Furniture &cabinetmaking

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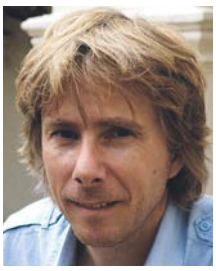

Welcome to...

...controversy

PHOTOGRAPH BY DEREK JONES/GMC PUBLICATIONS

This issue, if you know where to look, is full of controversy. If it's not blindingly obvious when you come across it, it's probably safe to assume that you and I are reading from the same hymn sheet. Much like sharpening, tablesaw safety is one of those topics capable of splitting an audience in two and for years I've been curious as to why there's such a difference in working practices around this machine. The conclusion I've reached is that for some folk the absolute freedom to choose if, how or when they're allowed to harm themselves is more important than a legislative mandate thrown down to protect all and sundry. I have no axe to grind here other than to urge new practitioners of the craft to seek out the most reliable role models they can. A word of warning here – they're not always who you think they are.

Our project this month comes from Martin Harvey, a furniture maker from Wales, who honed his making skills in a commercial workshop before setting up his own. His crockery cabinet build (page 6) is an excellent example of how to produce quality bespoke details efficiently. Following on from her feature about the Wooton Desk in last month's issue, Nancy Hiller looks at a range of furniture that was designed by men and specifically targeted at women towards the end of the 19th century. The Hoosier Cabinet was the product of a new school of thought based around the study of time and motion that would later adopt a more formal title 'domestic science' and pave the way for today's kitchen designers (page 22). Our tech articles this month are equally diverse with Robert Ingham explaining how to machine brass with woodworking machinery (page 36) and Steve Coonick reviewing a wax oil product that's suitable for both interior and exterior use (page 48). For the tool enthusiasts Kieran Binnie is trying out the new panel raiser from Philly Planes (page 44) while our Collector's Guide (page 58) charts the history of a tool that quite literally helped shape the ancient world and is still going strong today. Bow sawyers take a bow.

Derek Jones

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Contents

Issue 274 September 2018

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

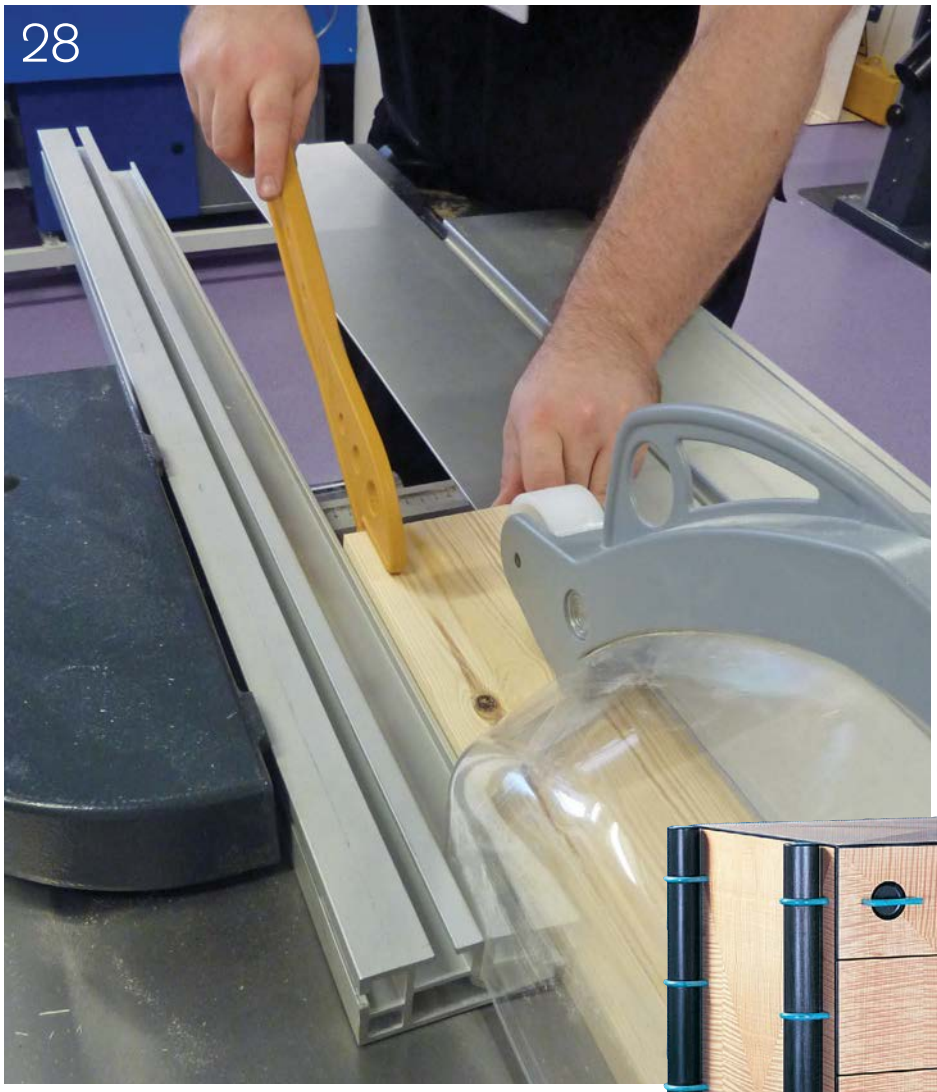
Woodworking is an inherently dangerous pursuit. Readers should not attempt the procedures described herein without seeking training and information on the safe use of tools and machines, and all readers should observe current safety legislation.

Projects & Techniques

Design & Inspiration

Your *F&C*

6

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with Peter Sefton
Ultimate Bandsaw Set Up
& Maintenance
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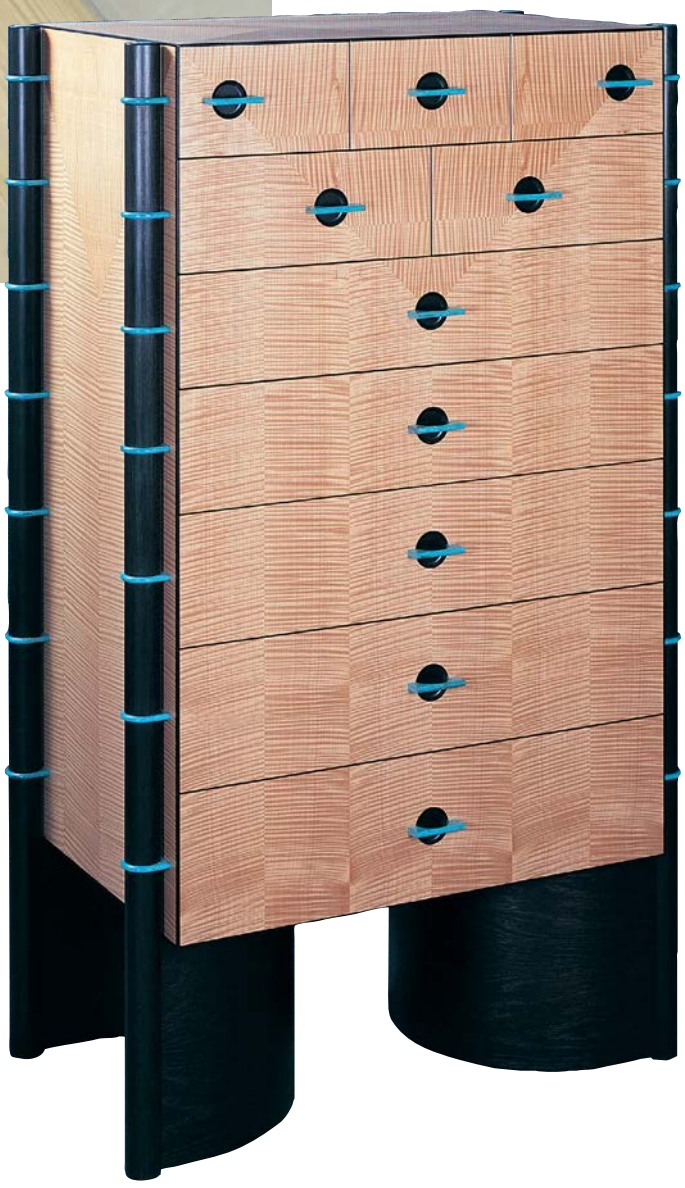

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John began his publishing career as a graduate trainee at Cambridge University Press. He later set up a small publishing house in Cambridge under his own name devoted to highly illustrated books in the decorative arts. He is the publisher of David Russell's book *Antique Woodworking Tools*.
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Steve is a radio communications engineer who graduated from Plymouth University in 1992. During his engineering apprenticeship prior to university he gained metalworking skills in the machine shop (City & Guilds). In 1997 he became interested in furniture-making and woodturning as a hobby, and has since attended various short courses with Peter Sefton, David Savage, Michael Scott, Adrian Marks, Colwin Way and West Dean College.
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Martin Harvey

Martin Harvey studied furniture and product design at Kingston University before graduating from the Royal College of Art with an MA in furniture design in 1997. He spent the first nine years of his career designing, making and managing predominantly fitted furniture projects both from his own workshop in Wales and in employment by others. In 2006 he migrated to South Australia where he became creative assistant to Khai Liew, one of Australia's leading furniture designers and on his return to the UK in 2009 found employment as a creative designer at prestigious cabinet makers Artichoke LTD based in Cheddar. In 2010 he set up his current workshop in South Wales and is now focussed on developing his own work both speculatively and to private commission.
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Kieran's passion for woodwork started at the end of law school when he enrolled at the Totnes School of Guitarmaking. His focus has since expanded to include furniture making as well as lutherie. Kieran writes a regular blog at www.overthewireless.com, and is currently researching and writing a book for Lost Art Press about Welsh stick chair maker John Brown.
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Robert trained at Loughborough College, and at Leeds College of Art, followed by a degree at Leeds University. After several years teaching, he set up a workshop designing and making furniture in partnership with his younger brother George. In conjunction with his teaching, he now runs his own business, Robert Ingham Designs, and makes one-off pieces to commission and for exhibition. Several of his pieces have been awarded Guild Marks.
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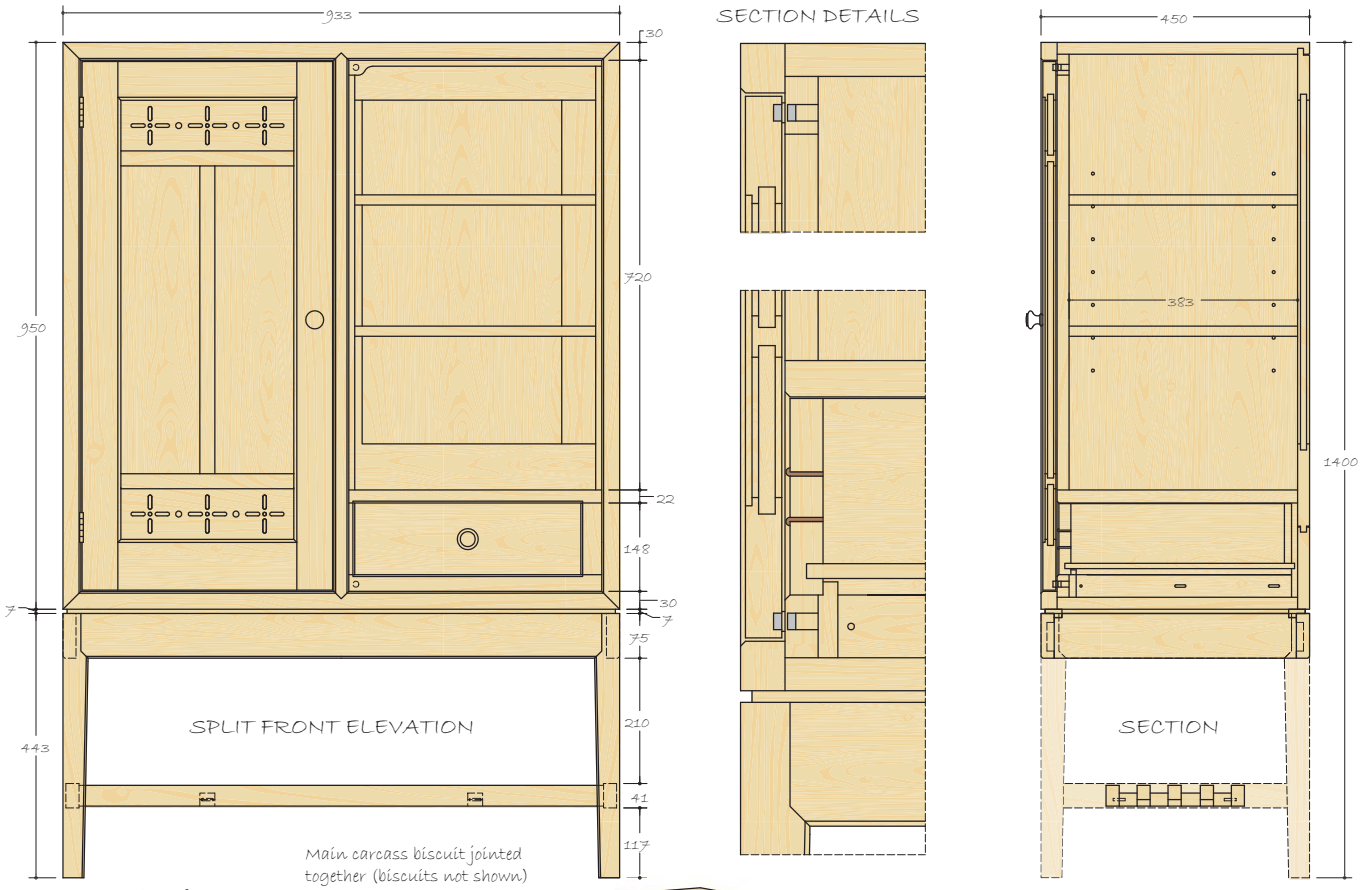
Crockery cabinet with pierced features

Martin Harvey explains how he developed the key features of his crockery cabinet

PHOTOGRAPHS BY DF MARTIN HARVEY

When I started out wanting to be a furniture designer-maker I spent several periods of employment with established local cabinetmakers in an effort to better understand the everyday demands of working within a commercial environment. For one of my first projects I was handed a pile of jigs and sent off to make 15 American red oak cooker canopies. The main feature of the canopies was a decorative pierced fretwork panel that ran across the front of the hood. Routing the fretwork from a simple pattern proved a relatively easy technique to master and the end result turned out to be quite effective. I bookmarked this process as something to one day develop and incorporate within my own work. The idea behind my crockery cabinet was to create a piece of furniture that links the kitchen and the dining room. Having spent several periods designing and making bespoke kitchens I believe that this is one area where customers feel comfortable investing in high-end cabinetry. This cabinet is my attempt to access the peripheries of the lucrative bespoke kitchen market. The crockery cabinet was of a manageable size to make in my small one-man shop and a project that finally gave me the opportunity to produce some more pierced fretwork panels.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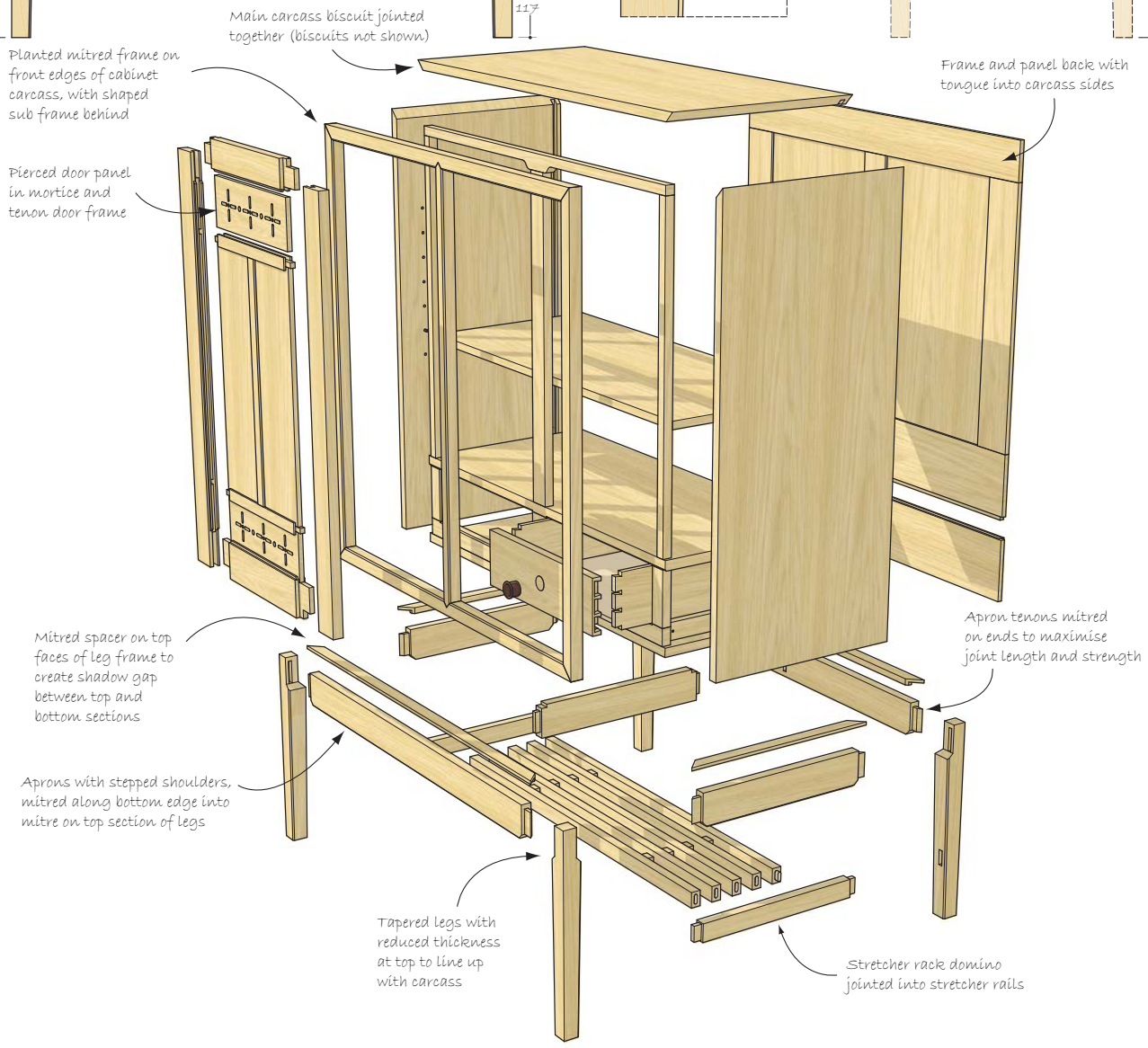
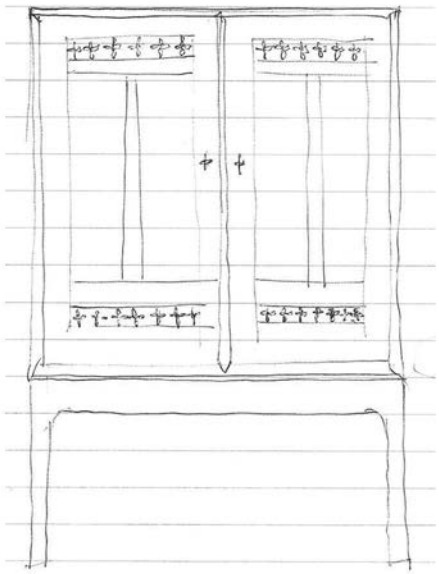

Main carcass biscuit jointed together (biscuits not shown)
Planted mitred frame on front edges of cabinet carcass, with shaped sub frame behind
Frame and panel back with tongue into carcass sides
Pierced door panel in mortice and tenon door frame
Mitred spacer on top faces of leg frame to create shadow gap between top and bottom sections
Apron tenons mitred on ends to maximise joint length and strength
Aprons with stepped shoulders, mitred along bottom edge into mitre on top section of legs
Tapered legs with reduced thickness at top to line up with carcass
Stretcher rack domino jointed into stretcher rails

Resolving the pattern

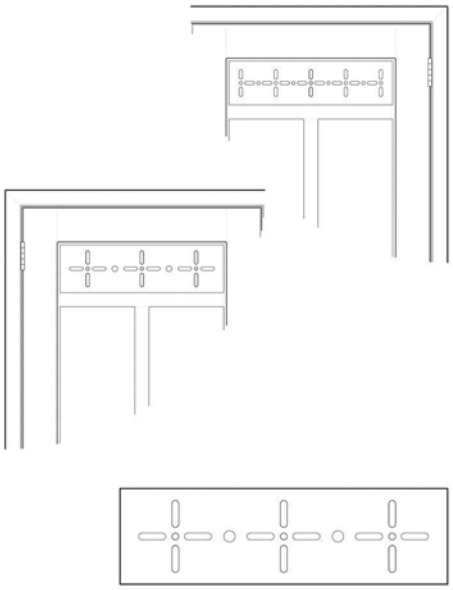
My process when developing a piece of furniture usually begins with a series of simple notes and sketches as I try to find a starting point. Once I have a vague idea of where I am heading I begin drawing up the design to scale in two dimensions. From this initial drawing I take a copy of the elevations, print them out on to some thick paper and stick them all together to make a quick scaled model. I put this model to one side and live with it for a couple of days, reassessing the design with fresh eyes until I am happy.

On this occasion I felt that my original layout for the piercing on the door panels was a bit cluttered so went back to the drawing to adjust the spacing. Usually at this point I would produce a full scale drawing on a sheet of hardboard to get a feel for how the design works at human scale but in this instance I was happy to move forward with the build.



Initial sketch for the pierced door crockery cabinet

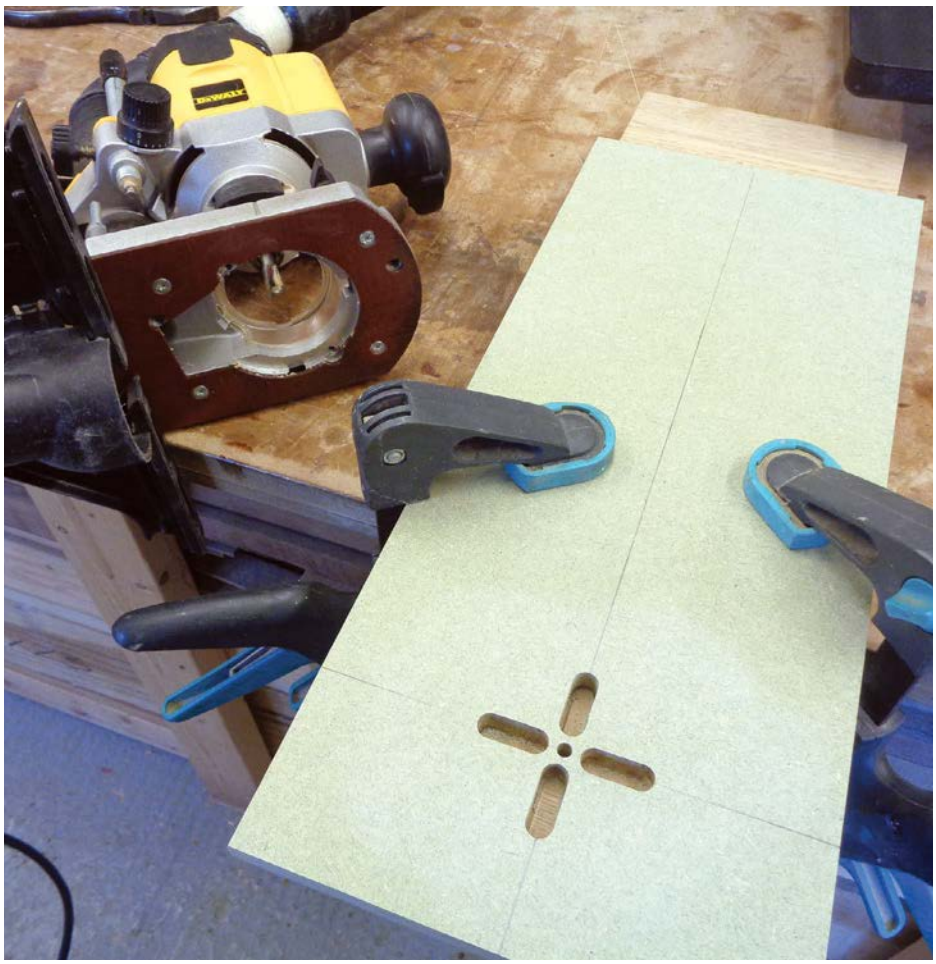
Paper model 1:10 scale



Working out the pattern spacing

Pierced panel jig

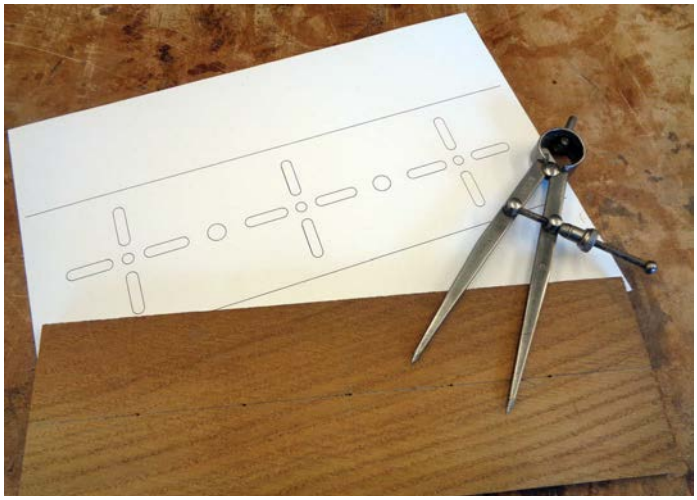
To create the pierced panels on the cabinet doors I decided to make a simple router jig similar to the one I used on the cooker canopies. Of course this could easily be done on a CNC router if you have access to one but without this facility and not wanting the hassle of outsourcing to others, the preference was to maintain full control and do it myself. To make the jig I cut a piece of MDF, making sure it was long enough to provide a good clamping surface and wide enough to support the base of my router. I used 12mm for this because my guidebush is 9mm long and it needs to stay within the thickness of the board. I drew a line down the centre of the jig and picked a point to mark the middle of the pattern with a cross. At this point I drilled a 6mm hole to accept a standard dowel that will locate the jig on the pierced panel. The elongated cross holes on the pattern are all 24mm long by 6mm wide so I marked the centre of each on my cross lines and measured out 14mm either side allowing for the 2mm offset of a 10mm guidebush. With the pattern all marked out I attached the router's parallel side fence and with a 10mm router bit cut the pattern using the edges of the jig as my guide. Accuracy is paramount here with each cut needing to be dead centre and to stop at the correct length. To align the jig I cut a peep hole and marked the centre line down the walls of the hole. The dowel location peg can now be fitted in the 6mm hole and the jig is ready to use.



Carefully preparing the jig

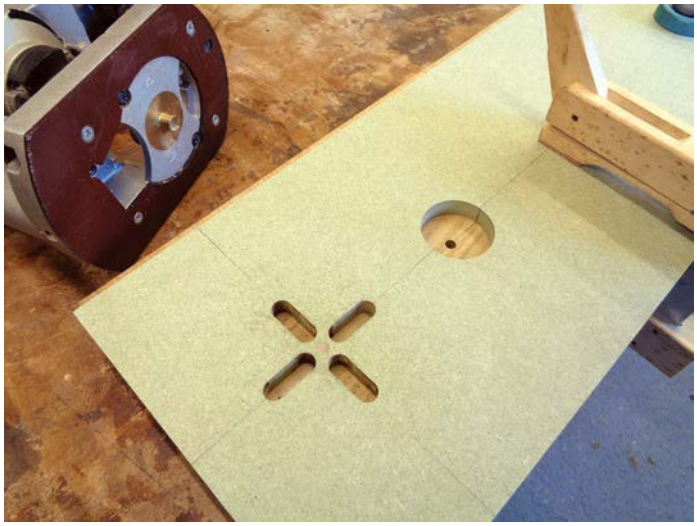
Using the jig

To test the jig, I made up a sample panel cut to the same dimensions needed for the doors. I drew a centre line down the face of the panel and marked out the positions for the holes spaced at 48mm centres. The holes were bored on the drill press using 6mm and 9mm lip and spur bits. To use the jig I located the dowel peg in each appropriate hole on the panel and lined it up with the centre line through the peep hole, clamping the whole assembly to my bench with a sacrificial backing board to protect the bench and stop blowout on the back of the panel. The pattern was routed with a 6mm bit through the 10mm guidebush. For a clean cut I used the highest speed, a sharp bit and plunged in three stages through the 9mm panel. More importantly I found the need for good extraction to clear the cut and allow the guidebush to run freely in the pattern. Once I had completed the test panel and felt happy with the result, I moved on to repeat the process for the cabinet doors.



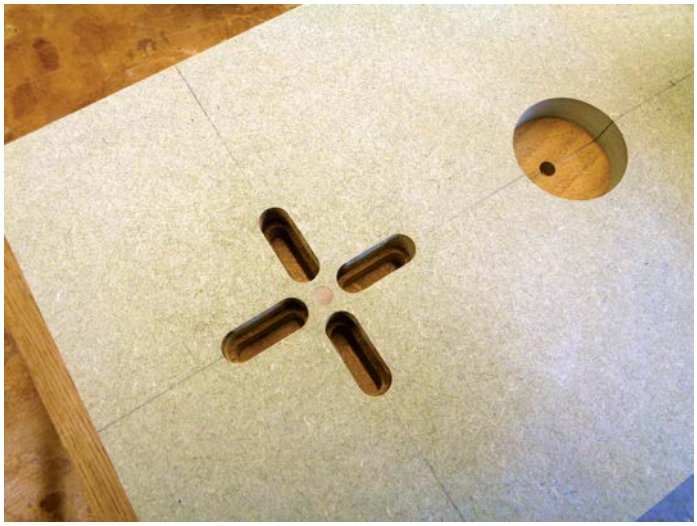
Marking out the pattern centres

Boring the centre holes on the drill press



Lining up the jig on the centre line through the peep hole

Routing the pattern with the Dewalt DW621 which has excellent extraction through the plunging column



Finished cut showing the guidebush offset

Finished section of the pattern

Doubling the detail

The doors of the cabinet were set back 3mm within a face frame which was chamfered all around its inside edges to add visual depth and texture to the cabinet fascia. The chamfer detail was carried on down through the inside edges of the base and when the doors were open I used the same detail on the frame around the drawers.

Initially I was planning to bore some simple holes for finger pulls on the drawer fronts in direct relation to the piercing on the doors. On reflection I decided to use the extra depth gained by the chamfer and the set-back drawer fronts to add a raised finger pull detail in a contrasting timber to draw the eye to the point of use. I chose American black walnut for the finger inserts because it contrasted well with the sweet chestnut in both colour and grain structure. The tighter grain of the walnut with a smoother finish feels good to touch and I repeated this detail with simple turned walnut knobs on the front of the doors.

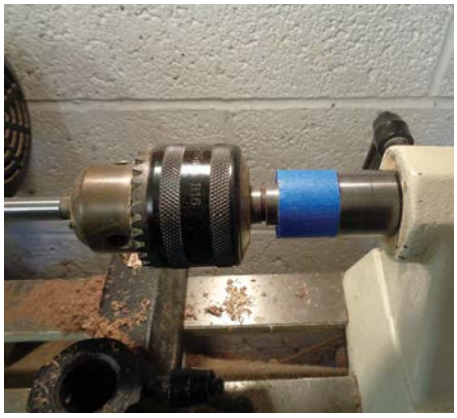
Set back chamfer detail used around doors and drawers

Raised American black walnut finger pull detail

Finger pull inserts

To make the finger pull inserts I turned to the lathe and threaded a sacrificial blank on to my auxiliary screw chuck. I squared up the face and used some superglue to quickly attach the walnut blank for the insert. The blank was reduced to 35mm diameter and the front face squared off cutting a small V indent at the centre to guide the point of a Forstner bit. Measuring back 3mm from the front face, I reduced the rest of the insert to 30mm leaving a 2.5mm shoulder and then bored out the centre with a 25mm Forstner bit. Cutting this hole only left a wall thickness of 2.5mm and on my first attempt I was too aggressive with the lathe running too fast. The heat generated by the friction of the bit caused the thin timber wall to fracture so on my next attempt I resharpened the bit and reduced the speed, leaving a very clean cut. The drawer fronts were 20mm thick so I gauged the depth of the hole to 25mm using some blue tape on the shaft of the chuck, winding it out 25mm and marking this point to indicating when to stop. This left a good glued surface to hold the insert and prevented me from running in to the sacrificial blank that was needed for the next insert. I rounded over the rim of the insert with a 2.5mm radius and parted the component off the lathe. After cleaning up the face of the sacrificial blank it was just a case of repeating this procedure.

Attaching the walnut blank to the lathe



Gauging the depth of the hole

Leave enough material in the bottom of the hole to retain a good glue connection with the sacrificial blank

Drawers

For the crockery cabinet drawers I used lapped dovetails on the front and through dovetails at the rear with solid sweet chestnut bottoms running under the backboard allowing for seasonal movement. As this is a practical piece, I used 12mm stock on the sides and back, 9mm for the bottom and 20mm drawer fronts, which gives a healthy amount of material to endure a harder life. I cut the tails first and then the pins before running the front and sides over a tablesaw blade taking multiple cuts to clear a groove for my bottom panels. I like to cut the groove this way because I find it a quick and precise method for gauging the width of the groove to the exact thickness of the panel. To make waste removal from the pin sockets a little easier I use a pair of left and right skew chisels that are great for cleaning out the awkward corners.

Prior to assembling the drawers I prepared the 30mm holes in the drawer fronts to accept the finger pull inserts and, once glued-up, went about fine fitting the drawers to the cabinet. After cleaning up the drawers and lightly relieving the edges with some 320-grit abrasive the last step was to glue in the inserts. To avoid any glue or moisture getting on the front face of the drawer I took a fine brush and carefully painted a thin film of glue on the inside of the hole. I then painted a thin film around the leading third of the insert so that when I pushed the insert into the hole any excess glue on the side walls pushed out the bottom and any excess on the insert didn't make it to the top leaving a good clean fascia. After levelling off the back face and taking the sharpness off the inside edge, the drawers were complete.

Working through the drawer components

A good pair of skew chisels make light work of cleaning out the corners of pin sockets

Fitting the finger pull inserts

A good set of guide bushes expands your jig-making capabilities

UJK threaded guidebush set

If you're lucky, your router will have come with a token guidebush. This can be useful but limited in the fact that you usually only get one size. If you are interested in routing and jig making I would highly recommend the UJK threaded guidebush set available from Axminster Tool Centre LTD (www.axminster.co.uk). This set contains eight different sizes ranging from 10–30mm and is an extremely high quality product made in brass and housed in a useful plastic case. I purchased mine several years ago along with some Leigh guidebush adapters to fit my different routers. They have been a great investment and will expand your possibilities for jig making and help increase your levels of accuracy. I use mine all the time.

Base construction

The base of the crockery cabinet was designed to elevate the main body of the cabinet to a comfortable height for accessing delicate crockery items without having to bend too much. Because the cabinet will be heavy when loaded, I decided to include a stretcher rack to add some rigidity to the open frame structure and to provide an additional storage or display option to an otherwise redundant space. After sizing the base timber to 0.5mm over finished dimension, I cleaned up all surfaces except those still to be worked with my Stanley No. 4 to remove machine marks. I then marked out all of the components ready to process the joinery. The next step was to mortise the legs ready to accept the aprons and stretcher rails. I do this while still square as it is easier to grip the timber in the machine vice. On this base frame I decided to mitre the aprons in to the top of the legs so that visually the leg section matched the width of the face frame on the cabinet above. This procedure was carried out on the tablesaw cutting the mitres first before removing the waste with my tenoning jig. The next step was to cut the tapers on the legs. I like to cut tapers on a sacrificial parallel board, lining up the cut line with the edge of the board and quickly pinning some stop blocks to hold the leg in place. I then run this assembly through the saw to remove the waste. Once all the legs have been cut I remove the saw marks with my finely set Stanley No. 4.

The next procedure is to tenon the aprons and stretcher rails. Once again I do this on the tablesaw, first cutting the shoulders, then removing the waste with my tenoning jig. I

Square legs are easier to grip in the machine vice

Using a parallel board to cut the tapers on the legs

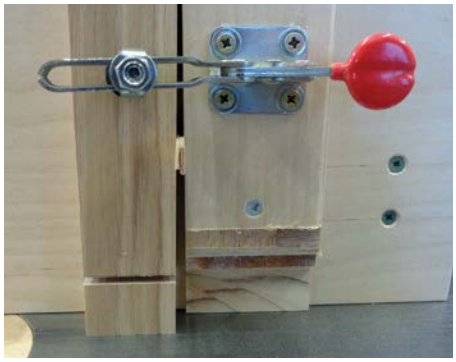
Mitred apron joinery

Mitred apron and leg assembly

mitred the apron tenons on this application because I had reduced the top of the legs for aesthetic reasons and wanted to maintain as much long grain adhesion as possible. Once the tenons were formed on the aprons I tipped the blade over to 45° and clamped a block to the tablesaw fence to register the shoulder line and cut the apron mitres to mate with the legs. The stretcher rails needed to be angled appropriately to meet with the taper on the legs. This was achieved by cutting the angled ends first then using the same technique as with the aprons but using the cut end as the datum face on the fence and the bed of the saw adjusting the angles on the mitre fence and tenoning jig to remove the waste.

I chose to attach the stretcher rack section to the stretcher rails with Domino biscuits using a simple spacing jig to set the position of the rack elements. This method is easy to mark out, incredibly accurate and because of the precision fit of the Domino biscuit very strong for the task at hand. Before glue up I ran a 3 x 3mm chamfer around the inside show faces of the legs and aprons on the router table ready to match detailing on the cabinet above and added a central rib to the aprons to keep front and back parallel. I also added a spacer rail around the top of the base to form the 7mm shadow gap between the base and cabinet, which doubled as a button rail for fixing to the top carcass. The base was then assembled and glued-up leaving just the sharp edges to be eased and a little light sanding. F&C

Removing the saw marks with a finely set No. 4



Using the angled cut as a datum on the machine bed to cut the tenons

Domino spacing jig for attaching the stretcher rack to the rails

Assembled base with parallel centre rib and button rail

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Chippendale students win prizes

Dr Adam Bowett, chairman of the Chippendale Society, presented Vanessa Johnston with her prize

Professor Richard Demarco CBE with the Richard Demarco Prize winner, John Grillo

PHOTOGRAPHS COURTESY OF THE CHIPPENDALE INTERNATIONAL SCHOOL OF FURNITURE

The Chippendale International School Of Furniture held an exhibition of its graduates' work at Greyfriars Kirk in Edinburgh in June. Two talented students were also awarded prizes at the exhibition.

Vanessa Johnston from Seattle was awarded a prize from the Chippendale Society to mark the 300th birthday of Thomas Chippendale. The prize was presented by Dr Adam Bowett, chairman of the Chippendale Society, who said that he was amazed by the standard of craftsmanship on display from all the students.

The prize was awarded to Vanessa for her outstanding craftsmanship, beautiful design and the coherence of her wych elm and olive ash furniture collection, which includes a table, bedside tables, chair and an intricate clock. Before coming to the Chippendale school, Vanessa was a marketing director and graphic designer, and did have some woodworking skills having previously lived on a houseboat which she renovated herself, building cabinets, and even adding a second storey to her boat. She is now setting up her own company, Vanessa Johnston Woodworking, and plans to stay on in incubation space at the school after graduation.

Dr Bowett is an independent furniture historian who works as a consultant on historic English furniture with public institutions, including the National Trust, English Heritage and the Victoria and Albert Museum, and with private clients in both Britain and North America.

The Richard Demarco Prize 2018 was awarded to another American student whose pepperwood and walnut round table 'transcends craftsmanship and design'. John Grillo, a former business intelligence analyst from Denver, Colorado, was presented with his certificate by the celebrated Professor Richard Demarco CBE, one of the UK's leading arts commentators and a leading advocate for contemporary art.

The apron of John's table is made from some 40 pieces of intricately cut walnut, with a dozen pieces of pepperwood veneer to form a simple, flowing yet geometrically-complex design. The unusual veneer, from a tree species native to America and which was once chewed for its anaesthetic properties, created a tactile surface that, said Demarco, 'elevated the table from something functional to a work of art'.

'It is a piece of furniture that displays real skill but which, like a painting or piece of sculpture, transcends craftsmanship and design to become genuine art,' he said.

Professor Demarco is a former European Citizen of the Year whose contributions to contemporary art have been recognised on many occasions, receiving the Polish Gold Order of Merit, the Cavaliere della Repubblica d'Italiana, and the Chevalier des Arts et Lettres de France. He has been one of Scotland's most influential artistic figures for many years through his work at the Richard Demarco Gallery and the Demarco European Art Foundation, as well as his professorship at Kingston University in London.

John will now take his exceptional skills back to his hometown of Denver to set up Rocky Mountain Fine Woodworking.

Contact: The Chippendale International School Of Furniture
Web: www.chippendaleschool.com

New pest recorded in British woodlands

Recently discovered examples of leaf damage indicate that the zigzag elm sawfly (*Aproceros leucopoda*) has arrived in the UK and could threaten elm-dependent insects around the country.

Originally recorded in Japan, the zigzag elm sawfly only feeds on elm leaves and has been progressing steadily through Europe. Now scientists at the Royal Botanic Garden Edinburgh (RBGE), have confirmed the tell-tale zigzag feeding trail left behind by sawfly larvae on leaves collected in Surrey during autumn 2017.

RBGE Science Communicator Dr Max Coleman said: 'Members of the public can provide useful information by sending in their own sightings of the unmistakable zigzag pattern. New records are particularly important as we cannot confirm the presence of this insect until a specimen is collected. Adult insects, larvae or even the pupal cases, where larvae transform themselves into adults, would provide the definitive evidence.'

While zigzag elm sawfly rarely kills trees, large populations can completely defoliate elms. This can be disastrous for elm leaf feeding insects such as the rare white-letter hairstreak butterfly (*Satyrium w-album*).

The distinctive mark left by the zigzag elm sawfly

PHOTOGRAPH BY GYÖRGY CSÓKA (HUNGARY FOREST RESEARCH INSTITUTE)/WKIMEDIA

Anyone wishing to report sightings of zigzag elm sawfly should use TreeAlert, the online reporting tool developed by the Forestry Commission to track tree health problems/

Contact: Forestry Commission
Web: www.forestry.gov.uk/treealert

Events

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

EVENT OF THE MONTH

London Design Festival

The London Design Festival celebrates and promotes London as the design capital of the world and as the gateway to the international creative community. This year's festival highlights include the interactive modular installation MultiPly, the result of a collaboration between Waugh Thistleton Architects, the American Hardwood Export Council and ARUP. There will be nine Design Districts across the city, each hosting events, open studios and workshops.

The festival also includes five major trade shows: 100% Design, Decorex, designjunction, Focus/18 and London Design Fair. Full details of all the events can be found on the festival's website.

When: 15–23 September
Where: Venues across London
Web: londondesignfestival.com

MultiPly will be installed in the Sackler Courtyard at the V&A

PHOTOGRAPHS COURTESY OF THE LONDON DESIGN FESTIVAL

ABOVE: Icons of Denmark will be exhibiting at designjunction RIGHT: This year's 100% Design will be dedicated to innovation and emerging talent

Handmade Edinburgh

Celebrating the best in high-end design and craftsmanship, Handmade Edinburgh is a fabulous opportunity to shop for gorgeous textiles, jewellery, ceramics, wood and more, in an extraordinary and picturesque setting. Over 80 British and international designer-makers will showcase their work inside an elegant purpose-build marquee in front of Inverleith House, at the Royal Botanic Garden.

When: 10–12 August
Where: Royal Botanic Garden, Arboretum Place, Edinburgh EH3 5NZ
Web: handmadeinbritain.co.uk/edinburgh

PHOTOGRAPH COURTESY OF CCD

On the Points shelving unit by Daniel Harrison. Daniel will be exhibiting at CCD

Celebration of Craftsmanship & Design

CCD has become the largest selling exhibition of high quality bespoke furniture in the country and every year it draws visitors and exhibitors from around the world. The emphasis is on furniture, but this is complemented by work from several other disciplines such as jewellery, art and glass. There will be a stunning array of around 300 unique, contemporary, meticulously crafted exhibits, that will undoubtedly become the heirlooms and antiques of the future. During the exhibition, the Alan Peters Award for Excellence, which rewards students and emerging talent, will be presented to three designer-makers. Other awards to be presented at the show include Best Use of British Timber, The Worshipful Company of Furniture Makers Design Prize and the craft&design award.

When: 18–27 August
Where: Thirlestaine Long Gallery, Cheltenham College, Bath Road, Cheltenham, Gloucestershire GL53 7LD
Web: www.celebrationofcraftsmanship.com

Stock Gaylard Oak Fair

This is a special event for those interested in woodcraft, timber, conservation and the countryside. There will be a market square with local food and drink, events and displays from The British Heavy Horse Loggers, Mere Down Falconry and The Great Big Tree Climbing Company.

When: 25–26 August
Where: Stock Gaylard House, Sturminster Newton, Dorset, DT10 2BG
Web: www.stockgaylard.com/the-oak-fair.asp

Fangfest Festival of Practical Arts

This year will be the 20th Fangfest and will feature demonstrations of traditional woodturning, rocking horse carving, stone carving and much more.

When: 1–2 September
Where: The Rocking Horse Shop, Fangfoss, Nr York YO41 5JH
Web: fangfest.org.uk

Autumn Fair

The Autumn Fair brings together thousands of UK and international retailers and buyers to discover the best new products, freshest ideas and trend-led inspiration. This year's event will include a brand-new sector called Global Handicraft, which will feature a diverse range of artisanal and handcrafted products.

When: 2–5 September
Where: NEC Birmingham, North Avenue, Marston Green, Birmingham B40 1NT
Web: www.autumnfair.com

PHOTOGRAPH COURTESY OF ORNC

The Old House Show will be held at the Old Royal Naval College, Greenwich

The Old House Show

The Society for the Protection for Ancient Buildings (SPAB) is launching its first ever grand exhibition this September. Focusing on the SPAB Approach, and its unique emphasis on independent advice, crafts and education, The Old House Show will be a must attend event for those interested in the art and craft of building care. There will be demonstrations of traditional crafts, talks by SPAB experts and other invited guests, an array of exhibitors and hands-on activities. The show is free to attend, see SPAB's website for details about registering for tickets.

When: 7–8 September
Where: Old Royal Naval College, King William Walk, Greenwich SE10 9NN
Web: www.spab.org.uk/whats-on/events/old-house-show

Yandles Woodworking Show

Yandles' popular annual show features demonstrations and masterclasses, expert advice, exclusive show deals and 15% discount on timber. Entry and parking are free.

When: 7–8 September
Where: Yandle & Son Ltd, Hurst Works, Hurst, Martock, Somerset TA12 6JU
Web: www.yandles.co.uk

Top Drawer

Top Drawer is an international showcase of carefully curated lifestyle brands and design-led products. The show's sectors include Home, Gift, Craft and New Talent.

When: 9–11 September
Where: Olympia, Hammersmith Road, Hammersmith, London W14 8UX
Web: www.topdrawer.co.uk

South West Furniture Show

This annual trade show promotes the sales of quality home furniture, beds and accessories to trade customers in southwest England and south Wales.

When: 11–13 September
Where: J24 Sedgemoor Auction Centre, Market Way, North Petherton TA6 6DF
Web: swfmarf.com

Into The Trees

This family festival takes place in the heart of the Ashdown Forest offering a chance to enjoy the protected ancient woodland of Pippingford Park. Into The Trees explores the ways in which we can play, work and live amongst the trees, while the stunning landscape of Pippingford Park provides the perfect place for adults to relax enjoying delicious local food while kids run free. Rope swings, slacklining and tree climbing surround hands-on demonstrations from wildlife experts and skilled Sussex crafts people.

When: 14–16 September
Where: Pippingford Park, Nutley, East Sussex TN22 3HW
Web: www.into-the-trees.co.uk

Bentley Woodfair

The Bentley Woodfair is a celebration of woodlands, forestry, timber and woodcrafts. There will be over 150 exhibitors, demonstrators and craftsmen.

When: 15–17 September
Where: Bentley Wildfowl & Motor Museum, Harveys Lane, Nr Halland, East Sussex BN8 5AF
Web: www.bentley.org.uk

Autumn Long Point

This trade-only exhibition is run by the Long Eaton Guild, and showcases the best of furniture made in the UK, including the ranges of the Guild members themselves.

When: 17–19 September
Where: Venues across Long Eaton
Web: www.longeatonguild.co.uk/autumn-long-point

Evolution of tradition

The Furniture Makers' Company announce a new exhibition of furniture by Bespoke Guild Mark holders

A new exhibition of contemporary bespoke furniture, designed by some of the UK's most distinguished craftspeople, will launch this autumn at Design Centre, Chelsea Harbour from 2 until 5 October.

The Evolution of Tradition exhibition represents an exciting collaboration between The Furniture Makers' Company and Design Centre, Chelsea Harbour, the world's premier design destination. These two design bastions will come together for the first time to host a selling exhibition of luxury furniture designed and made purely by Bespoke Guild Mark holders.

The Bespoke Guild Mark, awarded by The Furniture Makers' Company, is the ultimate accolade for designer-makers, recognising excellence in design, materials, craftsmanship and function for exquisite pieces of furniture.

Transforming an idea into reality takes passion, invention and vision; from seeing the potential of materials and respect for artisan processes to an openness to innovation. This curated exhibition will present a range of work of astonishing breadth, scope and artistic merit; with simple forms and strong silhouettes, many have a more modern pulse.

An impressive rollcall of established designer-makers and new talent from the vibrant British craft scene include Matthew Burt, Byron & Gómez, Jonathan Field, Marc Fish, Tim Gosling, Alun Heslop, Edward Johnson, John Makepeace OBE, Rupert McBain, Laurent Peacock, Jake Phipps, Angus Ross, Rupert Senior, Katie Walker, Waters & Acland and Waywood.

Attracting top designers, architects, international collectors and style-seekers, the Evolution of Tradition curated exhibition will be an opportunity for visitors to gain a greater understanding of how one-of-a-kind designs are conceived and made, as well as acquire unique work. In an increasingly fast-paced world, experience the beauty and creativity of time-honoured skills from masters of their craft.

Claire German, managing director of Design Centre, Chelsea Harbour, said: '[We] believe in the importance of investing in future talent and specialist skills. We support creative expression across the design agenda and we're delighted to host Evolution of Tradition showcasing the work of bespoke British furniture makers, in association with The Furniture Makers' Company.'

PHOTOGRAPH COURTESY OF THE FURNITURE MAKERS' COMPANY

The Dragon Kre chair by Alun Heslop is a sculptural centre piece chair in hollow cast bronze; it was awarded a Bespoke Guild Mark in 2017

Richard Williams, Bespoke Guild Mark chairman, The Furniture Makers' Company, added: 'With its strong roster of designer-makers, all brilliant, renowned names, 'Evolution of Tradition' will undoubtedly be an unmissable event for buyers that demonstrates the world-class mastery of Bespoke Guild Mark holders.

'Every piece put forward for a Bespoke Guild Mark is stringently vetted and examined to ensure every aspect of the piece is well considered and represents the absolute pinnacle of British craftsmanship. Buyers will be hard-pushed to find another exhibition of designs from a collective of so many accomplished designer-makers.'

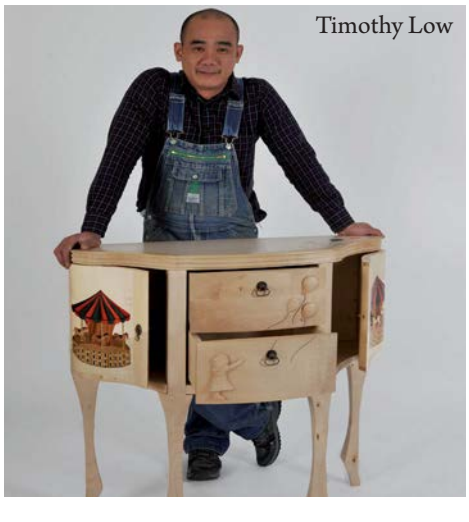
Chippendale School's award-winning graduates

Each year The Chippendale International School of Furniture takes 25 students from around the world for its 30-week professional course that provides a pathway to a career in fine furniture design and making. The school, near Edinburgh, this year welcomed students from the USA, UK, Ireland, Switzerland, Netherlands, Italy, India, Falkland Islands, Singapore, New Zealand and Trinidad & Tobago.

Here are the graduates of 2018 who were singled out for special awards:

Honor Dalrymple

Gianluca Caregnato



Timothy Low

Honour for Honor… our Student of the Year

This year's Student of the Year is Honor Dalrymple, from East Lothian, who is a former structural engineer.

Honor is much influenced by the simplicity and honesty of the Bauhaus and Shaker styles, with their accent on both functionality and lack of ornamentation.

Her previous training has given her the experience and skill to visualise in 3D, understand structure, and the strength and limitations of materials – all of which were evident in her confident designs and fine craftsmanship.

"The beauty of Honor's work, which included a cabinet, oak desk and chairs, was exemplary. Her designs were excellent and the quality of her making was sublime," said Anselm Fraser, school principal, who presented her with her graduation certificate and winner's Quaich.

Students' Choice of the Year

Each year, our students vote for this award, and this year it went to Gianluca Caregnato, from near Milan in northern Italy, and who originally studied agriculture at technical school.

Gianluca first came to the Chippendale school last April on one of our one-week introductory courses.

Gianluca has proved an outstanding student, winning a school prize for his first-term project, a pine bedside cabinet, veneered with rosewood.

His signature piece was an art nouveau-inspired desk in oak with walnut veneer, with the main part of the desk requiring 54 intricately-formed pieces of veneer.

However, the main design challenge was, at the corners of the desk, to find a way of joining three angles of wood together. Each joint had to offer a precise angle for each piece of wood, and the joints had to be absolutely robust.

The Punters' Prize

This year saw a public vote at an exhibition of students' work in Edinburgh, with Timothy Low from Singapore winning the inaugural Punters' Prize.

His signature piece was a funfair console-style cabinet, made from layers of bendy ply and sycamore, with a hand-carved little girl on its front who has lost her balloons. The multi-coloured balloons, set in resin, are floating away across the cabinet's top.

The sides of the cabinet have marquetry panels depicting a colourful funfair carousel, with details picked out in 24 carat gold, and Timothy's signature on the piece is that it has no permanent fixings, making it easy to disassemble and transport back to his home in Singapore.

His other standout piece was a coffee table that incorporates a two-piece elm top, with an oak drawer with a sycamore and rosewood inlayed lid – again fitted together using only tongue-and-groove fixings or hand-crafted dovetails.

Best Design Award

This year's award went to Isaac Young from Suffolk, whose drinks cabinet, complete with a complex opening mechanism, was designed to look like the kind of safe that a bank would keep its money in overnight.

It comprises MDF veneered with wenge wood, a dark wood that lends a striking pattern and patina to the piece – and is all the more remarkable since Isaac came to the Chippendale school straight from school.

Isaac's first project was a walnut and olive ash sideboard cabinet comprising well over 400 precisely cut pieces of wood to form tambour doors, with each strip of walnut fixed to a flexible backing of artists' canvas.

Inside his award-winning drinks safe are CNC wooden gears that release the safe's security rods and allow the door to be opened – with an interior LED light that automatically clicks on and off.

Isaac is now returning to Ipswich in Suffolk to open his own furniture and cabinet making business, Osbourne & Young.

The Best Portfolio Award

This award was won by Darren Christie, a qualified zoologist from the Falkland Islands, for the quality of his marketing materials produced while on the course.

His work included an elm and fumed oak jewellery box which he made for his wife, complete with brass hanging pegs for necklaces, and drawers for other items.

The box also has a hand-gilded mirror and is decorated with hand-carved Celtic knots, an intricate pattern of loops that have no start or finish and which represent friendship and love. Darren also tied the leather drawer pulls into Celtic knots to match the carvings.

Adding significantly to the box's complexity, its four sides are made from a single piece of elm that was carefully mitred so that the grain of wood flows organically around the box.

Earlier in the school year, Darren won our first-ever bedside cabinet award, a first-term project that gives students an introduction to different woodworking skills while working on a modestly-sized piece of furniture.

Darren is returning to the Falkland Islands to set up Desire Cabinetry.

The Richard Demarco Prize 2018

John Grillo, a former business intelligence analyst from Denver, Colorado is this year's recipient of the Richard Demarco Prize.

The prize is awarded by the celebrated arts commentator to the student whose work not only displays design and woodworking skill but exceptional artistic talent.

The prize was specifically awarded for John's round dining table, made from some 40 pieces of intricately-cut walnut, with a dozen pieces of pepperwood veneer to form a simple, flowing yet geometrically-complex design.

The unusual veneer, from a tree species native to America and which was once chewed for its anaesthetic properties, created a tactile surface that, said Demarco, "elevated the table from something functional to a work of art.

"It is a piece of furniture that displays real skill but which, like a painting or piece of sculpture, transcends craftsmanship and design to become genuine art," he said.

John is setting up Rocky Mountain Fine Woodworking in his native Denver.

The Chippendale Society Award

This is a new award, given this year to mark the 300th birthday of Thomas Chippendale, and was won by Vanessa Johnston from Seattle.

Vanessa was awarded the prize by Dr Adam Bowett, chairman of the Chippendale Society, for the quality of her craftsmanship and design and the coherence of her wych elm and olive ash furniture collection, which includes a table, bedside tables, chair, and an intricate clock.

Before coming to the Chippendale school, Vanessa was a marketing director and graphic designer, and did have some woodworking skills having previously lived on a houseboat which she renovated herself, building cabinets, and even adding a 2nd storey to her boat.

Vanessa is setting up her own company, Vanessa Johnston Woodworking, and plans to stay on in incubation space at the school after graduation.


Vanessa Johnston


Darren Christie


Isaac Young


John Grillo

www.chippendaleschool.com

Hoosier cabinet made c. 1910. It sold at a Bonhams' auction in San Francisco for £795 in 2006

The Hoosier cabinet and the making of the modern woman

Nancy R Hiller looks at the history of the bestselling kitchen cabinet

As she sat down with a cool glass of water one steamy afternoon in August 1916, your American friend's great-grandmother might have run across the following earnest pledge in *The Saturday Evening Post*, one of the day's most popular magazines:

'I will make each kitchen hour a joy, each meal a source of keenest pleasure. I will banish blue Monday and black Friday, and fill the days with the song of willing service.

I will keep your kitchen as neat as wax – your food supplies in perfect order. I will always be on time, always keep my temper – never aggravate – never disappoint you.'

Quite a list of claims for a servant to make! Few among us would dare promise never to disappointment an employer. Who was this willing worker, this paragon of capability and unflagging cheer?

Her name was Patience McDougall. And she had cousins who made similar claims – Mary, Helen, and Bertha Boone. Any of them would gladly have become great-grandmother's role model and confidante while gaily whipping her kitchen into shape. Patience, in particular, personified a host of womanly virtues. She was content to stay at home and work hard, always without complaint. She was smart, organised and efficient. While always ready for work, she could turn herself out beautifully by late afternoon, just in time to welcome great-grandmother's husband home from a hard day at the office.

There was just one catch to this fantasy of female perfection. Patience and her cousins were not women, but cabinets – Hoosier cabinets. Their vows, such as the one above, were composed by advertising professionals.

PHOTOGRAPH BY TERRA AMBRIDGE/WWMEDIA

A typical Hoosier cabinet

Selling the Hoosier cabinet

With a sales trajectory that peaked in the 1920s then fell sharply by 1940, the class of freestanding cabinets we now call Hoosiers coincided with America's transition from a 19th-century economy grounded in production to one that would, in less than a hundred years, instead be characterised by consumerism and debt. American women's lives during the late 1800s were quite different from ours today. In rural areas and for women of the working class, general housekeeping involved real physical labour: churning butter, stoking stoves with wood or coal that had to be carried from the porch or cellar, chopping and mixing and washing – in fact, doing most things – by hand. Kitchens were sparsely furnished, usually with a worktable and sink, a storage cupboard and a few open shelves; dry goods purchased from the grocer were kept in a pantry, along with rows of tinned goods most women made from fruit and vegetables grown at home.

Even for women of the middle class who could afford paid help, everyday life was far from a cakewalk. Servants were increasingly hard to find, and those who were available for hire often brought their own difficulties into mistresses' homes – communication problems, personality conflicts and differences in domestic habits.

The challenges faced by middle-class women presented ripe opportunities for businessmen to market new labour-saving creations. The Hoosier cabinet was a development of earlier simple casework forms, fitted with purpose-built accoutrements – sieves and bins for sugar and flour, spice racks, menu planners and extendable lower shelves. It concentrated kitchen essentials in a single area, complete with a pull-out counter at which its user could sit while working. Advertisements claimed that by

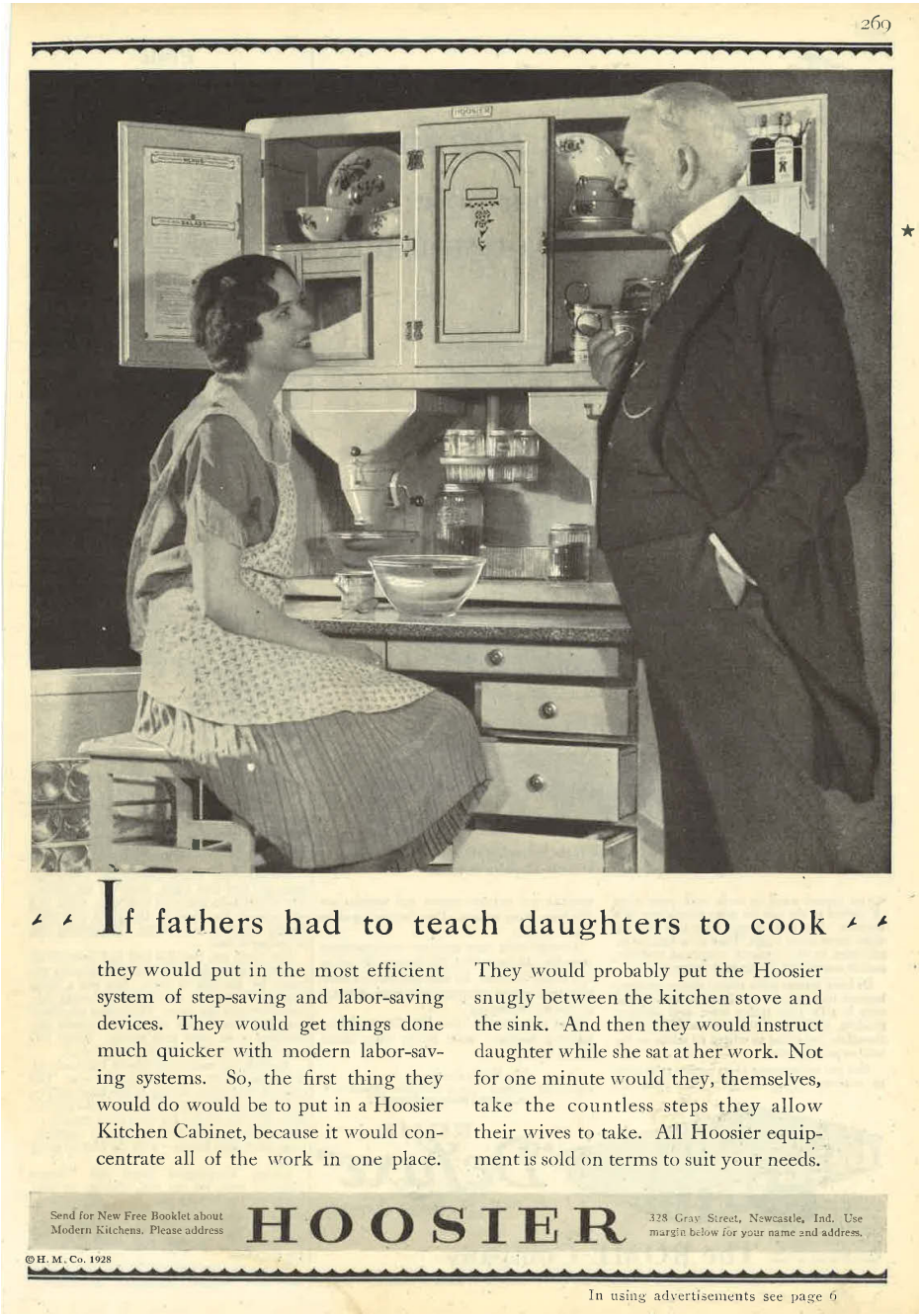
storing everything a woman needed within arm's reach, these cabinets could save nearly 1600 'unnecessary' steps a day.

Although the cabinets' practical features made them easy to sell, their rise to popularity in the US arguably owed even more to the methods by which they were marketed. The early 20th-century admiration for science and efficiency touched every aspect of life, from systems for organising office paperwork to eliminating waste in shop-floor production. The same kind of analysis, applied to consumer psychology, sharpened the effectiveness of advertising.

The cabinet companies' sales campaigns benefited from the observations of 19th-century female authors, who based their recommendations on the view that women should make their homes a peaceful refuge to which husbands could retreat after the rigours of their workday. Catharine Beecher, most notably, had ventured beyond the realm of recipes and other practical guidance to publish trenchant insights into the psychology of domestic life. Understanding that women needed to feel their contributions were valued not just by family, but in the wider socio-political sphere, she argued that housekeeping, no less than other business, should be formally taught, and that it warranted the cachet of domestic 'science'. While she supported home beautification on the grounds that it would promote the gladness so encouraging to 'godly' living, she cautioned against overspending, which could kindle domestic strife. Strife, above all, must be avoided; a husband who was 'wearied with endless complaints' might well be drawn to clubs plying family-wrecking temptations.

The Hoosier Manufacturing Company, which would eventually become the largest of the cabinets' makers, tested the market for its original version during the final years of the 19th century and found its product eagerly embraced. Having acquired a factory and studiously maximised production, the company focused on moving goods out the door. Strategically coordinating its print advertisements with other methods of marketing and sales, the company developed a network of dealers and provided them with robust support. Scripts enumerated the cabinet's step-saving features, diagrams advised the proper stance to assume while speaking to customers and charts gave detailed direction in the most effective ways to demonstrate the cabinets' working parts. By 1914 this single manufacturer had sold 700,000 cabinets. By 1920 this figure had leapt to two million.

Most impressive among the marketing efforts of the various manufacturers were their advertisements, in which the influence of Beecher and other women writers was thrillingly apparent. In their imagery and copy, the ads were, and remain, stunning expressions of social relations and values. Some offered subtle instruction in manipulating a husband to purchase this household appliance, which, went the claim, would leave wives headache-free and energetic at day's end. (Nudge, nudge, wink, wink.) 'I've banished evening weariness by saving needless steps' asserted one Hoosier model as she seductively removed her apron. Others, such as Patience McDougall, declared the cost of the cabinet a pittance relative to the benefits it would provide: 'I will save you all I cost in a score of ways' – indeed, 'to live without me is an extravagance.' Offering their cabinets for sale on credit with payments of only $1 a week, manufacturers claimed that buyers would not even know they'd spent the money. No need to worry about spendthrift-bred discord in these homes!

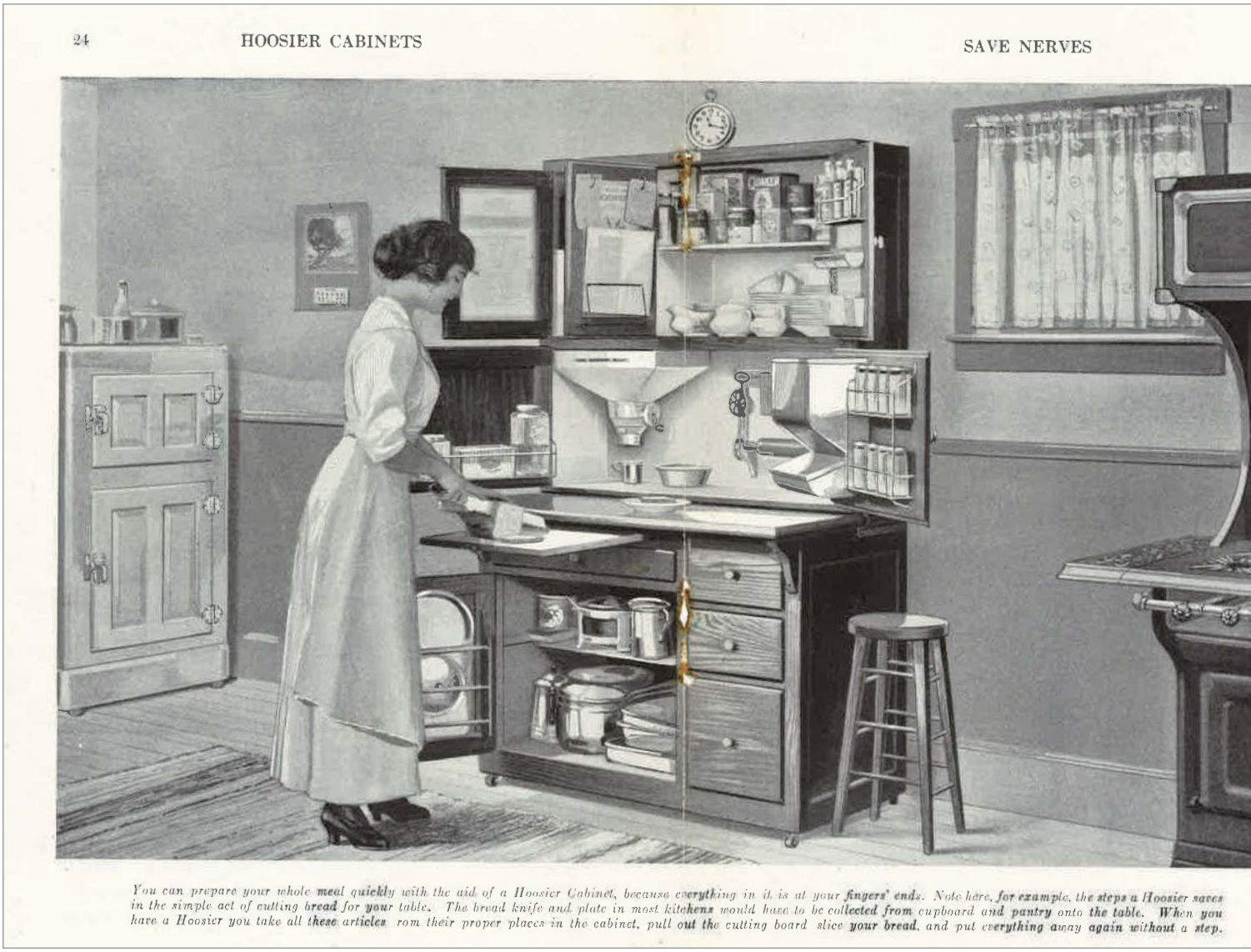


IMAGES COURTESY OF THE HENRY COUNTY HISTORICAL SOCIETY

Beyond helping their users produce delicious and timely meals, the cabinets were marketed as a means to help women stay young. 'Saving work is saving youthfulness', pointed out one lovely Hoosier beneficiary while admiring herself in a mirror. Other advertisements made women feel valued; one noted that the Hoosier-brand cabinet 'has been designed by women for women' – specifically, by the company's own 'Council of Kitchen Scientists'. The cabinet was described as 'not a mere cupboard and table combined, but a scientific work-reducing machine' – indeed, an 'automatic servant' that would put an end to the hassle of hiring, managing and sometimes having to fire human help. The Sellers company claimed that its version incorporated 'added features that cost us over $100,000 annually', a level of investment that implied the importance of the women on whose behalf it was made.

In almost every case, the ads presented the cabinet as a testament to a woman's housekeeping prowess and thus an indicator of her worth – in other words, a functional status symbol for women just as the Wooton desk (*F&C* 273) had been for men a few decades earlier. The Napanee 'Dutch Kitchenet', for example, was said to be 'the indorsement [sic] of success'.

Most impressive, at least according to these advertisements, was that possession


24 HOOSIER CABINETS SAVE NERVES

You can prepare your whole meal quickly with the aid of a Hoosier Cabinet, because everything in it is at your fingers' ends. Note here, for example, the steps a Hoosier saves in the simple act of cutting bread for your table. The bread knife and plate in most kitchens would have to be collected from cupboard and pantry onto the table. When you have a Hoosier you take all these articles from their proper places in the cabinet, pull out the cutting board slice your bread, and put everything away again without a step.

of a cabinet would indicate a woman's embrace of modern values. 'The modern science of home-making is causing thinking women to use more care in the outfitting of their kitchens than they do in the selection of the furniture for their living rooms,' asserted a 1920 ad. 'For, what use is a beautiful living room if the kitchen work is so wearing as to prevent one from enjoying the luxuries of the rest of the house? The two million American women who now own Hoosier Kitchen Cabinets seem unconsciously to have grasped this basic idea of modern home economics.'

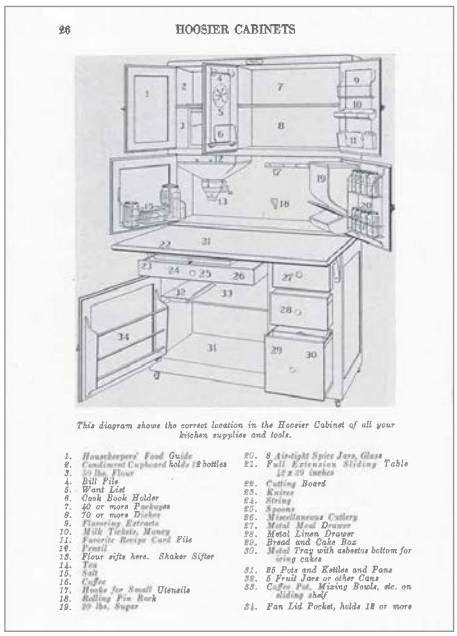
And what, precisely, were these 'modern' values? On this point an early document from the Hoosier Mfg. Company is revealing. A 1910 account published in the New Castle Times, one of the newspapers in the town in the Hoosier Mfg. Company's home town, explicitly stated what hundreds of advertisements made clear: to be modern was to be free from 'the ancient curse about man eating bread in the sweat of his brow.' To be modern was to be beautiful, logical and happy, instead of a 'fagged-out drudge'. To be modern was to keep one's hands clean, to minimise labour at home by employing equipment one could buy – not just Hoosier cabinets, but hand tools,


SAVE FEET 23

Keep your fresh supply of dish towels, cloths, and kitchen hand towels in this roomy metal drawer. It holds all kinds of linen needed in any kitchen.

Why 700,000 Use It

With this example it is easy to understand why the 700,000 women who route their work through Hoosier Cabinets have so much more leisure. With a Hoosier you can hardly help being quick with your work. Meals are ready in much less than the usual time. The cabinet keeps your work in order and is easy to keep in order


26 HOOSIER CABINETS

This diagram shows the correct location in the Hoosier Cabinet of all your kitchen supplies and tools.

1. Housekeepers' Food Guide
2. Condiment Cupboard holds 12 bottles
3. 50 lbs. Flour
4. Bill File
5. Want List
6. Cook Book Holder
7. 40 or more Packages
8. 70 or more Dishes
9. Flavoring Extracts
10. Milk Tickets, Money
11. Favorite Recipe Card File
12. Pencil
13. Flour sifts here. Shaker Sifter
14. Tea
15. Salt
16. Coffee
17. Hooks for Small Utensils
18. Rolling Pin Rack
19. 20 lbs. Sugar
20. 8 Air-tight Spice Jars, Glass
21. Full Extension Sliding Table 12 x 40 inches
22. Cutting Board
23. Knives
24. Sifting
25. Spoons
26. Miscellaneous Cutlery
27. Metal Meal Drawer
28. Metal Linen Drawer
29. Bread and Cake Box
30. Metal Tray with asbestos bottom for icing cakes
31. 25 Pots and Kettles and Pans
32. 5 Fruit Jars or other Cans
33. Coffee Pot, Mixing Bowls, etc. on sliding shelf
34. Pan Lid Pocket, holds 18 or more

such as meat grinders and apple-peelers, and later, blenders and other electrical appliances. Before long, being modern meant skipping preparatory work altogether – buying pre-minced beef and tinned applesauce and baking 'homemade' bread from a mix. Apparently, being modern meant buying things instead of producing them ourselves – an interesting idea to ponder in an era when many of us have rediscovered the joys of growing and making. F&C

MAINS OR CORDLESS
A SAW FOR EVERY JOB

260mm Slide Compound Mitre Saw

LS1019 - LS1019L (Laser)

DXT

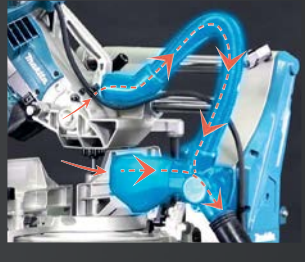
The saw can be placed flat against a wall

Large guide fence and material base

Laser line (LS1019L only)

Max Cut: 91mm x 279mm

Advanced dust extraction system



18V LITHIUM-ION

(36v) Twin 18v Brushless 260mm Slide Compound Mitre Saw

DLS110

BL MOTOR ADT DXT

The saw can be placed flat against a wall

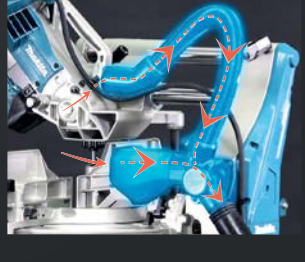
Large guide fence and material base

Brushless motor

BL MOTOR

Max Cut: 91mm x 279mm

Advanced dust extraction system



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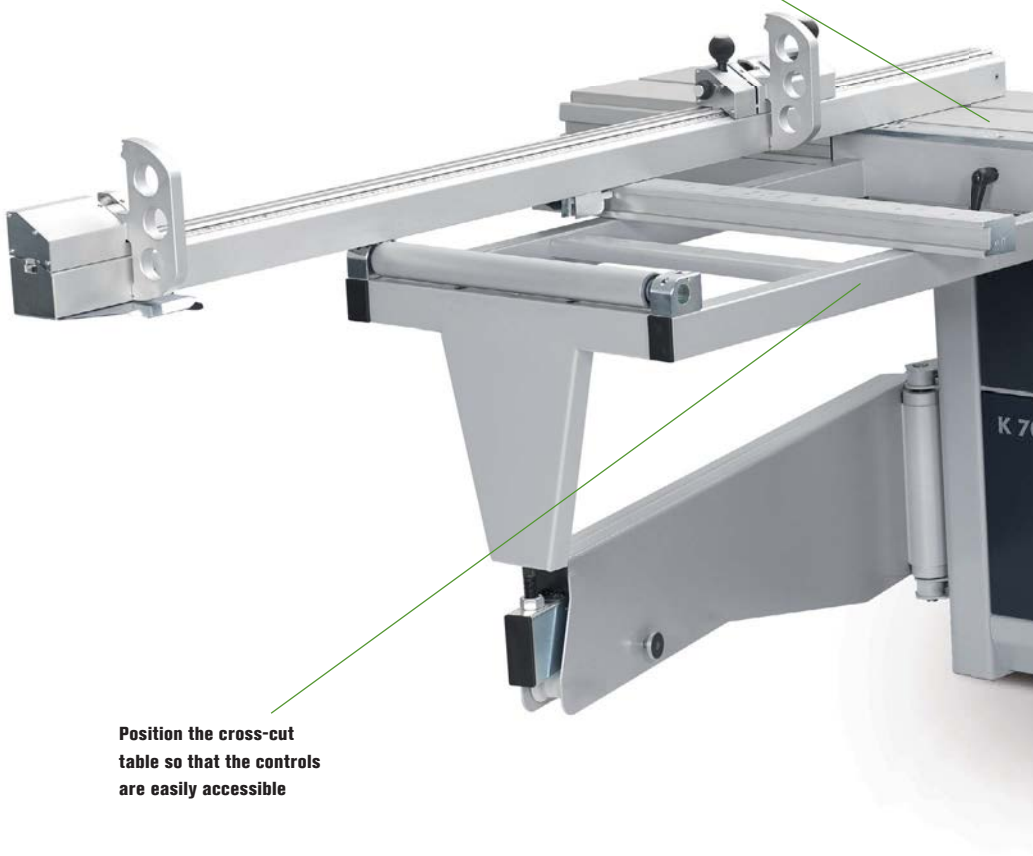
Tablesaw safety

Derek Jones assesses the risks

Based on information collected by the HSE in relation to industrial accidents in woodworking workshops, circular saw tables account for more accidents than any other machine. Fact. As nearly every scrap of wood that enters the workshop is likely to pass over this piece of equipment you could argue that it's hardly surprising. Or on the other hand you might wonder why that should be, when generally speaking the more often you complete a task, like throwing darts or cutting dovetails, the better you'll get at it. Trouble is, fail to perform at your best at either of those tasks and the worst you can expect is a low score or a gappy joint. It's no big deal I guess, there's always next time. An error of judgement while operating a tablesaw, however, could mean there won't be a next time.

The words risk assessment will either scare the pants off you or bore you to tears and although they're the essence of this article I'm hoping we'll get to the end with everybody wide awake, suitably attired and better informed. For the most part, most injuries sustained while operating a tablesaw are as a result of inadequate or missing guards. The very same guards in fact that if you bought your machine from a reputable dealer will have been supplied and perhaps even fitted for you, which raises the question why do so many users prefer to operate their machines without them? I have a theory based along the lines of a shared ignorance being endorsed by influential role models with a fixation for convenience, but it's more complicated than that. And as even the most rudimentary studies into human behaviour suggest that a high proportion of what we learn comes from observing and repeating the actions of others, it's no wonder the habit is of endemic proportions. I recently asked Marc Adams, founder of America's largest independent woodworking school, now in its 25th year, for his thoughts on the subject. You can see his response about the culture of non-guarded use in our back page interview on page 80.

There's an interesting line on the HSE Woodworking Information Sheet for circular saw benches stating: 'Inaccurate or lack of training for the operator was also found to be a major cause [of accidents]'. Although this version was only published in November 2011 it already looks a tad dated and is perhaps missing one important piece of advice relating to the quality of online instruction where, if the numbers are accurate, millions of people acquire knowledge of the subject. My concern is more of a rhetorical question about who might be held responsible for an accident resulting from watching and repeating another person's bad habits. So, in an attempt to encourage more woodworkers to adopt examples of good practice what follows is some advice to help you avoid some of the most common unsafe practices.



A sliding carriage can also be used to make rip cuts if the workpiece is not referencing off the parallel fence

Position the cross-cut table so that the controls are easily accessible

PHOTOGRAPHS BY DEREK JONES/GMC PUBLICATIONS

Assessing the risk

Perhaps it's no small coincidence that the safest methods of working are also the most efficient and accurate. The same holds true for the majority of hand tool work as well as machine work with some very obvious examples. One of the first things you learn when you start to shape wood using hand tools are the benefits of developing a range of effective work-holding solutions. Simple devices like a bench hook, a vice, clamps and even a workbench are things we readily employ to make life easier. The basic principle of holding work securely is no different when applied to machine work. When it comes to assessing the suitability of a process to be carried out on a tablesaw, things to consider are, how the workpiece is supported and what method will be used to propel the component during the cut? On a tablesaw the former is likely to be either a parallel fence or cross cut attachment unless

the machine is equipped with a sliding carriage, which also allows more options for ripping. As manpower is the most convenient method of propulsion, consideration should be given to the precise nature of any work-holding apparatus. If after much deliberation the best you can come up with is your hand, you may need to either rethink the process entirely or reach for a suitable push stick. Push sticks may look and feel a little cumbersome at first but with practice afford tremendous control over feed rate and pressure and are infinitely replaceable in a way that your digits are not.

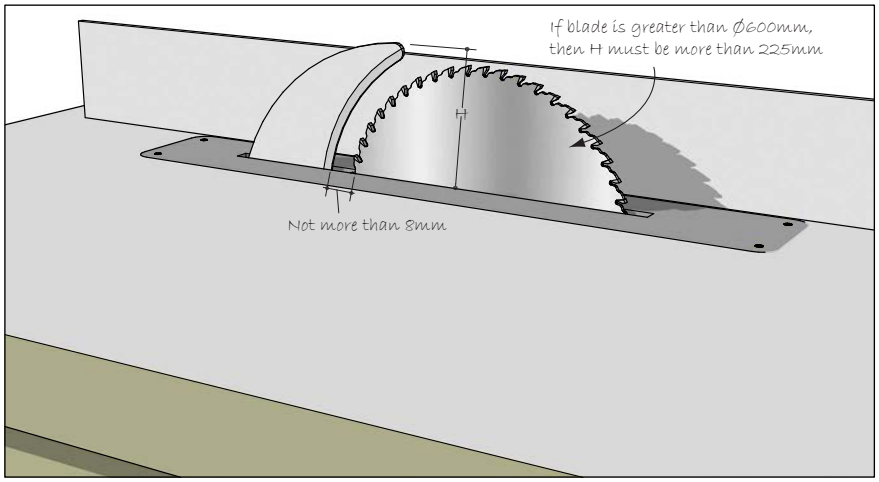
Consider alternatives

It's possible to perform operations like grooving, trench cutting and rebating on a tablesaw but there are other machines that are better equipped to do so, such as a router or spindle moulder. In fact the results from using either of these alternatives are often better than those obtained from a tablesaw. Stopped grooving should not be carried out on a circular saw.

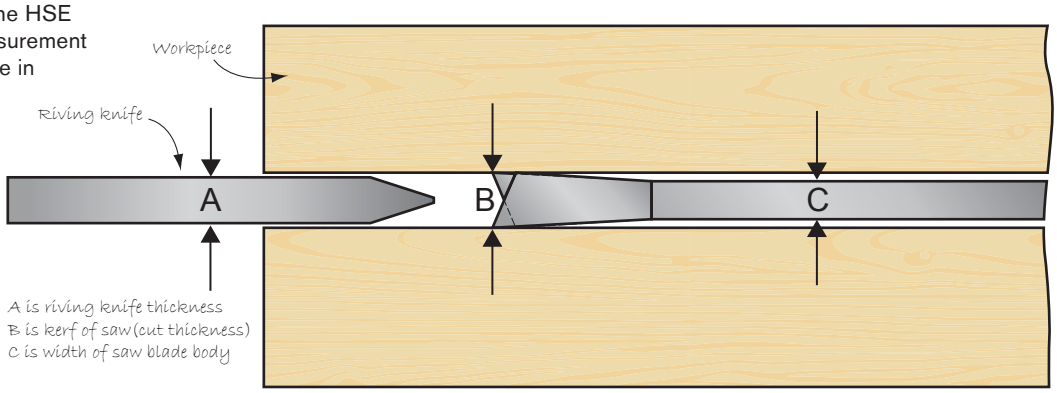
Riving knives, what are they and what are they good for?

The riving knife is that crescent-shaped piece of metal that's attached to the machine below the surface of the table directly behind the blade. The curve may not be identical to that of the blade and it may feature holes designed to accept a top-mounted guard. The purpose of the knife is to prevent material from closing in on the blade after it has been cut as it passes beyond the back of the blade. The blade at this point is rising up towards the material and when combined with a slowing down of the blade is one of the causes of kickback. Kickback is the term used to describe what happens when a piece of material is suddenly ejected from the path of the blade often without prior warning and sometimes with devastating results. A riving knife needs to be thicker than the plate of the saw blade but thinner than the kerf. The kerf being the thickness of the cut which is determined by the combined offset of the teeth. The HSE don't recommend an optimum measurement on their worksheet for the difference in thickness between knife, kerf and saw plate but do have guidelines for setting the gap between the front edge of the knife and the back of the saw blade. At table level the optimum gap should be no more than 8mm.

A riving knife needs to be set in line with the blade, which is why they are fitted to the saw arbor on tilt arbor saws. As the blade is tilted the knife follows. On fixed arbor saws the knife can be mounted differently, these are often referred to as splitters and depending on where you come from the names are interchangeable.



Gap between riving knife and blade measured at table level should not exceed 8mm.



The riving knife should have a tapered leading edge and should be thicker than the width of the saw blade but slightly thinner than the width of cut

Saw blades in general

In much the same way that a hand saw filed with a rip tooth pattern can be used to make a cross cut, it won't do it very efficiently. You'll get breakout on nearly every edge and the cut surface will be rough. Circular saw blades are no different so you need to select a blade that's suitable for the task at hand. Some coated sheet materials do respond better to specific tooth geometry but as the choice is too vast to cover in this article, a general-purpose blade plus a dedicated rip is a good place to start. These will cope with the majority of sheet material and solid timber.

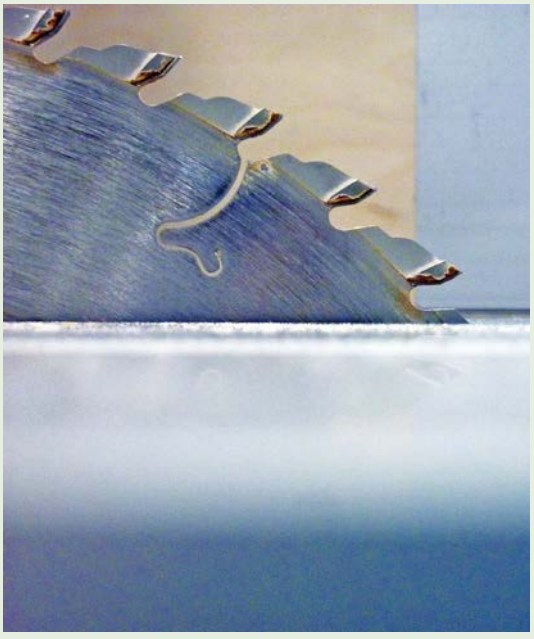
The diameter of the blade is also an important factor in determining safe practice. Manufacturers will provide information about the smallest diameter blade that can be used on the machine and this should be clearly marked on the machine or the blade cabinet so operatives are aware of the limits. Smaller blades have a low peripheral blade speed and under strain are more likely to stall and result in kickback. Generally it's not physically possible to fit a blade that's too big for the machine but again highlighting this information where operatives can see it is an excellent idea.

'Sharpness fixes everything'

We can thank the influential hand tool woodworking expert Chris Schwarz for this little gem. It's a user-friendly recommendation for achieving optimum performance from your hand planes instead of the numerical sudoku-like challenge of matching blade pitch and bevel angle.

Circular saw blades also work better when sharp as they require less effort to feed the work and are more able to maintain their optimum rotational speed. High buildup of resin and other deposits on or behind the teeth also affect the performance of the blade and should be removed before they build up.

Tip: Oven cleaner also works as an excellent cleaner for saw blades.



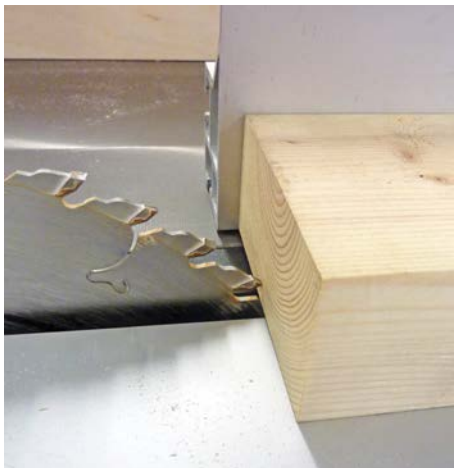
Circular saw blades work best when sharp and clean

Workpiece support

Whether large or small, the workpiece needs to be supported for the entire duration of the cut, that's before, during and after. Large pieces can be supported by either roller supports or extension tables and smaller pieces by guides or jigs. Infeed tables are just as important as outfeed tables and both should be checked and adjusted regularly as part of your regular maintenance regime. If a second operator is working at the outfeed end to remove cut pieces the distance from the edge of the table to the saw spindle needs to be 1200mm. The second operator should under no circumstances reach forward to retrieve pieces and should at all times remain at the back of the saw while it's in operation. In this instance communication is the key to safe working and both operators need to be aware of the limits with which each are working before the process begins. Appropriate PPE (ear defenders and goggles for example) should be worn by both operatives.

Ripping

Ripping is the term most often used to describe a cut along the length of the workpiece. It is also used to describe a cut that runs with or in close proximity to the direction of the grain on solid timber. There are a number of ways in which you can carry out a rip cut on a circular saw. Running the workpiece against a parallel fence is the most common method for both sheet material and solid timber. On saws that feature a sliding carriage it may be possible to use a jam stop to secure the workpiece to the carriage and complete the cut without the use of a parallel fence. It is not recommended to use both. There can be tension in dry seasoned wood as well as unseasoned timber causing it to open up further than the width of the kerf behind the blade directly after the cut. To allow the material to expand freely the fence needs to be adjusted accordingly so that it doesn't force the material back into the path of the blade. The correct setup should be to slide the fence forward towards the operator so that the back edge of the fence is in line with the bottom of the gullet at table height at the front of the blade.



Ripping with a circular saw blade using a parallel fence

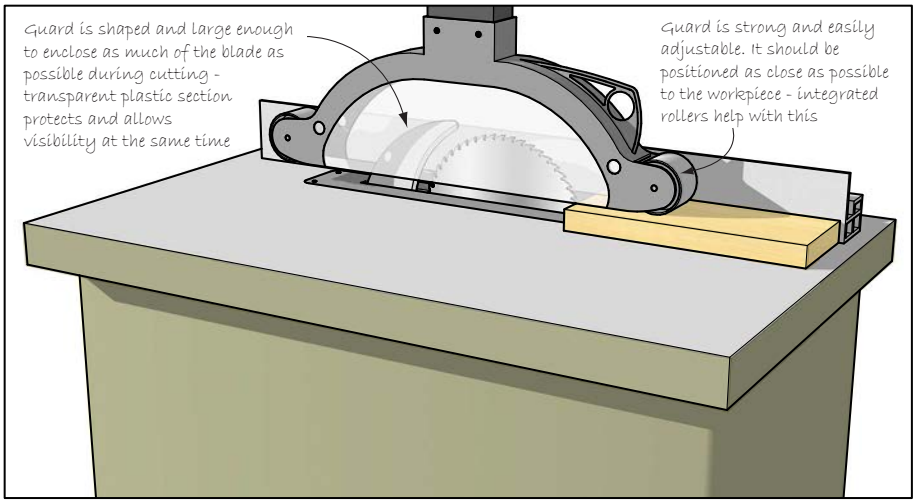
Guards

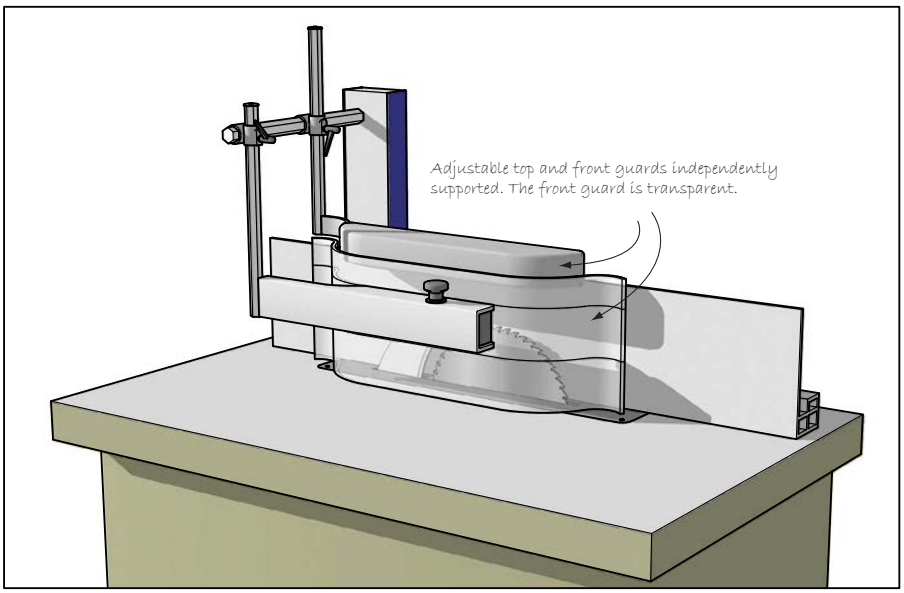
As this magazine is read on several continents, with often different opinions regarding the safe use of saws, it's impossible to give a definitive guide to what is required by law in your region regarding guards. Guards come in various shapes and sizes and some allow you to perform some processes more efficiently than others.

By far the most common type of guard found on a tablesaw will be the crown or top guard. It is designed to prevent access to the blade by creating a physical barrier between the operator and the blade. For crown guards to be effective it's important to have them set up and adjusted for the type of cut you are about to perform. The correct setup is to have the guard as close to the workpiece as possible without interfering with it. Some guards feature rollers at the front and back that allow the guard to be lowered directly on top of the workpiece thus creating a zero gap between both items while the cut is being made.

Crown guards also perform another very important function as one of the local exhaust ventilation (LEV) features of the machine. The closer it is placed to the workpiece the more effective the extraction.

Shaw guards are another acceptable means of guard but do not cater for dust extraction. They are designed with sprung pressure pads that not only prevent access to the blade but also support the workpiece. They operate like a tunnel completely covering the blade from the side and top and are one option that means you can cut rebates and grooves safely on a tablesaw.





A Shaw guard used to shield the saw blade for rebating and grooving when normal guards cannot be used

A word of warning

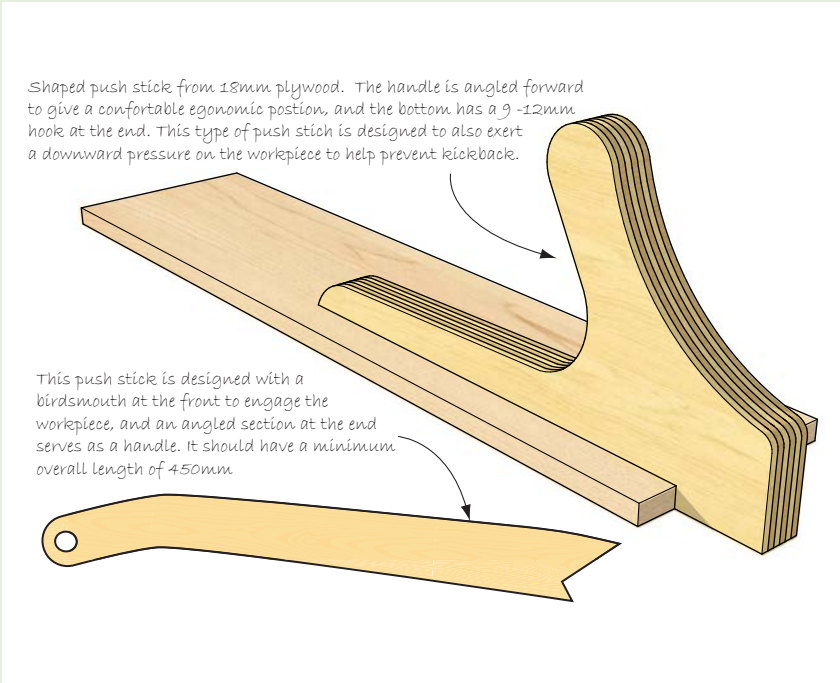
If you asked the millions of professional woodworkers using social media to promote their work if they considered their techniques to be promoting un-safe working practices, I think I know what the answer would be. If you asked them if their techniques could be altered to demonstrate a safer method for the benefit of those who perhaps don't have years of experience in the field, I reckon a fair few would struggle. Being ignorant of the facts in most cases is not a defence so I wonder where we stand when it comes to broadcasting less than safe working practices. Is a 'don't try this at home' hashtag sufficient advice? If my experiences are anything to go by, be warned, some folk don't take too kindly to good advice. The next time you suggest that a guard might be a good idea and the response is a two finger salute, spare a thought, it might just be all they can manage.

This shop made push jig rides in the T slot of the sliding carriage and is used to support smaller workpieces on the cross cut table

Having the fence set in the low position will often improve extraction

Stand up for push sticks

Though push sticks are primarily used to ensure our hands are kept a safe distance away from the blade they have other, less obvious advantages. Firstly they increase your reach by at least the length of the stick, which in turn means fewer hand changes while preventing you from bending over at the machine. Repeated bending over is a major factor in the cause of lower back pain. You'll already be aware of this because you designed your workbench to be at a comfortable height. Bending over also causes us to compromise our stance and increases the risk of losing our footing. Secondly, less contact with the material means fewer opportunities to pick up a splinter and ruin your otherwise beautifully manicured hands. You won't need to use a push stick all the time for every cut. The HSE guidelines recommend you use it for cuts of less than 300mm long and for the last 300mm of a longer cut. A push stick needs to be 450mm long with a bird's mouth opening on the end. They do get worn and damaged over time so expect to reshape or replace them regularly and make sure they are kept with the machine.



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John Economaki

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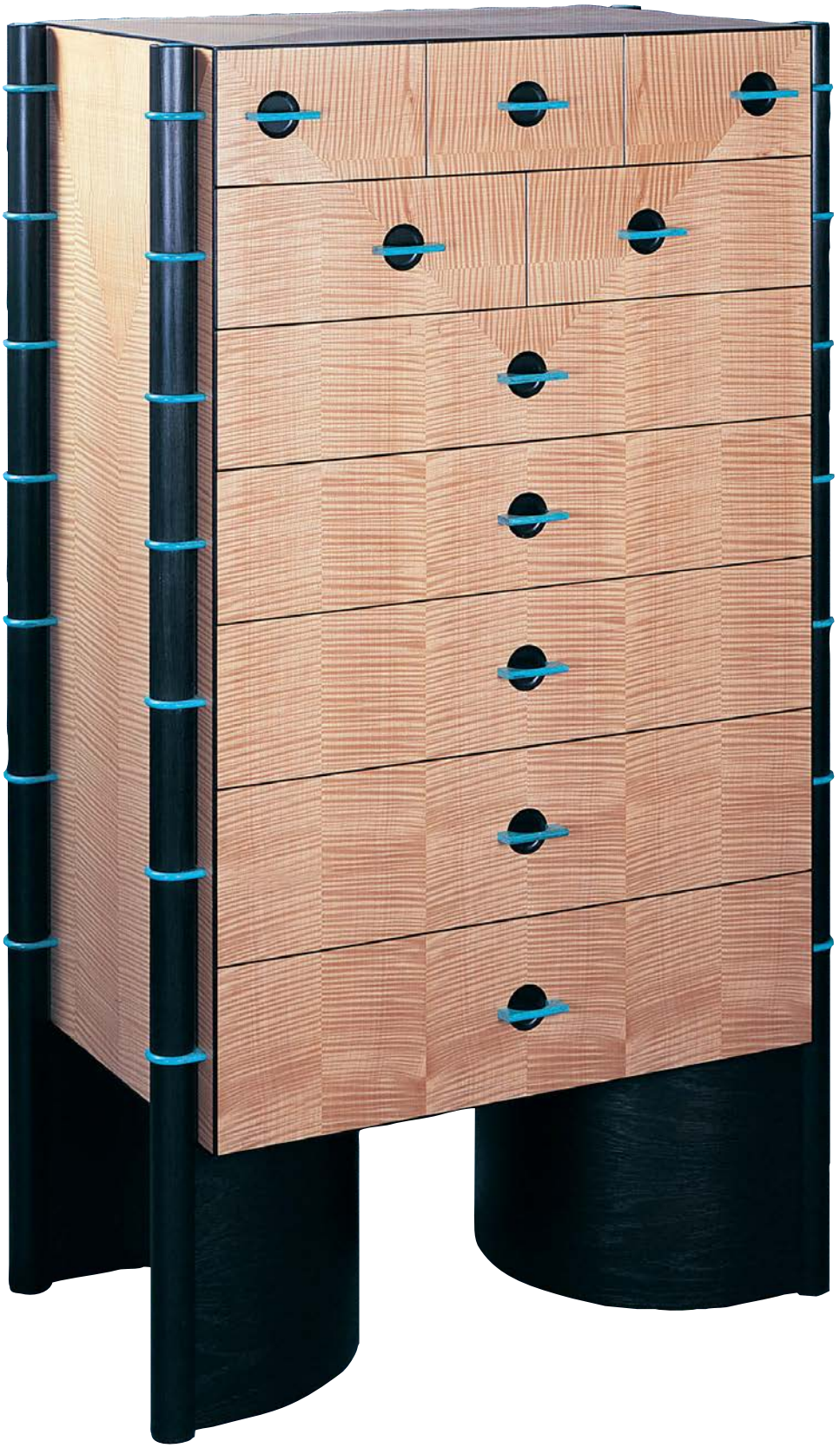
Metalworking techniques for woodworkers

Robert Ingham explains how to make your own metal hardware

I have set myself the challenge to design all my own hardware. It started when the hinges that I bought for a student project at Parnham College needed a lot of adjustment. We were all very frustrated and after a debate we abandoned the hinges and redesigned the way the lid of the box could be lifted by making them out of wood, which became a feature of the design. Although modern hardware, such as the smartHinge, is made to a very high standard using CNC technology, I get a great deal of satisfaction from making my own. I was very fortunate to learn metalwork at secondary school under the encouragement of my tutor, Geoff Hines. I made fishing reels and model aero-engines and followed my love of engineering at Loughborough Training College, specialising in silver-smithing in my final year.

Tools and equipment

The basic use of metal is very similar to the use of wood. Having a knowledge of the structure of wood both from a practical and scientific point of view is essential to get the maximum advantage from its application. The same is true with metal. A big factor in the use of metal is the tools and machinery. While quite a lot of work can be carried out with hand tools such as files and hacksaws, to get the dimensional control and repetitive accuracy some machinery is necessary. At Parnham College, I bought a small model maker's engineering lathe and milling machine. They performed adequately but when I had the good fortune to set up my own workshop I invested in a higher level of precision machinery. To some extent this was self-indulgence but I am glad I took the decision. Affordable engineering equipment is manufactured today to quite a high standard so it is not necessary to buy the 'tool-room' standard of equipment that I have.



PHOTOGRAPHS BY ROBERT INGHAM

Brass hardware

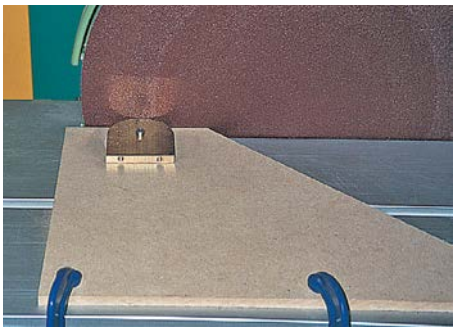
Brass is probably the most appropriate metal for making hardware that combines with wood in furniture making. It is quite easy to work and is available in different ratios of the copper and zinc that forms the alloy. The most common ratio is 50% copper and 50% zinc, which is known as half hard or machinable brass. A higher percentage of copper means the brass is quite malleable, which is suitable for shapes formed by sinking and raising such as bowls and dishes. A higher percentage of zinc makes the brass quite brittle. Half-hard brass is available in a range of cross sections: sheet, rod, square, rectangular, 'U' and 'L' profiles. The annealed brass is drawn through a die that has a profile hole of the finished cross section. The process is also known as extrusion and the profile that results is dimensionally quite accurate.

In practical terms half-hard brass is very easy to work. It can be sawn by hand with a hacksaw, a fretsaw, a bandsaw, a jigsaw or a circular saw. The outriggers that connect the leg uprights and the handles of the chest of drawers in Derek Jones' article (see *F&C* 271, *An Airbrush with the Past*) were cut oversize on the bandsaw and to length precisely on the sliding table of my dimension saw. It is very easy to drill and the swarf or shavings are small fragments that do not clog the flutes of the drill or the hole. Internal and external threads can be cut with taps and dies without the need for cutting compound lubricant. I used my milling machine to drill the screw holes that connect the outriggers to the carcass with repetitive accuracy. The half-round profile was shaped on my disc sander. The excess material was removed on the bandsaw and the centre hole was located on a pin carrier that slides in a groove in the table of the sander. The half-round cross section was formed with a ball race rounding over cutter on my router table. A carrier plate was used to pass the edges against the cutter for safety and control. The spindle speed was reduced to minimise the production of excessive heat.

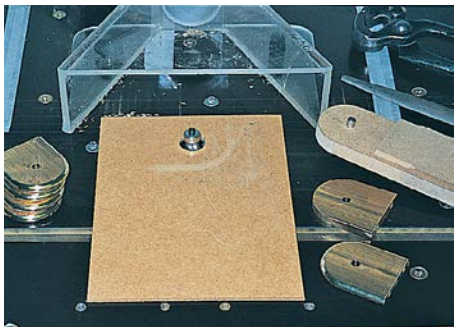
The mechanical method of holding brass components together includes the use of screws, rivets, glue and solder. Epoxy resin will bond brass but it will eventually disconnect. I made some drawer handles in a combination of wood and brass and the bond failed after a short period of time. Superglue will bond brass but it is only suitable for low load handling. Soft solder, an alloy of tin and lead, is also an option but very strong results can be achieved with silver solder or brazing spelter. Easy flow silver solder can be melted with a gas flame torch. The main challenge is that of holding the components together. This can often be done by holding the components together with pieces of fire-brick or by wrapping small pieces of wire around the components. A flux paste is applied to the joint which fuses between the surfaces to be soldered early in the application of heat. The function of the flux is to coat the surface and prevent oxidation during the heating process. Pieces of solder rod can be cut and positioned against the joint or the rod can be held in place until it melts and is drawn by capillary action into the joint. I have a heating plate that consists of a base and two vertical sides made from fire bricks. The structure is held together with an angle steel frame with a space underneath so that it can be used on a workbench.

Brass is very often associated with bright polished surfaces that are thought to raise the value of the object. It can be polished on a burnishing disc to a very bright level but in most practical situations it needs to be lacquered as repolishing can be a tedious and messy process. Special recipes can purchased but cellulose lacquer applied with a brush or spray gun will protect the surface.

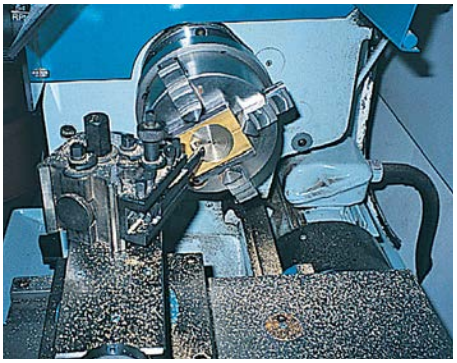
Finally, brass can be patinated. There are many colours that can be created with a range of chemicals, some of which are dangerous to use and difficult to obtain. The blue-green colour that I frequently use is often referred to as verdigris, which happens naturally if the brass is left in damp conditions. To make it intentionally, a solution of copper nitrate is applied to the surface of the brass. The patination is then speeded up with the application of heat. A high enough temperature can be achieved with a hot air gun. The surface can then be protected with the application of lacquer or varnish. F&C



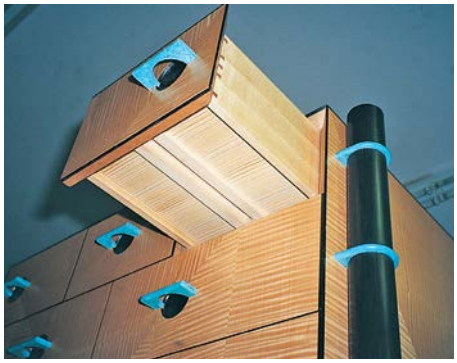
Shaping a half-round profile with a sliding jig mounted onto a disc sander



With suitable workholding jigs brass can be machined on a woodworking router if the speed is reduced



The swarf generated from machining half-hard brass is chip-like rather than spirals or ribbons



You can introduce some striking effects to your brassware through patination

Another example of bespoke hardware made in the woodwork shop with tools and equipment you might already own

UNDER THE HAMMER:

The Important Design sale

We look at some of the best lots from Bonhams' recent auction

The Important Design auction held at Bonhams' London salerooms in April included items from '800 years of fine decorative arts'. The selected lots ranged from glass and silverware to carpets and sculptures. Here, we look at some of the best furniture from the sale.

Jacob-Desmalter and French Imperial furniture

Georges Jacob (1739–1814), a renowned cabinetmaker active during the late 18th century, sold his business in 1796 to his two sons, who then renamed the firm Jacob Freres. The Jacob brothers, Georges II (1768–1803) and François-Honoré-Georges (1770–1841), produced furniture directly inspired by Greek, Etruscan and Roman antiquity following the fashionable Neoclassical taste of the period established by Charles Percier and Pierre Fontaine in their 1801 publication, *Recueil des Décorations Intérieures*.

François-Honoré-Georges, who added Desmalter to his family surname in 1803, provided over 330 pieces for Napoleon including most importantly the imperial throne in advance of Napoleon's coronation, which took place the following year. Throughout Napoleon's reign (1804–15), Jacob-Desmalter was the predominant and favoured cabinetmaker to the Imperial Garde-Meuble, responsible for supplying furnishings at Fontainebleau, Grand Trianon, Saint Cloud, Rambouillet and of course the Tuileries. In fact, it is noted in *Le Mobilier Francais du XIX Siecle* that between 1803 and 1813, the cost of works produced by Jacob-Desmalter for the Palais des Tuileries alone amounted to 541,765 Francs. That's around €1.7m or £1.5m in today's money.

£23,750

A set of three French Empire carved giltwood 'Palais des Tuileries' fauteuils by François-Honoré-Georges Jacob-Desmalter. They are marked with inventory stamps from the Tuileries during the Restoration Period (ca 1810–15). Each chair has a raised stylised acanthus, laurel leaf, flowerhead, anthemion and lotus-leaf ornament, with conforming opposing shaped and scroll-carved arm terminals and front legs, on splayed square-section rear legs.

PHOTOGRAPHS COURTESY OF BONHAMS

£6500

Model No. 7500 rocking chair by Gebrüder Thonet. This model was made in the second half of the 1870s; it has a beech bentwood frame with a woven cane seat. The Gebrüder Thonet company was particularly known for its bentwood furniture as it had developed the first industrial-scale production processes for steam bending.

£11,250

Carlton House desk and chair, designed and made in 1979 by John Makepeace. The desk and chair are made from Indian rosewood and red leather; they were exhibited at the Fine Art Society in 1980.

£10,000

A French late 19th/early 20th-century gilt bronze mounted mahogany vitrine attributed to Francois Linke (1855–1946). The marble inset top sits above a frieze mounted with two satyr putti and one central bacchic putto amidst abundant vine leaves, bunches of grapes and ribbon-tied floral swags, with herm capital angles. The glazed panelled door is mounted below with an ormolu oval relief plaque depicting four frolicking putti adorned with scrolling foliage, flowers and vine leaves, enclosing three glass shelves and a mirrored back, flanked by entwined laurel leaf pendant mounts, on keeled legs terminating in scroll and acanthus cast sabots.

£8750

Art Deco cabinet from the studio of Émile-Jacques Ruhlmann, made ca 1930. The cabinet has a brier-root exterior with inlaid ivory decoration, it is raised off four slender legs and has a light burr wood interior with one internal shelf.

£11,250

A pair of low lounge chairs for the penthouse at Highpoint II, Highgate, London designed and made by Berthold Lubetkin in 1938. The Norwegian pine frames were made by Lubetkin and his wife Margaret using hand-selected materials. The cowhide upholstery and bolster cushions in place are replacements for the originals.

£16,875

A Regency mahogany luggage stand made by Gillows ca 1820. It has a ring-turned baluster gallery back, above a reverse ogee seat frame and slatted base, on reeded and ring-turned baluster tapering legs. It is stamped: GILLOWS.LANCASTER. This example is rare in that it has a highly distinctive and elegant gallery back whereas the vast majority of such models do not. It follows a Gillows' design, dated 12 September 1822, for a 'trunk stand with back'.

£2500

Shell chair designed by Hans Wegner in 1948 and manufactured by Fritz Hansen. The chair is made from laminated plywood and beech.

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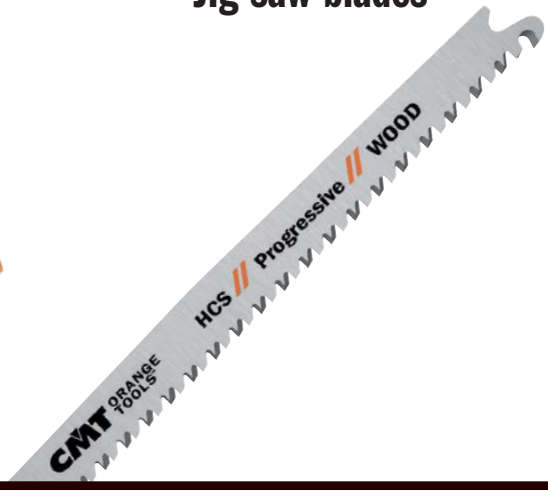

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Rising to the occasion – the Philly Planes Panel Raiser on test

Kieran Binnie reviews the new panel-raising plane

PHOTOGRAPHS BY KIERAN BINNIE

Raised panels are an excellent way of adding some visual interest to doors, drawers, and frame and panel casework. However, newly made panel-raising planes are not all that common, with panel-raising tasks often delivered by dedicated router bits. Enter Phil Edwards of Philly Planes, one of the plane makers at the forefront of the modern wooden plane revival. Phil has just introduced a new, adjustable panel-raising plane to his line-up. This plane, inspired by a panel raiser dating from approximately 1780 made by Samuel King, replaces the two sizes of panel raisers previously available from Philly Planes. I recently found myself working on a project calling for two raised panels in a frame and panel door, which seemed like an excellent opportunity to order Phil's new plane and give it a thorough workout.

Specification

The panel-raising plane is available as standard in beech, although as a custom plane maker Phil can accommodate requests for other timber choices and specifications. The plane body is 245mm long, 72mm wide and weighs 1333g including the iron and wedge. The substantial iron is 57mm wide, 4mm thick and bedded bevel-down at an angle of 51° with a 20° skew away from the workpiece. The combination of thick iron and skew is intended to reduce chatter and leave a clean surface when working across or against the grain.

The iron cuts on two faces simultaneously, which means that freehand sharpening is essential unless you have a sharpening jig that accommodates a variety of skewed angles. Fortunately, the iron of this plane is also hollow ground, which makes for an easier freehand sharpening experience.

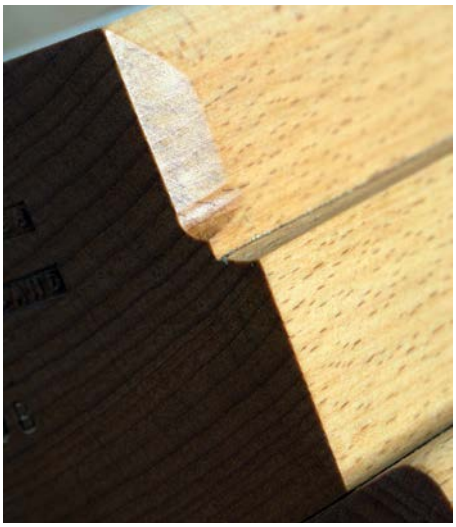
Viewed from the front you can see the two adjustable fences, the profiled sole and the skew of the iron

The plane is completed by two adjustable fences: one on the left-hand edge of the sole to set the width of the raised field, and the other on the right-hand side of the plane to set depth of field (this is a right-handed model, and the fence positions would be reversed for a left-handed version). The fences are held in place each by a pair of steel screws that run in slots milled in the fences. Adjusting the fences is a simple matter of slackening the screws, moving the fence to the desired position and then cinching the screws tight again.

Out of the box the plane feels substantial but not unwieldy. The quality of workmanship is high, as I've come to expect from Philly Planes. The details are executed perfectly, including the numerous chamfers and the beautifully shaped and well-fitted wedge. The body and both fences are made of quartersawn beech, which gives great stability as well as wear resistance, and the construction of the plane makes it clear that it is designed as a workhorse.

The throat of the plane has lovely carved details

The iron is skewed at 20° for a clean cut across the grain



The body of the plane is decorated with perfectly executed chamfers

In use

Beauty is all well and good, but how does the plane perform in use? The short answer is very well indeed. Despite appearing more complicated than many wooden planes, setting up the panel raiser is a very straightforward proposition. I found that it was easier to set the fences before inserting the iron into the plane, although making small adjustments to the fences with the iron fitted was not a problem. The iron and wedge fit the throat of the plane perfectly, and lining up the cutting edge of the iron with the profile of the sole before tapping in the wedge is a simple matter. Adjusting the depth of cut is then a case of tapping the back of the iron to advance the cut, or the front of the plane to retract the iron.

The panel raiser very quickly becomes intuitive to use – adjust the fence for width of field, set the depth of cut and get straight to work. The fence setting the width of the raised field is essential, but in practice I didn't rely on the fence to set depth of field. Instead, I found it easier to mark the depth of the raised field on the edges of the board with a marking gauge and then cut down to my layout line freehand. Even during prolonged use the fences were rock solid and I found no hint of any slippage or movement. The generous stock of the plane makes it easy to maintain a solid grip, and although the chamfers are crisp the plane is comfortable to hold without any sense of sharp edges digging into your hands. That solid grip also keeps the plane in the cut and the fence running against the edge of the workpiece for an evenly raised panel.

The skewed angle of the iron, together with its substantial thickness, resulted in an astonishingly clean cut even working with difficult timber and cutting across the grain. While it is best to use mild timber free of knots for moulding or raised panels, I decided to put the plane through a torture test using some particularly tear-out prone knotty pine. The panel raiser dealt with this unsuitable timber without any problem; the heavy iron sliced through knots with only a little extra effort, leaving a clean and chatter-free surface.

Raising panels using only this plane can be a bit of a workout. This is no criticism of the plane, but simply there is a lot of material to remove on two cutting edges simultaneously, usually on four edges of a board, and Phil recommends hogging out the waste with a jack plane. This approach works well, and I also found that a moving fillister plane was a good way to remove the majority of the waste before creeping up on the final profile with the panel raiser.

The rear chamfer makes for a comfortable grip in use

The wedge is well fitted and matches the skew of the iron

The hollow ground iron cuts two faces simultaneously

Steel bolts and washers hold the bottom fence in use

Steel screws hold the side fence in position

Raising a panel

The torture test – the plane left a clean surface even on this large knot in position

The finished profile

Conclusion

There is a reason why Phil Edwards is considered to be amongst the best modern wooden plane makers, and this plane demonstrates everything for which his tools are known. The attention to detail on the panel raiser is impeccable, with crisp chamfers, a perfectly fitting wedge and a plane that works as advertised straight out of the box. As well as being beautiful, this is a highly functional tool that delivers consistent results. Even better, this is a really enjoyable plane to use. While it may fulfil a single function, the adjustable fences mean that it can be used for work of varying sizes and scales, and is an easy way to add some visual interest to a piece. The performance even on less than ideal timber shows how well the engineering has been thought through in terms of blade thickness, bedding angle and skew – factors which all come together to deliver excellent results. In short, this plane has already earned an enduring place in my tool chest. F&C

Details

Price: £475
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Product test – Odie's Oil

Steve Coonick finds out whether this finishing product lives up to the hype

It's not often that there is such a buzz about a new finishing product, but the finishing oil from Odie's Oil has certainly caught the attention of many makers online. My first introduction to the company was via Instagram last year; a maker from the USA was testing the oil and my attention was drawn to the results he was getting, with respect to aesthetic appeal and performance. After further investigation it became clear that many makers were getting great results; these makers had no direct connection to Odie's Oil, their blogs and posts on Instagram were simple but honest and all were positive. There is a great global woodworking community and I have always valued the information and experiences other makers share online.

So I headed to the Odie's Oil website to learn more. It was clear that this product was developed by people who understand the needs and desires of furniture designers and makers; in fact James, who developed the product, is a maker himself. My personal preference for finishing products has always been to use a finish that works with the wood, not against it. The oils and waxes in Odie's Oil are derived from natural sources, contain no toxic solvents, driers or hardeners and are safe for your family, pets and food.

In application the oils and waxes completely saturate the pores and surface of the wood, preventing the penetration of moisture and stains. Due to the highly concentrated mix of natural oils almost nothing evaporates during the drying process, delivering an effective one-coat product. When dry, it has a flexible consistency that moves with the wood and a sheen that increases with age and use, rather than dulls.

Plan your finish at the start

The surfaces of fine furniture need to be able to withstand the rigours of use. Applying an appropriate finish is essential to protect the wood's surface. Without a finish, wood can dry, crack and deteriorate or, if exposed to moisture, swell and warp.

The required level of performance (durability) of a finishing product depends upon the furniture's end use, for example kitchen work surfaces and tables require a high performance finish, whereas bookshelves and display cabinets may require lower performing finishes.

Environment is also an important factor when selecting a finishing product, and should be considered during the design stage. Testing a finishing product provides a helpful guide to aesthetics and durability of the final piece.

PHOTOGRAPHS BY STEVE KOONIK, UNLESS OTHERWISE STATED

Points to consider:

- Mechanical damage (i.e. resistance to scratches, abrasions, impacts, etc.)
- Resistance to chemicals (i.e. resilience against oils, acids, wine, etc.)
- Resistance to water (i.e. endurance to splashes, spillages, high humidity, etc.)

Testing products on the wood on which they will be used is often skipped due to time constraints – but miss this step at your peril. Give yourself time to review finishes properly. Many finishes are touch dry in a few hours but can take a few weeks to cure, and once cured, the appearance of a surface may change. Surface preparation will also affect the finish. Testing this out well in advance of the start of a build allows you to properly prepare a process for finishing and calculate build and delivery timing accurately.

This is an introduction to a new product and, as a result, my tests are not exhaustive. My assessment is based on the preparation, application and initial performance of Odie's Oil. To get the best results preparation and correct application is important. I've been in direct contact with Odie's Oil and the method of preparation and application described here is their recommended process.

PHOTOGRAPH BY PHOTOHOUSE/SHUTTERSTOCK

PHOTOGRAPH BY SNAP HAPPY/SHUTTERSTOCK

The lack of an appropriate finish can lead to damage and staining

Preparation, application and results

Spreading the oil on maple

Abrading to 600 grit will give a satin finish

Odie's Oil has the consistency of honey

As a designer I want complete control over the finish of a piece. I want to dictate if a surface will be matt, satin or gloss. Having multiple finishing products on the shelf is not always convenient or cost-effective. This product allows me to create the finish I desire via the level of abrasion, with no real loss of performance. I love the level of control that just this single product gives me. Odie's Oil is a clear finish product with the consistency of honey requiring stirring before use. It will darken woods but has no pigment. The product has no harsh chemicals so it's easy on your hands and has the most fantastic odour, which will make your workshop smell like a spa!

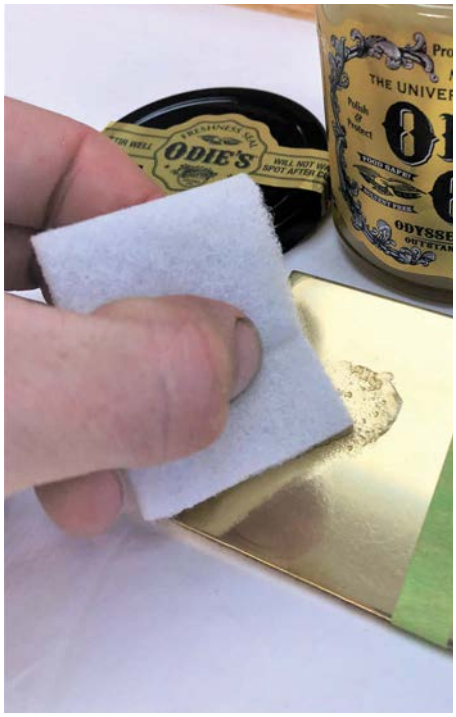
For functional pieces of furniture that will have moderate to heavy usage, abrade to 320 grit – this results in a matt/satin sheen and should give excellent long-term durability. For vertical surfaces or horizontal surfaces of moderate use, abrading to 600 grit will result in a satin finish and should give good durability. For a satin/gloss finish on low-use surfaces or gallery pieces, abrade to 1000 grit.

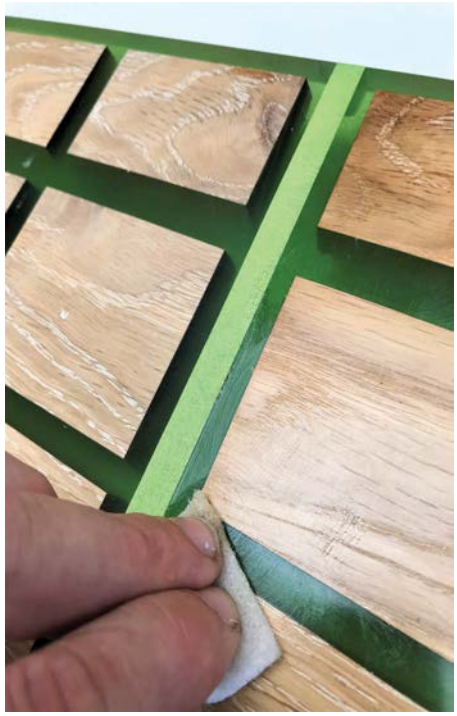
The oil can be applied with a lint-free rag, brush or pad; Odie's Oil recommend initially applying the product with a plastic spreader, 'pushing' the oil into the pores of the wood. A little product goes a long way – for my tests I found 3 grams of oil covered a section of wood 500 x 200mm with ease. As with other finishing products, surfaces should be dust free and clean with no contamination.

Once the oil is spread, a rag can be used to work the product into the surface, however working the oil into the wood fibres and deep into the pores with an abrasive pad is more effective and should increase long-term durability of the surface. If you are not familiar with using a pad, the rule of thumb is to select a pad that is one step up from the initial abrasive used on the wood. For example, if you finish sanding at 320 grit then a 600 grit grey pad will yield good results. Keep working the product into the wood until it has virtually disappeared. Using rags results in more product wasted, however they are an ideal method for cylindrical surfaces, or where a spreader is not appropriate. I also applied the product with a brush, but could find no advantages over the other methods described.

Once applied leave to dry for 45 minutes to an hour, at which point the product can then be buffed off. The manufacturer recommends doing this by hand and with clean, cotton towels or towelling material. I cut up some old clean bath towels, which were very effective, the increased surface area in comparison to standard cotton rags speeds up this process. This is a one-coat product, but if you choose to put a second coat on then I would suggest leaving 24 hours between coats. De-nibbing is not required between coats.

Multiple uses

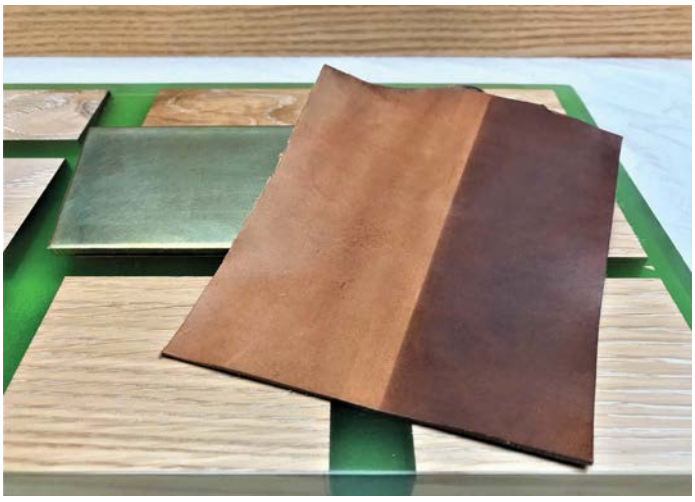




Odie's Oil can be applied to leather (left), brass (centre) and epoxy (right)

You can apply the product to other materials such as metal, epoxy or leather. The product adhered well to epoxy and metal surfaces, and finished well. The leather absorbed at least double the amount of oil as wood, and therefore took three hours to dry before it could be buffed satisfactorily. The finish was good, and the leather was very supple – I'm no expert on leather, but would happily use this on my own projects that incorporate leather writing pads, etc. The leather did darken significantly, which may (or may not) be desirable.

Regarding drying times, it was noted that after 24 hours the product was dry enough to handle without fear of it taking a hand print. I would leave any oiled product at least 48 hours before delivery to a client. Like many oils and waxes the product takes approximately two weeks to fully cure. If you are making an exterior piece, or for an area of high humidity or heavy use (such as a table or worktop) it is recommended to let the oil cure fully before delivery to guarantee a satisfactory result. These drying times are typical for oil or wax finishing products and are not always fully detailed on the tin. Repairs to surfaces are easy, I noticed no blending issues in the tests I performed using Odie's Oil.



The oil gives good results on various materials

F&C verdict

Overall, I was extremely impressed; it's a natural product that works with the wood. It's flexible, durable and water resistant and, when fully cured, exterior grade. In the US Odies has FDA (Food and Drug Administration) approval for contact with food, however, and just to be clear, this is not the same as an EN71 part 3 certificate. Preparation is simple and fuss-free, and it is extremely easy to apply and buff off. As this is a one-coat product finishing times are optimised, which is important in a commercial workshop. It was noted that no dust adhered to the product while drying – in a shared or busy workshop this characteristic is extremely important. The final finish is fantastic and brings out the natural beauty of multiple species, I felt like I had complete control over the level of shine, which I loved. This product is extremely versatile, and if my long-term tests reveal no surprises, then it will have earned a space on my workshop shelf and will be used often. *F&C*

The effect of Odie's Oil on ash sanded to 400 and 1000 grit

The effect of Odie's Oil on walnut sanded to 400 and 1000 grit

Odie's Oil on wenge sanded to 1000 grit, applied with a white pad

Details

Price: $34.99 for 9oz
Available from: www.odiesoil.com

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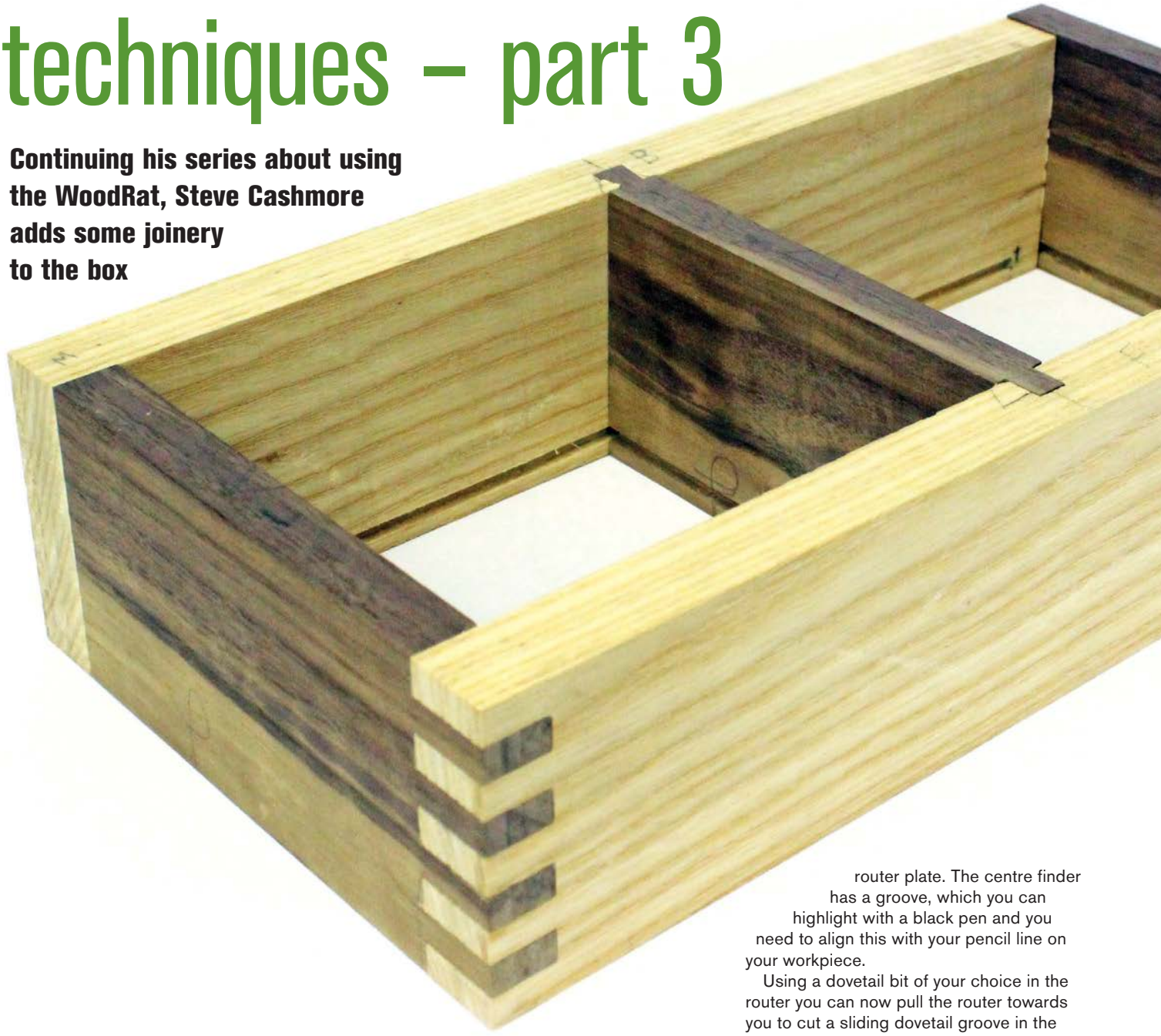
Design tech

Stop chamfers, jigs, tips and tricks

Basic WoodRat techniques – part 3

Continuing his series about using the WoodRat, Steve Cashmore adds some joinery to the box



PHOTOGRAPHS BY STEVE CASHMORE

Note

It should be noted that some of the techniques in these articles were learned many years ago on a course run by Mike Humphrey, which has influenced my woodwork using this machine.

In *F&C* 273 we began making a box using the WoodRat. This month we are going to learn how to make a sliding dovetail joint, a stopped dado/housing, and grooves for accepting the base using the WoodRat. If you recall from last month's article the box is divided into two chambers with a divider, so let's look at the joinery for that first.

Sliding dovetail joint

The divider spans across the two ash sides and is joined on one side with a stopped housing and on the other side with a sliding dovetail joint. Draw a line across the width of the ash board on its inside face halfway along its length to mark where to cut the dovetail groove. My Rat came with a scrubbing brush, which you attach to a piece of wood, and this is then held in the cutter position to support the ash board while the ends are clamped to the base plate so that the ash board is held secure during the cut. The brush is also an anti-gravity device!

But first you need to centre the workpiece using a centre finder, which is a Perspex aid provided with your Rat. Place this upside down in the central slot in the router plate. The centre finder has a groove, which you can highlight with a black pen and you need to align this with your pencil line on your workpiece.

Using a dovetail bit of your choice in the router you can now pull the router towards you to cut a sliding dovetail groove in the ash workpiece, stopping before coming out the other side. I used a tungsten carbide dovetail bit with a slope of 9° and a 10mm depth of cut.

Now place the walnut divider on its narrow side on top of the right-hand guiderail as shown in the diagram on the right, and mark each side onto the top surface of the guiderail with a pencil, while keeping the walnut absolutely still and at right angles to the guiderail. These computer-drawn images show only a simplified version of the router plate (excluding the router) and the right-hand aluminium guiderail.

Place a thin (max. 6mm) scrap of wood, or preferably Perspex, in the cutter position and cut through it with your dovetail cutter at the required depth of cut (in my case 10mm) to make a cutter profile template (CPT). Now

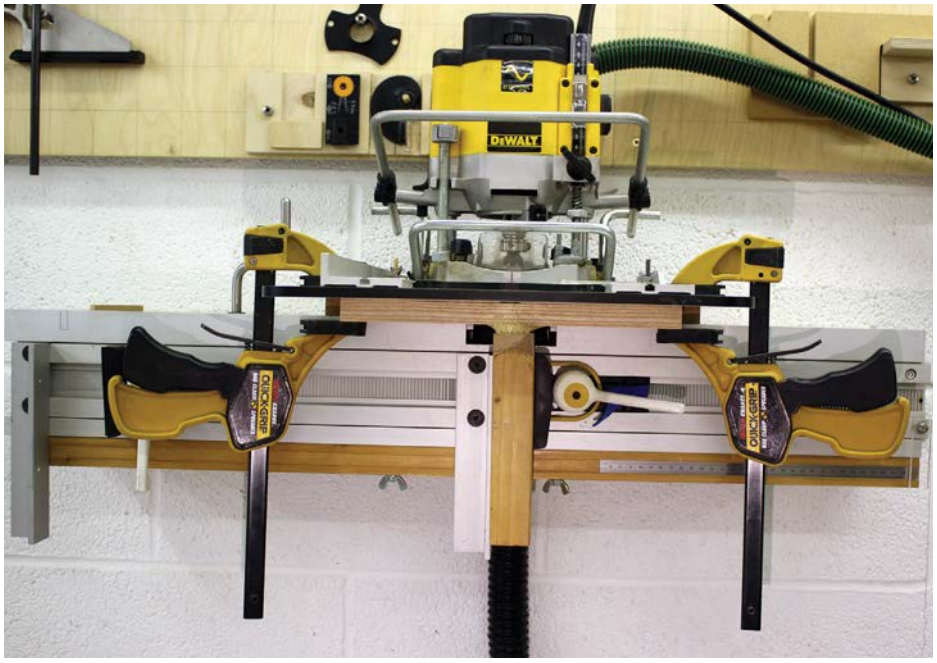
place this centrally between the two straight pencil marks you made on the guiderail which represent the sides of the walnut divider, and while keeping the open end of the dovetail cutter profile against the side of the sliding router plate, carefully pencil around the outline of the dovetail-shaped CPT onto the guiderail.

To cut the tenon on the walnut divider, place the walnut board in the cutter position vertically and ensure the top of the board is fully seated against the underside of the base plate. With the router switched off and using the same 10mm cutter depth, pull the router forward until the cutter hits the side of the board to set the datum. The cutter has to be rotated so that the widest part of the cutter hits the divider.

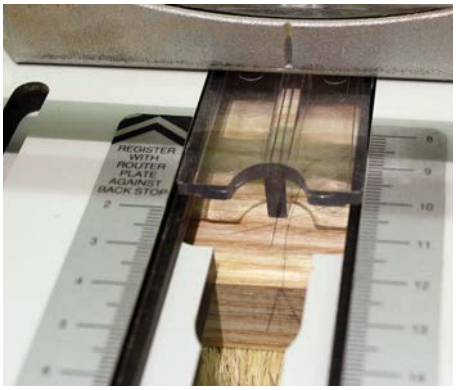
Now stick the CPT onto the router plate with blu-tack (or hot-melt glue) with the corner of the cutter outline touching and overlying the straight pencilled line nearest the router. The CPT should now be oriented as shown in the diagram on the following page. Note that the straight pencil line does not represent the walnut divider, only the space between the two straight pencil lines represents the walnut divider thickness. The CPT now represents the actual cutter in the router and sets the datum.

Wind the workpiece leftwards and away from the cutter using the handle. Pull the router forward until the widest part of the CPT just touches (but does not overlie) the pencilled dovetail shape on the guiderail. The pencilled line of the dovetail shape on the guiderail represents the whole cutter and thus the complete dovetailed slot in the ash board. Now turn the router on and cut the first side of the dovetail tenon by winding the workpiece rightwards into and right past the cutter. Turn the workpiece around in the cutter position and cut the opposite side. Now the dovetail tenon is complete and should fit the dovetail groove in the ash perfectly. Again, post-it notes can be used before cutting without them to creep up on a good fit. The tenon needs to have one end removed by cutting from front to back so that the tenon fits into the stopped groove. The end can be rounded off with a rasp to fit the rounded end of the groove.

The brush is held in the camclamp to keep the workpiece pushed up against the underside of the base plate

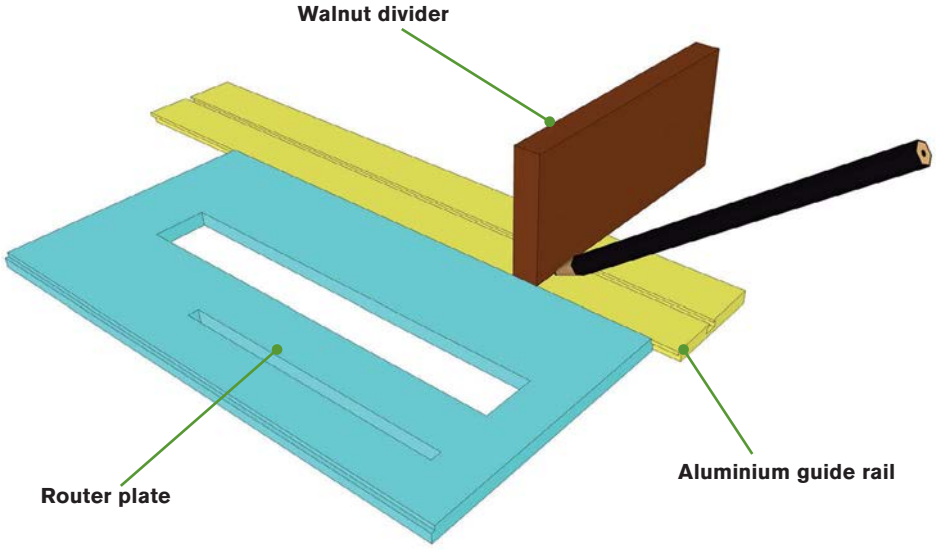


The workpiece is clamped to the underside of the base plate in addition to the brush support

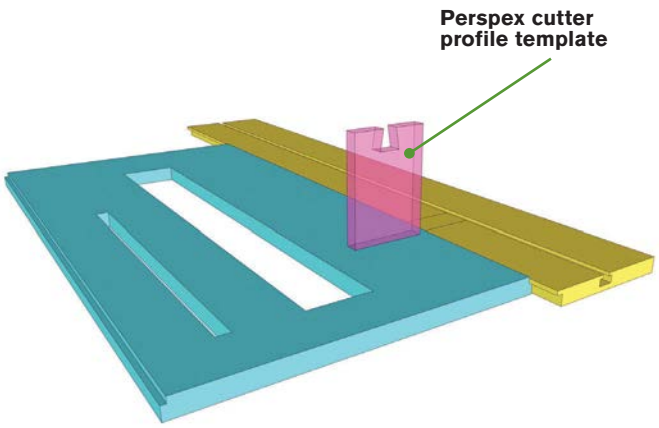


The centre finder in the router plate

The completed stopped sliding dovetail groove

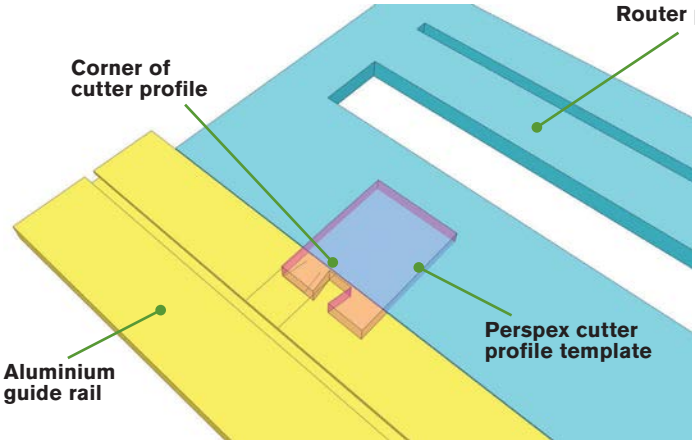


Marking out the thickness of the walnut divider on top of the guiderail

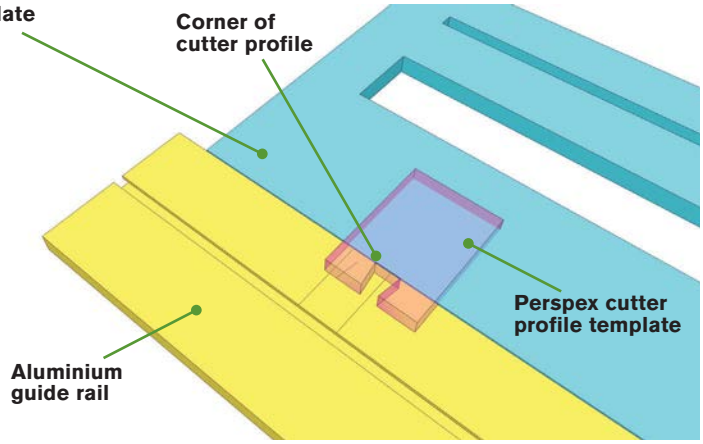


'Cutter profile template' for dovetail cutter

Marking out the cutter profile template onto the guiderail

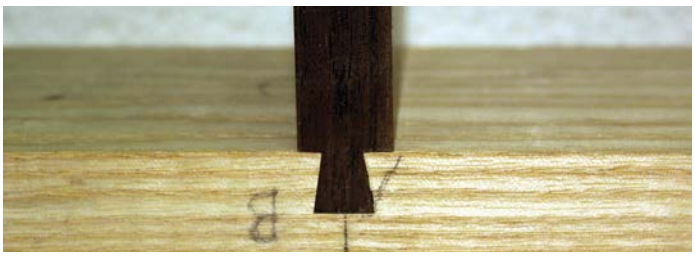


Cutter template set to the edge of the straight pencilled line



Router pulled forward to set the dovetail tenon cut

Completed sliding dovetail tenon



Dry fit of the sliding dovetail

Stopped dado or housing joint

The stopped housing joint can be cut using the same technique as for the sliding dovetail but swapping the cutter for a straight router bit. So follow the same procedure as described above.

Base grooves

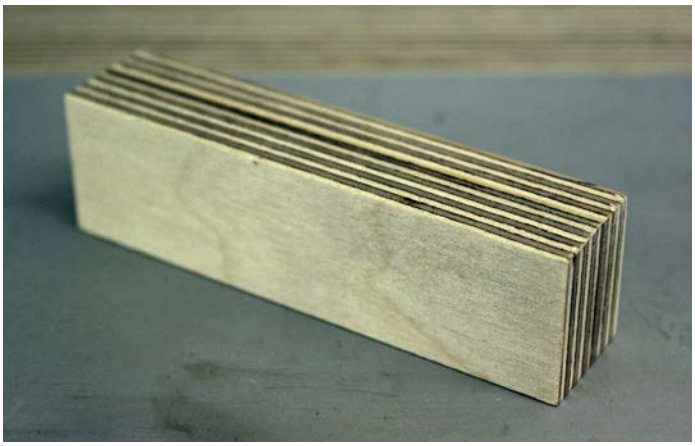
The box needs some grooves around the bottom inside edges to house a base. I used a 4mm diameter straight router bit as the cutter for this. Since the front face of the Rat has a dust collection cavity this needs to be filled while cutting the grooves otherwise the workpiece might pivot into the cavity while pushing it along the front face of the Rat. A small ply block can be made to fit, although the latest WoodRat has a yellow plastic dust chute and a blue plastic insert, which fills the cavity in the dust chute.

In order to cut grooves along the grain, we set the cutter at a distance from the edge of the workpiece using the B/F ruler technique described in *F&C* 273. The simplest and safest way to cut through grooves is to set up the brush in the cutter position camclamp at a height which the workpiece is neither unable to pass between the top of the brush and the underside of the base plate, or set at a height so far down that the brush doesn't support the workpiece during the cut at all. Once the depth of cut is set on the router, and the position of the cutter from the edge which rides against the front face of the Rat is set, then it's just a question of pushing the board against the front face of the Rat and the underside of the base plate. Start from the left side of the cutter (when looking at the front of the Rat) and then slide the workpiece to the right between the brush and the underside of the base plate. When the workpiece exits the right-hand side of the cutter, then the cut is complete. It should go without saying that you need to keep your fingers well away from the parts of your workpiece that will be cut. While making this cut you will be able to see the groove being cut through the hole in the router plate, which you can't do if you were using a router table.

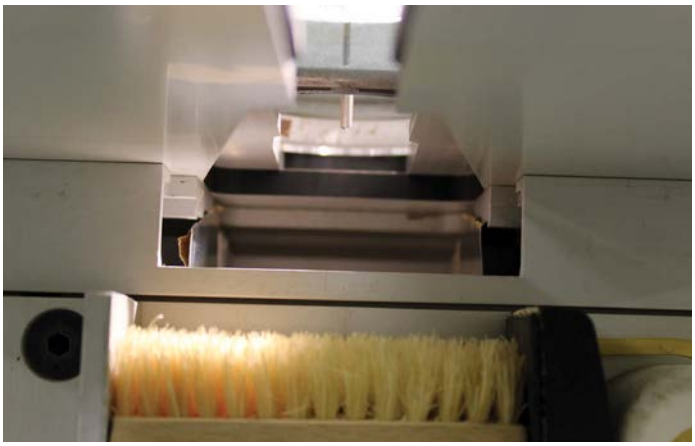
Naturally, thin workpieces are dangerous to push through with your hands. In this case, a horizontal table can be used to support a thin workpiece while it's pushed through with a pushstick, with the workpiece being sandwiched between (a) the front face

of the Rat (including the ply cavity block or insert), (b) the underside of the base plate, (c) the top side of the horizontal table, and (d) adding either a 'guide clamp' (which you can purchase, see box on page 56), or a thin strip of your own wood clamped to the horizontal table, both of which prevent the workpiece coming forward and away from the front face of the Rat. Effectively you create a tunnel through which you push the small workpiece with a sacrificial pushstick.

Short workpieces can also be held on the horizontal table between the adjustable fences and temporarily glued to the top of the table with a few dabs of hot melt glue. Longer workpieces can be hot melt glued to the top of the horizontal table with no other holding methods. Just add a few dabs of hot melt glue at both ends and along the front long edge of the workpiece, and it will be very securely held while a start and stop groove is made. The ash sides for this box required a stopped groove for the base because we don't want the groove to appear on the outside surfaces of any of the jointed corners. The method shown on the following page allows you to drop the cutter into the start of the groove at one end of the workpiece, wind the workpiece along using the handle, and ending the cut at the other end where the cutter is lifted up and out of the groove. Simple!



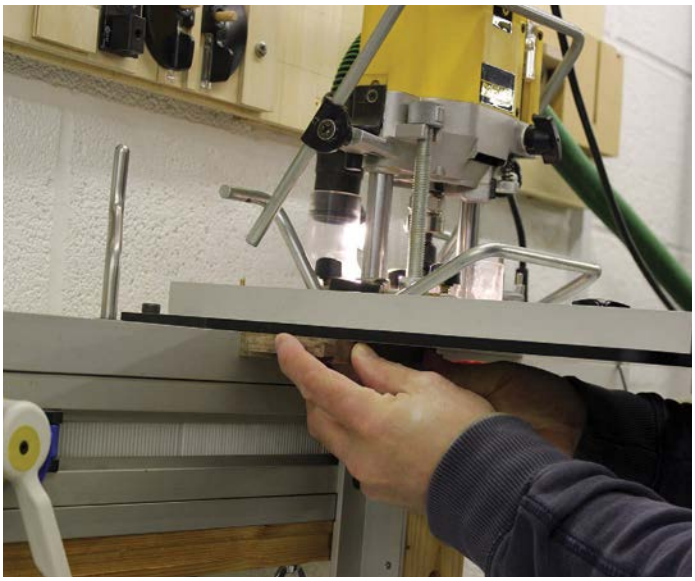
Homemade ply block



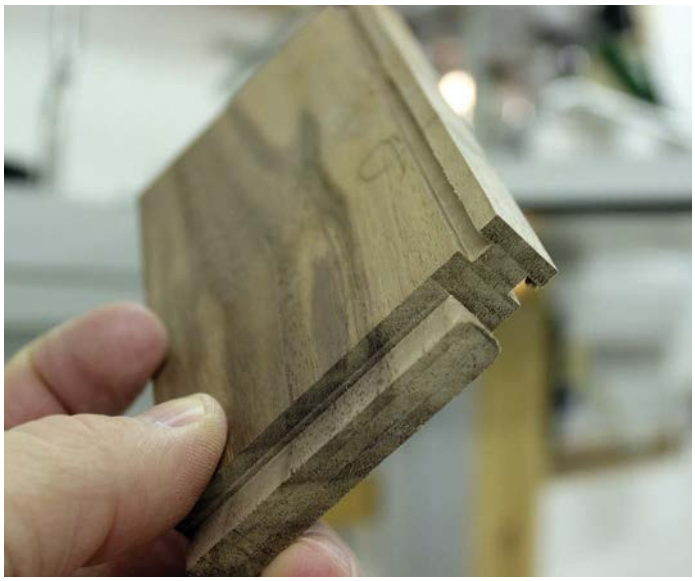
The dust chute cavity in my WoodRat

Blocked dust chute cavity using the ply block

Brush support for workpiece while cutting the base grooves

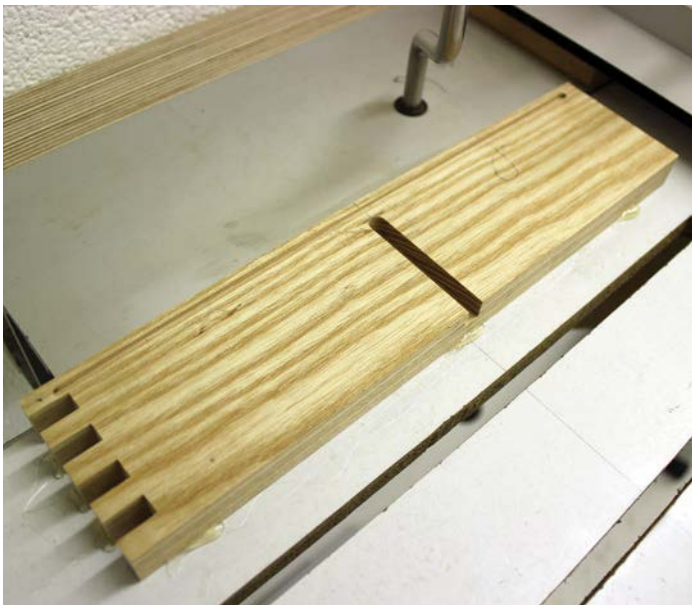


Sliding the workpiece into the cutter to cut the base groove



Both base grooves cut in the walnut divider

Short workpiece holding using horizontal table and fences



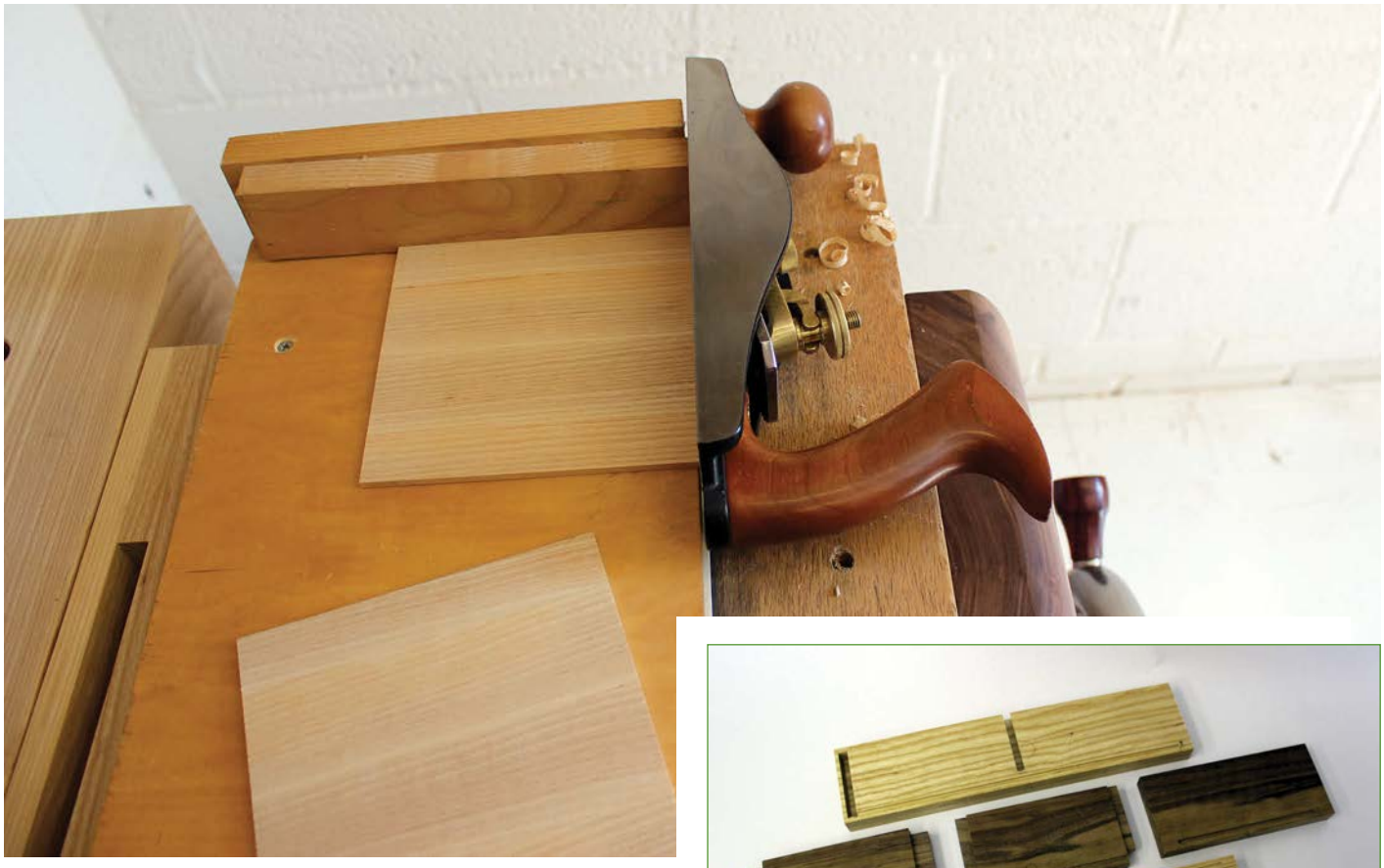
Long workpiece holding on horizontal using only hot melt glue

The bases

I made the bases from various scraps of quartersawn ash that I had lying around the workshop. None of them were wide enough so I glued several strips together and processed them to 4mm thick and squared them up on my shooting board. I could have machined them on the Rat, but I didn't!

Guide clamps

Guide clamps can be purchased from:
www.axminster.co.uk and www.trenddirectuk.com



Not everything has to be done on the Rat!

Next month

The box so far is shown at the beginning of this article and laid flat here. In the next article we will look at how to make the other corners of the box using through and half-blind dovetails.

The box so far – laid flat

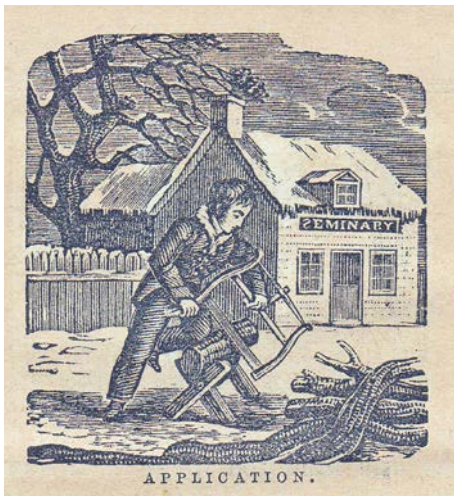
The collector's guide to bow saws

In the latest in our tool collecting series, John Adamson looks at traditional one-man saws

PHOTOGRAPH BY JEAN-PAUL MULLER

PHOTOGRAPH BY JEAN-PAUL MULLER

The frame of this English woodcutter's saw in elm may well have been made by its owner. The blade or web is pinned in the cheeks set 27in apart and is tightened with twisted wire across the top of the frame. There would probably have been a toggle stick to twist the wire



Woodcutter cutting a log with a buck-saw on a saw-buck; engraving for *Stories about Henry and Frank* published by Merriam & Moore, Troy, NY, n.d.

The poet's spectral image of old Sweeney, the woodcutter, with his 'bow-saw, held stiffly up like a lyre' as he went from hazel bush to hazel bush and 'angled his saw in' before moving on to the next is eerily compelling! But Seamus Heaney, in the opening lines of his poem 'Station Island', does more than describe an apparition recalling his childhood in rural Ireland; he conjures up a rustic picture of a man sawing wood that is probably older than history itself.

Yet for all that Sweeney would not have been wielding what we now think of as the classic bow saw; he would in all likelihood have been using a woodcutter's saw. It is easy to forgive Heaney's apparent poetic licence, nevertheless, for both saws have essential features in common, and there has been a lack of clarity in naming saws of this type, as we shall see.

One-man saws

The mechanical advantage of a thin and/or narrow saw blade held under tension on some kind of frame has long been acknowledged and is shared by a wide range of saws. There is lower risk of buckling or snapping when such a blade is strained on a frame, and when compared with the performance of frameless handsaws, it offers greater cutting accuracy and efficiency. This is true of metal-framed saws in the woodworking trades, such as the hacksaw, the fret saw or the coping saw, as well as other metallic saws such as those used by armourers, surgeons – and, even in miniature, by dentists. Confusingly, but not surprisingly, the modern-day log saw with bow-shaped frame in tubular metal that likewise holds its blade in tension is often called a bow saw as well!

But all of the saws I have just listed have metal frames. What I wish to focus on are traditional one-man saws where the blade is held along one margin of a wooden frame and its tension achieved by leverage. Saws, such as the time-honoured two-man framed pit saw, where the blade is strained in the middle of a rectangular wooden frame, are thus precluded. Both the woodcutter's saw held in Sweeney's hand and the classic bow saw belong to the same special family of saws whose blades are held taut by a simple but very effective pair of wooden levers with mortises into which the tenons at the ends of a central stretcher or brace fit loosely and act as fulcra. A tensioning device brings the top ends of the levers towards each other, and as it does so the bottom ends move outwards straining the blade held between them. While the blade on a woodcutter's saw is wide and rigid, that on a classic bow saw is narrower, often with the added facility of being able to twist it to the desired angle to the frame. This makes it ideally suited for straight or curved work of greater length than the distance between the blade and the stretcher, and it also means that rip-cutting as well as cross-cutting are possible. On the traditional woodcutter's saw the cheeks are sometimes sharply curved and one of them is slightly longer than the other, extending at the lower end to form a rudimentary handle; in the United States the traditional wooden buck-saw is of striking similitude in appearance to this saw and is used on a saw-buck or saw-horse to cut logs. In contrast, the classic bow saw has handles turned on a lathe and these are fitted in line with a narrow blade. We might mention a couple of other frame saws here from the same family: while the frame on a cooper's head saw is very similar in design to that on the woodcutter's saw, the frame on a bettye saw, as used by chair-makers and wheelwrights, can, like the classic bow saw, be angled by turning the handles on the blade axis.

PHOTOGRAPH BY JOHN JAMES. COURTESY OF DAVID STANLEY AUCTIONS

As the cheeks are brought closer together by twisting the twine on this classic English beechwood bow saw, the 12in blade (or web) is pulled tighter and held with a tongue, or in Sheffield terminology, with a 'clack'. The tightening process is done by leverage of the first kind, the slightly loose mortises on the cheeks receive the tenon fulcra at the ends of the stretcher. Both the colourful label on the stretcher and the maker's stamp on one of the cheeks show the shamrock trademark of William Marples & Sons of Sheffield first introduced in 1875

PHOTOGRAPH BY JOHN JAMES. COURTESY OF DAVID STANLEY AUCTIONS

Like the woodcutter's saw, this bettye or chair-maker's saw has one cheek extended at its lower end to form a handle, but like the classic bow saw there are two boxwood handles in the axis of the blade that enable it to be turned. This kind of saw is used for cutting all manner of curved work from felloes in the wheelwright's shop to chair arms at the furniture maker's. The maker is unknown. There are also metal-framed versions of the bettye saw with tensioning device on the blade's axis not dissimilar to a metallic hacksaw

History of bow saws

It is not known how far back in history the idea goes of straining a saw blade on some kind of frame. We do have evidence that the Romans had at their disposal different types of frame saw with taut blades. The simplest resembled a bow with the blade strained by a length of springy wood bent to join the blade at each end. But they also had other frame saws; on one of them with wooden cheeks and a stretcher, the blade was tightened with a cord or sinew twisted and held tight with a toggle stick so that it would not unwind. The ends of the cheeks were shaped in such a way that the cord or sinew would not slip off. This could also lend elegance to the tool, at times making it remarkably like a lyre in outline. In *Roman Woodworking*, Roger B. Ulrich illustrates a stone altar to Minerva, the goddess of crafts, now held in the Capitoline Museums in Rome, on which a frame saw has been carved in low relief. Astonishingly, the saw shown is of a design that has altered little to this day.

From the 16th century onwards illustrations of wooden frame saws seem to become more common. In one of Jost Amman's woodcuts adorning Hans Sachs's *Ständebuch* or book of trades (published in Nuremburg in 1568), a woodworker is shown cutting with one. Another frame saw, simply labelled *sega* or 'saw' in Italian, is featured in a woodcut of saws and planes in the plate section at the back of Agostino Gallo's *Vinti Giornate dell'Agricoltura e de' Piacere della Villa* (1569). In function it is identical to the Minervan one, but its cheeks have been turned on a lathe. The French chronicler and historian André Félibien, in his *Principes de l'architecture, de la sculpture, de la peinture, et des autres arts qui en dépendent* (1676), illustrates three different wooden frame saws, all of them at first glance very similar in design: the *scie à débiter* or framed cross-cut saw, with a blade that can be turned; the fine-toothed *scie à tenon* or tenon saw with a rigid blade; and the *scie à tourner*, or literally a turning saw (a name sometimes given in English for the bow saw because the blade can often be turned, but here a saw with a rather wider blade). The most striking thing is that all three are with unhandled rectangular frames and broadly follow the design and functioning of the saw as depicted on the altar to Minerva. Perhaps almost as striking to Anglo-Saxon eyes today is the idea of there being a frame saw with stretched blade designed specifically for cutting tenons. Nowadays, when we hear 'tenon saw' in our mind's eye we see a handled backsaw with its strengthening rib along the back of the blade. As long ago as the turn of the 18th century the royal hydrographer and mathematical lexicographer Joseph Moxon in his *Mechanick Exercises* defined this saw in these words: 'The Tennant-Saw,' he wrote, 'being thin, hath a Back to keep it from bending.' Were tenons in British workshops cut with a wooden frame saw like Félibien's at some time before that?

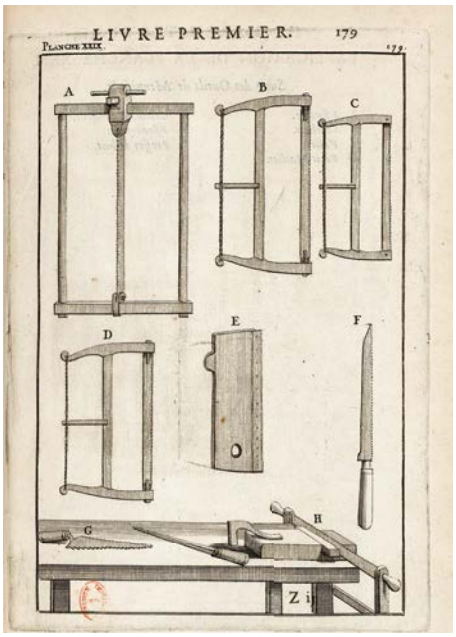


IMAGE COURTESY OF BIBLIOTHÈQUE NATIONALE DE FRANCE

This plate from André Félibien's *Principes de l'architecture, de la sculpture, de la peinture, et des autres arts qui en dépendent* (1676), illustrates three wooden frame saws each with the blade strained by tightening the twine across the top of the frame: a *scie à débiter* or framed cross-cut saw (B); a fine-toothed *scie à tenon* or tenon saw with a rigid blade (C); and the *scie à tourner* (D), literally a turning saw

Interestingly, when Joseph Moxon describes and illustrates what he calls a 'Frame or Bow-Saw' in his same chapter on joinery there seems to be, at least from our perspective, an element of imprecision. His written description matches either: 'The Office of the Cheeks made to the Frame-Saw is, by the twisted Cord and Tongue in the middle, to draw the upper ends of the Cheeks closer together, that the lower end of the Cheeks may be drawn the wider asunder, and strain the Blade of the Saw the straighter.' His illustration shows a frame saw without handles, but it is hard to tell if its broad blade is rigid or will turn. Were 'frame saw' and 'bow saw' really synonymous at that time?

Although there has been a legacy of illustrations and descriptions of wooden frame saws from down the ages, few of the tools themselves are known to have survived from before the 19th century. This may be because they were remarkably cheap tools to make or buy. When a frame saw became worn out it could easily be replaced. While this type of saw has today been superseded for many jobs by the metal coping saw in Britain and North America, craftsmen in continental Europe have to some degree continued to make use of the wooden-frame saw for a wide variety of tasks. Yet the French, in a feat of linguistic economy, have sown more semantic confusion by recycling the name *scie à chantourner*, originally the term to denote a wooden-frame bow saw with swivelling blade held taut with cord and toggle stick, and making it their name for a modern-day metal coping saw.

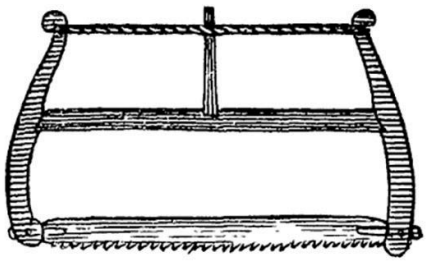


IMAGE COURTESY OF HATHITRUST

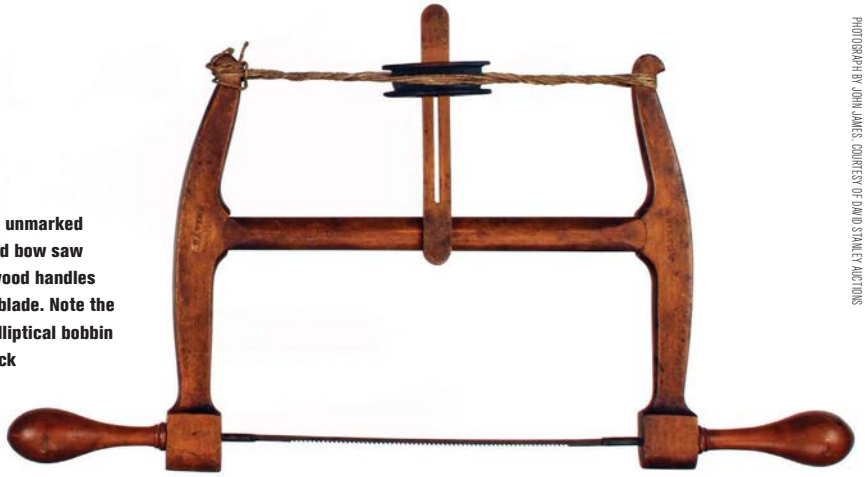
Detail from 'Plate (4), Page. 69' of Joseph Moxon's *Mechanical Exercises* (3rd edition, 1703), showing a 'Frame or Bow-Saw'

PHOTOGRAPH BY JOHN JAMES, COURTESY OF DAVID STANLEY AUCTIONS

This French bow saw (*scie à chantourner*) in birch with rosewood handles and 7in blade uses the round ends of the stretcher to hint gracefully at the fulcral nature of the mortise-and-tenon joints. The maker is unknown

Contemporary saws

A hasty visit earlier this year to Gaignard Millon, that wonderful treasure trove selling hand tools for woodcarvers, joiners and furniture-makers in Paris's Faubourg Saint-Antoine, not far from the École Boulle, confirmed that there was still a demand for frame saws. I asked for one and my eye was directed towards a frame saw made by Ulmia in Baden-Württemberg hanging on the wall. When I asked if any were still being manufactured in France, I was told that to the shop's knowledge that was no longer the case. That of course does not gainsay the possibility of craftsmen still making their own, as I am told still holds true in Switzerland. Further investigation revealed other handled frame saws of various blade lengths are still being made in Germany by Ulmia, and also by Dictum, so it does look as though this saw still commands special status in some continental workshops at least. Ulmia's frame saws have a spring described as 'a torsion safeguard' let in at the junction between the stretcher and the cheek to prevent warping of the frame. The firm's frame saws come in various models, one of which, the *Spannsäge*, is somewhat misleadingly labelled a buck-saw in the English version of their catalogue; another one, the *Absetzsäge*, is called a cross-cut saw. Also available with a Japanese blade, the *Spannsäge* is for a coarser push-to-cut work, while their cross-cut saw is recommended for fine work including tenons and dovetails. Dictum's frame saws come with cedar-wood stretchers for lightness and to reduce vibration, and with Japanese saw blades made exclusively for the firm with various tooth patterns on offer for cutting across or with the grain, or, on a narrow jig blade, for scroll cutting. Perhaps the fact that in 1895 the tool-makers Jacob Busch in Remscheid registered an outline image of the continental frame saw as their trade-mark with the legend *Spannsäge* [frame saw] betokens how much store German craftsmen set by this highly versatile saw.



PHOTOGRAPH BY JOHN JAMES, COURTESY OF DAVID STANLEY AUCTIONS

This small unmarked beechwood bow saw with boxwood handles has a 7in blade. Note the grooved elliptical bobbin on the clack

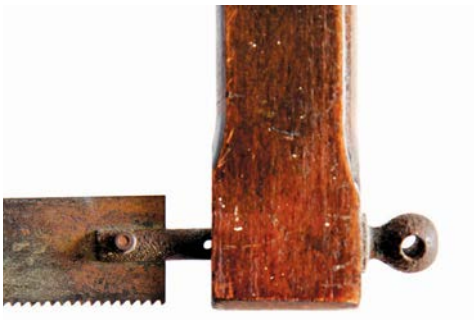
PHOTOGRAPH BY JOHN JAMES, COURTESY OF DAVID STANLEY AUCTIONS

On this beechwood bow saw with boxwood handles the 6in web is held taut with a turn-buckle and stout brass wire. The stretcher is stop-chamfered. The maker is unknown

And what about the wooden frame saw in the UK and North America today? Well, there is Thomas Flinn & Co., the traditional saw and hand-tool manufacturers in Sheffield, who still make a classic English bow saw in beech with narrow blade that can be angled for curved work. I was, however, unable to find any new factory-made bow saws of this style in North America; significantly there was nothing emanating from either Veritas or Lie-Nielsen. So, this might lead us to conclude that some scroll-sawing in Britain is still done with a bow saw but little in North America. In the Anglo-Saxon world, much work, it seems, is now generally tackled using metal saws such as coping, fret, panel or tenon saws. Is there still a place then for the classic bow saw? And should British and North American woodworkers perhaps also be considering the use of the continental frame saw as a new way of tackling some of the other cutting chores in the workshop? This would not be for the sake of hand-tool nostalgia but because of the astonishing efficacy of the frame saw as an all-rounder. *F&C*

PHOTOGRAPH BY JEAN-PAUL MULLER

Probably from the 1930s, this French example of a continental frame saw (*scie à cadre*) in stop-chamfered hornbeam with pitch-pine stretcher has a broad 400 mm blade, which can be turned. The pitch pine has been utilised for its lightness and as a shock-absorber rather than for economy of timber



PHOTOGRAPH BY JEAN-PAUL MULLER

Detail of the round-headed shaft holding the blade that can be turned with a rod through the head

PHOTOGRAPH BY JEAN-PAUL MULLER

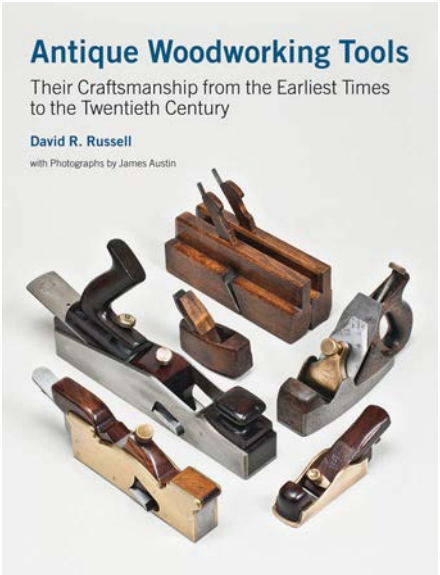
The wing nut on the threaded end of the tensioning rod provides simple and effective adjustment

Tips for collectors

PHOTOGRAPH BY JAMES AUSTIN, COURTESY OF THE DAVID R. RUSSELL ESTATE

A late 19th- or early 20th-century bow saw from the late David Russell's collection, in rosewood with beechwood handles and a 12½in blade with 8 teeth per inch. The rounded-end design of the stretcher hints at the fulcral nature of the joints where it is loosely mortised into the cheeks. The maker is unknown

1 Many vintage wooden frame saws of the 'lever' type, including classic bow saws are available at very modest prices. Some are homemade, some factory-made but the latter do not always come with a maker's mark.
2 Even traditional bow saws with elegantly shaped or chamfered components in more exotic timbers are not dear, for example the rosewood bow saw from the David Russell collection fetched £120 before buyer's premium in a recent sale.
3 One area worth exploring might be the multifarious ways of tensioning the blade: from sinew to twine; from simple toggle stick to bobbin; from twisted stout wire to rod; from wing nut to turn-buckle.



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

KIT & TOOLS

HAVING TROUBLE SOURCING THE RIGHT TOOL FOR THE JOB? HERE'S A SELECTION OF NEW AND ESSENTIAL EQUIPMENT FOR THE WORKSHOP

ALL STERLING PRICES INCLUDE VAT, CORRECT AT TIME OF GOING TO PRESS

PHOTOGRAPHS BY DEREK JONES/GMC PUBLICATIONS

PRICE
Hardware kit for large spokeshave – £38.50 ($41.50
Hardware kit for small spokeshave – £31.00 ($38.50)
Blank for large spokeshave – £12.70 ($15.50)
Blank for small spokeshave – £10.90 ($13.50)
Replacement blades are $27.50 large and $29.50 small

MINI TEST
Veritas spokeshave kits

There are fewer tools that have caused me as much displeasure as a spokeshave. Not any spokeshave in particular but spokeshaves in general. I've probably bought, traded and discounted a dozen or more in search of the perfect fit for my style of work and what d'ya know there isn't a one size fits all spokeshave. This month I decided to take things into my own hands and build one myself using a kit from Veritas. There are two sizes available and both are sold as either hardware kits only or with a pre-milled cherry blank. I chose the latter. The hardware kit comprises an A2 blade, a brass wear strip and brass screws, a pair of two piece locking nuts and a tapping tool for cutting threads directly into the wooden blank. The blanks are available in two sizes allowing you to make tools approximately 285mm or 255mm long. They are etched with an outline to make shaping a little easier but of course you could ignore it and freestyle your own. I chose not to on this occasion as one thing I've learned while designing and making my own tools is to treat your first attempt as an investigation into the process of making as much as the tool itself. The blanks come with all the precision drilling and milling work done for you, that's the drilling for the adjusters, the recess for the blade and the escapement. None of this is particularly hard to do if you have access to a pillar drill and a small router but even then hand tools and a little extra patience will get you through.

The kits come with a well written set of instructions that you'd be daft not to consume beforehand regardless of which route you decide to take. It explains things like the bevel required at the front of the tool ahead of the blade and some good advice about fitting the wear strip. If you opt for the hardware kit on its own the instructions include a template for the body as well so you're not completely in the dark.

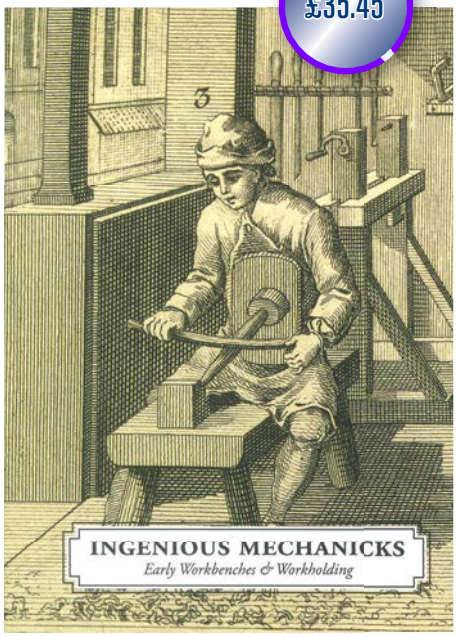
There's a little bit of metal work required in this project so you'll need a couple of good fine cut files, a hacksaw and a metal countersink. Shaping the tool requires a combination of either a coping saw or bandsaw, a rasp or two and a cabinet scraper. A block of wood and sand paper will net you the same result. From start to finish it took me about four and a half hours which included flattening and polishing the back of the blade (probably not essential), honing a fresh edge and finishing with a couple of coats of shellac. On completion the finished article is much more than just a spokeshave, it's helped me understand a little more about what I want from this tool and how I might be able to achieve it in-house in future. All in all a fantastic little project that will increase your understanding of the spokeshave for a very good price.

From: www.leevalley.com or www.classichandtools.com

Ingenious Mechanicks: Early Workbenches and Workholding

£35.45

By Chris Schwarz



Chris Schwarz's adventures into the triumphs and tribulations of woodworking past have done for woodworkers today what the *Horrible Histories* series has done for millions of kids struggling to relate to history as taught in the classroom. Fast paced yet thorough, Chris's work manages to link the working practices of our ancestors with those of our own by identifying problems that we've all had to solve. Problems like storing our tools and building benches. With *Ingenious Mechanicks* he goes a stage further and takes us on a journey back to the Roman Empire in search of techniques that have been craftily engineered out of the way to make room for newer and usually unnecessarily complicated improvements. With scant first-hand information available, a lot of the findings are, as hinted at by the author, conjecture pending further investigation; a role he invites the reader to take part in by building benches and devices of their own. Many of us will and in so doing will help to continue the debate. Whether you work standing up and yearn to sit while chopping out the next mortise or sit at a desk all day contemplating a return to Homo erectus, *Ingenious Mechanicks* has plenty of tips for either persuasion.

From: www.classichandtools.com in the UK or www.lostartpress.com

Trend Mirror Paste

This latest addition to the Trend sharpening range allows you to take chisels, plane irons, knives and other edge tools to the next level for the ultimate edge. Trend's Mirror Paste has a unique formula that has taken two years of development to achieve. The paste offers a quick cutting speed while retaining a fine abrasion to allow an edge to be refined and polished for the keenest of edges. Used on a leather strop, a small amount is applied and the tool worked over the paste to spread and load the strop. The paste starts to work immediately, darkening to indicate the steel is being abraded to refine the scratch pattern to a highly polished mirror finish and increase the sharpness to the next level. Once loaded, the strop only needs an occasional refresh with a small amount of paste to continue the polishing and refining performance. The paste can also be used on buffing wheels or shaped profile blocks for stropping turning and carving tools.

From: www.trend-uk.com

£11

New hand tools range from Triton

Triton Tools has recently released a new range of chisels, rasps and clamps. The wood chisels come in a range of sizes – from 6mm to 50mm – and are available individually or in two handy sets. Their precision-ground, hardened Cr-V blades are capable of stripping away wood with ease, delivering long-lasting, superior performance time and time again. The large striking caps are made from tough, nickel-plated steel and will withstand repeated heavy blows to channel power exactly where it's needed. Thermoplastic rubber handles provide a soft but firm grip to minimise user fatigue.

The rasps feature high-performance, precision-cut, hardened steel blades and ergonomic, soft-grip handles for toughness and durability while maintaining user comfort. They are suitable for use with wood, plastics and other materials and are ideal for general woodworking, carvers, cabinetmakers and musical instrument makers.

Finally, combining cutting-edge technology and ease of use, Triton's quick clamps are a helpful addition to any project. Glass fibre-reinforced nylon frames and corrosion-resistant steel rails stand up to repeated use in all conditions, guaranteeing high-quality performance regardless of the task at hand. Tough, non-marring and non-marking jaw pads provide a secure hold while protecting the workpiece. Making effective use of the clamps is simple, as the lever-action handles can be quickly adjusted with one hand while the instant release buttons can rapidly reset the faces, allowing for precise control of grip pressure. The clamps are also highly versatile, as the quick-twist levers can be used in reverse in moments, turning the clamps into effective spreaders.

From: www.tritontools.com

Axminster Trade clamp racks

Axminster has introduced two new clamp racks to help you store your clamps in a neat and orderly manner. The G-Clamp Rack provides space for up to 10 G-clamps. The slots ensure quick access for sizes from 75–250mm. The rack is 420mm long by 70mm high and pre-drilled for fixing to a wall. The Bar Clamp Rack will safely store F-clamps, sash clamps, parallel jaw clamps and more. With an overall length of 290mm, storage slots are 12mm wide and have the capacity to hold up to 12 clamps or 25kg in weight. This rack is also pre-drilled for wall mounting. Both racks are made of 2mm-thick steel with a painted finish and are unlikely to bend under load or rust over time.

From: www.axminster.co.uk

Woodex Aqua Solid exterior wood stain

TeknosPro's Woodex Aqua Solid exterior opaque wood stain is ideal for use on all doors, window casements and furniture indoors and outdoors. The waterborne acrylate/alkyd-based coating offers a durable, gloss finish. This smart, sustainable stain has VOC levels, can be applied by brush, roller or spray and has a spreading rate of 8-10m³/l. Package sizes are 0.9, 2.7 and 9 litres.

From: www.teknos.co.uk

Makita Twin 18V (36v) Brushless LXT Plunge Saw

£350

Originally launched last year, Makita's Twin 18V (36v) Brushless Lxt Plunge Saw now features Auto-start Wireless System (AWS) technology, which allows the plunge saw to automatically connect to the compatible Makita dust extractor, saving the effort of manually switching it on. A unique chip is supplied with the new plunge saw that enables the user to pair it up with the selected dust extractor. Once paired, the dust extractor will automatically start once the trigger on the saw is pulled.

The saw is powered by two 18v Lithium-Ion batteries in series to supply energy to the 36v DC motor drive system. It generates as much power as the AC mains machine that can drive the 165mm blade up to 6,300rpm, and provide a maximum cutting depth of 56mm with the vertical blade setting. The bevel range is -1° to +48° and the position of the cutting line is always the same regardless of the bevel angle. Splinter free cutting is achieved by engaging the depth stop which enables a 2mm preliminary groove to be cut before the full depth of cut is made. It is equipped with a variable speed control dial, soft start and electric brake, and the innovative Automatic Torque Drive Technology (ADT), which automatically changes the cutting speed for optimum operation; effectively by sensing the load conditions on the blade and adjusting the power supply will maintain drive shaft speed.

Makita has also introduced a new 1m Guide Rail which is sure to be a popular choice for use with this new plunge saw as well as other tools in the Makita woodworking range. It has a replaceable splinter guard, anti-slip strips on the underside and top running strips for a smooth glide. A new Guide Rail Bag is also now available which is designed to hold two guide rails, up to 1.5m in length, and a connector, all designed to provide ultimate protection for these high performance accessories.

From: www.makitauk.com

Hesse COLOR READER

Price on request

Everyone knows the situation from everyday life: having to match colour tones to a sample during a customer conversation. The customer would like a component to be coated in the exact colour of their carpet, for example. The difficulty here is finding the right colour tone from a multitude of colour tone swatches. Surface specialist Hesse has come up with a very novel and smart colour detector – the Hesse COLOR READER. It fits into every handbag or trouser pocket. The device measures the desired sample within 1 second; this equates to a time saving of over 90% compared to conventional colour tone searches using colour cards. The data is then transmitted via Bluetooth to an Apple or Android smartphone. The app then searches through the Hesse database and displays the closest matching colour tones with their Hesse product number directly on the device. The colour data is stored in the Hesse Cloud and currently contains around 5000 colour tones including RAL Classic, RAL Design and NCS S. The app also provides a timeline and the option of creating a file structure. It is a superb aid in finding colour card tones.

From: www.hesse-lignal.de

Note. The effects of a constantly evolving global market in raw materials and other resources mean that prices can change. Be patient with your supplier and please understand that the prices quoted here are correct at the time of going to press.

Peter Sefton DVD giveaway

This month we're giving away a complete set of Peter Sefton's Ultimate Bandsaw Series worth £59.97

WORTH £59.97

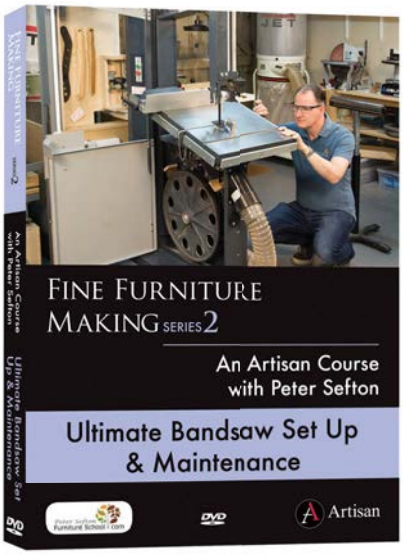
Giveaway 1: Peter Sefton's Ultimate Bandsaw Series

A bandsaw is a big investment but it is a truly versatile machine. Whether you are buying a new or second-hand machine, or just wanting to get the most out of your current machine, Peter's course will show you how set up, maintain and use it safely ensuring you make the most of your machine, getting the best results possible.

Peter has 35 years of experience using bandsaws as a designer-maker and through teaching their set up and use to students at his furniture school. He shares this knowledge in this unique collection.

The first DVD covers commissioning and tuning up a machine as well as a thorough review of blade selection.

The second and third DVDs cover an incredible range of advanced cutting techniques, producing fast, highly accurate and repeatable results.



Ultimate Bandsaw Set Up & Maintenance

DVD Contents:
- Bandsaw blades:
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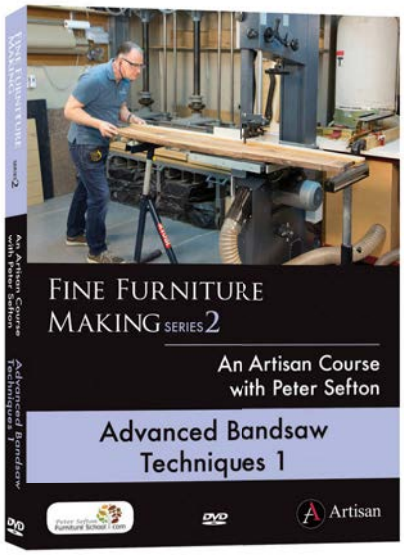
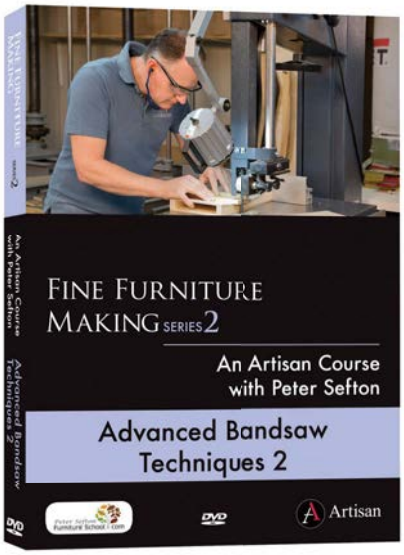
- Tpi / pitch & steels
- Blades management
- Commissioning a bandsaw:
- Tensioning a blade
- Tracking & balancing
- Setting up a table
- Setting guides
- Setting up a fence
- After market fences



Advanced Bandsaw Techniques 1

DVD Contents:
- Deeping cuts
- Ripping cuts with the grain
- Freehand curve cutting
- Waney edge boards
- Laminates
- Consistant circles
- Tapered leg
- Setting up for cutting joints
- Corner halving joint
- Bridle joint



Advanced Bandsaw Techniques 2

DVD Contents:
- Converting green logs to boards
- 3D cuts: cutting a cabriole leg
- Cutting round stock
- Cutting veneers
- Cutting curves
- Cutting wedges
- Cutting tenons
- Cutting consistent dovetails

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WWW.WOODWORKERSINSTITUTE.COM/C/DVDGIVEAWAY

Password: FCDVD18 Closing date for entries is 31st August 2018 Limited stock available

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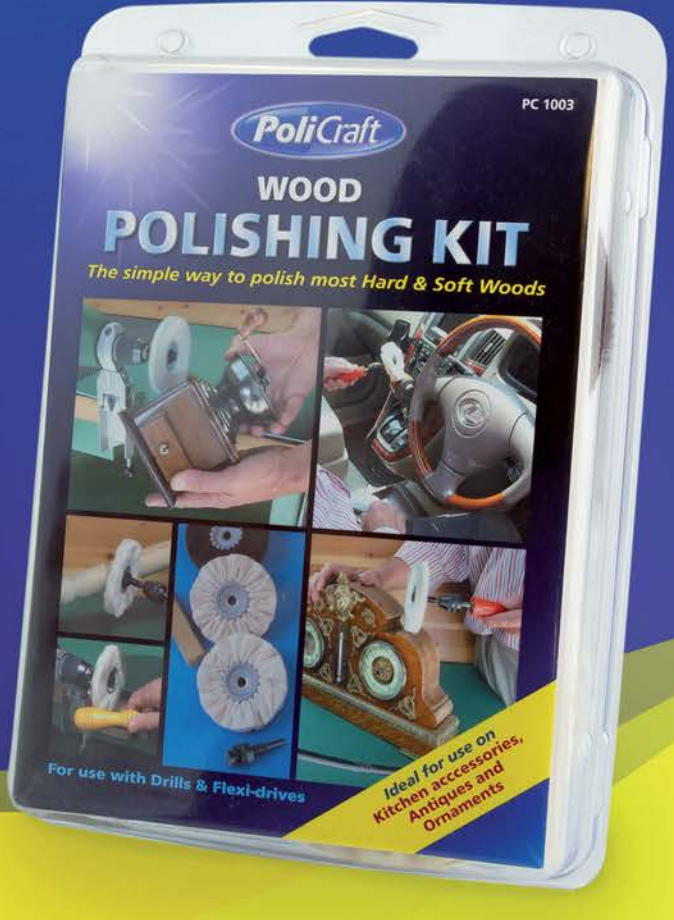

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The library is in the centre of the mansion's private apartments on the first floor. The height of this floor was determined by the carved oak panelling on the walls

Musée Nissim de Camondo

This month we visit a Parisian mansion full of 18th-century masterpieces

The Musée Nissim de Camondo, dedicated to French decorative art from the second half of the 18th century, displays some of the finest furniture and objects from the reigns of Louis XV and Louis XVI. Fully preserved in its original condition, the museum provides a unique insight into the running of a large private mansion in the early 20th century.

History

Moïse de Camondo was born in Istanbul in 1860, descended from a family of successful bankers. He was a devoted collector of 18th-century French art and, wanting a suitable home to show off his collection, he had his father's Paris mansion demolished in 1911 and asked the architect René Sergent to replace it with a house of classical appearance and modern comfort. The facades of the new mansion were inspired by the Petit Trianon at Versailles and the apartments were panelled with 18th-century wood wainscoting, but the house was also fitted with all the latest conveniences in terms of efficient service and everyday comfort: a heating system with warm, filtered air; compressed air elevators, a vacuum cleaning system; cove lighting and hygienic bathrooms.

Moïse de Camondo died in November 1935 and the Musée Nissim de Camondo opened to the public in 1936, in accordance with his wishes. Major restoration work on the building and the collections was carried out between 1985 and 1995 and recent donations have made it possible to open previously inaccessible spaces to the public, including the kitchen, the chef's office, the scullery and the servants' dining room.

Furniture in the great drawing room includes a chest of drawers with sliding doors by Jean-Henri Riesener, a precious 'Bonheur du Jour' ladies' writing desk by Martin Carlin, a pair of low cabinets with Japanese lacquer panels by Adam Weisweiler and a suite of furniture upholstered in Aubusson tapestry and stamped by Georges Jacob

The École Camondo

The École Camondo, named in honour of the Camondo family, is a private school teaching product design and interior architecture. It was established in Paris in 1944. Alumni include Robert Couturier, Pierre Paulin and Philippe Starck.

PHOTOGRAPHS © MAD, PARIS/PHOTO: LASZLO HORVATH

The small study, also known as the 'Salon Anglais', is elegantly furnished with a mechanical desk by Roger Vandercruse and a trough-shaped sewing table stamped by Jean-Henri Riesener, who delivered it in 1788 for Queen Marie Antoinette's 'cabinet intérieur' (private apartment) at the Château de Saint-Cloud

What to see

Moïse de Camondo collected some of the finest French decorative arts of the second half of the 18th century. His expressed intention was 'to recreate an 18th-century artistic residence'. With a constant concern for perfection and harmony, he endeavoured to acquire complete series or gather pairs of furniture pieces and art objects.

Antique wood panelling provides a backdrop for creations by the cabinetmakers and carpenters who supplied the Royal Furniture Repository with luxurious furniture. Although few in number, the pieces from the Rococo period – such as the pair of lacquer corner cupboards with gilt bronze mounts by Bernard II van Risamburgh – are outstanding in quality. The many and varied furniture items from the Transition period and the reign of Louis XVI were carefully selected and are characterized by their elegant simplicity: the small roll-top desk by Jean-François Oeben; the pieces decorated with porcelain plaques (fashionable from the 1760s onwards), stamped by Martin Carlin or Roger Vandercruse; the trough-shaped sewing

The blue drawing room, so-called because the original colour of the painted wood panelling was peacock blue, is a large, light filled room, comfortably and elegantly furnished

table by Jean-Henri Riesener, delivered in 1788 for Queen Marie Antoinette's private apartments at the Château de Saint-Cloud. Many of the pieces made by carpenters are of royal provenance, such as the folding screen delivered in 1785 by Jean-Baptiste Boulard for Louis XVI's games room at Versailles. Complementing the furniture, a number of mantel and wall clocks, barometers, chandeliers, wall lights and vases with gilt bronze mounts add sparkle to the wood panelling and furnishings. Some of these works are also of royal provenance, such as the pair of petrified wood lidded vases with chased gilt bronze mounts, from Marie Antoinette's collection at Versailles.

The walls and floors are decorated with exclusive carpets and tapestries produced by the Gobelins, Beauvais and Aubusson factories. There are two particularly splendid sets of tableware: the silver pieces from the Orloff service, commissioned in 1770 by Empress Catherine II of Russia from the Parisian silversmith Roettiers, and the 'Buffon' services in Sèvres porcelain decorated with birds, produced from the 1780s onward and copied from plates in the Comte de Buffon's Natural History of Birds.

WHERE ELSE TO SEE… 18th-century French art

Hillwood Museum
Washington, D.C., USA
www.hillwoodmuseum.org

Musée des Arts Décoratifs
Paris, France
madparis.fr/en/museums/musee-des-arts-decoratifs

The Wallace Collection
London, UK
www.wallacecollection.org

Information for visiting

Address: 63 rue de Monceau, 75008 Paris, France
Website: madparis.fr/en/museums/musee-nissim-de-camondo/
Opening hours: Wednesdays to Sundays, 10–17.30
Charges: €9, €6.50 concessions. €13 for combined ticket to the Musée des Arts Décoratifs

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

Moïse de Camondo was a lover of good food and equipped the kitchen with the most sophisticated equipment available at the time

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Social media dashboard

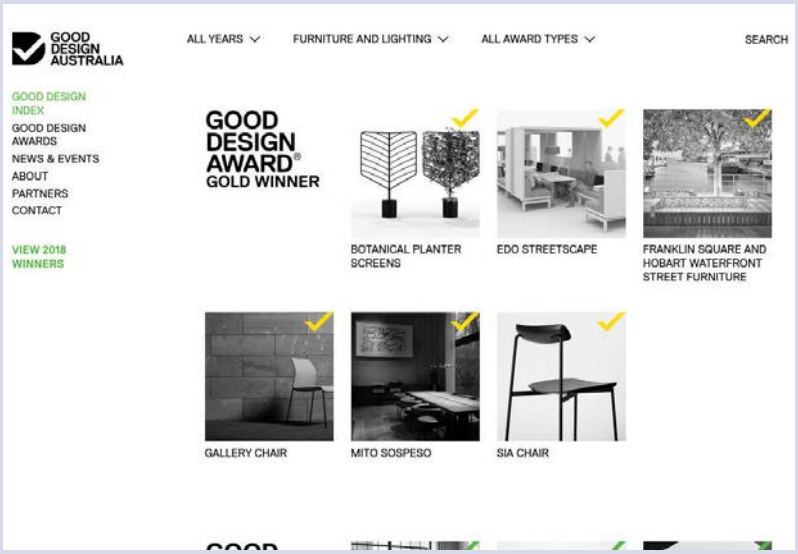
Bringing you a round-up of the best from the online world, plus a selection of the latest projects that have caught our eye

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

Website: Good Design Index

The Good Design Awards have been celebrating and promoting design since 1958. The organisation recently launched the Good Design Index, a site that pays homage to the original *Australian Index for Good Design* of the 1960s and 70s and features past and present Good Design Award winners. The Index currently features projects going back to 2014 with more years being added in the coming weeks.

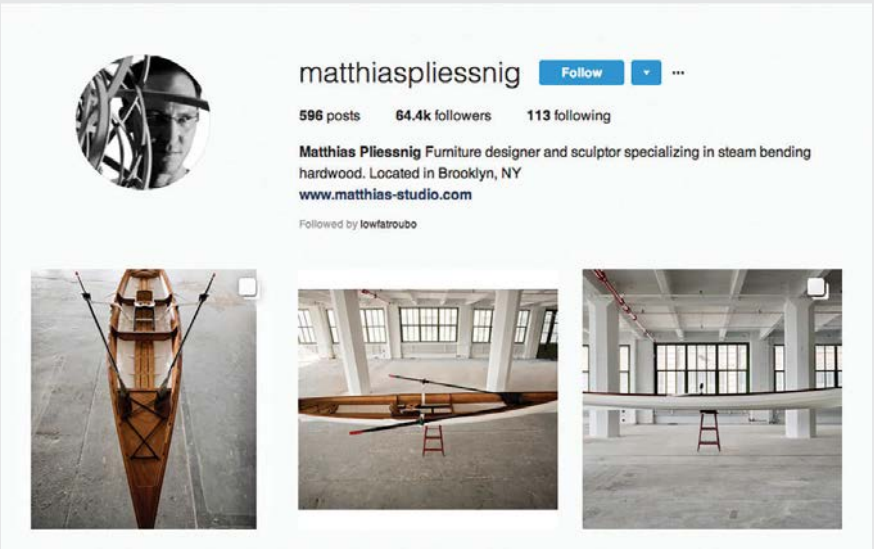
Address: good-design.org/good-design-index/



Instagram: Matthias Pliessnig

Matthias Pliessnig is a Brooklyn-based furniture designer, specialising in steam bending hardwood. The sculptural forms he creates are stunning and his Instagram feed documents his work at every stage, from design, through construction to the finished piece.

Address: @matthiaspliessnig



Projects we love

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

A Cabinet of Curiosities

This month's project comes from the Forum of the Woodworkers Institute, where Forum member woodbloke shared his fantastic Cabinet of Curiosities. He explains: 'Following in the footsteps of the late, great Alan Peters, I've recently taken a liking to contemporary Korean furniture and this Cabinet of Curiosities shares one of the main features found on this type of work, namely a drawer(s) suspended partway with a space either side. It's made of elm and uses a "waterfall" pattern, solid elm back panel. Construction of the top cabinet is with elm veneers (top and bottom) with the frames being glued together with 4mm ply inserts running in grooves; again very AP, frame corner jointing with Dominoes. The accent details are in Indian ebony, such as the "feet" at the top and bottom of each frame, as well as the door and drawer pulls. The Krenovian style door catch/shadow gap button are also made from ebony.

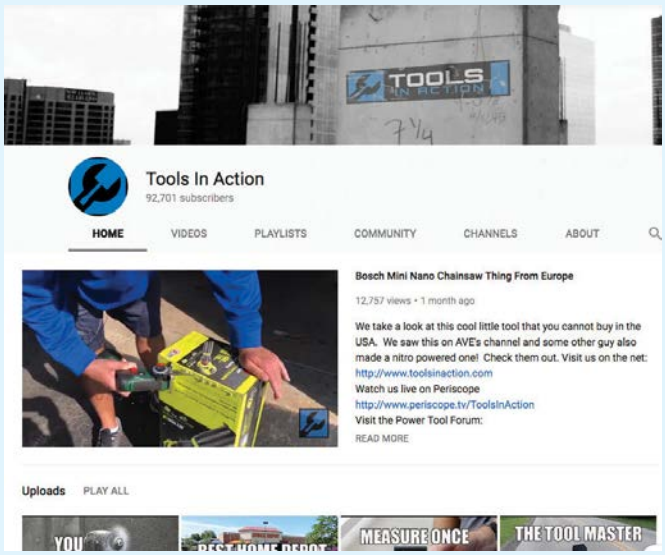
'The drawer box is made from 2mm bandsawn "waterfall" elm veneers and is principally dowelled into position on the lower frame, using my trusty and highly accurate Dowlmax jig. The drawer itself follows the pattern developed by Rob Ingham and uses an oak rail which runs in a groove underneath the centre drawer muntin, with the bottoms made from solid elm so that although it makes the drawer more difficult to make, it's easier to fit as the sides don't have to touch the frame. The drawer front, again veneered in "waterfall" elm was glued to a separate piece and then simply screwed onto the oak drawer box. The finish is a couple of coats of matt Osmo PolyX with some of that really good, but bloody expensive organic wax polish (from Sweden, courtesy of CHT) over the top applied with a grey Webrax and then polished with a soft duster. It's been fitted out with six, 6mm glass shelves and the holes for each were made with the ever reliable drilling jig from Veritas.'

For more information about the Woodworkers Institute, visit:

YouTube: Tools in Action

Tools in Action is an online magazine that reviews power tools and gadgets. It also has a popular YouTube channel with over 90,000 subscribers. The magazine is not sponsored so the reviews reflect the unbiased opinions of Eric and Dan who run the site. Playlists are organised by type of tool as well as particular brands, such as Makita and DeWalt.

Address: www.youtube.com/user/pptgtool



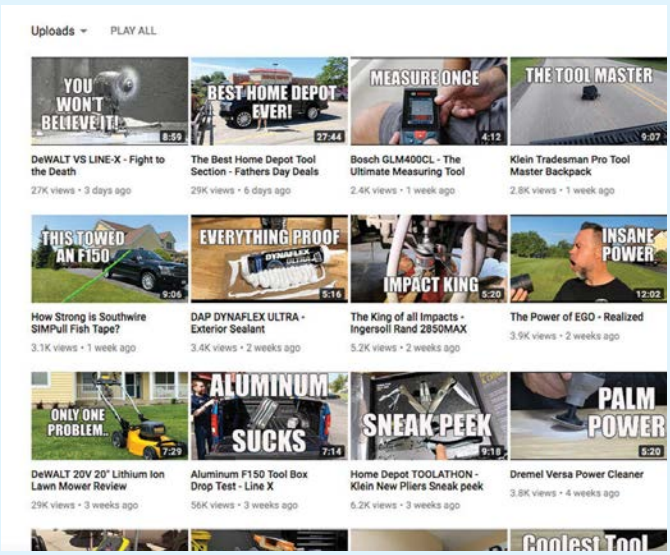


IMAGE BY IAN HALL/WADE NUGGLETON/GMC PUBLICATIONS

An airbrush with the past

Derek Jones dips into *F&C*'s archives to showcase Ian Saville's sheet music cabinet

We're going back to 2003 and issue 83 for this month's Airbrush with the Past for a closer inspection of Ian Saville's sheet music cabinet. Originally a geologist, Ian re-trained as a furniture maker in Sheffield before opening his business in 1993 specialising in making furniture for musicians. The cabinet was built as a speculative piece for an exhibition of music-related furniture at the Ruskin Gallery in Sheffield.

There are a couple of interesting features to this piece that aren't obvious at first glance either from the excellent Ian Hall illustration or the images that appeared in the original magazine article. Most cabinets on stand are, as the name implies, a cabinet placed on top of a separate stand. It's a form that dates back a couple of centuries at least and one that remains popular with cabinetmakers today. Ian's cabinet, however, is a single freestanding piece. The four legs are more like frame posts that extend to the ground that have been shouldered where the top section transitions into the base. Though two pieces might have been an easier or perhaps more manageable proposition, the design has some distinct advantages that relate to a more rigid construction.

The joinery throughout is a mixture of traditional methods such as mortise and tenons and dovetails and techniques that help to streamline the build process, such as rebated plywood drawer bottoms. Located at each end beneath the bank of drawers are two drawers whose fronts are disguised as side rails that appear to be part of the base section. The structural part of the frame is in fact the rail directly above that forms a frame for the raised side panels.

Bespoke furniture can sometimes be let down by the use of catalogue hardware to hinge, lock or locate various elements and where these elements are special features it can often result in a compromised look. Edwardian sheet music cabinets featured drawers with drop-down fronts made possible by a clever T-shaped hinge installed to run in line with the drawer side runner. When the drawer front is in the upright position the hinge slots in the channel as the drawer is closed keeping it upright. As the drawer is pulled out the front drops away so the user can access the contents; typically soft bound sheet music. Once a popular item these hinges were known as the Stones Patent hinge and specialist furniture dealers will often draw attention to their use in any description. Unable to source them, Ian set about making his own from two sections of solid brass bar soldered together to form the T-shape. You can find plenty of similar examples of specialised hardware on pieces of early 20th-century furniture, especially on shop fittings and display furniture. One of my favourites is the up-and-over garage door style screens found on haberdashery cabinets and book cases. Made for commercial use it's rare to find pieces where the mechanisms are running smoothly but Ian made his runners and rails from Jarrah so presumably they will continue to operate perfectly into the next century and beyond.

Next month

Next month we'll be going back to June 2005 and issue 102 for a closer look at John Bullar's Hay Rake Table.

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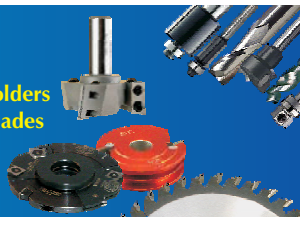

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Shop talk:
Marc Adams

F&C talks to the founding Principle of America's largest woodworking school

Do you hail from a long line of makers?
No. My father was a hobbyist woodworker who made his living building houses. I always enjoyed watching him in the shop but we never made anything together. I'm certain he thought I would cut my fingers off. Instead of following in his footsteps I chose to get a degree in education, hoping to teach, coach and become a youth minister. While in school, I never took a woodworking or business class.

Within months after graduating from college, my father died suddenly from a heart attack. Instead of searching for a teaching job, I immediately started my own furniture-making shop. Within a decade I had 35 employees and a business that would have made my father proud.

What do you think we need to do to encourage more young people to pick up tools and make things?
I read a study that said kids spend up to nine hours a day consuming media. Between video games and other forms of social media, there isn't much time left. Short of inventing a woodworking video game I'm not sure how to overcome the wasted hours with social media.

Our school systems have moved away from the Industrial Art age. One of the best ways to bring kids back is through the family. By working on a project with your kids two things are made – a project and a memory.

Can you describe your most memorable eureka moment in the workshop?
Yeah! The day I got hit by a piece that kicked-back off the tablesaw. I realised machines are dangerous and I better learn how to use them properly. In that painful moment, I understood safety doesn't happen through happenstance but through understanding the control points of every machine along with proper guarding.

How did you end up lecturing in Egypt?
In 1991, I was selected by several organisations, including the American Hardwood Product Association, American Export Council and the US Embassy, to become a technical advisor on the International quality of furniture making. My first trip was to the Middle East just after the first Gulf War. My job was to help spread interest in manufacturing furniture through technology and how to distribute/market products internationally. It was during this time that I realised my calling wasn't to be some big furniture magnate, rather God was leading me back to my roots as a teacher.

If you could trade the workshop for an alternative career what might it be?
A Disney Imagineer.

Did you have a woodworking mentor?
I have two. Stephen Proctor who is without a doubt the best hand tool technician on Earth coupled with a brilliant mind that understands how to get the most from power tools (not to mention he was born, raised and educated in England).

The second is Michael Fortune who is one of the most gifted furniture maker/designers I have ever met. Michael is unique in that he openly shares his knowledge with anyone who wants to learn woodworking. He is the most modest person I have ever met.

What do you collect?
I really like to collect work by other woodworkers.

All about Marc
My greatest success to date is the blessing to work with so many incredible people. I marvel at how the Good Lord took a man with no woodworking talent, no business experience and no financial means and led him to oversee a program that has had over 34,000 people from around the world attend.

They say the most important decision a man makes in life is either the field he chooses to go into or the university he decides to attend. I disagree, I think the most important decision a man makes is the wife he chooses. I have been blessed with a wife that has never questioned my crazy business ideas. She has supported me each and every day or our lives. Together we have raised two children who have been a joy watch grow. I enjoy running, vacationing and eating chocolate. But my most favourite recreation is still playing in the wood shop.

What haven't you got time for?
Woodworking. Running my school takes every free moment.

Is there a particular period or genre that you're drawn to?
I'm a big Greene & Greene fan. The theme of that work can easily be transformed into both traditional Arts & Craft work as well as contemporary work.

Who's your maker's maker?
My favourite maker is John Economaki, founder of Bridge City Tools. I believe he is the best tool designer in the last century. He is innovative and quality driven.

Are you building anything now?
For the last 10 years I have been working on reproducing, in marquetry, all the original movie posters that featured Mickey Mouse from 1928 to 1935. To date I've reproduced 13 images so far.

What's the tool you can't do without?
My lawn mower.

How can I convince more Americans to use a crown guard on their tablesaw?
Americans have always viewed the table saw as a machine that is capable of both through and non-through cuts. In the 1930s, American manufactures made saws with guarding systems that were removable for those non-through cuts. They chose to make removing those systems efficient by attaching all the safety devices (splitter, enclosure, anti-kickback fingers) to one bracket. Riving knives were not practical with an all-inclusive safety guard, so a static splitter was the answer. These all-in-one guards became a nuisance when moving from a through to non-through cut, and it didn't take long for the impatient woodworker to just leave them off altogether. For decades, running tablesaws in America without guards became a standard practice.

In the early 90s, after-market guards were introduced that separated the splitter from the enclosure. These quick-change safety systems motivated some woodworkers to rethink the importance of guarding.

Underwriters Laboratories (UL) now requires that consumer tablesaws have a dynamic riving knife. Convincing them to use guards is much easier today than a decade ago. You can thank the American woodworker for the fact that bowling balls have two finger holes instead of three.

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