitting into their respective bodies

A smoke lamp or 'smoke pot' is effectively an oil reservoir, wick and burner. My burner is put together from copper plumbing fittings; a thin section of copper pipe carrying the wick passes through a cork and the copper cap sits on top. It's as simple as that. A candle or dry board maker can also be used, but I prefer a lamp for the visible coverage it provides, even on dark timbers. My bottle is filled with (ironically enough) indoor smokeless lamp oil. How much soot is produced depends on the length of the exposed wick, around 6mm will be fine for our purposes.

The most accessible non-specialist tool used for this kind of work is a re-ground chisel. By grinding the cutting face at 90° instead of the usual 25° turns a regular bench chisel into a flat scraper. Repeated regrinds have left my cutting face the entire thickness of the chisel but yours need not be, even a 1mm flat is sufficient. Grind a slight camber across the width. Lap the back as usual, but the face can be left straight off the wheel. Use moderate pressure and repetitive strokes to get a feel for the tool, practising on a piece of scrap hardwood first.

I will be fitting two irons into their respective bodies. My irons are made from new tool steel so are generally pretty flat, however you will often find antique irons in much worse shape. If the back of your iron looks like a miniature mountain range, try to get it as flat as possible using whatever you have to hand. If it is a double iron, aim to reduce the hollow often found between slot and edge. A coarse file is preferred using the same principles as flattening a piece of wood. Coarse (120 grit) abrasive paper stuck to a flat surface will also work well.

The process



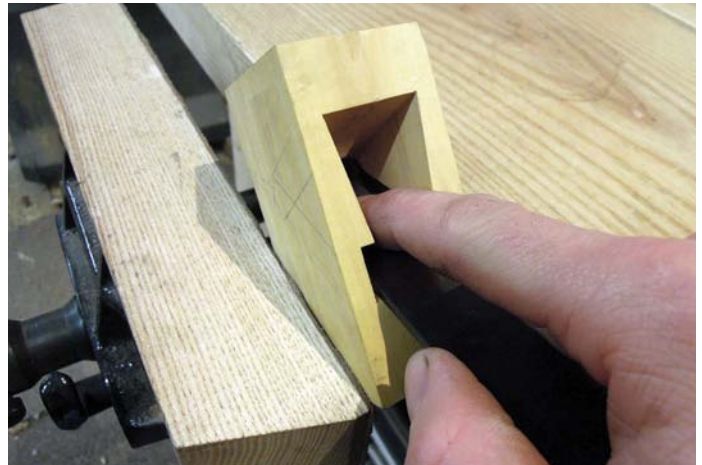
STEP 1 Wipe the iron clean before igniting the smoke lamp. Lick the flame up from the middle towards the front in a sideways zigzag motion until a uniform black colour has been achieved. I find the best method is slightly raising the business end to ensure the smoke flows upwards, away from your hand. It can help to raise both lamp and iron above your head to get a clear view of where the soot is being deposited.



STEP 2 Note the stark difference between smoked and unsmoked surfaces, it's so black it appears to drink the light itself! Remember you're in a wood shop so practice fire safety at all times.



STEP 3 This technique is a useful one but you have to be quite disciplined regarding the handling of smoked items. If you are not careful, everything will end up very grubby in short order. Wipe away any excess with a dry cloth, paying particular attention to the sides.



STEP 4 Now carefully manoeuvre the iron into the body. You are aiming to position the iron just shy of the mouth, floating above the bed. When in position, bring the iron down in contact with the bed. While applying firm downward pressure as shown, slide the iron forward and back in strokes of around 6mm.



STEP 5 Observe where the iron has made contact. In this plane there is a bump down near the mouth and some contact up top.



STEP 6 The rosewood (*Dalbergia spp.*) twin has fared better, with surprisingly good contact for an initial fit. The marks left on the iron tell me that the top portion is fine, but towards the throat contact tapers away, forming a high central ridge. With darker coloured timbers I use a strong desk lamp to help light up the soot marks.



STEP 7 Enter the scraper! Using short strokes, remove only the sooted portions. With each repeated smoking/scraping the area of contact will grow. Be patient, it can feel like a slow process but a little care will pay dividends.



STEP 8 When the bed is about 40% covered in contact marks, smoke fit the iron's face side to the wedge's back surface. The rosewood wedge shown here is completed. I used my miniature mitre plane, but a scraper chisel or cabinet scraper will perform the same task.



STEP 9 So, the iron is fitted to the bed, the wedge is fitted to the iron and now it's time to fit the wedge to the abutments (the two narrow faces that hold the wedge in place). My method follows the same principles of smoke fitting, but utilises friction rather than soot. Lightly abrade the wedge's front face with a small square of 240 grit abrasive paper. Light pressure is key here as it will yield a dull surface sheen. Seat and remove the wedge a few times.



STEP 10 This is a good representation of a well-fitted wedge. Contact between wedge and abutment have caused friction to burnish a line, showing up nice and shiny against the dull background. The aim here is to get equally burnished lines running the length of both wedge arms. Same rules as the smoke fitting apply here; only remove the contact marks, ignoring unburnished areas. A cabinet scraper is ideal for this task.



STEP 11 A completed bed. This final process is the crescendo because you must now adjust the wedge/abutment fit, and that of the iron/bed as part of the same process. The correct order is as follows:

- Clean then soot the irons back, wiping the irons' edges afterwards. Place the iron carefully onto the bed just shy of the mouth.
- Press the wedge into position. Use a suitable light hammer or mallet to secure with a moderate tap.
- Tap the iron's top to advance it out through the mouth by a centimetre or so. Unseat the wedge with a sharp tap on the plane's heel and lift out the iron, once again being careful not to slide the iron out.
- Note contact points from both the bed and wedge arms. Remove these high spots until the wedge is as previously shown. Work until the bed has approximately 50–60% overall contact, paying particular attention to the bed portion a couple of centimetres above the sole.
- If you are using an old double iron, chances are even after flattening it will still have a slightly arched back due to cap-iron pressure. In this scenario imagine splitting the bed into thirds, horizontally. Aim for good contact in the first and third portions.

So there you have it, a step-by-step guide to seating plane irons – the professional way. *F&C*



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**



My client, Mr X, wanted the same specification as this Tele-type guitar I had previously built. I think the tone of this guitar is 'twangy' and 'bright' with some real 'snarl' when turned up, but how would you interpret those descriptors?

Our correspondent... Dancing about architecture

Kieran Binnie channels the late Frank Zappa as he frets over how best to describe furniture

PHOTOGRAPHS FROM KIERAN BINNIE, 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. You can find us anywhere in the world with a link to the web. 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. Our reporter this month is Kieran Binnie, who has written on various topics including the benefits of parallel skills and how to make shell inlay. Here, he ponders the best way to describe items of furniture

Writing about music is like dancing about architecture, or so said legendary musician and songwriter Frank Zappa. While this is true for music, I've found it stands for furniture too.

A tale of two clients

I was reminded of Zappa's words of wisdom early last year, when I was discussing guitar commissions with two prospective clients. These clients were very different. The first (who I shall call Mr X) is a keen amateur player who I know quite well; we share a number of favourite albums and a similar musical frame of reference. The other prospect (from here on in, Mrs Y) is a professional musician who wrote one of my favourite albums of the past few years. I don't know Mrs Y and beyond her albums we don't share any reference points. Unsurprisingly, agreeing a specification with Mr X did not take much time at all because we were able to draw upon that shared frame of reference. In comparison, the absence of a shared vocabulary or reference points meant that understanding what Mrs Y was looking for took a great deal more work.



This 12-string guitar has a 'bright' and 'jangly' tone, with plenty of volume. But how would other people describe the same sound?

This experience got me thinking about the different approaches and vocabulary that we, as craftspeople, use to describe our work to clients, spouses, other makers, or interested laypeople. If the person on the other side of the conversation does not share our technical vocabulary, or cultural reference points, then it can all get a bit confusing. The right vocabulary and shared frame of reference, however, can act as a short hand of sorts. If both parties know, for instance, what Greene and Greene-style furniture is, or think that a '59 Blackguard Telecaster is one of the finest electric guitars ever made, then you don't have to go through the process of describing and explaining every detail.

Divided by a common tongue

Conversations about what we build are a sort of information funnel, even if this process is normally subconscious. So, for furniture building, you would typically identify the style of a piece (Arts and Crafts? Shaker? Federal?), before funnelling a number of different options to arrive at a clear description of a piece, including construction techniques (dovetails? Mortise and tenon? Staked furniture?) timber selection, hardware, finishing options. And if the other party to the conversation is not familiar with the styles or construction techniques you have just referred to, you can hit an early impasse.

As an example, one of my favourite forms is campaign furniture. This highly functional style is characterised by fully blind dovetails, the use of hardwoods, and extensive use of brass hardware including recessed drawer pulls and corner reinforcement. However, despite being eminently practical, campaign furniture has largely escaped popular attention. This has started to change among woodwork circles thanks to the publication of *Campaign Furniture* (Lost Art Press, 2014) the excellent exhibitions held by Christopher Clarke Antiques (www.campaignfurniture.com – who kindly provided the pictures for this article), and of course the campaign chest project in issue 239 of *F&C*, but this has yet to filter into the popular consciousness. As a result, a spirited conversation about campaign furniture can lead to confusion and blank faces.

An additional complication is that the vocabulary of furniture making and lutherie encompass not only the practicalities of construction techniques and styles, but also the more ephemeral qualities of aesthetics (and in the case of lutherie, tonal qualities). This introduces a lot of variables into the conversation! So into the information funnel also go subjective descriptions: is it vernacular or high-style furniture, will the piece look delicate or stout, elegant or bold?

For lutherie, the question is one of interpreting the client's (entirely subjective) descriptions of their ideal sound, and applying that to the mechanics of how the guitar itself operates. In particular, for acoustic guitars the layout of the soundboard braces, and the size of each of those braces, is fundamental to shaping the sound. So when I build acoustic guitars I spend a lot of time tuning the braces to achieve the right balance of resonance and structural integrity. But it is not enough to understand that lighter braces allow a

A new way of communicating?

The need to communicate clearly should not be seen as a burden, but rather an opportunity to really understand the requirements of the end user. The tangle of subjectivity and technical language I have described begs the question of whether we need a new way of talking about our crafts, and describing our work? If so, how do we go about that? Or is it enough that we continue to 'dance about architecture'? Unfortunately I have no answers, only questions. But the next time you set about describing a project to a colleague or spouse, or discuss a commission



CAMPAIGN PHOTOGRAPHS FROM CHRISTOPHER CLARKE ANTIQUES

A folding campaign bookcase: how would you describe this piece?

soundboard to vibrate more, which in turn increases the bass elements of the tone, while heavier braces dampen the soundboard's resonance and create a brighter sound with less sustain – I have to apply that to the subjective language used by the client.



I think campaign furniture has a 'clean' and 'rugged' appearance, but do those descriptors match your impressions of this furniture style?



The soundboard bracing on this parlour guitar will in large part determine the sound of the guitar

with a client, take an extra moment to think about how you (and they) are trying to communicate ideas.

For those who are wondering, Mr X ordered a '59 Blackguard Telecaster type guitar with a swamp ash body, maple neck and fretboard, and classic butterscotch blonde finish. You can follow the build of Mr X's guitar on my blog (www.overthewireless.com) by clicking on the 'mysterycaster' tag.

Now, if you'll excuse me I need to practise a mime routine describing my next furniture build. *F&C*



In the workshop with Liam Gardner

From heritage pieces to ‘miniature’ cabinetry, senior craftsman Liam Gardner recommends following the best approach to the task in hand – be that modern, traditional or a combination of both

In a follow up to our main feature last month, we’ve returned to the workshop of N.E.J. Stevenson to talk to senior craftsman Liam Gardner. Throughout history and the world over the most successful furniture making companies have relied on a skilled workforce to run a successful business. On the shop floor and key to almost every aspect of any build is the senior craftsman whose job it is to steer a team of talented individuals to achieve a common goal.

As we saw last month N.E.J. Stevenson can turn their hand to practically any project involving the finest cabinet work or the most exacting and complex architectural joinery. Furnishing everything from royal palaces and

floating ones to the accessories required for some of the most prestigious and high profile state visits, the company has never shied away from a challenge. Managing director Neil Stevenson once said that he defines staff as “either overheads or earners” the former providing support for the latter. It’s a tough but essential slice of reality that has helped shape the company.

A perennial problem that affects all craft-based skills is to avoid being pigeon-holed or typecast in a single mould. “I never understand the idea that if you do traditional design that somehow suggests you can’t do contemporary. To me one informs the other”, he said.

On the subject of clients and the next commission Neil is not blasé about the opportunities that have come his way and about the role of the team that supports him, saying: “You might be only as good as your last job and the problem is always finding the next job and that doesn’t really get any easier.” He’s also acutely aware that some of what he’s given credit for would not be possible without the dedicated workforce around him. Key to many successful projects is senior craftsman and mentor to a new generation of craftsmen at N.E.J. Stevenson, Liam Gardner. Here’s what he had to say on the subject of craftsmanship, design integrity and the future of bespoke cabinetmaking.



Hopking chair



The busy workshop at N.E.J. Stevenson

Liam, how did you get into making?

I never questioned doing anything else. From a young age, I was always interested in the industry. I left school at 16 and took up an apprenticeship in a workshop in the Yorkshire Dales. As a teenager, I found learning about all the different disciplines really interesting.

Do you work with any materials apart from timber?

Yes; we use a lot of decorative materials, as well as different kinds of fabrics and leathers. We've even worked with shagreen, which is the skin of a stingray. Other interesting materials that we've had the privilege to make use of include alabaster, a translucent stone that allows light to shine through it, buffalo horns and many types of glass and metal.

As a senior maker at N.E.J. Stevenson you're obviously comfortable making pieces that have been designed by someone else. Do you ever feel that it is depriving you of your own creativity?

I wouldn't say deprived – you know the score and understand that you're working to someone else's design; we can still express our creativity through the material selection and construction methods. At smaller makers, like the one I started out in, you might have a little more input. However, if you want to do your own designs at N.E.J. Stevenson, you are definitely encouraged to do so.

What's the piece of furniture you would have most liked to have made?

I really admired a piece by designer Marc Fish, which came out a few years ago. It's called the Nautilus table and is designed 'with a hint of the sea' due to its location in a rooftop apartment overlooking the English Channel. It's a really distinctive and eye-catching piece.

Would you say you are more reliant on hand tools or machine tools?

It's hard to measure as both play an important part in my role as a senior craftsman. I would say it's important to have a good grounding of traditional hand skills, but it is equally important to understand

the value of machines to aid efficiency and speed. Ultimately, it depends on the piece and the skills that are required to achieve the best result.

What's the tool you can't do without?

That's an easy one. It would have to be the Veritas low-angle block plane, simply because I use it regularly on most projects.

How comfortable are you at being a mentor for impressionable young minds?

I would say that I am comfortable with it. We have trainees at N.E.J. Stevenson that I feel responsible for. I think it's important to pass on the knowledge you've gained as well as the knowledge you received when you first started.

Some of the items you make at N.E.J. Stevenson might be considered as heritage pieces. How does it feel to be making things that will be documented and talked about long after you have hung up your apron?

It gives me a great deal of satisfaction ➤



Both hand and power tools are important to Liam's work

RIGHT: Art Deco sideboard

because I know they'll be looked at, and enjoyed by future generations.

Do you ever consider that you might be making the antiques of the future?

Yes. They're not disposable items, they are designed to last.

If a conservator has to work on these pieces in the future what information would you like to pass on to them?

It would vary. I would encourage them to enjoy the work and appreciate the craftsmanship and time that have gone into creating each piece.

Are your methods and materials compatible with conservation and traditional techniques?

Yes, but once again, it varies. Heritage – it's in the name. We can accurately replicate all of the skills and techniques that would

be considered traditional and where appropriate, particularly making replicas, we would choose to be authentic. However, given the future requirements of a piece we might, in discussion with the client or conservation body, use modern techniques and materials as they offer a better solution. It would be wrong to assume that traditional skills are always the best solution. We use both modern and traditional techniques; N.E.J. Stevenson have really embraced new jointing systems and synthetic finishes, which are both very modern approaches and differ a lot to the more traditional techniques.

You must have a favourite designer, but who is the maker that has influenced your work the most?

It's hard to choose. One designer whom most people would be aware of is Wendell Castle but one who people won't know about is a friend and ex-colleague of mine, James Richardson. We worked together

at Andrew Varah's, which is now no longer in existence, but he influenced me greatly. Another would be the ex-head maker at Andrew Varah, Tim Smith [for any readers who were wondering, it's not the same Tim Smith who featured in the last issue of *F&C*].

The cases for the bottles must have presented you with a few challenges. Is there one that stands out?

The cases are really miniature cabinets using a large number of materials with varying properties that all have to be considered in relation to their interface with each other, this is particularly a concern where elements react differently to humidity and temperature; it was personally very important to make sure each part would work properly anywhere in the world. The secret drawers in the Diamond Jubilee case for example presented a number of concerns in respect to expansion and contraction as I like to fit my drawers to cabinetmaking tolerances. *F&C*





THE NEW RANDOM ORBIT SANDER

Random Orbit Sander
BO6050J

Comes with a type 3
Makpac connector case.

2 Modes

- Random Orbit
- Rotation Orbit



Variable Speed

- 6 Settings



**Easily Connect to
a Dust Extraction**

**150mm Hook
and Loop Pad**

**Bumper Plate to
Protect the Pad**



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



Follow Makita UK

More information
can be found at
www.makitauk.com

Deconstructing the Sunburst Burnett Table

Edward Wild shares his technique for creating deceptively simple but perfectly stunning sunburst panels from plain veneers

PHOTOGRAPHS BY DARREN HULL

Edward Wild

Edward was formerly an organic chemist working for academic institutions around the world before returning to his passion in 2009 and following in his grandfather's footsteps as a cabinetmaker. His interest in furniture design and making started at an early age in his grandfather's workshop where he made his first substantial pieces in his early teens with tools he has now inherited. When he's not designing and making pieces in his studio, he can be found teaching part time at the David Savage Fine Furniture School, where he previously trained. Extending the family ties, Edward's brother works in the forestry industry, which enables Edward to select timber from a standing tree to a sawn log and into furniture. He works mainly on commission pieces, exhibits throughout the UK and is a member of the Devon Guild of Craftsmen. In 2014 Edward was the winner of the Wesley-Barrell Craft Award for furniture.



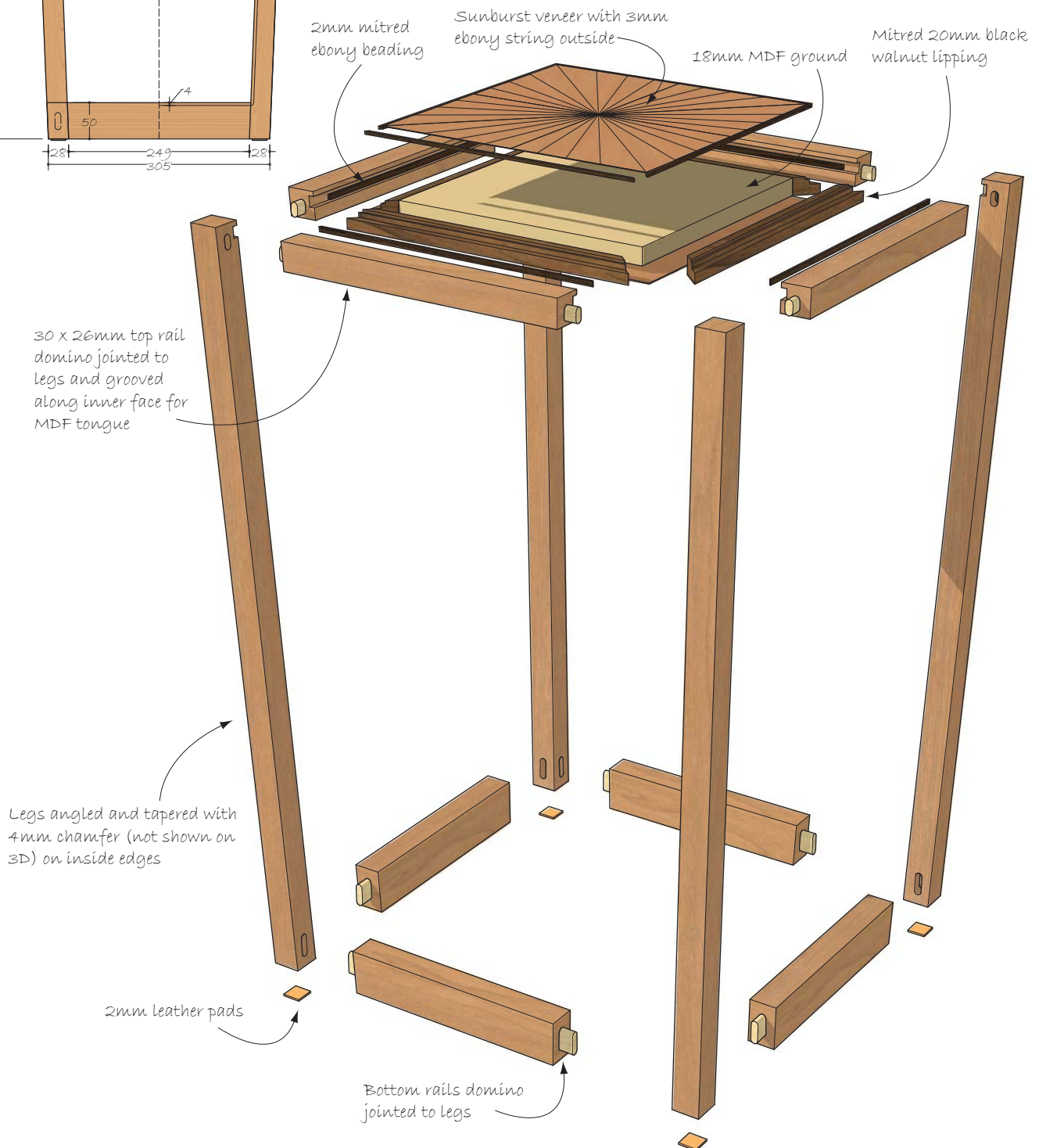
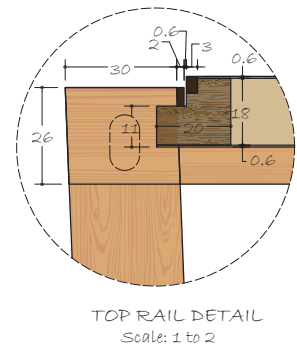
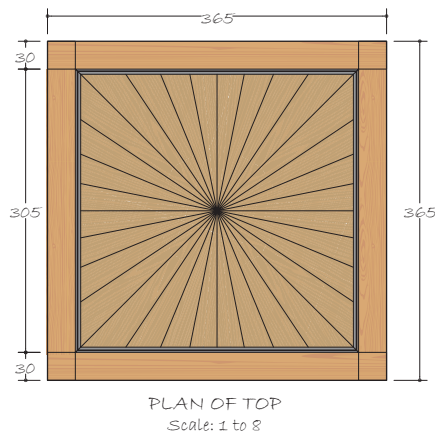
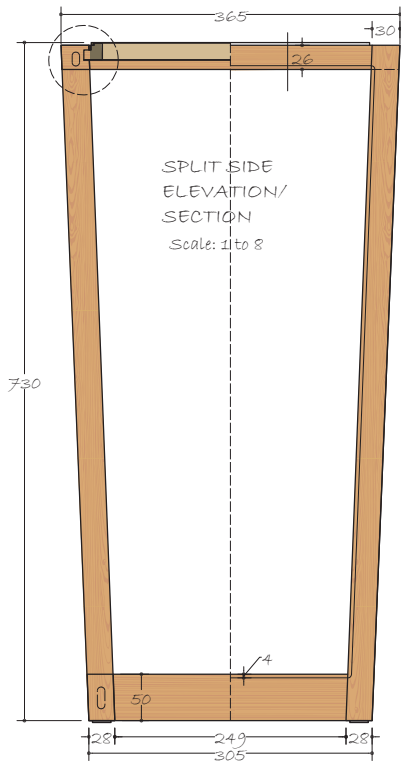
The Burnett Table originated from a client's request, "I would like a side table similar to your Hall Table, but a little different". This set the gears in motion. I attempted to create a table that looked clean and sleek; it has slightly tapered black walnut (*Juglans nigra*) legs, which angle inward from the top to the base. These form a framework into which the top sits, in a similar way to a frame and panel construction.

The table top is elevated from the frame by 3mm, giving definition with a shadow line, this is accentuated with ebony (*Diospyros crassiflora*) string lines and beading.

The table is square when looked at from above, with the side view being repeated on each side. The overall table height is 730mm, the width at the top is 365mm and 305mm at the base. The legs taper from 30mm square at the top of the table to 28mm at the base,

with the taper being on the two outer edges of the legs. The legs and rails are joined together with Dominos.

The top is an 18mm MDF core, lipped with 20mm American black walnut with a 11mm tongue cut into the walnut, which fits a groove on the inside of the rails. The MDF is veneered with 0.6mm black walnut veneer. There is a 3mm string line around the table top and a 2mm beading round the rails.



Choosing the veneer

The table top is a sunburst made using 32 separate triangles radiating out from a central point, the making of which I shall deconstruct in this article. The sunburst is made from black walnut veneer; if attempted in solid wood it would be pulled to pieces by the daily movement of the wood, with the wider end of the triangle expanding and contracting with changes in humidity more than the tip resulting in the joint failing. I had to consider how I wanted the sunburst to look; this could be dramatically altered depending upon the grain of the veneer and how I laid it up. Crown cut or tangential cut timber gives a dramatic flame figure in a sunburst, a very different look to linear quartersawn timber. For the Burnett table I was specifically after the regular linear pattern given by quartersawn wood.

Preparing the groundwork

Before I could start work on the veneer I needed to prepare the groundwork to form the core of the table top onto which the veneer would be glued, this must be both stable and solid. Traditionally hardwoods such as mahogany (*Swietenia macrophylla*) were used for their stability, however over time these can move resulting in the veneer cracking. I used 18mm MDF as the groundwork for its stability and flatness, and lipped it with 20mm wide solid American walnut. I cut a tongue into the walnut to fit into a groove in the table frame and keyed the surface of the groundwork with 100 grit sandpaper, making it rough in preparation for gluing.

Preparing and flattening the veneer

I checked the 32-leaf bundle of quartersawn American walnut veneer for cracks, damage or misplaced leaves before numbering each leaf from 1–32. If a leaf is turned up the wrong way it will show vividly once the sunburst is polished as each side of the veneer will reflect light in an opposite direction, corresponding to the direction it is sliced across its pores during production. I used a window template to select each piece of veneer and a pair of hinged mirrors to visualise how they would look.

Cutting the sunburst

Once the veneer had been selected for the sunburst, I needed to make a hardwood template for cutting the 32 triangles. This had an 11.25° angle and was 38mm high and 460mm long. The template was the most important part of the sunburst; if this was not accurate the triangles would not fit together and the sunburst would not work. The template was made out of three pieces of 38mm thick quartersawn maple (*Acer campestre*), for stability and hardness. The template was marked using a marking knife, cut on the bandsaw and then planed by hand to final dimension. If it is 0.1mm undersize the final sunburst will be over 3mm undersize, if it is 0.1mm oversize the final piece will be 3mm oversize so the final leaf can be trimmed to fit. The sides of the template must also be flat and square to the face of the triangle. I checked the template was accurate by marking around it 32 times using a knife on a board of MDF to form a circle.

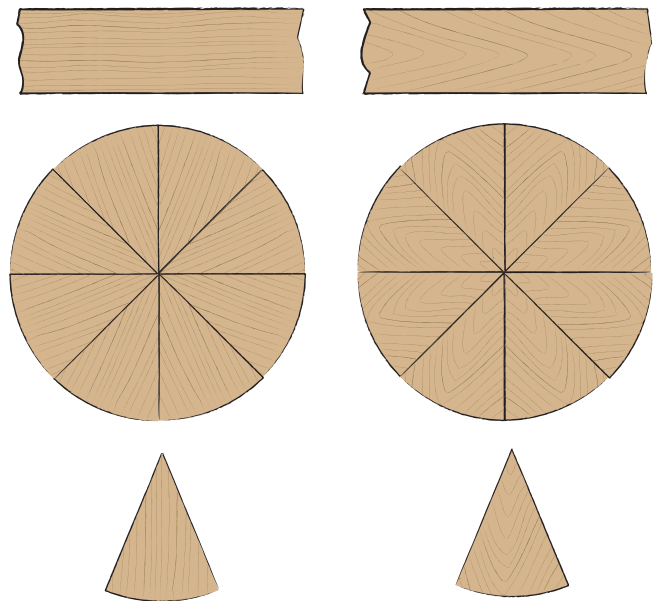
With the template completed I moved onto cutting the veneer. I started by roughing out all 32 triangles at once. The template was clamped to the veneer bundle and I held a metal ruler against the template adding 1mm

Flattening veneer before use

Veneer can become crinkled and misshapen over time; this is particularly true of burr veneers that have complex and irregular grain. To flatten the veneer ready for work each leaf is sprayed lightly with water to introduce some flexibility, and then layered between sheets of blotting paper. The whole bundle is then clamped between two boards of 18mm MDF. The moisture is drawn into the blotting paper while the pressure keeps the veneer flat. If you're working with light timbers such

as sycamore (*Acer pseudoplatanus*) it can be helpful to put a few drops of bleach in the water to prevent discolouring.

Each hour the paper is changed and a width measurement is taken from one of the leaves. The veneer will expand with the addition of moisture, and then shrink as it dries. Once three equal measurements are taken, the veneer is dry, flat and stable. It can take 8–12 hours to flatten a bundle, but produces perfectly flat veneer.



How the figure of the veneer will influence the look of the sunburst. Quartersawn (A) and tangential cut (crown cut) (B) veneer and how it dramatically changes the look of the sunburst

to the template width on each side. I used a veneer saw to cut through all 32 leaves simultaneously. I started with a back cut (a small cut at the exit end of the veneer in the opposite direction to the main cut), to stop the veneer splitting as each saw cut is completed. Each leaf was then cut to its

exact size using the template and a very sharp Japanese marking knife. The back of the knife is flat and runs against the template. The cutting end of the knife is curved, so I can rotate it through the cut. Again I do a back cut to stop breakout, and try to cut with the grain if possible.



The tip of the triangular template with a 1mm thick metal ruler held between the template and veneer saw. The ruler increases the triangle size by 1mm each side, meaning the whole bundle can be cut consistently oversize in one go

Laying up the veneer

The pieces are not laid from 1–32 in consecutive order around the circle, but in a four-break match; this means no leaf is more than four away from a similar leaf. If I was to lay the leaves from 1–32, from the top to bottom of the veneer bundle, the grain would noticeably differ between number 1 and 32 giving an uneven look.

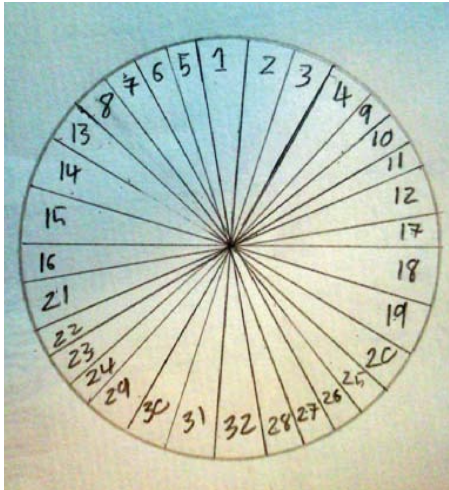
When laying up the sunburst the tip of each triangle was both important and vulnerable. The aim was to fit each point perfectly at the centre without damaging the very tip. Each leaf was placed in position by eye, and then taped to the leaf next to it

using sticky tape. The sticky tape has just enough elasticity to stretch and pull the joint between each leaf tight, without causing damage. This forms a perfect seamless joint between each leaf. If a knick is found in a leaf at this stage, it will need re-knifing. Sometimes I will leave one leaf out and insert it after gluing up the sunburst, the gap will allow for expansion from moisture in the glue, without gaps forming in the sunburst.

In this case the sunburst was to be cut into a square, reducing the risk of expansion, so all leaves were glued at once.

Once each leaf was in place, the sunburst was turned over and re-taped on the underside; this would be the top surface on the finished piece. It was important to make sure the tape was holding each joint tightly while being no more than one piece of tape thick at any location. If several layers of tape build up, these will cause dents in the work when the veneer is pressed.

It took several attempts to get all the pieces fitting correctly at the centre of the sunburst. A sunburst can take from 20 minutes to four or more hours to lay up depending on how each tip fits together.



Laying up the veneer. The veneer is laid up in a four-break match meaning each veneer is no more than four away from a consecutive leaf in the bundle. This helps to keep the sunburst looking even



This sunburst has been laid up and held together with sticky tape, it has then been turned over to check each joint is perfect. One leaf has been left out to allow for expansion during gluing



This sunburst has been laid up with all the leaves in position. The numbers can be clearly seen marked onto each piece of veneer

Gluing the veneer

Once the sunburst had been taped up, I marked and cut a square from the centre for the table top. This was cut with a sharp scalpel 5mm over size on each edge using the groundwork as a template. The veneer for the underside was cut in the same way and both sides were glued simultaneously to ensure stability. The groundwork was rolled with an even coating of urea formaldehyde glue and the veneer was stuck and taped in place to hold it in

position. I rolled each joint with a veneer roller ensuring they were smooth and flat and there were no air pockets.

To help give an even pressure during glue-up and to prevent the press and veneer sticking a piece of 3mm waxed MDF was placed on top of the veneer. The veneer was pressed using a vacuum bag which gives a pressure of approximately $\frac{3}{4}$ tonne per square foot

“I would normally always sand with the grain and not across it, however this is difficult with a sunburst”

Preparing the string-lines and polishing the table

Following the glue-up the tape was de-stuck using a warm iron, which releases the tape glue. The surface was then cleaned with cellulose thinners to remove any remaining glue residue left from the sticky tape. I routed a groove in the table top for a 3mm ebony string-line and the string lines were mitred and glued in place.

Once the top was completed I then sanded the surface. It was important to work with dust extraction to ensure no ebony dust would get rubbed into the grain of the black walnut.

I sanded the table top using 180, 240 and 320 grit in that order. It is important here to methodically work over the table, giving each area the same amount of sanding so you do not sand through the veneer by overworking one location. The 180 grit removes any marks in the timber, the 240 grit removes any lines left by the 180 grit, and the 320 grit removes any marks made by the 240 grit. I would normally always sand with the grain and not across it, however this is difficult with a sunburst. The top was polished by hand using French polish and finishing with

a coat of beeswax. The table top was polished before the table frame was glued-up, the layer of beeswax ensured no glue could adhere to the top or damage it.

Once the table was glued, final sanding of the table itself was completed, and the table legs and frame were French polished. French polishing can take time; however, it gives a depth and clarity to the timber which is quite unique, lasts for a considerable time, has flexibility allowing it to move with the wood and can be relatively easily repaired if damaged, it is one of my favourite finishes.

Conclusion

It is the combination of the minimalist design and dramatic top that I feel allows the wood to speak for itself and gives the table an understated elegance. I have not been able to cover every aspect of the table design and construction; however, I hope here to have demonstrated many techniques and processes that will help you to tackle some complex veneering with resounding success.



The polished and completed table top

Why we use veneer rather than solid wood

Veneer has been used for the very finest furniture for over 4,000 years, utilising timbers that are rare, costly, highly figured, weak or inherently difficult to work. It allows complex intricate work to be achieved that can not be made with solid wood due to stability and movement, enabling the creation of sunbursts, cross-banding, quarter matches or elaborate marquetry or parquetry techniques. It also means that a particularly beautiful or rare piece of timber, such as a burr, can be used over a larger area such as a table top, rather than in the small sections it's naturally found, while also removing the risks associated with daily timber movement. As some timbers become increasingly rare or endangered the use of veneer allows a small amount of timber to be used economically without exhausting diminishing supplies.



Intricate marquetry achieved using veneers

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.

Furniture & cabinetmaking BINDERS

Now you can keep your magazines in order and build up a complete practical reference library.

These stylish and durable binders each hold up to 13 issues and are an ideal way to protect your magazine collection.



	UK £	Europe £	Rest of World £
Binder (each)	£8.99	£8.99	£7.49 (excl. VAT)
P&P for first binder	£2.95	£3.95	£4.95
P&P for any additional binders	£1.95	£1.95	£4.95

I would like to order _____ binder(s) for Furniture & Cabinet making

Mr/Mrs/Miss/Other _____ Name _____

Surname _____

Address _____

Postcode _____

Country _____ Tel _____

Email _____

☐ I enclose a cheque (made payable to GMC Publications Ltd.)

☐ Please debit my credit/debit card (please indicate)

TO THE VALUE OF £ _____

Card Number _____

Expiry Date _____ Security Code _____ The last 3 or 4 digits on the signature strip

Card Type ☐ VISA ☐ AMERICAN EXPRESS ☐ ☐ ☐ MasterCard ☐ Maestro ☐

Signature _____ Date _____

Guild of Master Craftsman Publications Ltd. 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 ends 31/05/2016

CALL: +44 (0) 1273 488005

ORDER ONLINE: www.thegmcgroup.com

SEND FORM TO: FREEPOST RTHA -TGLU -CTSK,

GMC Publications Ltd, 166 High Street, Lewes, BN7 1XU

(Please affix a stamp if posting from overseas) Please allow 28 days for delivery

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!



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

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

ANDREW CRAWFORD

box making courses in the Shropshire hills ...

"The weekend course I attended
was an absolute delight ...
Andrew's calm careful
explanations and demonstra-
tions made everything seem so
easy and logical ..."



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

♦ 01694 781318

www.box-making.com



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





Precisa 6.0VR Professional Precision Sawbench With FREE Patented Pre-Scoring Unit

The Scheppach Precisa 6.0VR precision cutting sawbench is the flagship model of classic circular sawbenches. Combining 110mm depth of cut for normal timbers with 2 metre guide rail to removable sliding table carriage ** (1.4mm capacity in front of sawblade); 1100mm width of cut; folding table width extension; patented pre-scoring system with separate motor and adjustable settings to within 1/10th mm accuracy no other sawbench in its class offers all the technological advantages incorporated in this superb sawbench.

Order a standard Precisa 6.0 before close of business 30th April 2016 and get the Precisa 6.0VR specification complete with patented pre-scoring unit. YOU SAVE £360.00 inc VAT



Precisa 6.0
complete package
Including Sliding
Table Carriage &
Table Width Extension



Precisa 6.0 Package 2 (P2)
See price list for full details

£2,590.00 EX VAT
£3,108.00 INC VAT

What they say:

"I looked at a number of other machines & seriously considered a ** which was £1000.00 cheaper but which is made in China. After considering all the quality & performance issues I chose the Precisa 6.0 & can assure you it is one of the best decisions I have ever made. It is worth every extra penny - and I mean that!"

Mr AC. Wilts.

** Well known respected British brand name quoted but withheld by NMA.

FREE!



**Patented
Pre-Scoring Unit**
With integral motor
FREE OF CHARGE
SAVE £360.00 inc VAT

Offer ends 30th April
2016



Easy access to pre-scoring adjustment



Upgrade to sliding table carriage with articulated arm. Add £300.00 Ex VAT if ordered with the machine.



Micro fence setting scale to within 1/10th mm calibrations.



2 separate hand wheels for precise height & angle settings.

Scheppach circular sawbenches have been sold and serviced in the UK by NMA since 1972. Go to nmatools.co.uk and see what users say about NMA unprecedented service. All prices Ex works, carriage extra. WE ARE MOVING. See below for our new address.

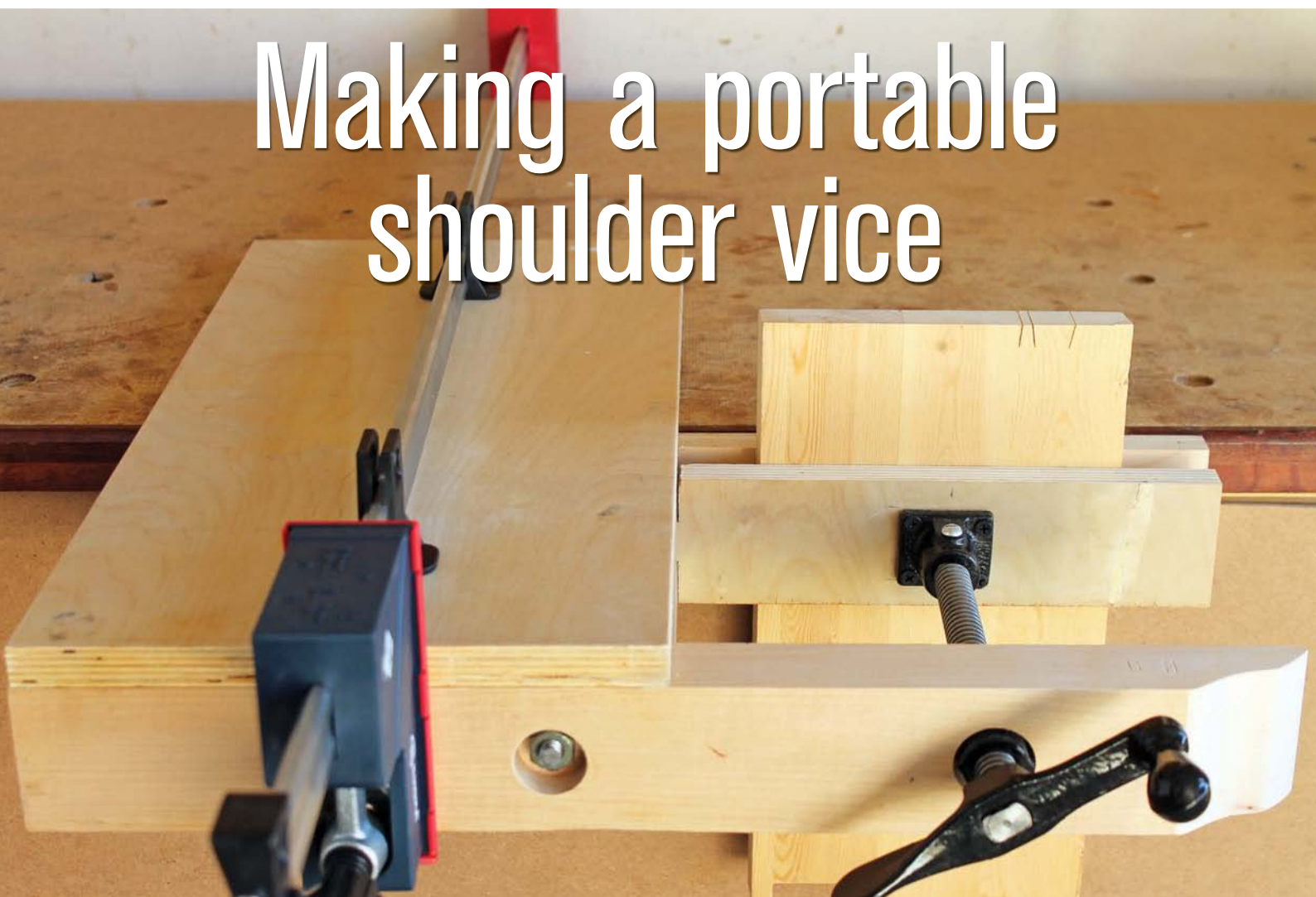


www.nmatools.co.uk
Unit 1, Brookfoot Business Park, Brighouse, HD6 2SD

Phone: 01484 400 488
Email: sales@nmauk.com

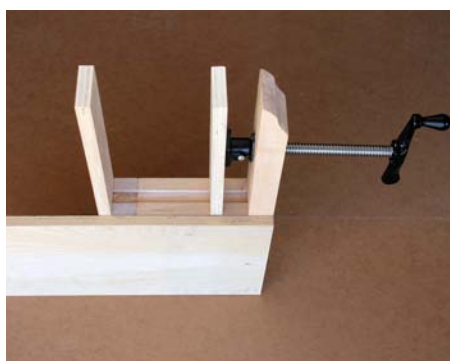
FREE
160 page
Catalogue
Available on
request.

Making a portable shoulder vice



This shop fixture by Charles Mak adds a shoulder vice functionality to a regular bench and can turn any solid table into a light-duty workbench

PHOTOGRAPHS BY CHARLES MAK



My unheated garage doubles as my workshop during the day. I rely on a fan heater and some radiant heaters in the shop to last me through the cold Canadian winter (you don't see me bundled up in any photos that accompany my articles, because I take off my winter jacket and gloves before a photo shoot!). Old Man Winter can at times be unkind in my part of the world – temperatures can fall well below -20°C for days at a time. On such harsh days, I would be a fool not to try to work in the comfort of my warm house.

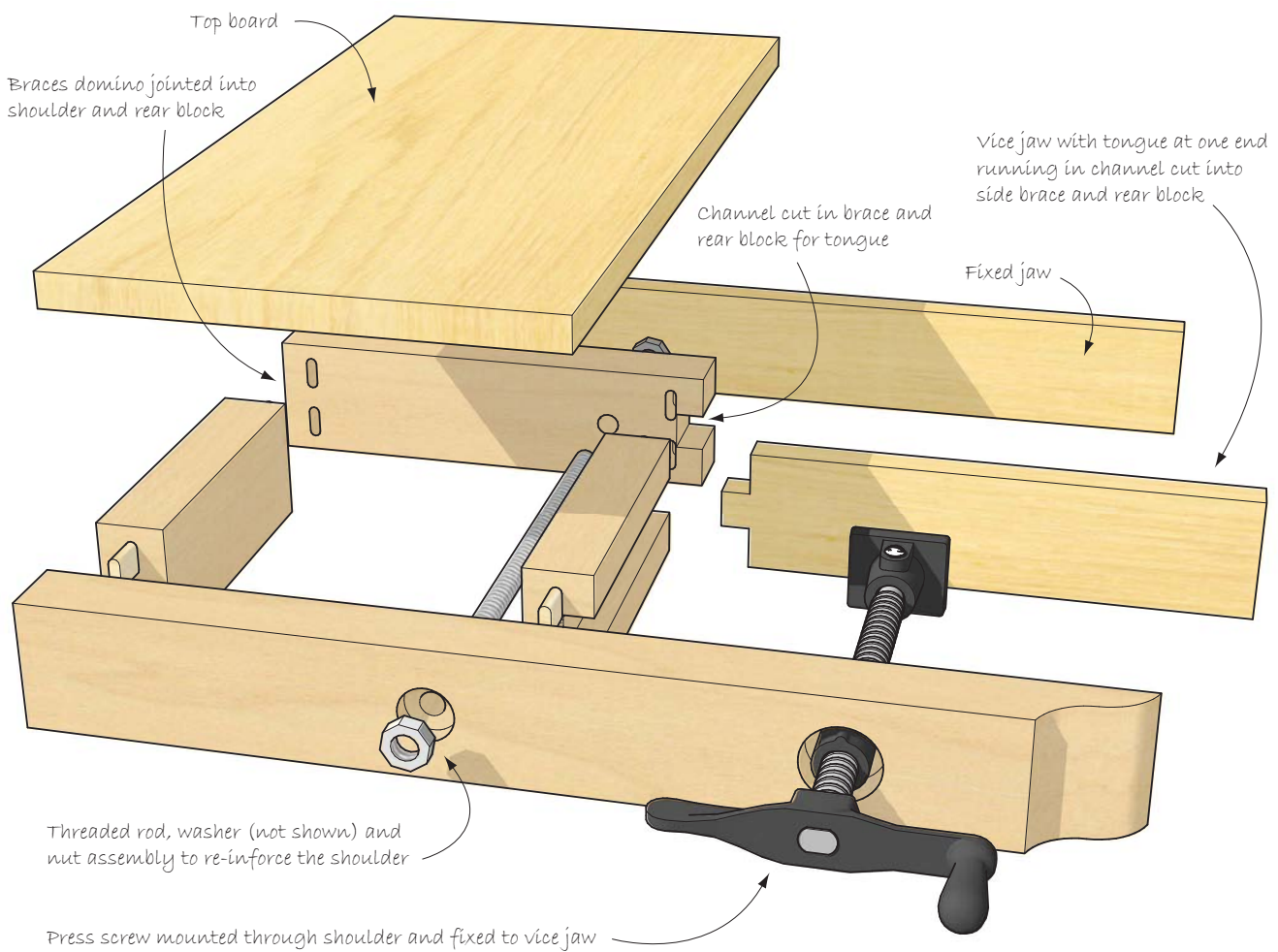
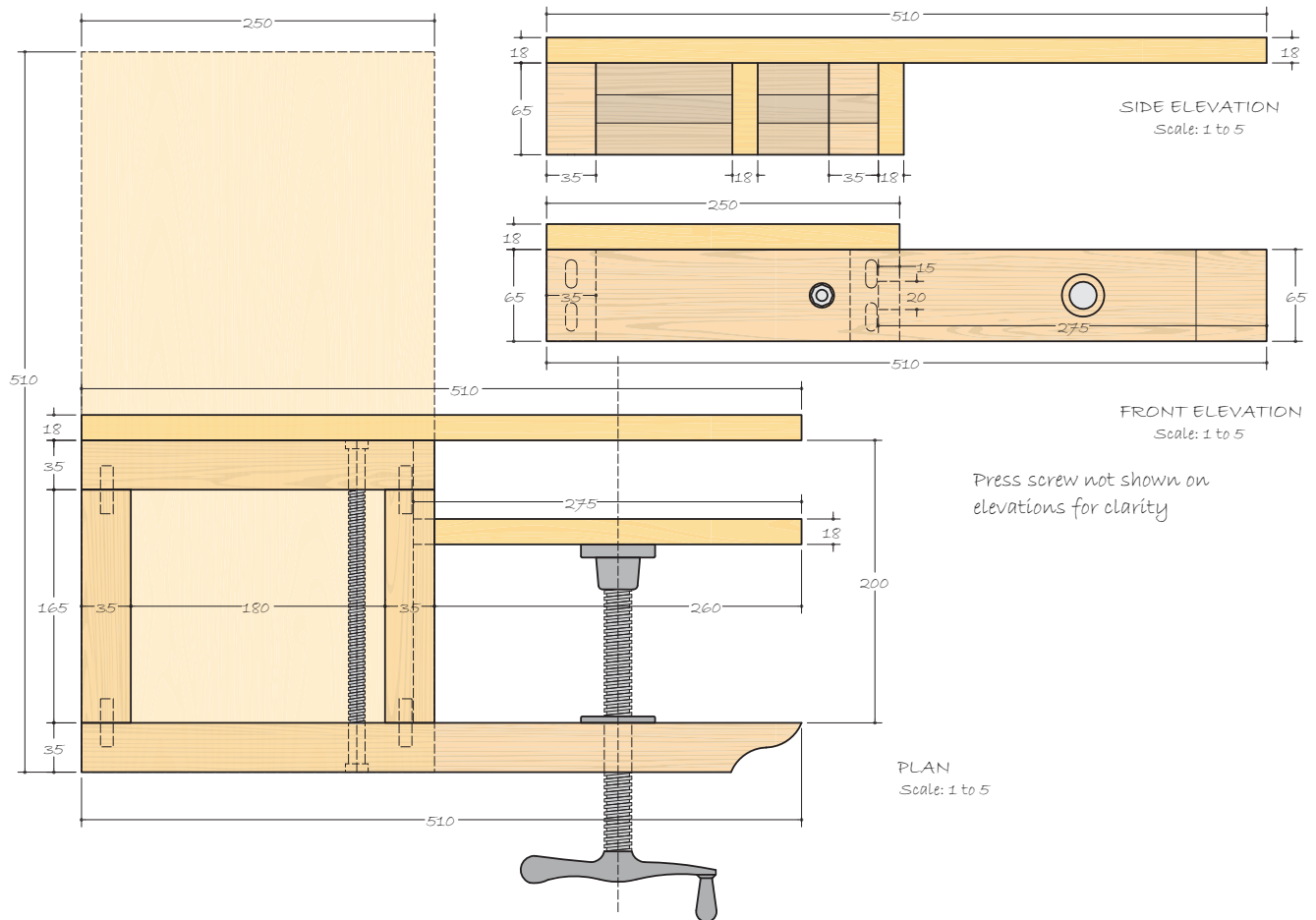
Many years ago, I came across a removable L-shaped vice design by a fellow Canadian woodworker, Louis M. Rimouski. I adapted it to make a portable shoulder vice that can be cramped to a sturdy table, in my case, the pool table in the basement. It is now my go-to vice for light-duty jobs such as cutting dovetails when I work indoors.

Prominent craftsmen of European origin such as Tage Frid, James Krenov and Frank Klausz consider the shoulder vice essential for their work. You can see in the sidebar on the following page how a shoulder vice is particularly useful in some tasks.

This portable shoulder vice, of course, can be used on a regular bench. You can cramp or secure the vice to a bench with a pair of holdfasts. If you have a large face vice, you can build and drop a smaller version of the shoulder vice between its jaws, turning a face vice into a shoulder vice.

The fixture is inexpensive and easy to make, and you can modify the design or measurements (see construction diagram) to suit the type of work you do. If you have a weekend to spare, you'll have a versatile vice added to your shop by the time the weekend is over.

Construction details



Cutting list

- Top board: 1 @ 18 x 250 x 510mm in ply
- Fixed jaw: 1 @ 18 x 65 x 510mm in ply
- Rear block: 1 @ 35 x 65 x 250mm in hardwood
- Brace: 2 @ 35 x 65 x 165mm in hardwood
- Shoulder: 1 @ 35 x 65 x 510mm in hardwood
- Vice jaw: 1 @ 18 x 65 x 260mm in ply

Hardware

- 1 x threaded rod
- 2 x nuts and 2 x washers
- 1 x press screw

A shoulder vice offers several advantages

- Unobstructed by the usual guide rods or screws, a shoulder vice can cramp a small assembled drawer or box wholly, or a panel all the way to the floor.
- Also known as a dogleg face vice in a Scandinavian bench, it is useful for gripping delicate or angled pieces.
- The brace acts like a solid stop when a workpiece is cramped in the vice for edge-planing.



The shoulder vice excels at cramping angled work, too

Selecting the wood

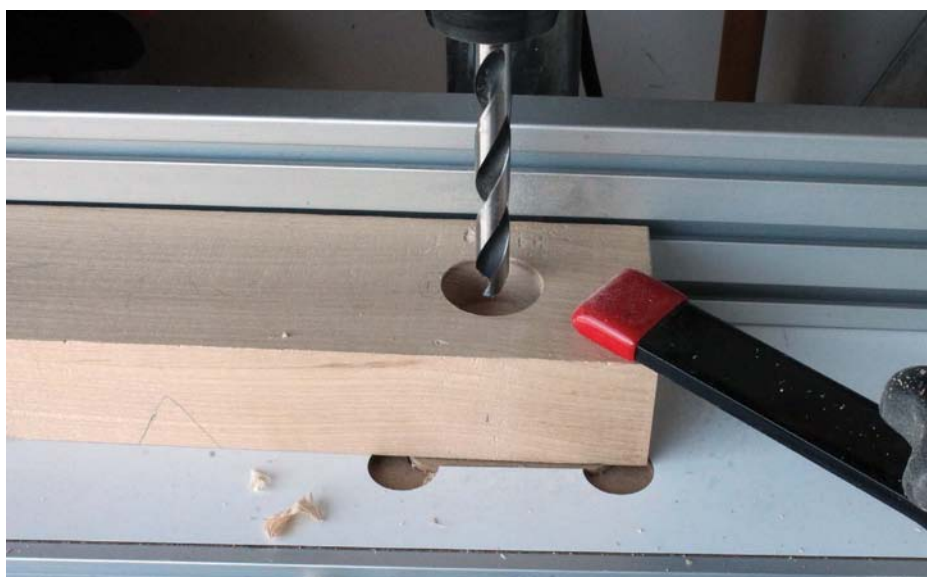
Use hard hardwood – hard maple (*Acer saccharum*), for instance – for the frame of the shoulder vice which consists of the rear block, braces (one of which is grooved) and shoulder. The shoulder will undergo a lot of stress in use, so you should try to pick only straightgrain and knot-free timber for that component. For the rest, my choice was plywood, which is stable and abundant in my scrap pile.

Getting the vice hardware

To keep the jig small and lightweight, I used a press screw instead of a regular shoulder vice. A threaded rod or a long carriage bolt is used to reinforce the shoulder to the braces. If you prefer everything made of wood, replace the rod with a large-diameter hardwood dowel with end caps to make a stronger dowel joint.

Counterboring and drilling

After cutting all the pieces to size, I counterbored and drilled the holes on the rear block and shoulder to accept the threaded rod and nuts. If you plan to use a dowel joint for this fixture, drill all the mating holes on the rear block, braces and shoulder, too. Take care to position the dowel holes on one of the braces so the dowels are not in the way of the channel that will be cut later. I opted for a loose-tenon joinery and cut all the mortises with a Domino joiner.



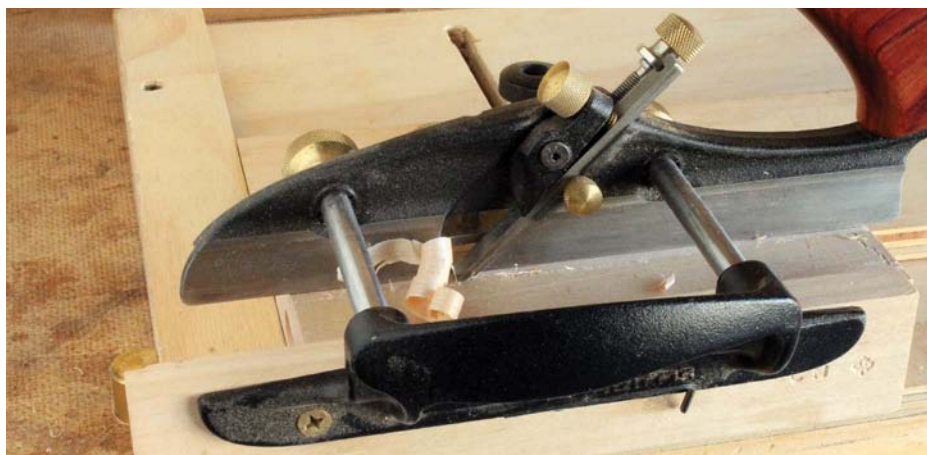
To counterbore a hole, bore the larger hole first and then drill the smaller hole through



To avoid cutting errors, I marked out the parts and mortises before mortising the stock with a Domino joiner

Cutting the channel

The vice jaw with a tongue rides along a channel cut on one of the braces. The channel runs the full length of the brace and through the mating end of the rear block. I first cut the channel on the brace, with a plough plane set for the desired depth. After scribing the same depth on the rear block with a marking gauge, I made a series of saw kerfs about 3mm apart each on the end and wacked away the waste with a chisel. I worked from both sides in towards the centre, angling the chisel slightly upward and resulting in a peak. I pared away the peak with a few passes of a wide chisel. Finally, I saw out a tongue on the vice jaw to fit the channel.



It took the plough plane a dozen passes or so to cut the channel, faster and cleaner than a router

Shaping the shoulder

For aesthetic reasons and to knock off the corner, I put an ogee profile on the end of the shoulder. I saw off the bulk of the waste

and then used rasps and a block plane to finish the final shape. Lastly, I broke the edges on the shoulder with a cornering tool.



I saw out the waste, close to the ogee profile line before shaping the ogee with assorted rasps



I varied the planing angles, locked my arm and fine-tuned the convex part of the profile with an apron plane



Depending on the grain direction, use push or pull strokes to relieve edges with a cornering tool

Assembling the vice



I completed the frame first and then glued the fixed jaw to the assembly



Drill the corner holes on the base and file the whole bottom flat



I predrilled before attaching the vice jaw to the swivel head

After dry-fitting, I installed the threaded rod and assembled the frame at the same time, followed by the glue-up for the fixed jaw and top board. While waiting for the glue to cure, I filed the bottom

of the swivel head flat and drilled four corner holes on the base. The vice was done once I installed the press screw in the shoulder and attached the vice jaw and – voila! – a life-saver was born. *F&C*

References

Mak, Charles, '12 workholding tricks you should know', *F&C* 205. May 2013. Pp. 45–47.

Furniture & cabinetmaking

DESIGN • INSPIRATION • PROJECTS • TECHNIQUES • NEWS • EXCELLENCE

Every panel tells a story

Make plain veneers shine with the perfect sunburst technique

Clock sharpening demystified with Mark Harrell

PROJECT
Portable shoulder vise

Rock solid bench build

Are your irons sitting comfortably?



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



Please quote order code A4668
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 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 to not be informed of future offers, please tick this box
Offer expires 30/06/2016 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.	Expires
Start date	Security code
Signature	Date
☐ Direct Debit	Instructions to your Banks or Building Society
Name of account holder	Originator's identification number
Bank or Building Society account no.	Reference number (office use only)
Bank or Building Society sort code	
Name and full postal address of your Bank or Building Society	
Name	
Address	
Postcode	
Signature	Date



6 5 9 9 5 7

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.

A4668

The saw doctor will see you now

Mark Harrell explains the process of clock-sharpening to get your saw teeth in perfect formation and ready to do battle

In the series of preceding articles we've spent a great deal of time setting up our saw for this final stage; making sure our troops are in the best possible shape to cope with what lies ahead. 'Shape' might be a little misleading at this point as we are really more concerned with condition and not any particular profile. So as we move to the next level let's recap on that all-important step in frontline preparation, jointing.

Jointing

Jointing creates one of two very important visual cues germane to the sharpening process. Remember our key takeaway – anyone can file a sharp edge; not everyone can sharpen to joint, and this is the first step. No special tools required. Sure, you can buy

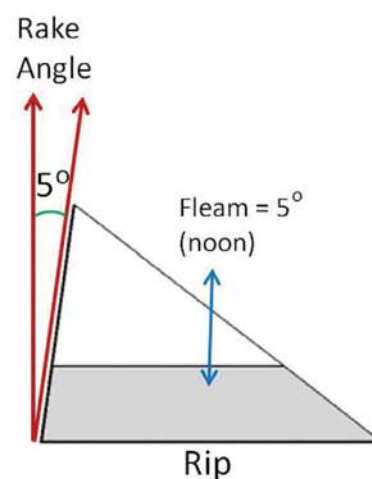
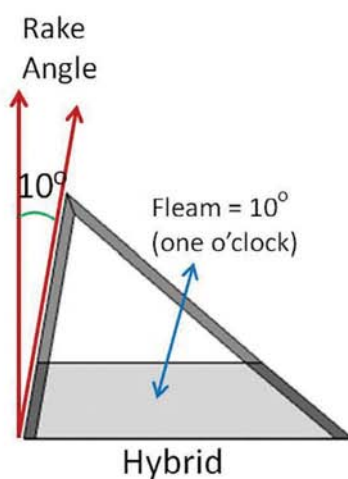
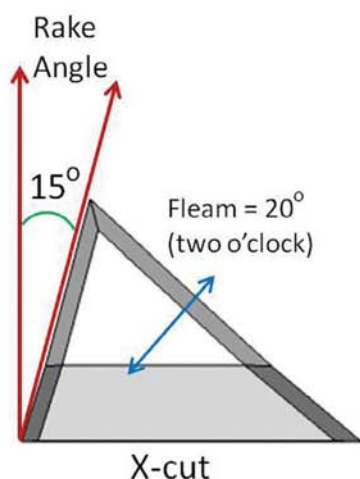
a 'jointer' – a device to hold your file – but why not hold the file yourself? Simply mount your plate into the vice and leave about an inch or so of clearance. Then run a 12in mill file down the toothline from heel to toe in one brisk, assertive push. Present the file flat and perpendicular to the upright toothline, taking care to lay as much of the file on the tooth as you can, for the same reason one selects an absurdly long jointer plane to flatten a board – the same concept applies to jointing a toothline when making a long span of work flat and even.

Inspect your toothline for flats, make sure every trooper has a fresh haircut. If one or two miscreants ducked away from your file, it's no big deal. But if you count a half-dozen tips missing flats, you're asking for trouble,

so joint again – and perhaps three or four times to achieve flats on all or nearly all of your teeth. Now we're ready to sharpen.

Sharpening

Rule one is to knock this step off its mysterious pedestal. Your task at hand is to push a saw taper file through every other gullet in the toothline on one side of the plate, flip the plate, then push the file through the adjacent gullets you didn't hit with the first pass. Easy. But what's not so easy is doing so while maintaining proper rake and bevel, while at the same time sharpening to joint. The critical step here is to sharpen just enough to wipe out the jointing flat and no more. But before deploying to this step, let's conduct a map reconnaissance by discussing sawtooth geometry first.



Rake

Rake is the degree of offset from vertical, and this angle governs whether you want an aggressive, ripping cut, or a clean, slower crosscut. Note the angle – we generally set rake for a rip filing somewhere between 0° to 8°. Establish rake closer to zero for aggressive ripping in softwoods, and closer to 10° for dense hardwoods. Crosscut filings generally mandate 15° to 20°. Hybrid-filing finds the sweet spot at 10°.

Bevel (aka ‘flean’)

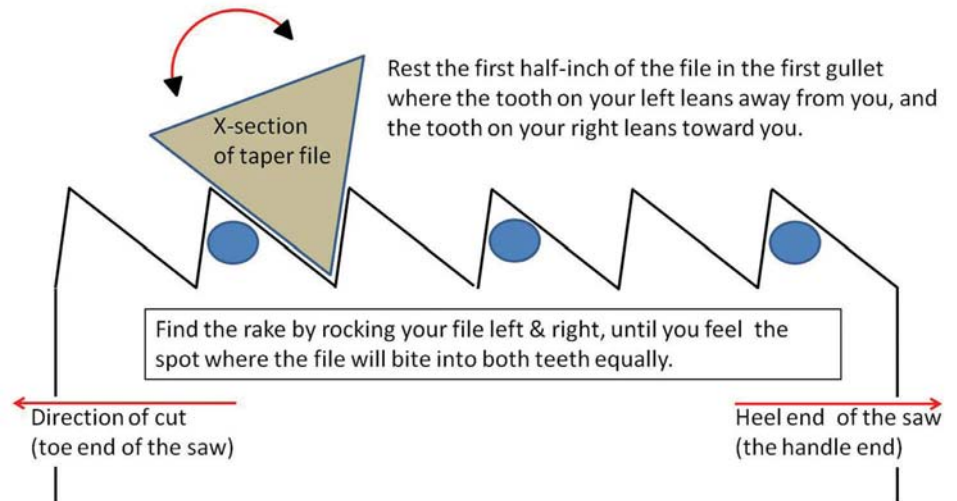
Bevel indicates whether you desire to knife the cutting edge of a sawtooth. Little to no bevel (between 0° and 8°), is best suited for rip filings. Again, the rule here is select closer to 0° for ripping softwoods, and gravitate closer to 8° for ripping hardwoods. I usually find that 5° for dedicated rip either way delivers a crisp, assertive action, and mitigates tear-out on the far side of the cut. As for crosscut filings, 15° to 20° delivers a clean, knife-like action when sawing across the grain. Hybrid-filing finds the sweet spot for both at 10° to 12°.

Gullet

The gullet is the low point between teeth. When we get into file placement, you’ll see how it’s easier to reference gullets for a visual, rather than the teeth.

Now forget about the stupid angles and degrees. More ink gets spilled and bytes flung into the stratosphere by self-proclaimed sharpening pundits who will tell you with a straight face, that ‘Yea, verily, 20° is the

Finding the Rake



perfect bevel angle.’ Don’t buy into it. Anyone who says they consistently hit a certain degree standard when hand-sharpening a saw is full of it. Again, the important thing isn’t hitting a certain degree. Consistent hammer-set and sharpening to joint trumps bevel every day of the week. So think of rake and bevel angles this way:

Rake angle

Little to no rake for rips; more for crosscuts and somewhere in between for hybrid.

Bevel angle

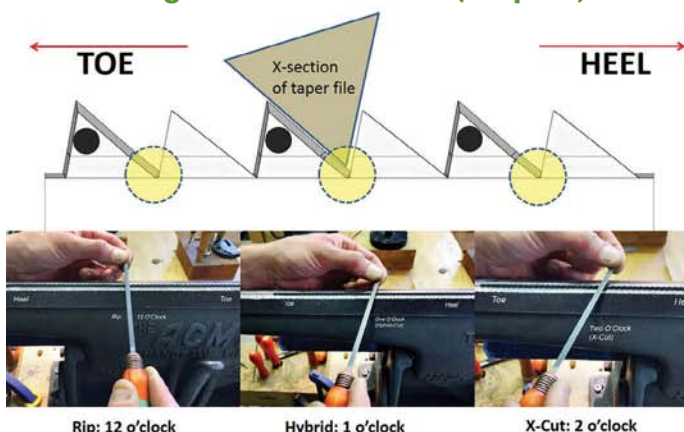
Little bevel for rip filing; more bevel or x-cut

and somewhere in between for hybrid. Here’s why precise angles just don’t matter: a rip-filed saw will crosscut, and a crosscut-filed saw will rip. The point is, any properly jointed and sharpened saw with consistent set will cut wood, period. In fact, you should see the exceptionally clean surface our rip-filed saws leave in their wake at the Bad Axe shop – all you have to do is stone the toothline.

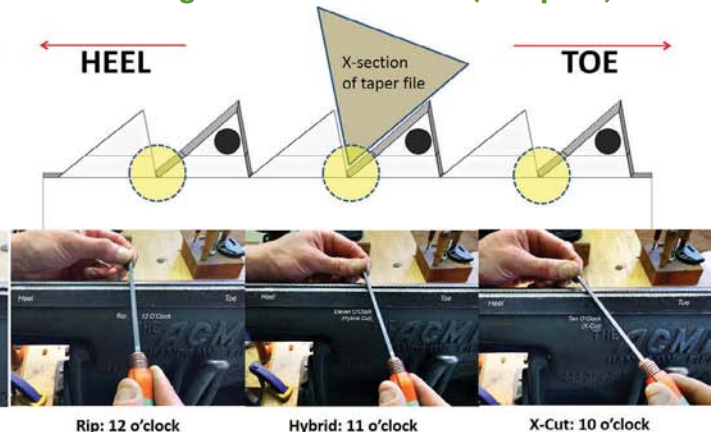
So let’s use the clock method for shaping a sawtooth instead, described in the graphic below. When promoting a rip-filing, either file your rake at 12 o’clock, or slightly offset from 12 o’clock to about 12.15 (roughly 5°).

*“Here’s why precise angles just don’t matter:
a rip filed saw will cross cut and a crosscut filed saw will rip”*

Using the Clock Method (1st pass)



Using the Clock Method (2nd pass)



Now observe how the clock method is used for bevel

The graphic above reflects rip at 12 o’clock, hybrid at 1 o’clock, and crosscut at 2 o’clock. Flip the saw around for the second pass, and now you’re at (again) 12 o’clock for rip, 11 o’clock for hybrid and 10 o’clock for crosscut. Easy, see? And let’s face it – remembering

a clock-method for referencing angles is something the Sergeant Major will approve of, far more so than the latest staff officer’s plan percolating out of the Commanding General’s headquarters. It’s all about getting on with the battle, and keeping things simple.

Equipment

We woodworkers love any excuse to purchase new toys and take it from yours truly, who has purchased way too many of them, there are only a few you actually need.

Saw vices

Saw vices come in an array of sizes hailing from yesteryear, but increasingly, makers are producing new saw vices, such as the ones marketed at present by Gramercy Toolworks and Texas Heritage Woodworks. I have used both vices, and they are both excellent. If you are lucky enough to find a Disston 3D in the wild, fabricated at some point around the turn of the last century, then that's a fine choice as well. And in a pinch, two pieces of angle iron lined with leather and cinched in a machinist's vice will hold a sawplate quite nicely for filing. The trick is to position your vice such that the toothline hovers at chest level.

Mill file

As stated previously, you'll need a 10–12in mill file with which to joint the tips off your saw teeth.

Taper saw file

These come in different sizes, ranging from 7in regular for filing 4 points per inch (ppi) all the way down to 4in double extra-slim for 16 points per inch. The list on the right denotes saw file sizing for the pitch at hand.

The key takeaway for understanding saw taper files, is that they are all 60° triangles in the cross-section, narrower in girth at the tip and broadening in midsection towards the tang or handle. This enables the sawfiler to lock the file into position between teeth (known as the gullet), and as he/she pushes the file through the gullet, the file abrades the backside of the tooth set away from you, and the cutting edge of the adjacent tooth set towards you simultaneously, revealing clean, razor-sharp metal. More on this highly



The Disston 3D saw vice is a great choice, if you can find one

File Sizing per ppi

- 4 xx-slim: 15-16 ppi
- 4 x-slim: 13, 14 ppi
- 5 xx-slim: 13, 14 ppi
- 5 x-slim: 12, 13 ppi
- 6 xx-slim: 11, 12 ppi
- 6 x-slim: 9-10-11 ppi
- 7 xx-slim: 9-10-11 ppi
- 7 x-slim: 7-8 ppi
- 6 slim: 6-7 ppi
- 7 slim: 5-6 ppi
- 6 regular: 5 ppi

Where to buy files

Bacho: Best new files on the market today

Grobet: Buy the Swiss version only
(Red label on box)

New old stock: (find on eBay or Craigslist, flea markets etc.)

- | | |
|-------------|-----------|
| ▪ Nicholson | ▪ Disston |
| ▪ Simonds | ▪ Oberg |
| ▪ Johnson | |

important visual cue later.

Now we've taken off from the airfield, and are about to jump into Arnhem. So far, we've set your saw's teeth, jointed flats onto the tips and now understand that angles

are about as important as clean underwear in combat. Nice to have, but you'd rather have sharp steel by your side tempered into uniform discipline, so let's get on with it. Stand in the door! *F&C*



Taper saw files come in a range of sizes



Your body position in relation to the saw plate is important

Next month: How to position yourself in relation to the saw plate to achieve consistent results



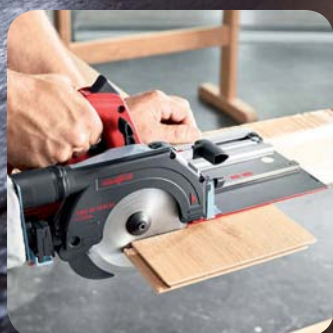
KSS Circular Saw Series

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 Rafter's 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

Rosewood chiffonier side cabinet – part 5

Derek Jones prepares his chiffonier for another 100 years service

We've finally come to the last in our series of articles covering the restoration of this early 19th-century rosewood (*Dalbergia latifolia*) veneered chiffonier. To complete the project we'll be considering our options as to how we go about cleaning it, while preserving as much of the existing finish as possible and of course dealing with all the remedial work necessary for it to be a useable item once more. In our bid to create the right appearance it's easy to overlook the importance of what might be referred to in a different trade as 'good interface'. If that comes across as a bit techy then think of it as creating a piece that's not just in good condition but also fully functioning. When it comes to our cabinet we need to make sure that the drawers run smoothly and the doors open and close without fouling either the carcass or each other. Any clasps or locks that are key to this function should work. One of the things that attracted me to this cabinet in the first place was having keys to all three functioning locks.



Cleaning

Experience tells me that the finish on our chiffonier is shellac meaning the base solvent and reversing agent for this is alcohol. However, the introduction of any solvents, even those that won't reconstitute shellac could have a detrimental effect on the finish. De-waxed shellacs are a relatively modern concept brought about by the industrialisation of the manufacturing process. As basic shellac contains natural waxes the use of white spirit or other oil-based cleaners are likely to have an effect

on the existing finish. This may not be noticeable and may not even apply but a little caution is never a bad thing.

Soap and water is generally the best approach to cleaning. In some circles you'll often hear this mixture referred to as an aqueous solution (water) and surfactant (soap). I use a carpet cleaner diluted as instructed on the label and plenty of clean soft cloths. Spray the solution onto the cloth and wipe the grime away. The chances are you'll have to repeat the process a few times

before you're done. It's surprisingly effective, won't harm the original finish and will leave that all-important patina in place. You can even use it to freshen up the interior of drawers without damaging them. Bonded dirt and grime such as paint flecks can be a little trickier to deal with. Proceed with caution using in the first instance wooden toothpicks to dislodge any unwanted material. As a last resort you can turn to more conventional edge tools like scalpels but be careful not to remove the finish beneath the dirt.



All the ingredients for a harmless deep clean



Wipe on, wipe off. It's that simple



Change your cloths regularly

Patch repairs

You usually find that during the cleaning process you will have started to blend any small patch repairs into their surroundings. Getting them to disappear completely is not as hard as you might imagine if you accept that it might take a few attempts to get the job done. This means that whatever steps you take they must be easily and completely reversed. As this rules out the use of stains you will have to be a little more cunning in your approach and layer a thin mask of camouflage on the surface. The medium I prefer to use for this is shellac.

Rosewood generally comes with a distinct grain featuring strong inky lines that streak randomly across the surface. It's a restorer's dream to

have such a busy canvas to work on as a blank one is much harder to deal with. In your armoury of finishing equipment you'll need a good selection of fine brushes, sizes 0-3 are a good range to start with. On any new sections of veneer, paint in the odd line to mimic the original veneer with a mixture of shellac, dark earth pigments and spirit powders. Lay down one or two lines then cover them over with an appropriate clear shellac to set them in place. Repeat the process as necessary. When you are satisfied with the result you can make a few passes with a rubber and some fresh shellac to the surrounding area to gauge the effect.



Use fine bristle brushes that come to a point



Sketch in some camouflage



Layer up with coloured shellac



Seal the camouflage in place with some clear shellac to a much wider area

Drastic measures

With something as obvious as our newly veneered door panels, matching their colour temperature with the rest of the piece is more important than matching any existing grain pattern. And like any process that calls for drastic measures it is necessary to experiment on a sample board before diving in. Our new veneer wasn't too far from the faded tone of the existing veneer but it was still a little too dark so I carried out some tests using a range of chemicals to bleach the colour of the wood. A saturated solution of oxalic acid had little effect but a strong bleach made for this very purpose had the desired effect. The process uses a two-part system. A caustic soda (sodium hydroxide) solution is applied to the substrate and

allowed to 'draw' the colour from the wood turning it almost black. After a few minutes and before it dries a hydrogen peroxide solution is applied to the treated area. This instigates a chemical reaction as the surface begins to fizz and the dark surface changes to a much lighter tone. Follow the manufacturer's instructions to the letter and don't deviate. Before the surface dries and wearing the appropriate protective gloves, wipe any excess chemicals from the surface and douse with acetic acid to neutralise the chemicals. Domestic white vinegar will have the same effect.

To prevent the panels from cupping you can dampen the back face with water and place them between layers of newspaper or

absorbent towels between some flat boards under weight. Allow them to dry out slowly over a couple of days changing the paper after the first 24 hours. It's possible that this amount of moisture could cause a few blisters in the veneer but they are easily dealt with using a warm iron and a damp cloth. If the surface is extremely pale when it's dry don't panic, a little light sanding can restore some of the colour. Lighter is much easier to correct than darker.

Light oak oil stain is not an obvious choice for staining rosewood but it has a good cool temperature from which to begin. Placing the sample board up against the door frame suggests that there's not a lot more to do to get a perfect match.



Oxalic acid has little effect on dark timber but will often remove ink and iron stains



Part A, caustic soda, turns the timber almost black



The addition of part B, hydrogen peroxide, starts the bleaching process



A two-part A, B bleach system will lighten most dark timbers



Light oak oil stain gives the new rosewood an aged appearance

Faking it

Achieving a good colour match between old and new surfaces is one thing but there is still that all-important patina to contend with. In its simplest form patina is just good honest dirt that has found its way into all the nooks and crannies of our chiffonier after it was polished. So logically that's where we want to introduce our layer of dirt. After a couple of brush coats of sanding sealer and one final brush coat of a half-and-half blend of sanding sealer and lemon shellac I felt I'd achieved a good overall colour and depth of finish to the panels. Loading them into the frames I brushed a mixture of white spirit and gold size coloured with dark earth

pigments (brown umber and black) over the surface and into the corners. Rubbing the mixture in a circular motion forces it into any open grain or defects and effectively ages the surface. If you wipe too much of the excess away apply another brush coat of shellac and repeat. I like to leave this layer to dry over night with the panels still in the frames before removing them and continuing to polish the surface with a rubber. Building up the thickness of polish is much easier with the panels removed and gives you another chance to make any adjustments to the colour temperature or add more 'age'.



A dirty wash or stipple builds up patina on new parts



Work the stipple into the corners and edges and leave to dry before setting with shellac

Shades of brown

There's a good reason why period furniture is often referred to as 'brown furniture' in the trade; it's typically brown all over. This 'monotone' attitude is a little unfair as there are many beautiful browns to be found, each one important to a specific period or species of timber. Fortunately for polishers brown is quite easy to make as it is created by combining three primary colours – red, blue and yellow. We can simplify that further by combining yellow and blue to make green so that numerous shades of brown can be achieved just by mixing red and green. Have a jar of coloured shellac of each on your shelf and you'll instantly be able to colour match the vast majority of period furniture repairs. Dab a small amount of red shellac onto an old rubber to warm up a cold green tone. Do the opposite to cool down a hot red. A trace of mineral oil or baby oil will help prevent the rubber from sticking to the surface and depositing too much colour in one area.



Red tinted shellac, use sparingly



Another use for baby oil

Freshening up a finish

With all the patch repairs disguised and the new panels blended in with their new surroundings it's time to give the entire piece a proper 'French polish'. Just as artists have recognisable brush strokes so do polishers and finishers, so to consolidate everything

it's best to give each surface a few wipes over with a clear shellac. The top of our chiffonier had some damage to the surface layer that was easily remedied by building up a new layer of shellac and burnishing it at the same time with French chalk and oil. Using a

thin blend of freshly made shellac will usually negate the need to spirit off the excess oil when the shellac has dried. Fine traces of oil can be wiped away with a clean soft cloth or just simply taken up with a coat of wax polish afterwards.



After cleaning you can see the top is back to bare timber in some places



Lightly dust French chalk onto new shellac with a thin film of oil to prevent it from sticking



Build up depth, burnish and shine in a single operation

Conclusion

The obvious conclusion to reach after carrying out all this work on our chiffonier is that it has cost more in man hours to do than one could ever expect to get back by selling it. Which begs the question, why consider it in the first place when from a purely commercial standpoint it makes little sense? There are, however, a couple of ways to look at it, I guess. Items requiring this much work to get them up to scratch are often too far gone to be of any interest to antique dealers, which is good news for amateur restorers as you can often pick them up quite cheaply. Items that can be gently tickled into good order quickly, on the other hand, are likely to fetch a premium at auction for precisely that reason but even so, don't go spending

the kids' inheritance unless you're absolutely sure. The true value in taking on projects like this is that you can learn a whole range of skills within the confines of an historical brief that will undoubtedly filter across into your own work. In cabinet making we talk a lot about timber movement, appropriate construction methods, glues and finishes and there is no better way to learn some of these skills than by observing how those that have gone before us have dealt with them. And let's be honest who isn't slightly moved at the prospect of owning a truly hand-crafted piece of period furniture. If the only thing you take home from this is how to make furniture that can be restored in the future you'll have certainly made your mark.



The finished chiffonier heading off to auction and good for another hundred years

Crunching the numbers



The chiffonier before restoration

Cost at auction –	£85
Commission and VAT –	£15
Veneer –	£15
Escutcheons –	£6
Hide glue –	£7
Polishing materials –	£12
Total –	£140



Different levels of shine

By nature of the process in which it's applied a fresh layer of shellac can be too shiny and look out of context on period pieces. There are a number of ways to overcome the glare and help to reduce the impact of refinishing. Burnishing the surface with Rottenstone and a smattering of mineral oil (baby oil is a good alternative) with a soft cloth or polishing rubber works very well. This is basically a cutting compound similar to that used in the automotive trade and on some solid surface materials. Substitute the Rottenstone with pumice if you find it too abrasive.

An alternative solution is to apply a wax polish with fine 0000 grade steel wool although you should allow the shellac to harden sufficiently first before doing this. Be wary of introducing steel wool to light timbers as it can cause staining. Metal fibres can also contaminate some surfaces.

I have in my après polishing kit a range of waxes of varying hardness and therefore shine that help me tone down some areas and highlight others. You can find the recipes for making these in *F&C* 189 Most ready-made waxes are best described as medium hardness. Most will reduce shine on fresh shellac and enhance a dull layer of old. A harder wax will buff to a higher shine and although this may not be appropriate for every surface it can



Soft wax can smarten up an interior



Cut back with baby oil and Rottenstone

really highlight things like mouldings, knobs and feet under bright showroom lights. A soft wax on the hand can be used to dress up bare timber on drawer interiors that are looking a bit tired. If you make your own, and you should, try adding some essential oils to overcome the smell of the solvent. *F&C*



Boat Building Academy
Lyme Regis

Learn boat building and more...

Hands-on **courses** from 2 days to 38 weeks

Suitable for **beginners** and the more **skilled**

Accommodation available on-site, **on the beach** in Lyme Regis

Practical, professional or purely for pleasure

01297 445545 office@boatbuildingacademy.com

www.boatbuildingacademy.com



Boat built by students as part of the 38 week course

Peter Sefton
Furniture School .com



Short Courses Include

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

Woodworking & Furniture Making Courses

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



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



YANDLES SPRING WOODWORKING SHOW

**FRIDAY 8TH AND
SATURDAY 9TH
OF APRIL 2016**

NEW FOR 2016, MASTERCLASSES

COME ALONG AND SIT IN ON A FREE CLASS
FROM SOME OF OUR BIG MANUFACTURERS
SUCH AS RECORD POWER & ROBERT SORBY.

FANTASTIC DEMOS IN
WOOD AND CRAFTS
PLUS TASTER
SESSIONS IN OUR
HOBBY MARQUEE,
CHECK OUT OUR
WEBSITE

WWW.YANDLES.CO.UK
FOR FURTHER DETAILS

TRADE STANDS WITH
SPECIAL SHOW
OFFERS

OUTSTANDING
SELECTION OF
TIMBER, WITH
SPECIAL SHOW
DISCOUNTS

VISIT OUR GALLERY,
CAFÉ, HOBBY SHOP
AND REFRESHMENT
MARQUEE.

A PERFECT DAY OUT FOR
EVERYONE, FROM THE
PROFESSIONAL, TO THE
HOBBIST, TO THE
FAMILY - DON'T MISS
OUT - FREE ENTRY
AND PARKING

YANDLE & SONS LTD

HURST WORKS,
MARTOCK, TA12 6JU
Tel: 01935 822207

e-mail: info@yandles.co.uk

WWW.YANDLES.CO.UK

10am -5pm Friday
10am-4pm Saturday



A new life for grandpa's plane

Anne Briggs Bohnett finds new life in her grandfather's old Stanley planes with some elbow grease and a few Hock blades



Hock blades in vintage planes

Last month, I had the extreme pleasure of interviewing Ron Hock, blade and tool maker, author of *The Perfect Edge* and the most widely respected authority on sharpening for *Furniture & Cabinetmaking* magazine. I first heard Ron Hock's name in an article on replacement handplane blades, which I read on Christopher Schwarz's blog nearly four years ago when I was just getting my start in handtool woodworking.

My grandfather, the man who inspired my love of woodwork, left his Stanley planes to me when he passed away. The planes were in fairly good condition when I got them, but they needed a good cleaning, sharpening and tune-up before they were ready to be put back to work in my own 'shop. With

Schwarz's article on Hock blades fresh in my mind, I bought two of them, honed the new blades, tossed them in two of my grandfather's planes and, in all honesty, took the immediate success I had with those planes for granted until several months later.

The process of restoring my grandfather's planes started me on a rabbit trail that dominated my woodworking pursuits for the next two years – buying, restoring and reselling antique tools. It was through tuning and restoring over 100 old tools that I came to really understand why I'd had such great initial success with the planes whose blades I'd replaced and the frustrations I had with so many of the tools that followed them in

the restoration process. I began to learn the ins and outs of old handplanes. They were at their best at the turn of the century and they devolved as the industrial revolution changed the way our world operated, as the price of steel increased with World War I and II, and as general understanding about how handplanes 'should' work decreased with the popularisation of power tools.

I think most woodworkers and toolmakers would agree on the things that make up a good handplane: a sturdy body, quality machining, enough heft so gravity can do its work, a flat sole, a properly mated frog and chipbreaker (where applicable), an appropriately sized mouth, comfortable handles and a sharp blade.

The devolution of the hand plane

By the end of World War II, and in the decades following, the major plane makers were making what Chris Schwarz has so aptly named 'tool shaped objects', and few people seemed to be the wiser as they continued to buy, use and cast aside these poor reflections of their mighty ancestors as their disillusionment with handtool woodwork grew.

The devolution of the modern handplane was driven by a bottom line, by the desire to make as many planes as cheaply as possible. Shortcuts in the production process were constantly being adapted. Even the 'standard' frog angle of handplanes, 45°, did not become standard because absolute perfection had been reached, but rather, because it was a happy medium between an ideal angle of attack for shearing the grain on both hard and softwoods. Standardising

the frog angle meant the production process could be further streamlined. Plane castings became increasingly slender as the price of carbon steel rose. The milling process, both in preparing mating surfaces and producing flat plane soles and blade backs became increasingly lax.

Before all despair takes over, however, let me say that with a basic understanding of what makes up a good handplane and how it is meant to work, a bit of elbow grease and a sharp, quality blade, these old paperweights can be made to sing, severing your wood fibres as they never have before. The good news about the mass production of early cast-iron handplanes is that there are thousands upon thousands of them still floating around in our grandparents' shops, in antique stores, garage sales and flea markets.

That last bit about a sharp, quality blade



Much thicker castings are used on modern planes

is where Mr Hock comes in. His relationship with James Krenov led Ron to begin making blades for handmade wooden planes, which later evolved into making replacement blades for old cast-iron handplanes.

New blade, new life

Ron Hock's plane blades offer fantastic solutions for three of the major issues that antique handplanes face. The first is chatter. Chatter is quite common in old planes due to their paper-thin blades and poorly machined parts. As the plane is pushed across the wood, especially when attempting to take a heavy shaving, the resistance of the fibres is greater than the thin blade can overcome and thus causes the blade to vibrate, or chatter, producing an uneven finish on the wood surface. The Hock blades I've purchased are a few thousandths of an inch thicker than those they replaced in my planes. Hock also offers chipbreakers that not only mate perfectly with their blades, they also add vital, chatter-resisting width to the plane blade.



Modern vs vintage blade and chipbreaker thickness



Thick blades close up the mouth

Vintage planes also often have a mouth so wide, it renders the plane less effective. The mouth of a plane should be just wider than the shaving taken. Too wide, and tear-out will occur. Too thin and shavings will get lodged in the mouth. Early planes had a fixed mouth, and it is often far too wide, especially on smoothing planes, for the plane to be effective. Later

planes offer a moveable frog, but even that doesn't always fix the problem. The added width of aftermarket blades is often an instant solution to this problem. Though some have found this added width to be problematic, closing the mouth opening entirely, a few strokes with a bastard mill file on the front of the mouth will alleviate that problem forever.



Vintage blade backs are seldom flat

The last problem many vintage plane users encounter is a wonky blade back. Most old plane blades have blade backs that would not sit flat on a memory foam mattress – not to mention problems with pitting – if the blade has pitting near the cutting edge, forget about keeping it sharp. For a plane to be truly sharp, and to have an edge that will stand up to heavy use, the bevel and the back of the blade must come to a perfect intersection at the tip. Young handplane users struggle with this bit because they go through all the motions

that should, in theory, produce a perfect edge – and indeed, their efforts certainly improve the cutting action of the plane, but they still cannot seem to get their plane to perform as it should. I myself struggled with this for a long time. I would spend hours lapping my blade backs flat, but, looking back at blades I sharpened early on, in my inexperience, I was not bringing an even polish on the back all the way to the tip of the blade where the bevel intersected. Quality aftermarket blades should come dead flat right out of the box.

Cleaning/tuning a plane

Cleaning and tuning a plane could be an article in and of itself, but there's a difference between a well-cleaned, tuned, sharp and functional plane than a full restoration, so here are a few points that will hopefully get you on the path to success. First, the bottom of the plane needs to be flat. It doesn't have to be perfectly flat across its whole length, but it does need to be making even contact with the wood in three vital places: at the front and back of the sole, and right in front of the mouth of the plane, ahead of the blade. If you're not sure your plane is flat, with the plane fully assembled and the blade retracted, lap it on a strip of 220 grit sandpaper stuck to a piece of granite, plate glass or melamine. A few strokes back and forth will reveal whether the plane is ready to use at the outset or whether there are problem areas that need to be worked down.

After the sole of the plane is tuned, 60 years of grit can be easily taken away with some citrus paste wax cleaner, some oven cleaner or even a few splashes of Coke and a Scotch-Brite pad. A few drips of oil on the moveable parts and a nice spritz of jojoba or camellia oil wiped on with a microfibre cloth will have the plane ready to be put back to use.



Assorted plane cleaning/tuning supplies



Essential flat spots on the sole of the plane

Sharpen a blade

Of course, without a sharp blade, a plane cannot work. Far be it from me to argue that this is the best sharpening method out there, but this one offers accurate, repeatable results with a minimal amount of instruction, and I like that. Woodworkers who never truly master a single sharpening method can spend thousands of dollars and many wasted hours, accruing much frustration over the course of their woodworking career buying various sharpening methods and materials thinking erroneously that they can bypass the knowledge and skill required to achieve a sharp blade. All the jigs in the world will never help you unless you have the basic understanding of what is required for a blade to be sharp and the willingness to practise and master that skill. Just like any other task in life, the more you sharpen, the more you practise a single method, the better you will get at it.

Using a honing guide, a thin pocket ruler, a few strips of sandpaper and two diamond stones, I have taught a lot of woodworkers how to achieve accurate, repeatable results with five minutes of instruction. To make for even faster, more repeatable results, make yourself a jig to hold the stones in place while sharpening, and add a few stop blocks that will help you place the blade at the appropriate projection for your most used bevel angles. This can be as fancy or as easy and functional as you want. Mine has a piece of scrap from the floor affixed with a piece of double-sided tape at the proper distance to hone a 35° microbevel on my plane blades.

If this is a new blade, it should have a nice, even primary bevel already ground. You can

skip this step. If it's an old blade or you've already mucked up your blade by sharpening it improperly, this is where you need to start. Establish a primary bevel. This can be done with a bit of elbow grease with sandpaper and a honing guide. If the blade is badly out of shape and there is a lot of material to remove from the bevel, start with 100 grit sandpaper. Your honing guide will say how many millimetres your blade needs to project out to establish a 25° bevel. This is a good place to start. When you have an even bevel across the blade, you can move through the grits – 100-150-220-320-400. As you move up the grits, the time spent on each grit is

lessened, because your whole goal is simply to remove the scratchmarks left behind by the last grit, not to change the shape of your blade at this point.

When you have a nice, even bevel and have finished on the 400 grit stone, it's time to move to your sharpening stones and add a microbevel. A good choice here is somewhere between 30 and 35°. The purpose of a microbevel is to save time and wear on your stones while sharpening, as you are removing less material at the tip of the blade.

This is where you will start for successive sharpenings – every 10 to 15 sharpenings,



Stop blocks save time and increase repeatability

return to your primary bevel as described above. Position your blade in the honing guide so it will hold the blade at 30–35°. Lubricate the stone with oil or water, and present the blade in the guide to your 1,000 grit diamond stone. Water or oilstones are also perfectly acceptable choices here, just make sure you are keeping your stones flat – flattening after every 30 to 40 strokes on the stone. I like to teach beginners with diamond stones because they wear slowly, don't dish and your blade can't dive in on an edge and nick the stone.

Stroke the bevel of the plane on your 1,000 grit stone until you can feel a burr raised across the full back of the plane.

Some people have much better results only cutting on the pull stroke, some people have success when they pull and push, just being mindful that you are more apt to dig in left or right while on the push stroke. If there isn't a burr raised across the whole back, the blade will not be evenly sharp across the edge. Once you can feel a burr across the whole edge, move to your 8,000 or 10,000 grit stone and polish the micro bevel. When you can see a clean, even reflection across the whole bevel of the blade, you are ready to remove the blade from the honing guide.

Now, place your thin pocket rule on the edge of your stone. You will use the ruler as a guide to raise an almost imperceptible

back bevel on your blade. This method was developed by David Charlesworth, and it negates the need to flatten a blade back. The slight microbevel formed in this manner assures even contact across the blade back to remove the burr formed during sharpening regardless of whether the blade back is or is not truly flat. Project the blade 25mm past the ruler, and with even pressure on both edges of the blade, take a few strokes back and forth to remove the burr caused by sharpening the bevel and to polish the very tip of the back of the blade. There should be a mirror reflection in the tip of the blade back and on the tip of the bevel when this process is completed, and the blade is now ready to use.



Adding the microbevel



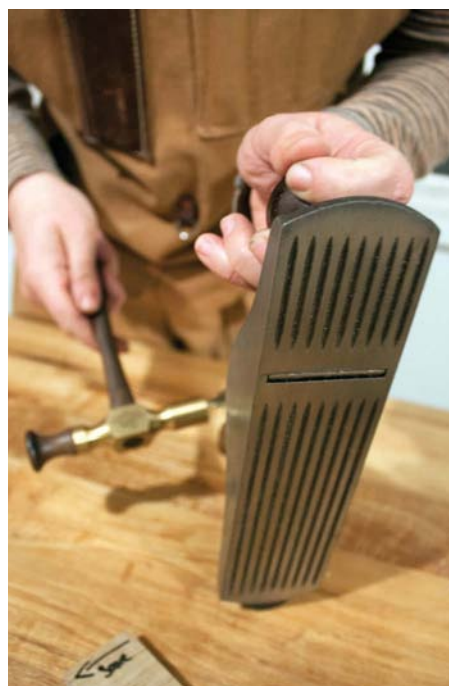
The Charlesworth technique – backwards, not left to right

Set up the plane

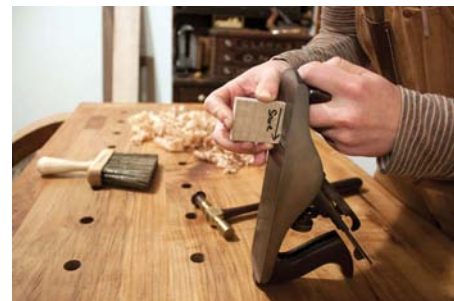
Reattach the chipbreaker to the blade, being extremely careful not to let the chipbreaker slip past your freshly sharpened edge during the attachment process. This metal-to-metal contact would ruin your freshly honed edge. Place the blade and chipbreaker back into your plane, being mindful of setting it so the lateral adjuster lever engages. I like to tighten the lever cap of the plane slightly tighter than most people because I use a plane hammer, not the lateral adjuster to move my blade right and left. On these old planes, the lateral adjuster is often simply too sloppy of an adjustment for my taste, so a while back I got a plane hammer meant for adjusting wooden planes and have never looked back.

A 25 x 25 x 6mm thick square scrap is about to become your best friend. If you don't already have one lying on your floor, cut one now. Using a felt-tip pen, mark the direction of the grain. Now, tip your plane up so you can sight along the sole. Advance your blade until you can just see it peeking out the mouth. Retract it slightly and grab your little scrap. Starting at one corner, move the scrap back and forth across the mouth of the plane as you advance the blade and tap it with the hammer to adjust it left or right. If the piece starts sticking in the blade, your blade is too far advanced. Retract and start the process over. When you are taking a wispy, even shaving from the entire width of the blade, your plane is set up and ready to go. Grab a board and have a ball planing away wonderfully wispy shavings.

As you take these first few strokes, listen to the sound the plane makes as it severs the wood fibres. If you listen carefully, you will notice that the sound dulls right alongside the blade. When this high pitched 'swoosh' sound starts to lower and sound more rough, it's time to resharpen your blade. *F&C*



Plane hammer > lateral adjuster



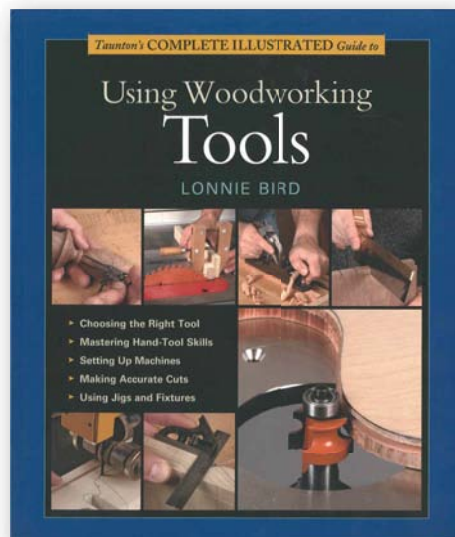
Plane setting trick



Perfect shavings

Workshop library

This month Matthew Pearson reviews *Taunton's Complete Illustrated Guide to Using Woodworking Tools*, Kieran Binnie reviews *The Toolbox Book* and Tricia Pearson looks at *Devon's Ancient Bench Ends*



Taunton's Complete Illustrated Guide to Using Woodworking Tools

By Lonnie Bird

Like any specialism or pastime, woodworking has some jargon that can be quite daunting to the uninitiated. Even if one has some experience, a good reference book is an ideal first port of call when you need help solving a problem, or understanding a technique. *Using Woodworking Tools* certainly has a wealth of really useful information, and as such it's definitely a book to have on or near your workbench.

This is a good general guide to woodworking tools from which the reader will gain a clear understanding of the families of tool, their forms and styles but most importantly their use and application.

But it isn't just about tools, Lonnie

Bird also provides useful advice about the workbench, work holding techniques and jigs, all of which will help newcomers and the experienced woodworker alike. In particular I liked the wedged V-blocked jig for bench top hand planing. The book also covers basic information about the characteristics and behaviour of wood, which many will find helpful.

Above all, *Using Woodworking Tools* provides anyone wanting a good grounding in both hand and power tools with enough information to make decisions about the right tool for the job in hand. The book is a balanced view of how hand and power tools can be best used to complement one another, with neither being prioritised over

the other. Each tool is clearly described along with a brief explanation of its best use.

This is a well illustrated book with colour images showing correct tool grips and usage. It is presented in an easy-to-read style, which is ideal for dipping into. With sections on marking out, gluing, shaping and sharpening it really is a very comprehensive guide that is well worth a place in your woodworking reference book section.

Published by Taunton Press
ISBN: 9781631860850
288 pages
£19.99

The Toolbox Book

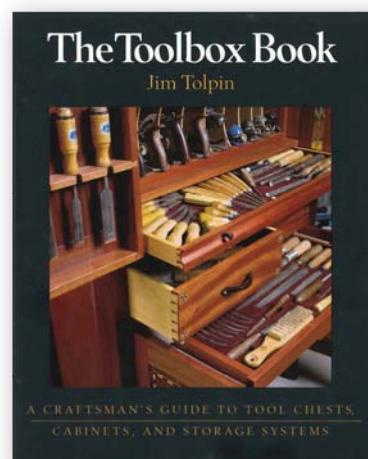
By Jim Tolpin

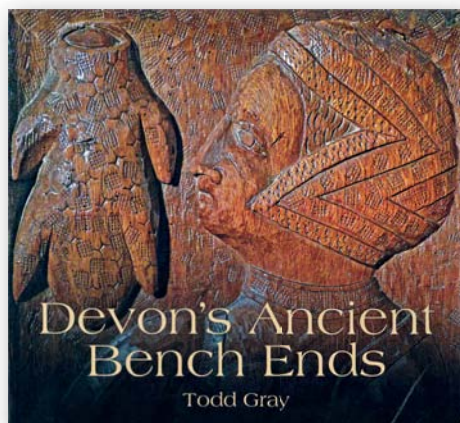
Along with a bench, some kind of tool storage is one of the most crucial elements of any workshop. In *The Toolbox Book* Jim Tolpin surveys a wide range of different styles of tool storage, including traditional English floor chest, rolling tool carts and freestanding tool cabinets. Thanks to the wide variety of tool storage solutions covered by *The Toolbox Book*, hand tool purists and power tool users alike will be able to find a solution that works for their particular requirements.

Although a detailed account of how to build each sort of tool chest is outside

the scope of the book, Tolpin offers some useful tips on how to go about designing and laying out tool storage, and beginners as well as experienced woodworkers will find tool chest builds suited to their ability levels. The quality of photography is good, and the text is clear and succinct. In short this is a useful, and inspiring, introduction to the different forms of tool storage.

Published by Taunton Press
ISBN: 9781561582723
208 pages
£19.99





Devon's Ancient Bench Ends

By Todd Gray

'Images of faith, irreverent creatures, flamboyantly attired men and women', so says the blurb for *Devon's Ancient Bench Ends* and it certainly delivers a rich and diverse collection of well laid out and detailed imagery which help to make this book a page turner. In fact, the photography is worthy of adorning any coffee table. But it is also a thorough historical study of this little-appreciated craft.

With over 2,500 medieval wooden bench end carvings in 100 churches, the county has one of the largest surviving collections in England. Todd Gray documents in surprising detail this almost forgotten piece of English craft and heritage. The book describes how these carvings reflect social history, dispute and hierarchy, it also takes us on a journey from medieval heyday to neglect and ruin and the Victorian renaissance of the craft. We discover the regional stylistic differences between the north and south of the county, the former preferring shields and embellishments while the latter preferred a plain Gothic style.

For me though the real stars of this book are, of course, the carvings. Beautiful, exciting, bizarre, ridiculous and sometimes disturbing. Sadly little is known about most of the artisans and craftspeople who created these stunning pieces but this book is dedicated to renewing our interest and appreciation. It contains a wealth of knowledge for the seasoned historian or inspiration for the newcomer and experienced carver alike. Well worth a read.

Published by Mint Press
ISBN: 9781903356616
192 pages
£17.99

Website of the month Offerman Woodshop



Fans of the American sitcom *Parks and Recreation* will recognise Nick Offerman from his portrayal of alpha male Ron Swanson, but they may not know that, aside from his 'day job' as an actor, Nick also owns a woodshop in Los Angeles. The Offerman Woodshop is a collective of woodworkers who make everything from spoons to fine furniture. The site's 'About' page explains their focus on "hand-crafted, traditional joinery and sustainable slab rescue – working

with fallen trees from throughout northern California and our urban LA environment." The 'Portfolio' section showcases the group's work and can be divided by category or by maker. It's worth taking some time to explore this fun website and its associated social media sites, which all reflect Nick's sense of humour. As well as selling slabs of timber, the online store stocks quirky items such as the Moustache Comb and the Luddite's Laptop – a wooden abacus.

WHO WE ARE

Offerman Woodshop is a small collective of woodworkers and makers based out of Nick Offerman's kick-ass wood shop in East Los Angeles. We focus on hand-crafted, traditional joinery & sustainable slab rescue—working with fallen trees from throughout northern California & our urban LA environment. We like to carve spoons, chainsaw stumps, plank canoes, keep our chisels sharp with stones, build pinball machines & fine furniture. From refined modern designs to enormous Middle-Earth masterpieces, we build it all while smiling a lot.



Nick



Lee



Josh



Matt



Matty

Offerman Woodshop specializes in custom furniture. For inquiries please contact ows.kindlin@gmail.com

[All](#) [Bedroom](#) [Boats](#) [Coffee Table](#) [Dining Table](#) [Josh](#) [Krys](#) [Lee](#) [Matt](#) [Matty](#) [Michele](#) [Nick](#) [Objects](#) [Projects](#) [Seating](#)
[Side Table](#) [Storage](#) [Table](#) [Thomas](#)



Porterhouse Table



Russian River Round Table



Bastogne Walnut Coffee Table



Walnut Built-in Bookshelves



Modular Library Shelves



Slatted Sycamore Bed



Drafting Table



Claro Walnut Bedside Tables

Details

Contact: offermanwoodshop.com Instagram: [@offermanwoodshop](https://www.instagram.com/offermanwoodshop)

NEXT MONTH in

Furniture & cabinetmaking

**ISSUE 243
ON SALE
17 MARCH**

Project

Linear perfection – facet cabinet

**Inspiration
masterclass**

Surface pattern
gunstock style

**In the
workshop with**

Tom Lie-Nielsen

Restoration tech

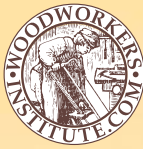
Eaten alive – a rare
clock belonging to
Marie Antoinette

**Workshop
essentials**

Clamp storage sorted

Finishing tech

Three easy steps
to achieve a high
shine with oils



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

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**



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





PT255 PLANER THICKNESSER

Weighing an impressive 175Kg and featuring an uncompromising make-up of components, our entry level Planer Thicknesser boasts an exceptional build quality and the assurance of accuracy and stability for the long term.



FEATURES INCLUDE:

- ▷ 1.5Kw Industrial Rated HIGH EFFICIENCY Braked Motor.
- ▷ Large diameter 2 knife cutterblock for improved finish.
- ▷ Cast iron tables with anti-friction planed finish.
- ▷ Robust cast iron fence for accuracy when surfacing.
- ▷ Heavy duty chain driven feed rollers for optimum thicknessing feed.
- ▷ 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



JOHN LLOYD
TO BE THE BEST
TRAIN WITH THE BEST

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



THE
CHIPPENDALE
INTERNATIONAL
SCHOOL
OF
FURNITURE

www.chippendaleschool.com




IAN PARKER
furniture school

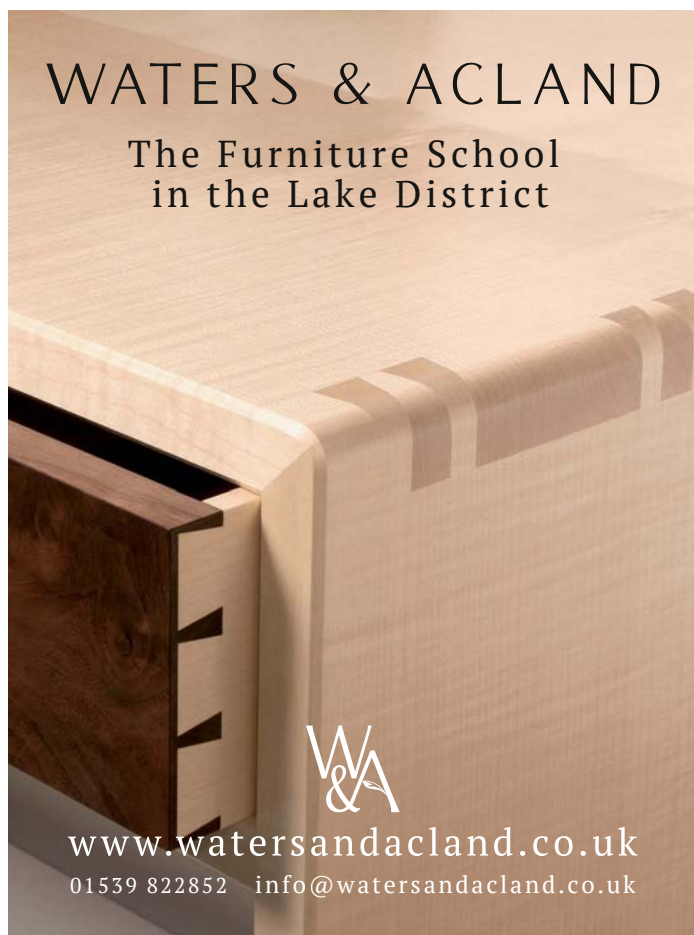
www.ianparkerfurniture.co.uk / near Tunbridge Wells
01892 861009



WILLIAMS & CLEAL
FURNITURE SCHOOL

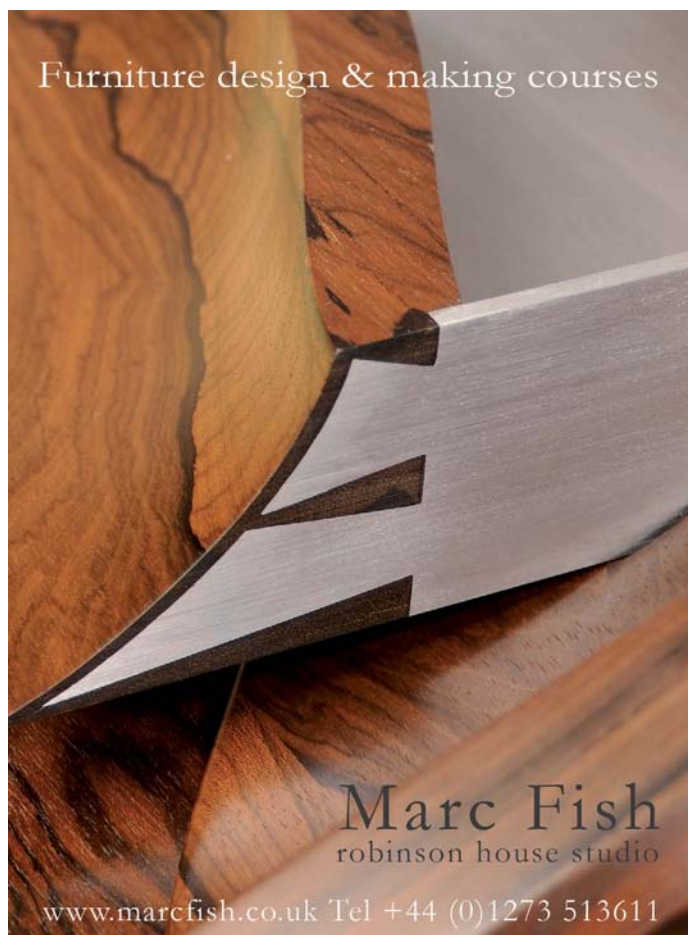
BE INSPIRED
DESIGN
CREATE

www.williamsandcleal.co.uk
01984 667555



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

**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

nook Google Play Amazon Kobo Apple

Brodiest Timber

Scotland's Specialist
Hardwood & Tool Shop

Scottish, European, American
& Exotic Kiln Dried Timber.

Onsite Joinery Workshop

Lie-Nielsen Heirloom Tools, Record Power Machinery, Flexcut
Carving Range, CMT Router Bits, Robert Sorby Turning Tools.

In our shop and ONLINE today!



**Book your diary now for the Scottish Woodworking
& Tool Show 14th & 15th October 2016!**



www.brodiestimber.co.uk

Brodiest Timber, The Old Sawmill, Inver, Dunkeld,
Perthshire, PH8 OJR

Tel: 01350 727723 mail@brodiestimber.co.uk

JAKE PHIPPS

There is now a great opportunity to work for contemporary furniture design and manufacturing company JAKE PHIPPS Ltd.

Based in Richmond, North Yorkshire, we are seeking a skilled craftsman with an excellent attention to detail to work on completing high-end limited edition and one-off pieces of furniture.

The work is highly sculptural in nature as we continue to redefine traditional design and cabinetmaking through the use of cutting edge materials, finishes, techniques and technology. Therefore a good understanding of a variety of types of manufacturing processes is an advantage, so too is a willingness to adapt to each project as they will vary in scale and materials.

To apply - email us at contact@jakehipps.com

Please provide us with a CV, examples of your work, and your expected wage. You must be fluent in English. We are looking for someone to start from March 1st.

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

WEALDENT TOOL COMPANY

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

www.wealdentool.com

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

VISA MasterCard Maestro

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

Want to find out how to advertise in a magazine that is referred to time and time again by its readers?

Then contact Russell on 01273 402821
or russellh@thegmcgroup.com

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.surreytimbers.co.uk

Furniture & cabinetmaking

Every panel tells a story

Make plain veneers shine with the perfect sunburst technique
Clock sharpening demystified with Mark Harrell
PROJECT
Portable shoulder vise
Rock solid bench build
Are your irons sitting comfortably?

JOIN US ON FACEBOOK

Like our page for regular updates!

f WoodworkersInstitute

\$25,000 (£16,805)

UNDER THE HAMMER:

Equation clock

This month we look at the Louis XV ebony veneered equation clock, recently auctioned by Bonhams

This is an important example of an equation clock, a mechanical clock that simulates the equation of time so it can be used to calculate solar time. This piece was made by Julien Le Roy (1686–1759), regarded by his contemporaries as the most influential horologist of his era. The clock was included in the *Encyclopédie, ou dictionnaire des sciences, des arts et des métiers* (1751–72) by Denis Diderot and Jean d'Alembert, where it is described as one of the first successful equation clocks with a single dial and concentric hands. The clock is housed within a plain brass inlaid case, formerly with more extensive ormolu mounts. The circular silvered dial is engraved with the motto 'Solem arte sequor' (Designed to follow the sun) and the piece is signed 'Inventé en 1736 par JULIEN LE ROY de la Société des Arts'.

Jean Le Roy

Le Roy was born in Tours where he was trained in horology by his father, before moving to Paris around 1700. He began his career at a time when the reputation of French clock making was in decline. To remedy this situation, he joined with others to found the Société des Arts to promote horological knowledge. Unlike many, Le Roy freely shared his ideas with his colleagues. His superb craftsmanship influenced the profession and helped reverse the decline. His mechanical improvements to watches were incorporated into virtually all later 18th-century Continental watches. In the end, the success of the Société prompted a jealous Académie Royale des Sciences to absorb its membership. In 1713, he set up a workshop in the rue de Harlay, where the most eminent 18th-century Parisian clockmakers also worked. In 1739, Le Roy was appointed Valet de Chambre, Horloger du Roi (Clockmaker to the King) to Louis XV and was granted premises in the Louvre, which he maintained in addition to his atelier in the rue de Harlay. His son Pierre was also an accomplished clock maker. *F&C*

Louis XV ebony veneered
Regulateur de parquet



PHOTOGRAPH COURTESY OF BONHAMS

FESTOOL

[UNPLUGGED]



The Sound of Festool.

The new site radio SYSROCK

Lightweight, compact, powerful. The new SYSROCK* site radio is impressive with its perfect sound. Thanks to the Bluetooth interface and built-in speakerphone function you can still remain available to your customers even when listening to your favourite songs or your preferred radio stations - all in SYSROCK sound quality.

For more information contact your specialist retailer or go to www.festool.co.uk/sysrock

FESTOOL
Tools for the toughest demands

*SYSROCK sound even without an electrical outlet thanks to the integral battery interface for 10.8-18 V battery packs.

www.festool.co.uk/sysrock

PT107 10" x 7" Heavy Duty Planer Thicknesser

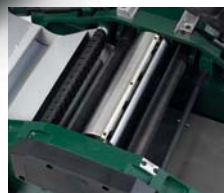
The PT107 is perfectly suited to the discerning woodworker who expects professional and **reliable performance** from a **solid, durable** and **compact machine**. Whilst compact enough for smaller workshops and ideal for serious home or trade users, this machine boasts some impressive industrial features 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

What They Say...

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.

Brodis 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