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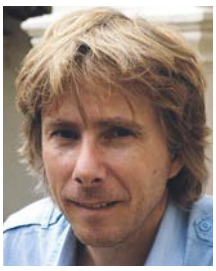

Welcome to...

...the not so obvious

PHOTOGRAPH BY DEREK JONES/GMC PUBLICATIONS

During the 18th and 19th century art was an intellectual experience full of symbolic references to historical scriptures and mythology. To interpret even the most basic scenes or artifacts the viewer would at least require a good knowledge of antiquity to stand any chance of getting the full picture. For example, an image that showed a bird in a cage was a symbol of virginity and virtue. A bird outside a cage however, was an expression of maturity and confidence and just about as far removed as possible from the rather twee image it represents today. While that's undoubtedly an entry level deconstruct, it highlights a problem that's been around for centuries: design elitism.

Robert Ingham once described a process he goes through at the end of each project where he just sits quietly and observes the finished item, unravelling various elements of the build process that will 'add to the vocabulary of future designs'. Another way of looking at it would be to admit that as makers, our work here is never really done. In fact ask a maker what's the best piece they've ever made and if you're in good company they'll say the piece I'm working on now and spill the beans about every single detail! I love that level of enthusiasm that says I'm happy to embrace imperfection and learn from it.

Now, not in any way related to imperfection per se, I've got two great projects for you this month that I've chosen on purpose to highlight just how much work goes in to making something look pared-down and simple. Or, in one case, pared-up and simple. The first is our lead project by Jan Lennon (page 8), which is a bit of a clue as to where I'm taking you. The second, a straightforward-enough looking jewellery box by Israel Martin (page 44), is subtle but equally as demanding given the methods used to harvest the components. Both have details that aren't at first obvious to the uninitiated, and more's the pity for they are what makes each piece special, but they are there if you look hard enough.

For our growing number of new recruits I've chosen a couple of techniques designed to fast track your construction skills to competent maker by first building something useful for the workshop (page 34) and an exercise in information transfer (page 56). Our feature this month is about Welsh stick chairs (page 28) and is written by Kieran Binnie who is partway through researching for a book on the same subject. A variant of the Windsor, this regional version is an invaluable part of our design DNA.

So in the spirit of transparency, harmony and a deserving nail in the coffin for design snobbery, I give you March 2018 and issue 268 where a nod is as good as a wink to a blind man in any language, just as long as it's not Welsh, or double Dutch.

You're welcome

Derek Jones

Derek Jones
derekj@thegmcgroup.com

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Issue 268 March 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.

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Meet the contributors

Kieran Binnie

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.
Web: www.overthewireless.com

Philip Cooke

Up until 2015 Philip had worked in home insurance, learning the hard way that an office job is simply not fulfilling for him. He has since taken an evening course in woodworking and is now studying Furniture Crafts at Royal Leamington Spa College and thoroughly enjoying the challenges this provides. Although he's at an early stage in his career as a furniture maker, he is committed for the long term and hopes to develop his own unique style as his experience grows.

Jan Lennon

Following the completion of a degree in Industrial Design, Jan trained at the Glasgow School of Art as a CGI artist and animator. She spent the next 10 years working as a visual effects and design visualisation artist. Recently, she decided to follow her teenage dream of becoming a furniture designer-maker. After training at the Williams and Cleal Furniture School in Somerset she has now set up her own business, designing and making commission and batch-production furniture and offering design and visualisation services to the wider furniture making community.
Web: www.janlennon.co.uk
Instagram: @janlennon100

Charles Mak

With previous careers in hospital management and corporate compliance, Charles semi-retired in 2005, the same year he joined Lee Valley Tools/Veritas as a part-time Customer Advisor. He became interested in hand tools after realising that his customers were often more knowledgeable than he in traditional woodworking. To fix that, he bought many of the tools he sold, put them to use in his own shop and made mistakes until he could write or teach about them.

Israel Martin

Israel graduated as a forestry engineer in Madrid in 2000, but he decided to change his career. At first he was self-taught and then he took some classes about hand tools with a Spanish artisan and with master craftsman Garrett Hack to improve his furniture making skills. He makes every piece of furniture using hand tools exclusively and also makes tools for his work or for other artisans. Together with other Spanish craftsmen he has been organising the Spanish woodworking event, LIGNORUM, for the past three years.

Ramon Valdez

Ramon works full-time as a production manager in his brother's cabinet, countertop and fixtures shop in New Mexico. As well as making gallery quality furniture in his spare time, he has taught marquetry classes at his local college. Ramon is the man to go to for the best time-saving tips and ingenious short cuts.
Web: www.ramonvaldezfinefurniture.com
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Making the Meala table

Jan Lennon deconstructs the creation of the curved and angled legs on her Meala table

PHOTOGRAPHS BY JAN LENNON

Starting a new project can be pretty daunting and I sometimes find myself wondering where to begin. But invariably, my first move is to grab a pencil, open my sketchbook and start scribbling. It's cheaper and quicker than other methods and allows me to get all preliminary thoughts and ideas out of my head and into the real world where I can take stock of them. The good ones I keep and the unhelpful ones are discarded.

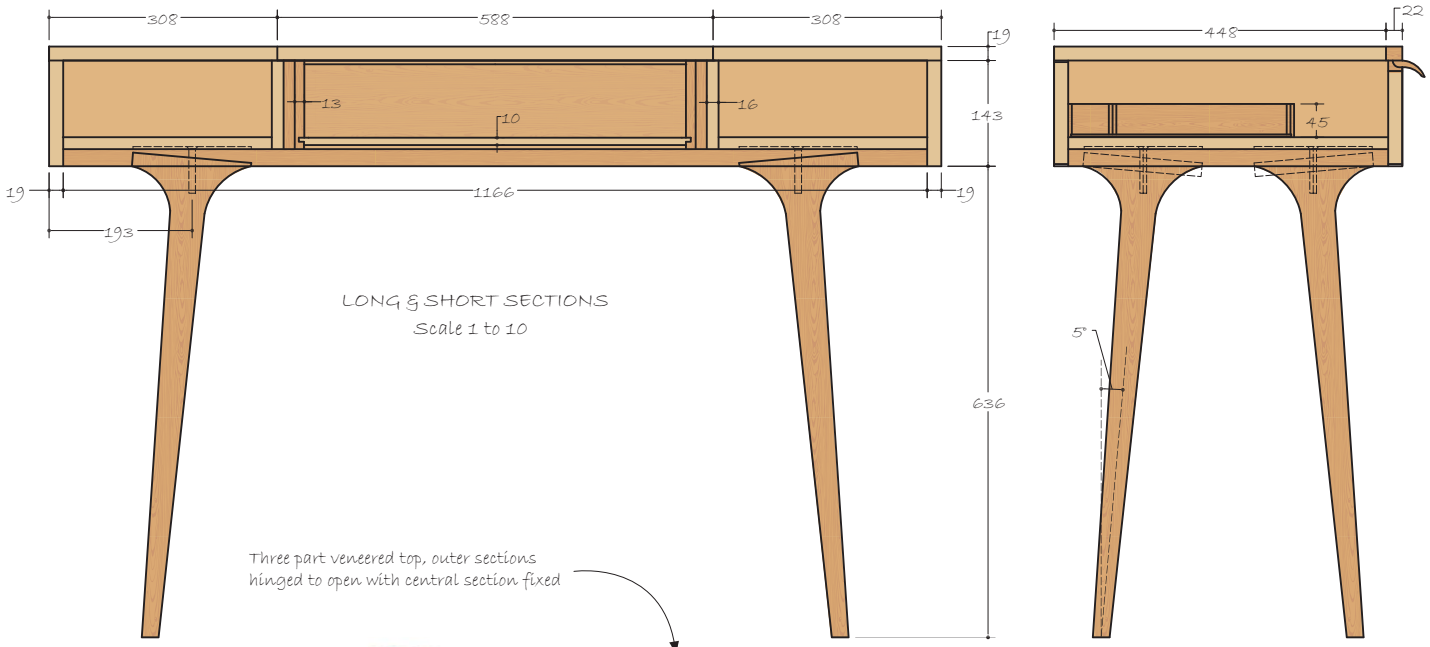
Once I know the general requirements of the piece I try to fill as many pages as I can with different concepts. Then I pick one and fill another raft of pages developing that concept and solving as many design problems as I can on paper. It can be pretty arduous, but an afternoon or two spent doing this can save weeks in the workshop trying to fix a faulty design. This sometimes means, however, that I end up designing something with lots of fun-to-draw curves that I fall in love with and am then left figuring out how to make. This was certainly the case with the Meala table. But since this was a speculative piece and not under strict budget constraints, I decided to forge ahead and learn as much as I could along the way.

There were many different aspects to building the Meala table and in this article I will be revisiting two of them – making the curved apron sides and the double splayed legs.

Development sketches and 3D models

Compartments raised

Middle drawer



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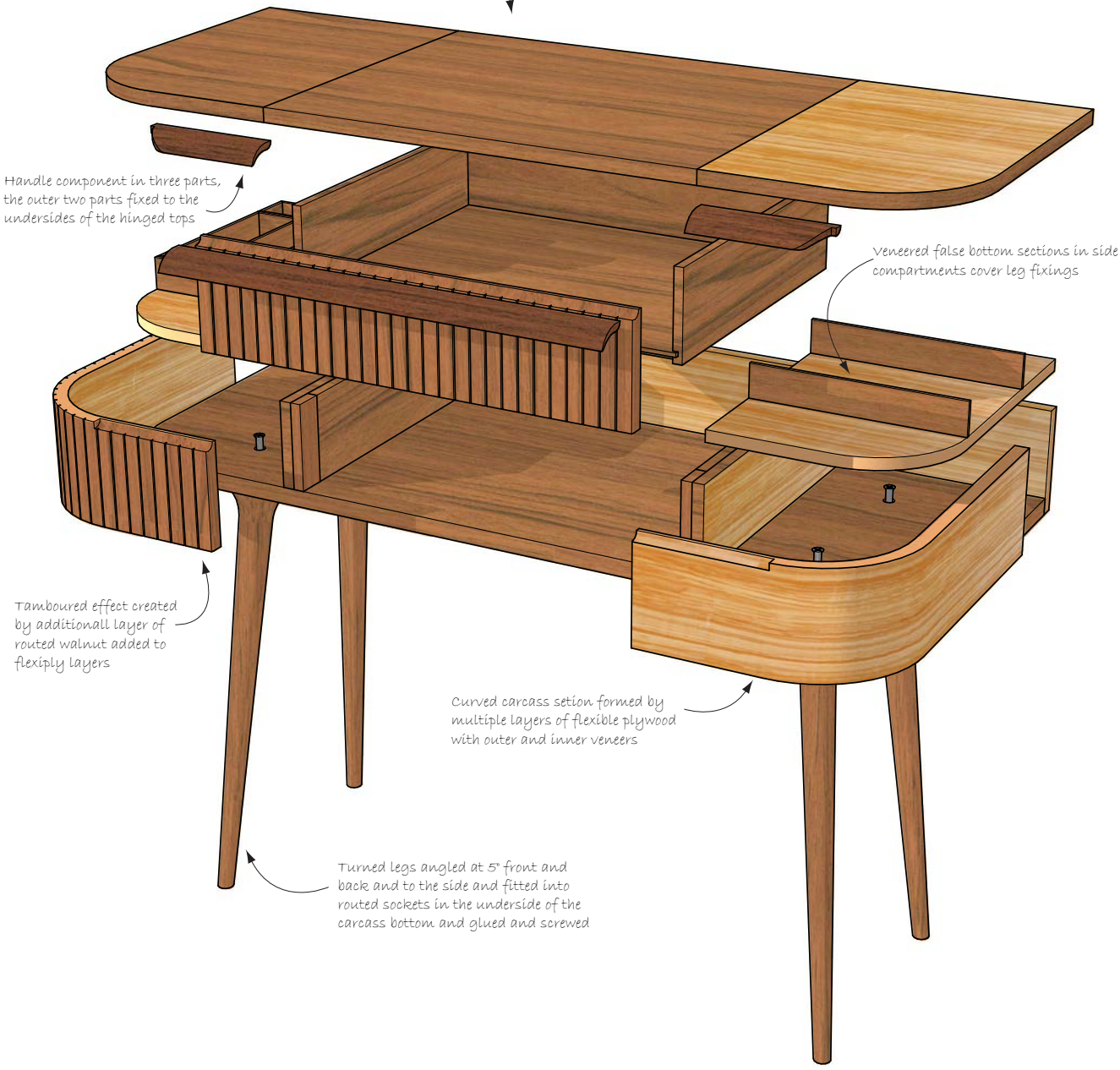


Creating the curved apron

In order to create an identical and predictable curve for both sides, the apron is laminated in a vacuum bag using flexiply and veneer. A former is made with layers of chipboard and skinned with decorative veneer to create a smooth surface. This is then covered with a layer of polythene, several layers of flexiply glued with polyurethane glue to make up most of the width of the apron (minus the final decorative veneer), another sheet of polythene and a layer of 2mm MDF. All of this goes into the vacuum bag overnight and the following day is transferred and strapped onto a lighter former to rest for a week while the corresponding side is made.

For the side with the tamboured detail, an extra step is involved. Fewer layers of flexiply are initially shaped and the difference is made up with layers of constructional walnut veneer in a second forming operation. This is so that, when routing into the side to create the tambour effect detail, more walnut is revealed to give the effect of solid wood.

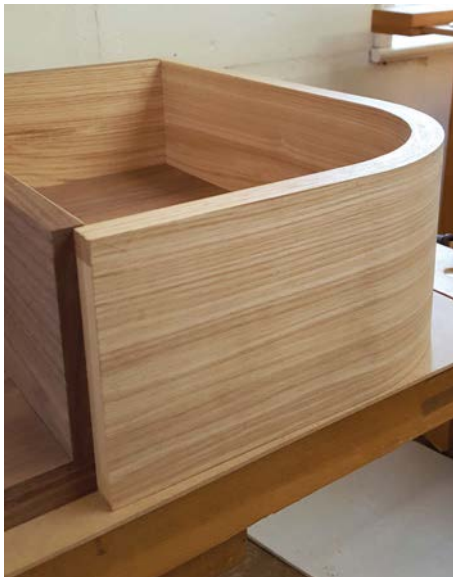
Additional to this, layers of veneer are laminated on the formers to create lippings for both sides. With the lippings glued on and blocks of solid wood inset to allow for routing the handle seating, the sides are checked for bulges and highpoints and are planed where necessary. Then they are placed back on the former with the final outer layers of decorative veneer and put in the vacuum bag one more time.

Both sides are subsequently fixed to the base and back board using tongue-and-groove and biscuits, correspondingly. The process is intricate and lengthy but results in two very stable apron sides with an identical curvature and thickness.

Curved apron side with handle detail

Lippings being formed

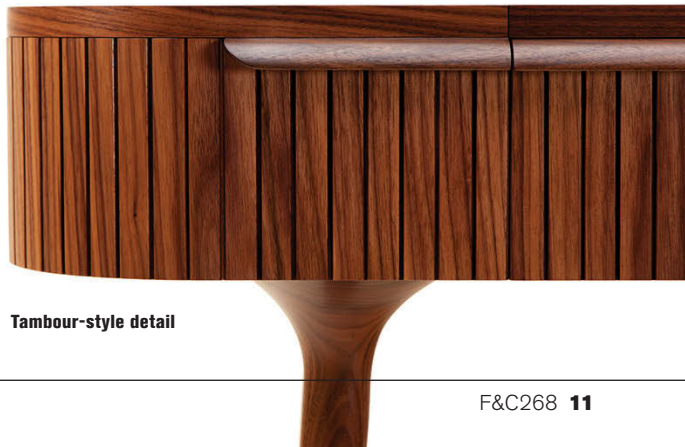
The flexiply layers of the apron side being formed



Completed apron sides dry fit to base

Solid wood blocks inset for handle seats

Tambour detail side with layers of constructional veneer



Tambour-style detail

Making the legs

Making the legs for the Meala table was probably the lengthiest part of the build. As they are attached with a splay of 5° in both directions and shaped flush to the surface of the table, figuring out how to get the best result was going to be tricky. I consulted with Williams and Cleal tutors Jane Cleal and James Ralph for this and the technique we fixed upon was to turn the legs, rout a socket in the base of the table to receive them and reshape the parts of the curve that stand proud of the surface.

The first job to achieve this is to block up the blanks for turning the legs. The traditional way to do this would be to plane down a blank to the basic width of the leg and then add six blocks near the top that would accommodate the curve and larger diameter at the top of the legs. This, however, results in a series of join lines around the top of the leg which give a segmented look and are not consistent with the design of the piece. A different technique is employed instead. Two larger blanks are created from a 2in board with a width exceeding the largest diameter of the leg. A section is planed off at an angle and then a wedge inserted into the gap created between the two board blanks. Cascamite with a colour additive is used to glue up the blank as the longer open time gives a bit of leeway in cramping wedge-shaped pieces that naturally slide a lot. Be careful to make sure that the grain is running in the same direction for all pieces. This will make turning and shaping the legs a lot easier.

When faced with the task of repeatedly turning a consistent curve on a long piece that may be prone to whipping, a practice piece or two in a cheaper timber is advisable. After some consultation on technique with woodturner and very patient advisor, Brendan Hogg, it was decided that roughing an oversized shape and turning the leg in sections produces an accurate and consistent result with minimal whipping.

Planing 5° from a practice blank side

In shaping the curve, the half inch and quarter inch gouges are your friends. The only advice I can offer here is to sharpen regularly and keep the bevel rubbing at all times. Pay particular attention to keeping the diameter of the top of the leg as close as possible to the plan. This will be crucial at the fitting stage. Admittedly, this is difficult when turning by hand so, if you can't get it spot on, a deviation of 1–2mm oversized is acceptable. The spigots on the top of the leg should be identical so that they all fit neatly into the base.

The finished leg has a consistent grain and no join lines from front viewing and an attractive arrow-shaped join from the side view.

The wedged blank for turning the legs

Turning the practice leg

Turned walnut leg on the lathe, spigot and edge visible

Preparing the base

This project may look like it's all about curves, but it's really all about angles. Setting the legs in to splay 5° from both side and front views requires routing a socket in the base that slopes at these two angles. To do this a jig is created consisting of a base with a circle cut out that is the diameter of the top of the leg which is then raised on two sides with 5° wedges. Identical angles on the wedges is of paramount importance as any deviation will result in an uneven splay to the legs.

This jig can be cramped to the base and used with a follow cutter to rout an angled socket for the leg to fit into. The deepest part of the socket is routed to match the size of the spigot and the leg will then fit flush to the surface at this point. This part of the curve will not be altered during the shaping process.

The leg socket routing template for the base – checking the fit of the leg

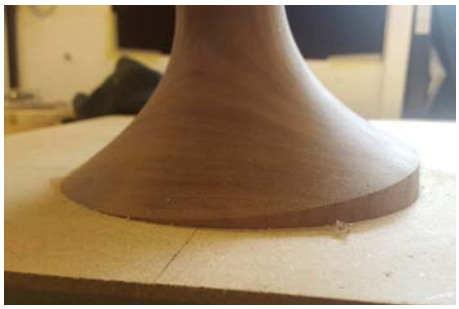
Shaping the legs

Using the socket jig, create a socket in a spare piece of MDF that can be used in shaping the legs to avoid damaging the base. A corresponding circle of MDF which fits snugly into this jig can also be created to trim the tops of any oversized diameter legs.

In turn, each leg is placed into a socket and screwed with a single long screw through the base. Using an angle grinder, the parts of the spigot that are proud of the base are roughly removed. This needs to be done by eye so make sure to keep the other legs nearby for comparison as you proceed. I'd recommend practising this first on the spare leg created during the turning process.

The final shaping of the leg is done using a curved spokeshave and cabinet scraper. Pay attention to the grain direction here as it can make a world of difference to the quality of finish achieved. The consistency of the curve will be dependent on handwork so patience and perseverance will be necessary. Go slowly, using touch to check the smoothness and uniformity of the curve. Finished or near finished legs can be dry fit into the base to check consistency with the other legs.

Legs dry fit in base prior to shaping



Leg placed into dummy base socket ready for shaping

Rough shaping the practice leg with an angle grinder

Legs dry fit in base after shaping

Finished legs

Fixing the legs

In comparison with shaping the legs, fixing the legs is a relatively easy job. Markings are made on the leg and base to mark position and the leg and base pre-drilled with the leg in position. Cascamite, coloured as before, is applied to the base and top and spigot of the leg. Then the leg is simply screwed on and pulled up into the base. Once dry, the foot of the leg is planed off at an angle and balanced with the other legs. The increased diameter at the top of the leg and the depth of the leg into the base combine to create a very strong and sturdy joint with no racking or wobble.

Choosing materials

By balancing the use of materials on the Meala table I was able to introduce an element of asymmetry to an otherwise largely symmetrical design. Walnut was chosen for its strong colour and character. The olive ash was chosen both to complement and contrast the walnut. The light contrasting tone of the ash creates a visual break from the darker walnut and the dark lines of the olive figuring temper that break and draw the walnut tones across the piece. The extension of walnut across the table by way of the handle also helps the visual continuity.

The honey-coloured tones of the ash and liquid-like figure also give the table its name, with Meala meaning 'of honey' in Irish and making up part of my Tipperary hometown's name, Cluain Meala 'the Vale of Honey'. F&C

Timber was chosen to add asymmetry to the design

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

Fingers on buzzers...

Bamber Gascoigne, the original quizmaster of *University Challenge* for 25 years, was uncharacteristically lost for words when he learned he'd been left a sprawling 50-room Tudor mansion by the Duchess of Roxburghe, his godmother, back in 2014. Unfortunately, the Grade 1 Listed West Horsley Place near Guildford in Surrey, had already fallen into a state of severe disrepair by the time it came into his hands and the now 82 year old has struggled to keep the project to restore the property back to its former glory on track. It's a familiar story that often calls for drastic measures to be taken as the costs involved can quickly exceed even the most robust and well thought out projections. A preliminary survey carried out in 2015 put the cost at restoring the building at £7.3million and with 400 acres of land to maintain, this was perhaps a conservative estimate before the house could be open to the public. Sales of furniture, paintings and jewels from the estate took place the same year at Sotheby's in London and Geneva raising £8.8million.

In a recent interview with *The Times* Mr Gascoigne admitted he had never done a renovation before and began to feel he couldn't cope with it, saying it was 'absolutely impossible'. However, since handing the project over to his newly founded charity, The Mary Roxburghe Trust, the burden has lessened and he can finally enjoy the experience.

West Horsley was bought unfurnished by the Crewes in 1931 and, four years later, Mary married the 22-year-old Duke of Roxburghe. The King and Queen were among the guests at their engagement ball. Their wedding, held in Westminster Abbey, was screened in cinemas up and down the country but the marriage did not run smoothly.

In 1953 at the family seat, Floors Castle, in the Scottish Borders, they were at breakfast together when the Duchess received her divorce papers on a silver tray delivered by the butler. The Duchess responded by barricading herself in a wing of the castle where she remained despite siege tactics by the Duke, who even resorted to cutting off power and water. Eventually, a truce was brokered by their neighbour, the future Prime Minister, Alec Douglas-Home, and Mary was granted a divorce and moved in to a colossal two-storey apartment overlooking London's Hyde Park. In time, she also inherited West Horsley Place from her mother. When Sotheby's expert, David Macdonald, came to catalogue her jewellery, he found the grandest pieces, including her tiaras, wrapped in old newspapers from 1953.

PHOTOGRAPHS BY GMC PUBLICATIONS/DEREK JONES

The hammer came down on this set of 12 matching dining chairs with the maker's label Cowton & Sons Ltd of Grosvenor Place and Oxford Street, London at £2200

It's understood that Horsley Place was initially furnished from artefacts brought in from other houses owned by the Crewes family and as such the provenance of the items can be traced back to their origins. Many items have been in the family for hundreds of years.

The last and most recent sale held at Gorringes in Lewes, East Sussex in January this year included items from the attics and out-houses of Horsley and items that failed to sell at Sotheby's in 2015. Clifford Lansberry of Gorringes told *F&C* that sales like this are 'extremely rare these days' and are a great opportunity to acquire something unique.

The lots were arranged in the salerooms' upper floor to give the impression of an attic find and although most of the lots were a little worse for wear, there were some fabulous pieces among them. The most expensive item, an Italian marble sample side table, sold for £3500. However, the piece that caught our eye was a very unusual breakfront cabinet in mahogany with cedar veneer and ebony inlay that sold for £800.

Contact: The Mary Roxburghe Trust
Web: westhorsleyplace.org

Cedar looking remarkably like figured yew on this breakfront cabinet

Furniture Makers' Company launches welfare campaign

The Furniture Makers' Company is appealing to the entire sector to support its 2018 welfare campaign by displaying its new poster to help spread the word that the charity can support industry workers past and present if they have fallen on hard times.

Jonny Westbrooke, CEO of The Furniture Makers' Company, said: 'We have been supporting people working in the UK furnishing industry for more than 100 years but new people join every month. We want everyone in the industry to know that we are there for them if they fall on hard times. In order to achieve this, we need businesses large and small to support us to communicate this message to their employees by displaying the poster on factory floors, break rooms, back offices – anywhere that an employee will be able to see it and as a result know where to turn to for help.'

The poster can be downloaded from The Furniture Makers' Company's website

The Furniture Makers' Company provides financial assistance to workers within the industry through grants that can go towards essential household items or bills, funeral expenses, property repairs, disabled and medical equipment, respite or convalescent breaks, general financial hardship or pre-tenancy costs and removal costs.

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

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Festool is launching intelligent new products to make dust-free working easier: two new Bluetooth batteries and a Bluetooth remote control, as well as a new smooth hose and mobile dust extractor.

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Jon Burcham, Marketing Manager at Festool, said: 'It takes a lot of time to keep going back and forth to the extractor to switch it on manually. Now the extractor can be conveniently activated or switched off using the Bluetooth remote control and with the new Bluetooth battery packs it is even easier because there is no need for a power cable between the extractor and tool. Switching the cordless tool on or off causes the extractor to be automatically activated.'

Contact: Festool
Web: www.festool.co.uk

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Courses

New courses at Robinson House Studio

Robinson House Studio have launched a new weekend course, run by one of their graduates who won a Guild Mark for a piece he produced during his course. The new course lets participants make their own skateboard from scratch, and take home a finished deck that's ready to have trucks mounted. You'll be able to choose the size and shape of your deck, the colour of the deck grip and how to decorate the base. You could laminate a fabric as part of the deck lay-up, laser etch a logo or small image, or apply stickers.

This could also be a fantastic course for a parent and child to work on together – under 18s cannot participate in the course by themselves so they will need to be accompanied by a parent. You'll learn some fantastic skills and have the opportunity to use a variety of tools and machines, and produce a piece that is highly customisable.

The course is run by Laurent Peacock, who completed a 50-week course at Robinson House Studio. During his course, he designed and made his Sika Console Table, which was awarded a Guild Mark in 2017. He has made his own skateboards for himself and others and is keen to help people create their own.

Other upcoming courses include dovetails, hand planes and laminating. The course dates are:

21–22 April: Dovetails
19–20 May: Make a Skateboard
2–3 June: Hand Planes
23–24 June: Laminating

For more information and to book a place, visit: www.marcfish.co.uk

PHOTOGRAPHS COURTESY OF ROBINSON HOUSE STUDIO

Learn to make your own skateboard at Robinson House Studio

New Weekend Workshop dates announced

Join Derek Jones for a variety of weekend woodworking classes this year at Robinson House Studio. Topics include French polishing, a Japanese-style toolbox and a six-board chest. The course dates are:

24–25 March and 8–9 September: French polishing
28–29 April and 6–7 October: Japanese-style toolbox
12–13 May and 17–18 November: Six-board chest

Expect more dates and venues to be announced later in the year. For more information, visit: www.lowfatroubo.co.uk

PHOTOGRAPHS COURTESY OF DEREK JONES

Learn French polishing or how to make a six-board chest

Events

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

EVENT OF THE MONTH

The Midlands Woodworking and Power Tool Show

This popular annual show returns with the usual mix of demonstrations, trade stands, advice and fun! Over 20 demonstrators and 50 companies will be exhibiting, including Peter Sefton, Nic Westermann, Andrew Hall, Jennie Starbuck and Michael Painter.

When: 23–24 March
Where: Newark Showground, Lincoln Road, Winthorpe, Coddington, Newark NG24 2NY
Web: www.nelton.co.uk/midlands-woodworking-power-tool-show.html

PHOTOGRAPHS COURTESY OF NELTON GROUP

A range of woodworking skills will be demonstrated at the Midlands Show

Ocean Liners: Speed and Style

Highlights of this exhibition at the V&A include wood panelling from the first-class lounge on the *Titanic* and furniture from the *Normandie*.

When: 3 February–17 June
Where: V&A, Cromwell Rd, Knightsbridge, London SW7 2RL
Web: www.vam.ac.uk

London Design Week

This six-day event features 120 exhibitors and more than 100 immersive experiences, plus imaginative pop-ups and bespoke installations.

When: 4–9 March
Where: Design Centre, Chelsea Harbour, Lots Road, London SW10 0XE
Web: dcch.co.uk

MADE London, Canary Wharf

A high quality contemporary craft and design fair, where the makers themselves meet the public to discuss inspirations, design processes and future projects.

When: 14–18 March
Where: Canada Square Park, Canary Wharf, London E14 5AH
Web: madelondon-canarywharf.com

The Ideal Home Show

From kitchens and bathrooms, to bedrooms and basements, fixtures and fittings to fine food, gardens and the latest in home renovation, to fashion beauty and gifts, you'll find it all under one roof at this award-winning show.

When: 17 March–2 April
Where: Olympia, Hammersmith Rd, London W14 8UX
Web: www.idealhomeshow.co.uk

Midcentury Modern, Dulwich

Over 40 dealers will be selling mid-century furniture, ceramics, fabrics, art and glass at this popular event held in Dulwich College.

When: 18 March
Where: Dulwich College, London SE21 7LD
Web: modernshows.com

Yandles Woodworking Show

This free event includes demonstrations and masterclasses, plus exclusive show deals and 15% off all timber.

When: 13–14 April
Where: Yandle & Son Ltd, Hurst Works, Hurst, Martock, Somerset TA12 6JU
Web: www.yandles.co.uk

Salone del Mobile

The prestigious Salone del Mobile returns to Milan with products on show from over 2000 exhibitors.
When: 17–22 April
Where: Milan Fairgrounds, Rho (Milan), Italy
Web: www.salonemilano.it

Social media dashboard

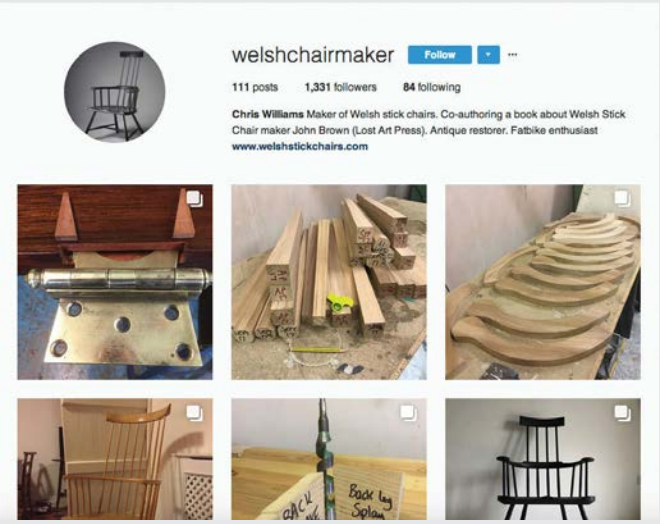
Bringing you a round-up of the best from the online world plus a selection of the latest projects from our readers

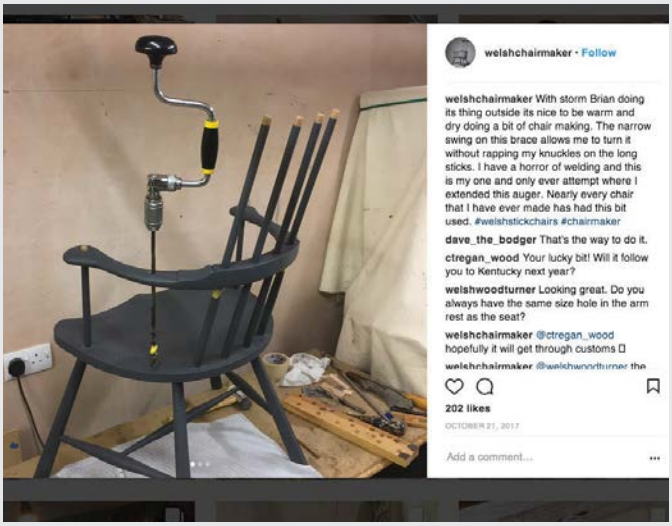
In this section of the magazine we bring together the best furniture and woodworking related content from social media. Here we'll recommend who to follow, where to comment and which online communities to join. We also feature projects we love, readers' letters, comments from the Woodworkers Institute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

Instagram: Chris Williams

If this month's feature piques your interest in Welsh stick chairs, then you'll want to follow Chris Williams' Instagram account. Based in West Wales, Chris' stick chairs are made from local timbers and using traditional tools and techniques. You can follow the making process through his Instagram photos. Chris is also working with *F&C* regular Kieran Binnie on a book about Welsh stick chair maker John Brown.

Address: welshchairmaker

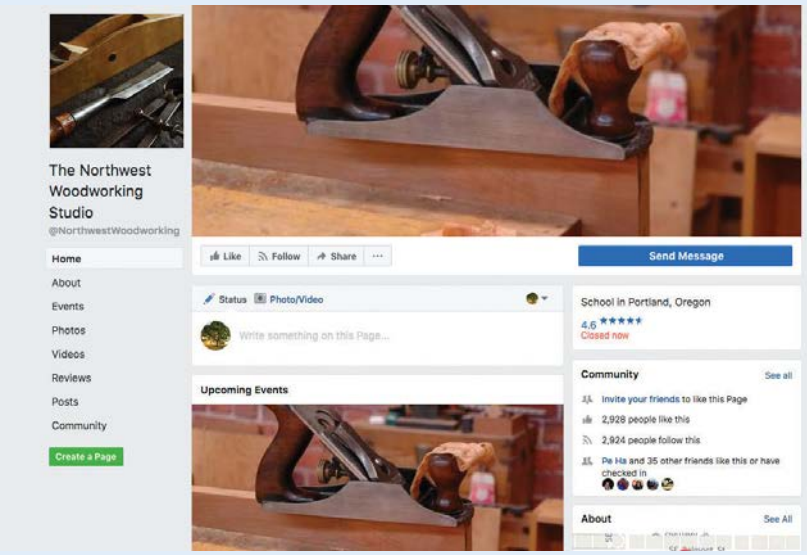


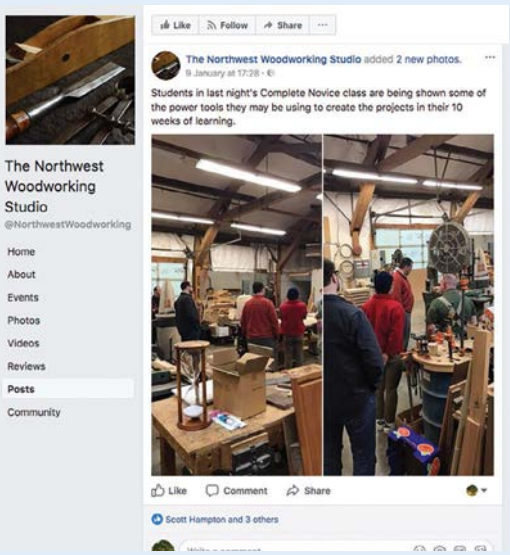


Facebook: The Northwest Woodworking Studio

The Northwest Woodworking studio is based in Portland, Oregon. It was founded by Gary Rogowski with the aim of teaching traditional woodworking skills. The studio's Facebook page has all the latest news, events and projects from the busy workshop.

Address: www.facebook.com/NorthwestWoodworking

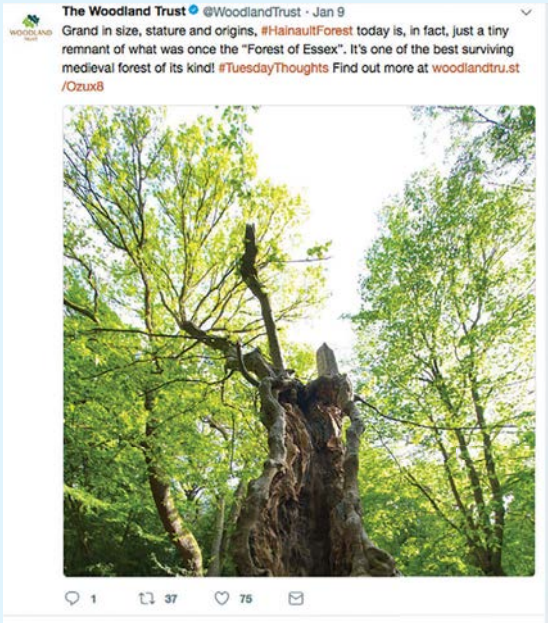




Twitter: The Woodland Trust

The Woodland Trust is the UK's largest woodland conservation charity. Their Twitter feed is an ideal way to stay up to date with their latest projects and campaigns, and you can also enjoy the beautiful photographs of woodlands and nature. It's also a great resource for advice as you can also contact them with any questions you have about trees and woodlands.

Address: @woodlandtrust



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**

Guru Shop

Berlin-based Guru Shop specialises in Asian furniture and artistic craftwork from India, Thailand, Nepal and Indonesia. Their range of furniture made from recycled teak caught our eye.

Teak is one of the most precious materials in southeast Asia, as it is characterised by its high density and strength, as well as its special resistance. Because of its longevity, it is an easy to recycle wood that does not lose its original quality even in a new form.

The Guru Shop range includes cabinets, tables, chairs and benches, all with bright colours and fine patina. This unique furniture is made in Indonesia where reusable teak is abundant: abandoned huts, old furniture and boats provide the local artisans with excellent raw material. The wood is first overhauled from scratch and worked by grinding and brushing. Old paint and varnish residues, scratches and nicks are deliberately preserved and give the resulting furniture an unmistakable surface structure and patina.

For more information, visit: www.guru-shop.de

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SAWS exhibition

A look at some of the outstanding pieces from the Southern Alberta Woodworkers Society's Exhibition

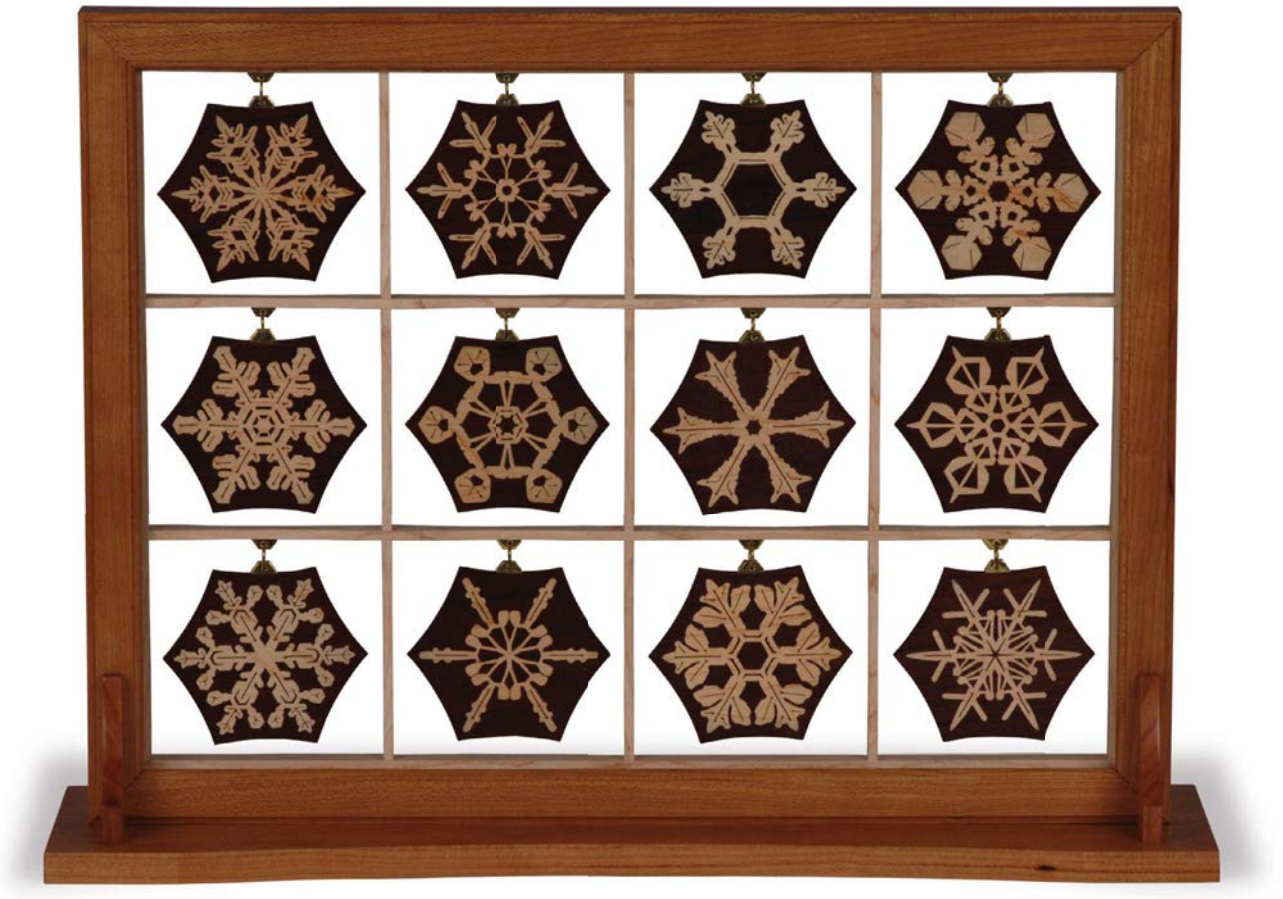
The Southern Alberta Woodworkers Society (SAWS) was established in 1983 and is rapidly approaching its 35th year of operation. The Society is mainly based in Calgary, Alberta, Canada, but has members from the central part of Alberta, as well as the neighbouring provinces of British Columbia and Saskatchewan. The membership is made up of professionals and serious amateurs, including furniture makers, carvers, turners, as well as boat and instrument builders.

Part of the Society's Constitution is to bring before the public and other woodworking organisations fine examples of woodwork by organising and promoting exhibitions. The Society's Exhibition takes place every second year at the Centre Court of Southcentre Mall, one of Calgary's premier shopping destinations. Accordingly, several thousand people are able to view (and hopefully buy) fine woodwork. Each piece submitted to the Exhibition is inspected by a Standards Committee to ensure that the work is done to a level that warrants its public display. Particular attention is paid to fit and finish, appropriate joinery and hardware, and proper design with respect to wood movement.

SAWS meetings run from September to June of most years. For details, visit: **www.saws.ca**

Planetary System by Kai Muenzer

PHOTOGRAPHS COURTESY OF SOUTHERN ALBERTA WOODWORKERS SOCIETY



Let it Snow by Ted Branton

Twisted Coffee Table by Adrian Lay

Eames House Birds by Bill Maniotakis

Blanket Box by Paul Fitzpatrick

SIMPLICITY by Bill Maniotakis

Music Stand by Mike Mulvey

Transcendent Warp
by Juerg Salzgeber

Copper Mesh Jewel Chest by John Lavoie

Walnut Rocking Chair by Dallas Gara

Cherry Rocking Chair by Dallas Gara

Walnut and Metal Desk by David Ross

PHOTOGRAPHS BY KIERAN BINNIE, UNLESS OTHERWISE STATED MAIN IMAGE: BLACK WELSH STICK CHAIRS BY CHRIS SCHWARZ

Welsh stick chairs – a beginner's guide

Kieran Binnie takes a close look at this distinctive form and discovers its unique appeal

I remember the very first time I saw a picture of a Welsh stick chair, how it appeared to be both familiar and completely alien. At first glance this chair shared common DNA with the Windsor chairs I was more familiar with, but there was also an underlying tension that felt very different to the Windsor chair form. More angular than Windsor chairs, the aggressive rake and splay of the legs, together with the distinctive comb perched atop four long sticks, gave the Welsh stick chair a dynamic silhouette suggesting a feral energy – this was a chair that wanted to spring out of the corner. I was hooked.

Several years on, and I find myself co-authoring a book for Lost Art Press about Welsh stick chair maker John Brown. My co-author, Chris Williams, is a Carmarthenshire-based Welsh stick chair maker and furniture restorer who worked with John Brown for a decade. The deep research required for a book has led us to many historic examples of Welsh stick chairs, as well as modern examples made by John Brown and Chris. That research has revealed a vibrant and enduring form that has evolved and been adapted over many generations, and which remains relevant today. While a comprehensive survey of a chair form that has been in use for centuries is outside the scope of a magazine article, what is possible is to introduce a fascinating chair that continues to inspire chair makers and furniture collectors alike, and to explain the key characteristics that set Welsh stick chairs apart from other forms.

Background

Boiled down to the basics, Welsh stick chairs are an example of staked furniture – a method of constructing chairs that has been in use since the medieval period. Staked furniture relies on a thick seat into which conical or cylindrical mortises are drilled, and matching tenons are back wedged. The result is a strong mechanical joint that requires minimal specialist tooling to prepare. In his book *Welsh Stick Chairs*, John Brown suggested that the lineage of Welsh stick chairs extended as far back as the 12th century. A 12th-century manuscript of the Laws of Hywel Dda (a 10th-century Welsh king) includes an illustration of a judge, or possibly Hywel Dda himself, sitting on a chair very similar in form to surviving examples of 18th-century stick chairs. This is a long-lived form.

Culturally, Welsh stick chairs are significant in that they were not typically built by chair makers, and instead would have been made by craftsmen from related woodcrafts such as 'village carpenters, wheelwrights, or coffin makers' (John Brown). Welsh stick chairs then are furniture of necessity – a vernacular form made by (and for) common folk when they had need of something to sit on. That they were not made by professional chair makers also had a profound impact on the construction methods, and there is a notable lack of steam bending or turning in the Welsh stick tradition compared to other chair making traditions.

PHOTOGRAPH BY KEVIN THOMAS

Blonde Welsh stick chair by Chris Williams

Key characteristics of a Welsh stick chair

As can be expected of vernacular furniture, there is a great deal of variety among surviving historic examples of Welsh stick chairs. That being said, there are also commonalities that make Welsh stick chairs instantly recognisable. Historic examples can broadly be split between arm chairs and comb back chairs. Arm chairs are very much as the name would suggest – a number of sticks hold the arm above the seat, so that it supports the middle of the sitter's back, and the sticks terminate at the arm. In contrast, comb back chairs feature long sticks at the back which extend through the arm and terminate in a decorative comb level with the occupant's head.

Chair by John Brown

It all flows from the arm

The element that really separates the Welsh stick chair from its Windsor cousins is the arm. The shape of a Windsor chair is typically determined by the dimensions and shape of the seat, with the legs and back flowing from the seat. In contrast, the shape of early Welsh stick chairs was defined by the curvature of the arm. This is in large part due to the practice of using timber with a natural bend, such as a curved branch or crook, rather than steam bending. The curve of the arm would be refined by carving excess material away from a heavy crook while retaining the natural strength of the grain (which would flow the full length of the arm). With the shape of the arm defined, the position of the sticks would then be laid out and the arm joined to the seat. The result is a distinctive organic curve to the arm, and an arm which on early examples is often visually heavier than steam bent arms. A later development was the use of arms constructed from two or three pieces of timber using scarf joints, with the third piece being placed on top of the two major pieces to reinforce the short grain at the apex of the curve. Combs would also have typically been made from a naturally curved piece of timber, or a curved part would have been cut to shape rather than steam bent.

This early chair shows a single piece crook arm, and rectangular seat

Another single piece arm carved from curved timber

PHOTOGRAPH BY KEVIN THOMAS

Here you can see the three-piece scarf joint in the arm

Saddle up?

Early Welsh stick chairs had a seat that is wider than it is deep, and the shapes vary from simple rectangular examples to curved seats, which more closely follow the curve of the arm. Many examples show little or no saddling to the seats. Saddling is the term used to describe the process of shaping the seat for comfort.

Another single piece arm – the bird's eye view demonstrates how the curvature of the arm determines the overall form of the chair

Native species and evolution

Welsh stick chairs tend to have a much more aggressive rake and splay to their legs than Windsor chairs, and as a consequence do not always feature stretchers between the legs. Both three and four legged chairs are common, and the leg tenons are usually set further away from the perimeter of the seat than is often the case for Windsor chairs. The legs are typically tapered octagons or tapered cylinders, although tapered hexagons can also be found, and the sticks may also be octagonal or cylindrical in cross section. Because Welsh stick chairs were traditionally not made by chair makers, the use of turned parts was uncommon and cylindrical legs or sticks would likely have been shaved by hand instead of being turned on the lathe, leaving distinctive facets and tooling marks. The sticks supporting the arm and comb may be set straight through the arm, or can be curved through the arm to give a 'lobster pot' shape.

In terms of timber choices, oak, elm and ash were (and continue to be) typically used as these native species are plentiful in Wales and have attributes which lend themselves well to chair making. Although elm is increasingly difficult to source, it is particularly prized for seats thanks to the interlocked grain, which makes it resistant to splitting when driving the leg tenons home. Ash and oak were commonly used for legs and spindles, as they can be rived easily to yield strong, straight grained components. However, there were no strict rules regarding timber selection and surviving chairs also show the use of yew, and fruit woods. While the Welsh stick chair is certainly less common than Windsor chair traditions, it is enjoying something of a renaissance. The late John Brown is undoubtedly the most well-known Welsh stick chair builder, particularly thanks to his outspoken articles for *Good Woodworking* magazine in the 1990's, but he is not alone. Chris Williams continues to make Welsh stick chairs from his Carmarthenshire workshop, while the form has a number of supporters in America, including Chris Schwarz and Don Weber.

Modern examples of the Welsh stick chair have adapted the form for contemporary tastes – often comb back chairs will feature fewer long sticks for a sleeker appearance, and milk painted or oiled finishes are common. The use of crook backs also appears to be less commonly used than scarf jointed or steam bent backs. But despite these adaptations, the form remains distinctive and easily recognisable. The Welsh stick chair remains a relevant and exciting chair form that while not being as widely known as the Windsor, has a cult following among those who have been exposed to its charms, and continues to fascinate chair makers. The author would like to thank the staff of St Fagan's National Museum of History for allowing access to their collection, and for permission to reproduce photographs of their chairs. F&C

The seat of this example follows the shape of the arm. The sticks show wonderful facets

The legs of this historic example are a mixture of octagonal and cylindrical cross sections BELOW: The sticks on this example retain plenty of facets and tool marks

Reading and viewing

Welsh Stick Chairs: A Workshop Guide to the Windsor Chair
– John Brown
Welsh Furniture 1250–1950
– Richard Bebb
Oak Furniture, The British Tradition
– Victor Chinnery

Visit: St Fagan's National Museum of History
Build: Build a Welsh Stick Chair with Don Weber – video by Popular Woodworking

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Krenov-style sawhorses

The mortise-and-tenon joint has been a cornerstone of joinery in furniture making. Charles Mak hand cut the wedged variant of this classic joint to build a pair of sturdy and versatile sawhorses

PHOTOGRAPHS BY CHARLES MAK

A paint can opener can be used instead of a bent chisel to excavate waste, a clever tip from Paul Sellers

Use grooved blocks as cramping cauls on the uprights, allowing you to apply pressure directly over the tenoned joint with just one cramp

Krenov's genius will be appreciated in the shop even if you don't build his style of cabinet

My first pair of sawhorses – which I still have somewhere (disassembled) in the storage shed – is made of short and long 2 x 4 studs held together in sawhorse brackets. Due to its large footprint, it rarely sees any action, mostly replaced by a sleeker foldable work stand. I set out to build a new pair that is sturdy, lightweight and easy to store. The new 'shop companions will be multi-functional, serving, for instance, as a temporary lumber rack, an outfeed stand, a portable work support and much more.

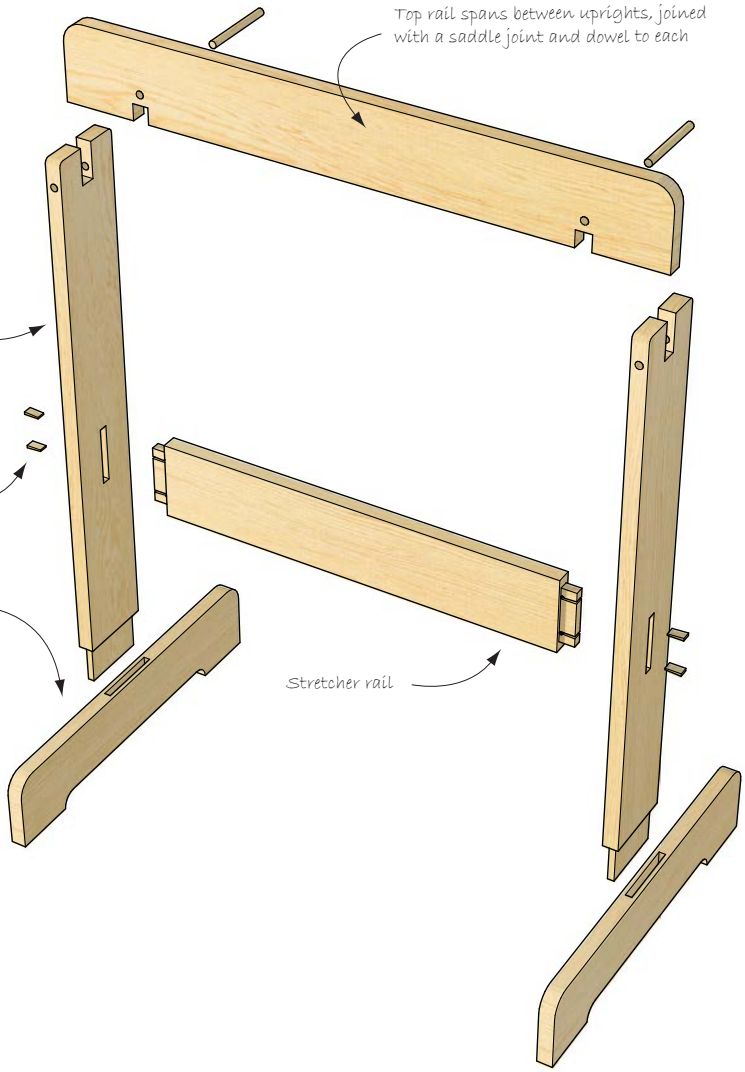
Among all the designs I have looked into, the built-to-last Krenov-style sawhorses most fit the bill. The Krenov design stands out in its simplicity, durability and aesthetic appeal. Its structural design allowed me to use spruce, an economical soft timber, instead of hardwood. To make a pair of sawhorses in spruce, I spent no more than £12, with some material left over for a utility project.

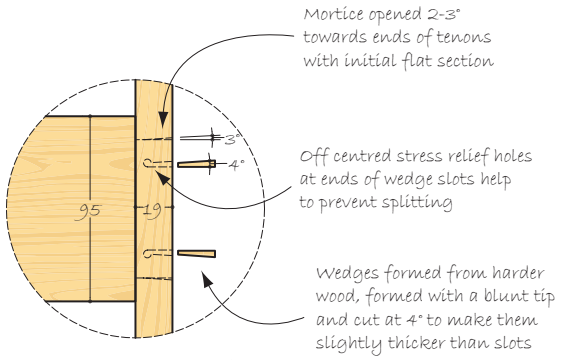
Most Krenov-inspired sawhorses I have seen were made by their owners using a combination of machine and power tools. There is nothing wrong with that, but I would love to build a copy closer to Krenov's in spirit – using hand tools. I also chose the same joinery as his – mortise-and-tenon joint and saddle joint. If you have £12, a basic set of hand tools and some shop time, join me and handcraft a shop fixture that will serve you well for years to come.

The Krenov sawhorses

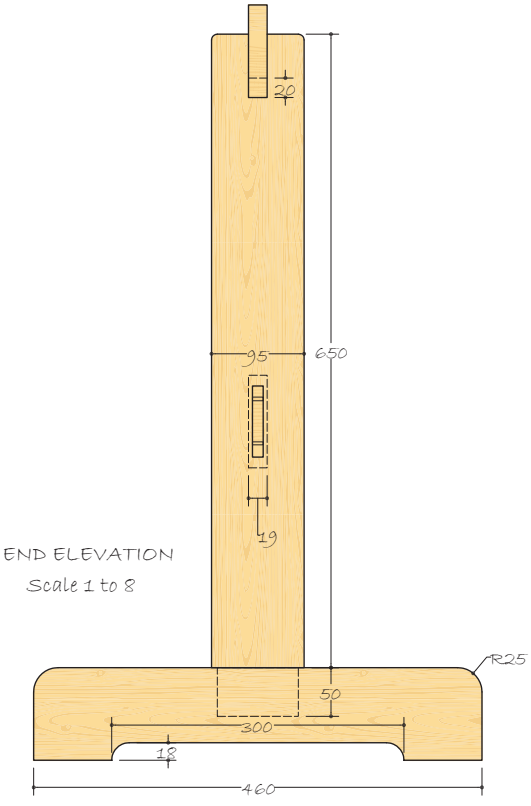
This style of sawhorse is used extensively in Krenov's furniture programme at the College of the Redwoods. Students are encouraged to add their own flair to the original design when they build their copies.

I custom-sized the sawhorses to the same height as my foldable work stand. For the stretchers, I chose a double wedged tenon joint, not just for strength and appearance, but also for the satisfaction that I would derive from executing it by hand. Lastly, I curved the top corners of the top rails and bases for a nicer feel.

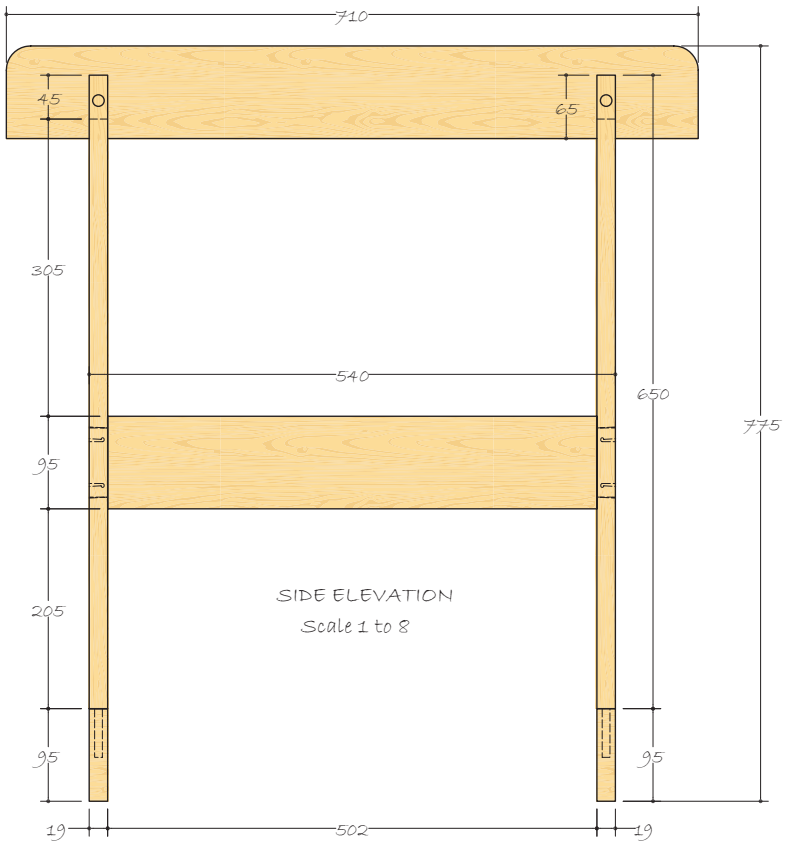




WEDGED TENON DETAIL
Scale 1 to 4



END ELEVATION
Scale 1 to 8



SIDE ELEVATION
Scale 1 to 8

Planning the methods of work

'Shop productivity is not just for those who do woodworking for a living. We often get better results when we learn to work with productive methods, such as gang-cutting the tail boards. In this project as in others, I followed some fine woodworking practices.

First, I set all the mortise-and-tenon joints identical in width and thickness, allowing me to use the same set of tools and settings to cut those joints. I also use multiple marking gauges for layout work to avoid resetting the gauges for different measurements. When marking the identical members such as the bases, I gang-scribe them together, ensuring all the joints are cut identically.

Finally, open time, or the lack of it, is a common cause for glue-up stress. Gluing up the whole assembly in one go – involving three different types of joints – will not be my method of choice. I break down the assembly into sub-assemblies to guarantee a successful glue-up.

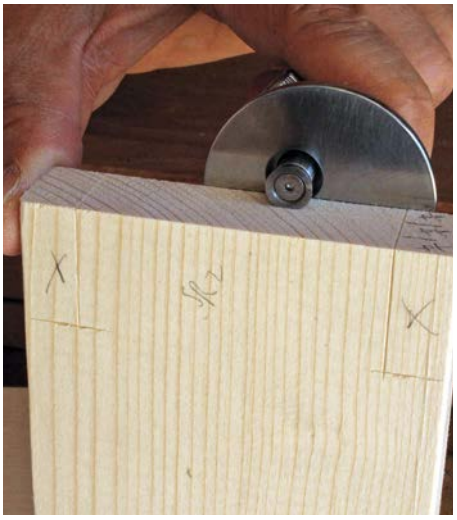
Lay out the ends of the blind mortises for both bases at the same time, ensuring consistency

Laying out the stock

Start by cutting all the stock to size, with the stretchers being cut slightly over length for the protruded tenons. Mark out the blind mortise-and-tenon joints, following the 'one-third' rule of thumb. That is, a mortise or tenon should be about one-third as thick as the stock into which it is cut. This also means setting the tenon and mortise to the same width of the mortising chisel you will use for chopping.

For the double-wedged mortise-and-tenon joint, first mark out the tenons on the stretchers. Then transfer the tenon width and thickness to the uprights to mark the mortises. In the last step, extend each end of the mortise by about 3mm on the outside face of the uprights for the expansion slots.

The saddle joints are marked later after the sawhorse frame is cut and cramped together for the dry-fit.



Use a wheel marking gauge, if you don't have a mortise gauge, to mark out the tenon cheek

Position the stretcher in place and transfer the tenon lines to mark out the mortise ends on the upright

Cutting the mortises

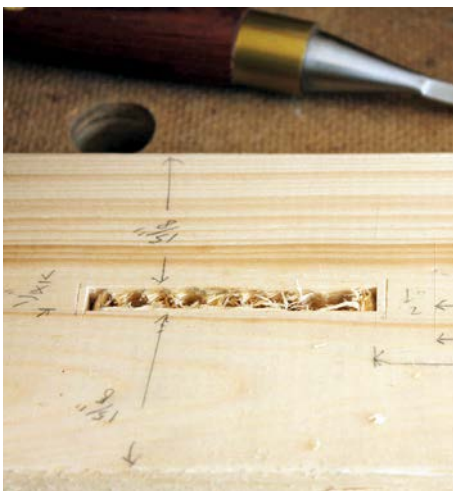
Start with the blind mortises which are more forgiving, because if you overcut them, you can simply size the tenons to match the oversized mortises. The fix is invisible. Now, chop the blind mortises with a mortising chisel. My usual approach is to define the ends first and then chop between the ends. The mortises are chopped slightly deeper to have a glue reservoir.

Mortises can also be cut using a bench chisel (see my article, 'The modified Gottshall joinery exercise' in *F&C* 263, for details). Under the bench chisel approach, begin with boring out the bulk waste inside the scribed lines. Then chop out the waste between the ends and complete the blind mortise by paring down the sides.

For the through mortises in the uprights, chop them in the same way, but from both faces, taking care not to bruise the ends or chop outside the lines. Always check the mortises for squareness when done.

Lastly, on the outside face, chop back to the extended scribed line at each end to cut out the expansion slots. It is important to leave the bottom section of the expansion slots square. The square sections keep the tenons square to the mortises when the stretchers and uprights are put together.

I prefer the layered approach, making shallow cuts and levering out small chips, rather than too much stock at one time



Use a smaller bit to bore inside the scribed lines, drilling from both faces of the workpiece

Sighting against a sliding T-bevel, taper the ends of the mortise to create the expansion slots

Cutting the tenons

Before you cut any tenons, check the tenon layouts against the actual mortises to determine how close you should saw to the scribed lines on the tenons. The tenons are cut to the same thickness as the width of the mortises.

To cut the tenons on the uprights, first pare a knife wall on the shoulder line on both faces and then saw the shoulders. After sawing the cheeks close to the lines, re-mark the tenons and saw the widths. Lastly, fine-tune the joints and slightly chamfer the top of the tenons for ease of insertion.

Repeat the same steps to cut the tenons on the stretchers. Then, drill stress relief holes on the stretcher tenons and saw wedge slots in the tenons. Some prefer to drive the wedges into the expansion slots outside the tenon, without cutting any wedge slots. But I find joints wedged in that manner end up less appealing in appearance.

The precision secret: hold the tenon against the mortise to determine the tenon's saw lines

Reference the body of a shoulder plane against the cheeks to keep the shoulders square

A knife wall is chiselled on the shoulder line to act as a saw guide for the cross-grain cuts

Drill the stress relief holes slightly off-centre towards the edges to prevent splitting

Cutting the wedges

Don't overlook the details of a proper wedge (see Fig. – Wedged tenon detail on page 35). First, choose a harder wood to make the wedges so they can withstand the pounding. I used walnut to contrast with the light-coloured spruce.

The size of the wedge matters. The wedge should be as wide as the tenon, and long and thick enough to allow it to force the tenon to flare into the expansion slot upon tapping. Now, make enough wedges and pare the sharp ends blunt.

Make the wedges slightly longer and then blunt the tips to make them a hair thicker than the wedge slots

Cutting the saddle joints

The notched top rails are seated in corresponding notches in the uprights. Some sawhorse makers screw the rails to the uprights, but I prefer to use dowels which can be drilled out if the rails get worn and need to be replaced. In the first step, dry-fit the sawhorse with cramps and position the rail in place on the uprights to mark out the notches. Then cut out the saddle joints by sawing the two outside edges of each notch and chiselling out the waste.

Dry-fit the frame and mark out the saddle joints maths-free

Shaping the rails and bases

'Shop floors are seldom evenly flat. To keep the sawhorses stable, saw a cut-out on the bottoms of the bases. Then shape the bases and top rails to suit your taste; round corners were my choice. Finally, break all the sharp edges and you are ready to do the final dry-fit.

Add your own flair to personalise your 'shop companions. I rounded the corners for a pleasing visual appearance

After roughing out the shape with a coping saw, finish the cut with a spokeshave and chisel

I used the grooved block to protect the protruding tenon on the bottom in the pounding step

Assembling the sawhorses

For a stress-free glue-up, complete the assembly in several stages, giving yourself plenty of time to take care of each smaller glue-up. In the first stage, glue and cramp the uprights to the bases and let the glue dry. Next, glue and cramp the stretchers into the uprights and, after the glue dries, drive the wedges home.

When hammering the wedges, follow the sound advice of Tage Frid and pound evenly on each wedge so they look nicely spaced. In the final stage, after the wedged tenons are planed flush, drill and dowel the top rails in place.

Because of their light weight, you can nest the sawhorses together and stow them on the floor or up on a table surface, without ever breaking your back. Every time you catch a glimpse of the wedged joint, it will remind you of this satisfying joinery work.

Krenov, master of the handmade, encouraged his students to have total emotional and personal involvement in their work. What better way to invest in that philosophy than to make a pair of his sawhorses – all by hand! F&C

Bore a hole for the dowel through the upright into the top rail

References

Frid, Tage. 'Mortise and tenon'. *Fine Woodworking* Vol. 1, No. 3. Summer 1976.

Jones, Derek. 'Hang loose – the alternative approach to hand sawing'. *Furniture & Cabinetmaking* Issue 252. Winter 2016.

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Veritas Mitre Plane

Derek Jones puts Veritas' new plane to the test

Traditional mitre planes tend to be big and heavy and for the most part are the 'ugly ducklings' of the plane family. That they have been designed that way on purpose is not surprising given the line of work they're in. Basically the mitre plane does what you try to avoid doing with any other plane: crashing repeatedly through end grain. There are exceptions that buck the trend of course like the Holtey A11 and the Daed Toolworks Miter Plane and one I was shown last year made by Oliver Sparks, but on the whole they are the consequence of utilitarian brawn. A few months ago we placed the Luban Mitre Plane No.22 in the hands of Kieran Binnie for his opinion and, not surprisingly, it performed a lot better than it looked confirming once again that this style of plane is difficult to get right in every aspect on a tight budget.

That is until the boys and girls at the Lee Valley in-house R&D department, Veritas, decided to add one to their portfolio. In fairness the Veritas team didn't really have to struggle with the design that much as their version is clearly based around existing planes in their catalogue. Owners of other Veritas planes will immediately recognise some of the features that have become the hallmark of this premium brand, namely the set screws used for setting and maintaining the blade in place and the adjustable mouth that's integrated into the sole of the plane. The Norris-style adjuster is also a familiar sight, albeit a great deal longer than those used on their other planes, as is the use of torrefied maple for the two round knobs.

The Veritas Mitre Plane weighs 2.25kg and measures 267mm long by 68mm wide, and with a blade that's thicker than the sole on most planes it means business. For the record the blade is almost 5mm thick, 50mm wide and made from Veritas' own PM-V11 steel. The fit and finish on all the components is somewhere between good and excellent and by that I mean it's finished in the factory to be fit for purpose the day it arrives on your mat. All you need to do is spend a few minutes honing the blade to a razor-sharp edge and you're ready to take shavings.

The Veritas Mitre Plane is a super weight among block planes

PHOTOGRAPHS BY DEREK JONES/GMC PUBLICATIONS

The rear knob and adjuster are well spaced allowing good grip and access

Veritas' familiar Norris-style adjuster

Don't do it

I strongly urge people to resist the temptation of flattening the backs of premium tools like this for the simple reason that unless you have equipment similar to that used in the factory to measure and alter this state, you run the risk of ruining a perfectly good blade. Removing the burr from sharpening is all you need to do.

An adjustable mouth with depth stop to prevent a collision with the blade is a common sight on Veritas planes

What's in the box

From: www.classichandtools.com; www.brimarc.com
Price: £295

Block plane or shooter?

Gazing inside the body of the plane at the area that's been machined to mate with the back of the blade, it looks at first sight to be a rather stingy amount of 'bed' for the blade to rest on. And compared to an infill body style of plane where almost the entire underside of the blade is registered against a flat surface, it is. However, the blade is T shaped like a number of other Veritas planes and shoulder planes and doesn't appear to be a problem. The two surfaces come together where they need to and more importantly remain that way under load. One of the things I've noticed over the years I've been using Veritas planes is that the lever cap can swivel with the blade sometimes when you make lateral adjustments resulting in uneven clamping pressure at the tip of the blade. In itself that's not a real problem if the movement is slight but if the conditions are right it can cause the lever cap screw to loosen, taking the pressure off the blade. When this happens it's usually time to strip the plane down, give it a good clean and treat all the moving parts to a wipe over with an oily cloth, i.e. carry out some routine maintenance. This, by the way, is not specific to planes made by Veritas, it happens with all makes with the low angle variants being the worst offenders.

The booklet that comes with the plane informs you that it takes nearly three times the amount of force to plane end grain than it does to plane parallel with

The bed is machined at 12° to achieve a cutting angle of 37°

the grain. In view of this fact it's worth considering that the mitre plane works best when it's used in conjunction with a shooting board or mitre jack to support the workpiece. To do this effectively using a shooting board you need to use the plane on its side and for me this is the mitre plane's Achilles heel; most of them aren't that comfy to use in this configuration. To alleviate this problem Veritas and other makers will sell you a small attachment to clamp onto the side of the plane called a hot dog. They're kind of OK and are an improvement but really only serve to shift the problem from one place to another. Veritas' Mitre Plane, however, comes with a detachable shooting horn that can be screwed onto either side of the plane body to nestle comfortably in the web of your hand. There appears to be three locations possible, two of which I found to be less than practical.

Unlike a regular bench plane, a shooting plane will encounter forces disproportionately spaced across the width of the blade, typically within a third of the blade towards one side for most of the time. The tendency is therefore for the blade to skew slightly with repeated impacts at one corner, especially when taking heavier cuts into hard woods. Smoothers, jacks and foreplanes are particularly vulnerable in this application. The set screws on the Veritas Mitre Plane certainly help to minimize this and give it an edge over other designs. A skewed blade would be even better but then you'd need to cater for lefties and the whole pricing structure goes out the window for such a specialist plane.

On heavier cuts I noticed the horn attachment had a tendency to shift a little and you also need to be careful not to allow your thumb to trail over the side of the plane to avoid contact with the back stop on the shooting board. Once is enough to make sure you don't do it again.

For £295 and what is effectively a beefed-up block plane you're actually getting a lot of ductile steel for your money, though it's not nearly as versatile or convenient to carry around. But compared with Veritas' dedicated shooting plane (3.5kg, 400mm long and £311) it makes perfect sense if space is an issue in your workshop and the scale of your work doesn't require the extra mass. F&C

Veritas' trademark set screws help to keep the iron in position under heavy use

LEFT: The horn attachment is a much improved version of the hot dog grip

Just be careful to keep your thumb away from the edge of the plane while using on a shooting board

Twinned jewellery box

Israel Martin makes a jewellery box using secret mitre dovetails and maple edge inlays

PHOTOGRAPHS BY JAN LEWION

When I'm fortunate to get hold of a piece of timber with strong characterful grain for a project like this, my first reaction is to use mitres at the corners to allow the grain to run unbroken around the box. This project was no different but I decided to incorporate some secret mitre dovetails as well. There are times when it's hard to justify the time it takes to cut any sort of dovetail, nevermind secret ones, but as with all things, the more you do the quicker you get.

The most important thing is to ensure you start with very acurately prepared stock. This means having consistent thicknesses througout and sides that are square from every face. The second most important thing is make sure your layout lines are equally as precise. With this as your starting point the rest is not too complicated, start with the dovetails then tackle the mitres.

Using local wood

For this box I used timber from an old dead oak that was cut down about four or five years ago. I took it to the saw mill and got 4cm-thick boards and after four years of air drying I started working them. The first time I hand planed them I noticed that it was much easier than other oaks I've used. I'm not aware of any studies comparing air-dried wood vs kiln-dried wood, but after years of testing both, I find air-dried wood to be more hand tool friendly than kiln-dried wood.

Ready for the saw mill

The oak tree that supplied the timber

Some of the boards after air drying

A single board split down the middle

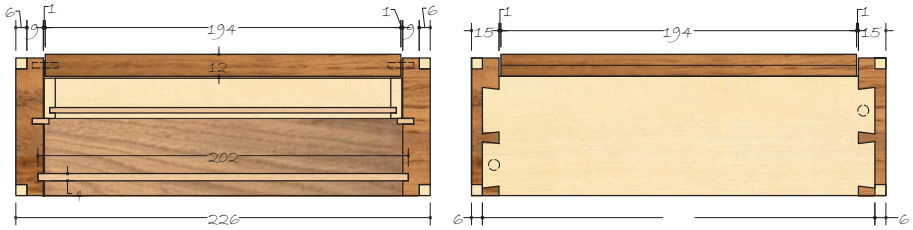
Getting continuous grain boards

Start with the wood selection and prepare the boards to get four continuous grain pieces. There is a simple way to get a nice, continuous grain pattern, as shown here: divide the board in two by sawing it in half, then cut the two boards in two parts again.

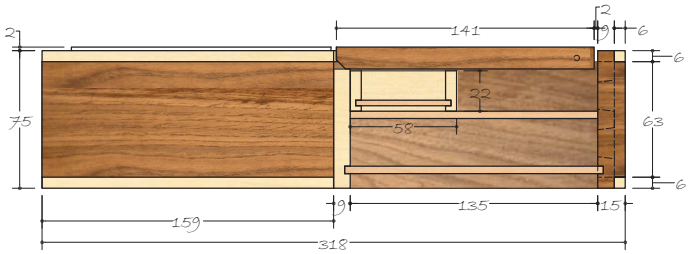
Bookmatching the piece

Cross cutting the two pieces in four

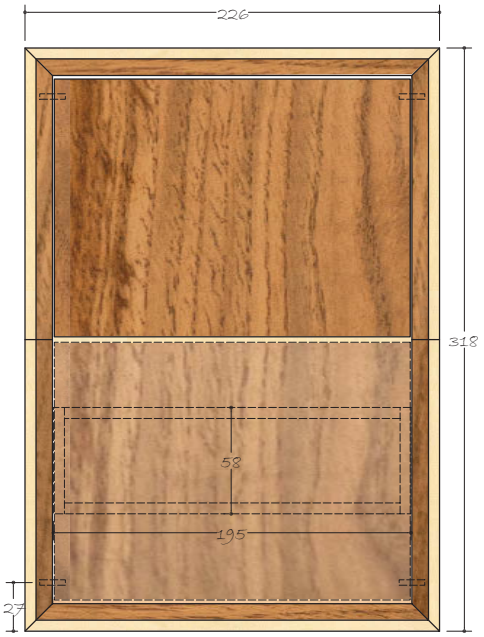
The result: continuous grain pattern



CROSS SECTION
Scale 1 to 4

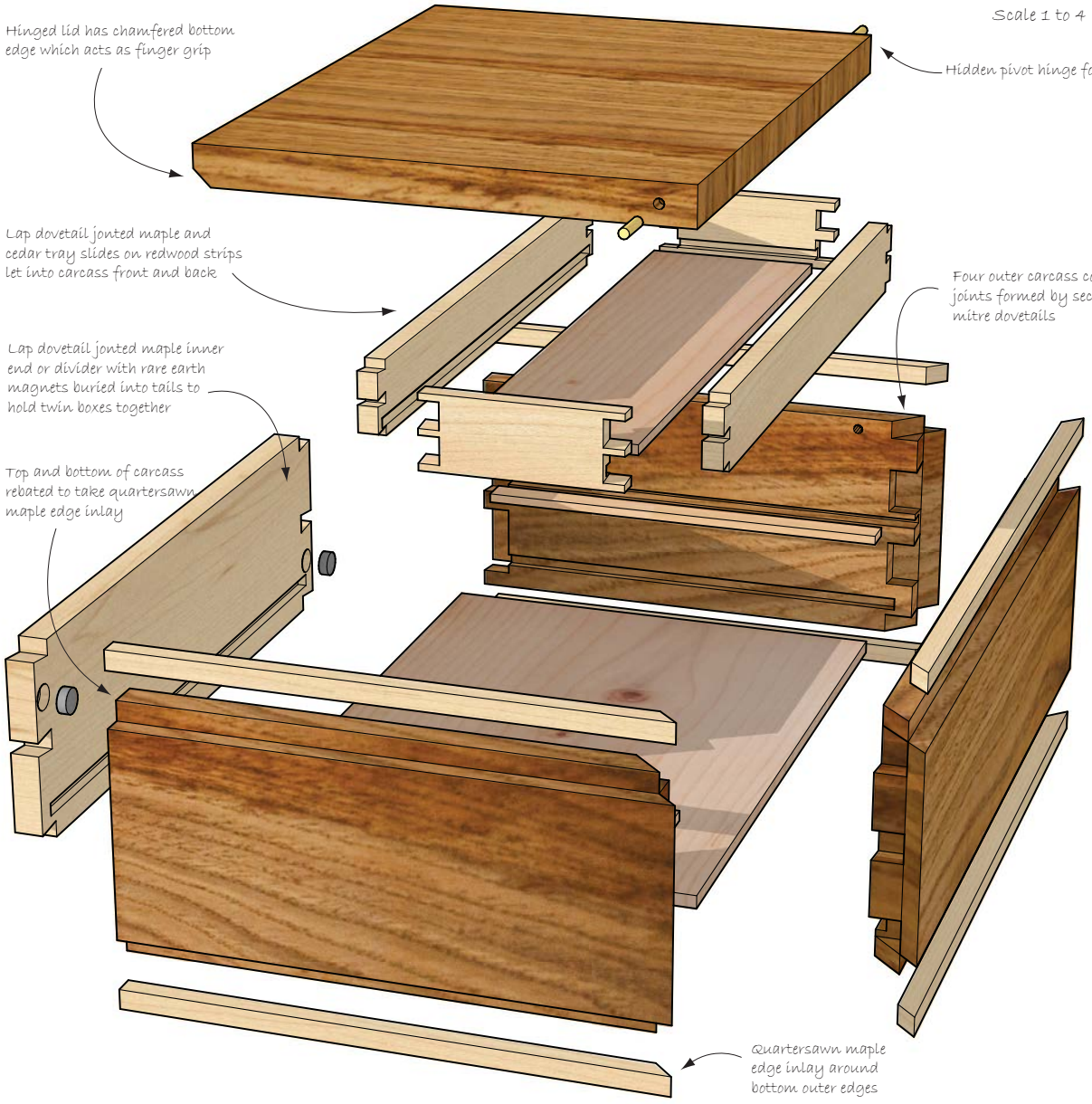


COMBINED SIDE ELEVATION AND SECTION
Scale 1 to 4



PLAN OF TWIN BOXES TOGETHER
Scale 1 to 4

EXPLODED 3D SHOWS ONE TWIN ONLY



Secret mitre dovetails

When I cut dovetails my preferred method is to start by cutting the tails and then use them to mark out for the pins. This process is reversed when it comes to secret mitred dovetails. After these are completed, I start forming the mitres with my No. 62 plane, stopping just short of the knife line. Then carefully from one side and then the other, I chisel to the line. It is important to check the mitres as you are working on them as it is almost impossible to close even the slightest gap through clamping. When the mitres are done you can turn your attention to producing rebates for the maple detail line and grooves on the inside faces for the tray runners and the bottom of the boxes. The bottom is made from quartersawn red cedar, which is difficult to leave a mirror finish on given its soft grain and the silica in its cells.

Pins and mitres are ready

Chopping the tails

Making two boxes from one

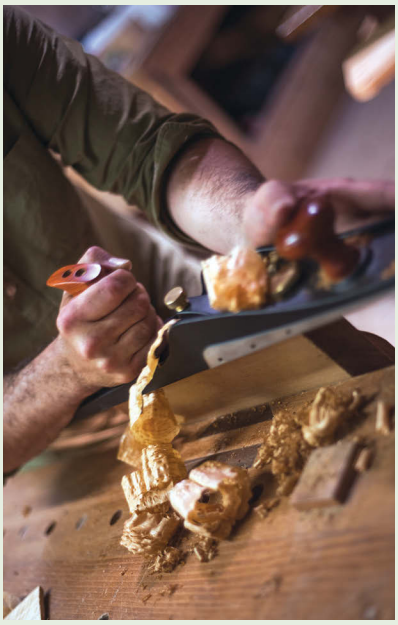
Given that I wanted to make something different, I decided to cut the box in two equal parts so I could have two boxes that look like one box when they are together. I used half-blind dovetails on the mating sides of the boxes and added four rare earth magnets behind the tailpieces in order to hold them together. This part has to be done carefully so that the grain continues the same; you don't want to remove a lot of wood as that will affect the flow.

Ripping maple by hand to get the inner sides of the boxes from the same board (inside the box)

Rare earth magnets are buried into the tails of the sides before gluing the box together

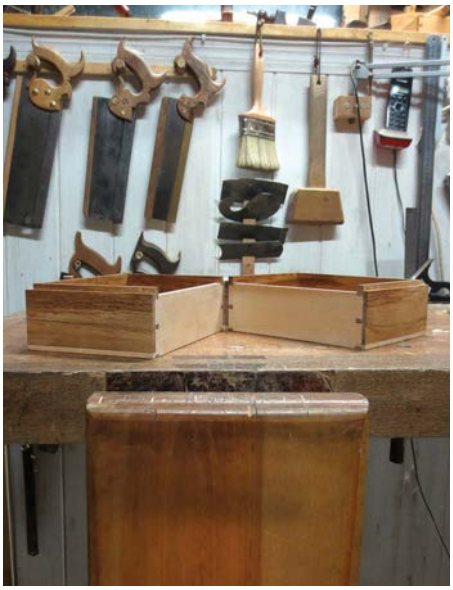
Planing difficult soft grain woods

I normally use quartersawn red cedar for most of the bottoms of my drawers or boxes, however, I have always failed to get a mirror finish in red cedar using only hand planes. Red cedar contains silica in its cells, so hand planing it makes the iron dull in a few strokes. Instead, I use a bevel-up plane, with an A2 steel blade and plane the wood normally, then before the last strokes I sharpen the blade to a very nice edge with a 10,000 grit stone to achieve that mirror finish. Very little 'dangerous' dust is made while planing compared to using sandpaper, which is the most common way to deal with red cedar.



PHOTOGRAPH BY JAVIER BRAVO

Using a bevel-up jointer with a sharp blade to plane red cedar



Both boxes glued up with magnets in place

Making the lids

The pivot hinges for the two lids are hidden. As you can see, the grain of the lid flows with the grain of the sides. This means that, with the wood movements, the lid could be stacked in the box. For this reason you have to know how your wood will behave when the box is finished, in this case given that the moisture in my shop is very high, I made them very tight, so they will shrink a little bit in their new home and therefore leave a small gap between the sides and the lid.

Cutting the lid in two parts with a continuous grain pattern was done in exactly the same way as dividing the sides in two. The box is made so that it has to be separated in order to open it. Chamfers are cut along the bottom edge of the lids to make them easier to open when the boxes are apart. The lids were given a coat of shellac before fixing to the box as access to all areas afterwards would not be possible.

Checking the lids for alignment

The lids are pre finished before assembly

Adding interest to your piece

In order to add interest to the piece, I added quartersawn maple edge inlays to all the box edges (top and bottom). I made all the strips with two sides exactly at 90° to be able to glue them to the sides. Once they are glued in to the box I hand planed them to get a nice smooth surface, being careful not to touch the lid which was already finished with shellac. These pieces also allow me to hide the brass pins that will act as the lid pivot hinges.

Gluing the strips of maple in place

The maple strips are left proud and mitred at the corners

Levelling off the maple strips

Job done!

Collector's guide to hand drills

Colin Sullivan looks at the power drill's manual predecessors

The wheel brace or hand drill relies on a bevel gear to make it work, transferring the rotary motion of the hand to a vertical or horizontal rotary motion of the chuck. By the 1850s bevel gears could be machine made accurately and were soon used on drills to improve their performance over the age-old brace and bit. The Americans in particular saw the advantages they gave and went into large-scale production; Millers Falls feature in their 1887 catalogue a full range of drills that were to set the pattern for the next 100 years. Close copies of these drills were later made in England but in my opinion few could claim to be as good and ingenious as the American imports.

At the beginning of the 20th century hand drills were offered in all shapes and sizes from 8in to 18in long, some with two gear ratios and with improved three-jaw chucks.

They were given a variety of different names by tradesmen: egg beater drill, angle drill, gearing brace, corner brace and, my favourite, the twirly.

By 1816 there were simple hand drills made in either France or Germany with a forged iron frame and two gear wheels of the same size giving a one-to-one gearing. The bit holder was similar to the normal brace, using square tapered tangs.

Millers Falls was not the only company to make great hand drills; Goodell-Pratt and the famous Yankee company also made various ingenious designs. Record tools also offered a range of drills in England.

This drill (above and opposite), made by Millers Falls around 1920, has two gears, an improved chuck with a thrust race, and drill storage in the handle

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Early iron wheel brace

8in Goodell-Pratt

13in Millers Falls

10in Goodell-Pratt

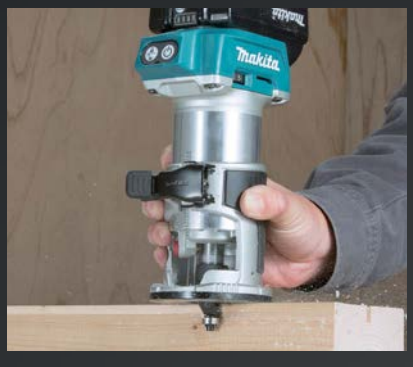
16in Yankee with several speeds and ratchet system for use in restricted places

The three-jaw chuck we use today was developed by Millers Falls – as far as I can find out – from a simple two-jaw chuck around the early 1900s, making it possible to hold drills up to ½in securely, easy to open and close with a twist. Another nice detail was to have the handles hollow with screw tops to contain a set of drills, some had removable handles for the same purpose. Only the best materials were used on these drills up to about 1940, cocobolo handles – often mistaken for rosewood – with nickel-plated brass ferrules; attractive, functional designs that still work today just as they did originally. In fact, restoration of these old drills is usually no more than a case of removing the rust, repainting the metal parts and maybe taking up some of the wear by filing various parts.

I think these drills certainly deserve a place in any workshop alongside the power and cordless drills, holding a countersink bit or a regularly used pilot or clearance drill – remember, they even work when the mains power is cut off!

Drilling dead upright holes is not easy by hand with any sort of drill, unless you can see both ways at once and still turn the handle, and so I hit upon the idea of sinking a round spirit level into the top of the handle as shown on the right. The result is great, upright holes every time – how simple.

FOUR IN ONE



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UNDER THE HAMMER:

Fine Chinese furniture

We look at some remarkable pieces from Bonhams' Fine Chinese Art auction

Held during London's Asian Art Week in November 2017, Bonhams' Fine Chinese Art auction featured some exceptional pieces. The highlight of the sale was the set of four folding chairs, which appear to be the only known version of this form and type, and are widely considered a masterpiece of Ming Dynasty furniture. As with many other items in the auction, the chairs came from the collection of the distinguished Italian diplomat, Marchese Taliani de Marchio (1887–1968) and his wife, Magaretha, the Archduchess d'Austria Toscana (1894–1986).

From 1938 to 1946, Taliani served as Ambassador to the Nationalist Chiang Kai-shek Government. Despite spending only eight years in China, the Talianis were shrewd and gifted connoisseurs who assembled a collection of extremely important pieces that convey the rich history of Chinese decorative arts.

The items shown here are made from huanghuali, a Chinese term which literally means 'yellow flowering pear' wood. It is a member of the rosewood family and is botanically classified as *Dalbergia odorifera*.

Top price: £5,296,250

Set of four huanghuali folding chairs made in the 16th or 17th century. Each has a narrow crest-rail supported on slender, gracefully curved rear posts flanking the splats, which have chilong roundels and are carved with cusped narrow flanges on the sides. There are stringed seats between the front and back stretchers. The hinged rounded square-section legs terminate in rectangular base stretchers and the footrests are mounted with an openwork iron plaque with a design of lozenges. Folding chairs such as these would have belonged to the elite and used at home, in the garden and when travelling, which would also explain their relative scarcity due to wear (particularly when made from softwood).

PHOTOGRAPHS COURTESY OF BONHAMS

£118,750

Rare huanghuali square 'Immortals' table, made during the Late Ming Dynasty in the 16th or 17th century. The top is set with a fine, large well-figured 'floating panel', above a u-shaped apron, outlined by similarly curving struts tenoned to the gently tapering cylindrical legs with buttress spandrels. Square tables such as this, also known as 'Eight, Six or Four Immortals table', depending on the number of people that could sit around it, were moved frequently and were in constant use and thus had to be structurally robust. This gave rise to square tables with humpback stretchers and corner spandrels which provided additional support as well as ample leg room for those seated around it. The unusual three-spandrel construction supporting the corners of the table-top most probably evolved from the brackets supporting the roofs of buildings.

£1,688,750

Exceedingly rare pair of large huanghuali tapering cabinets, made during the Late Ming Dynasty in the 16th or 17th century. Each cabinet has an elegantly rounded protruding top with an 'ice-plate' edge set on subtly splayed oval corner posts housing well-figured, book-matched, single panelled doors. The doors open from the removable central stile to reveal the interiors, which are fitted with two shelves. These magnificent cabinets are exceptionally rare and exhibit the highly refined craftsmanship of the Late Ming Dynasty. This is particularly evident in the four matching door panels cut from the same timber, demonstrating an identical grained and whirling pattern.

£125,000

A magnificent and exceptionally rare huanghuali three-drawer coffer, made during the Late Ming Dynasty in the 16th or 17th century. The rectangular two-board top is set into a mitre, mortise-and-tenon frame over an 'ice-plate' edge and is tenoned to the legs. A horizontal row of three drawers is set with metal mounts above two plain rectangular friezes and a scallop-shaped apron. The top is set off by beaded scallop-edged spandrels, and the well-figured wood has a rich caramel tone. This coffer is a masterpiece of Late Ming Dynasty furniture making, displaying an outstanding choice of huanghuali timber and exceptional craftsmanship. This is aptly demonstrated in the restrained balance allowing the superb timber the pride of place within the powerful geometric design formed by the delineation of the drawers and legs, the top and beading, flanked by the subtle naturalistic design. Three-drawer coffers played a prominent part in Ming and Qing interiors due to their impressive size and were used mostly for the storage of items such as bedding and clothes.

Creating an A-frame

Philip Cooke demonstrates the use of a hand-drawn rod and hand tool skills to create a simple A-frame

PHOTOGRAPHS BY PHILIP COOKE

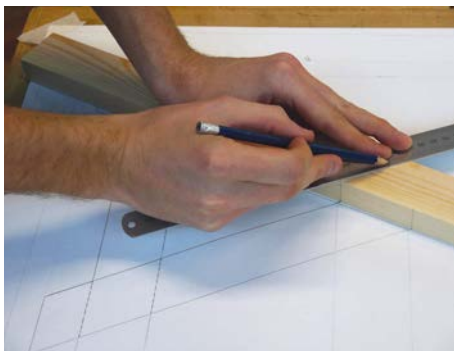
As a beginner to the world of woodworking, undertaking the Furniture Crafts course at Royal Leamington Spa College is a great way to learn a vast array of skills under the tuition of some fantastic craftsmen. The A-frame is an introductory project intended to practise the use of hand tools while learning to work from a full scale drawing called a rod – something that I was unfamiliar with up until a few months ago. It's a process that removes the need to calculate angles or take measurements while you are making as you effectively produce components that match those shown on the drawing, thus eliminating some of the complexity of the process. However, as you'll discover that doesn't mean that mistakes are completely unavoidable. To begin with I suggest you either draw your rod onto a piece of flat sheet material such as 6mm MDF or tape a paper drawing onto a suitable board.

The team at the College offer various techniques for different aspects of woodworking and those demonstrated here may be a hybrid of techniques you're familiar with. This is what I believe to be one of the best things about learning from a few different tutors: exposure to a variety of different methods allows you to develop a range of skills that work best for you.

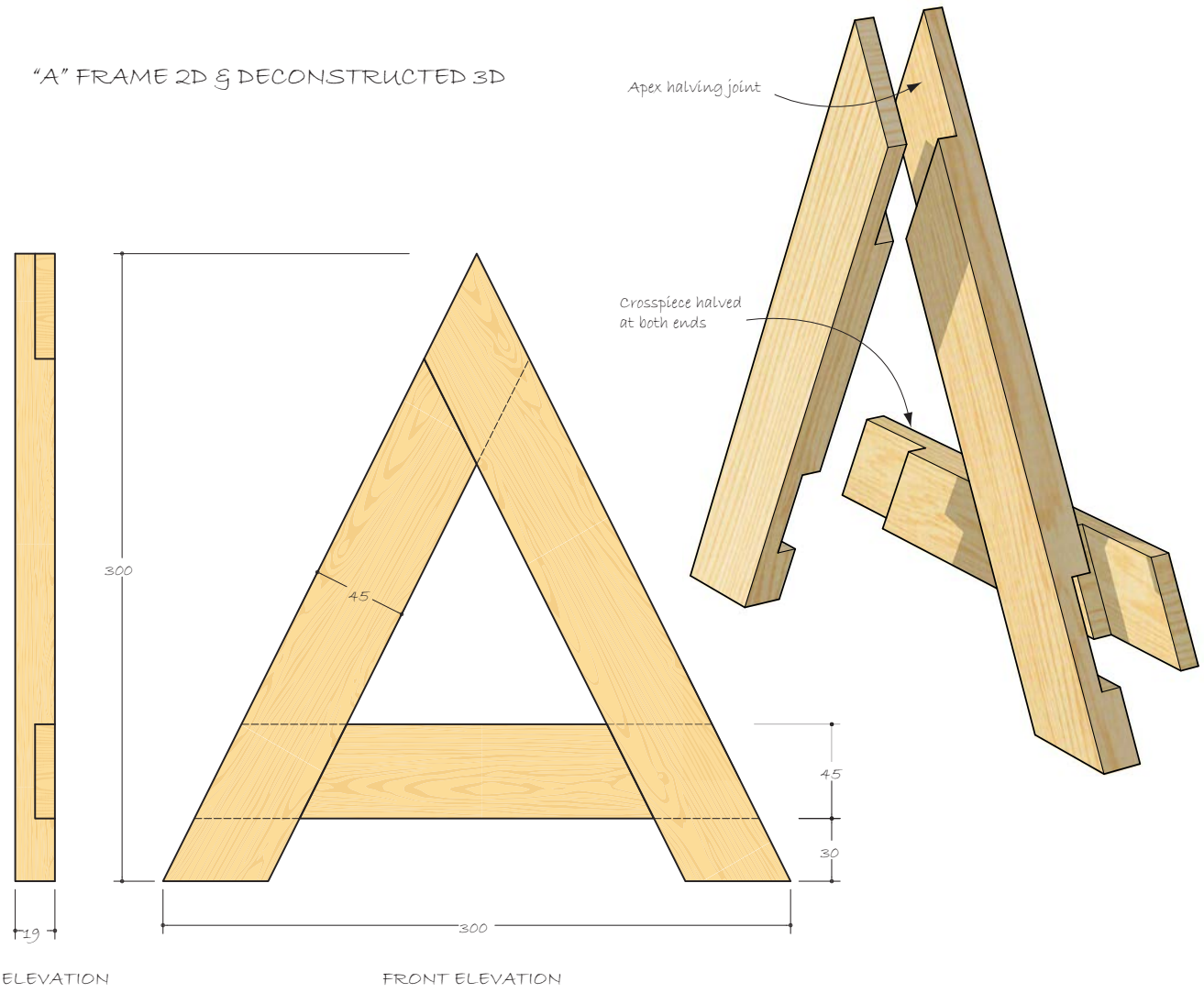
Marking the cross-halving joints

The frame consists of only three components and three cross-halving joints and all are marked on the timber using the rod as the guide. Beginning with the joint at the apex of the frame, small marks are made with a pencil on the edges of the timber by placing the components directly onto the rod. These marks are then extended, before running them around the reverse-side of the timber – to show where the joint will be cut. Using a marking gauge set to half the thickness of the timber, set out the depth of the joint on both edges of the first piece of the frame.

Repeat this process with the other upright, only making marks on the oposite face of the timber to identify where the joint will be cut.



Marking out using the rod requires no calculations of angles or lengths



Cutting the joints

Depending on how close you cut to your marks with a saw you can ignore the latter part of this step, however, if, like me, you're still developing your sawing skills here's a technique that may work for you.

Cut a few millimetres in from your marks and make relief cuts that make chiselling out the waste easier later on. My preference is to use a ¾in bevel-edge chisel and mallet to remove the waste from the joint, leaving a little bit of material at the base. Once you have removed the waste, clamp a piece of scrap timber with a reliably straight edge in line with the mark of your joint in the vice. This creates a reference surface for you to work to when paring the shoulders back to your original marks. If you have a router plane, use it to tidy up the bottom of the joint, but if not you can use a chisel. Whichever method you choose, be careful to avoid rounding the inside edges of your joint and delicate points.

Any scrap timber will work to create the guide, as long as it is flat

Cutting the angle of the joints is made easier by adjusting your positioning in line with the angle

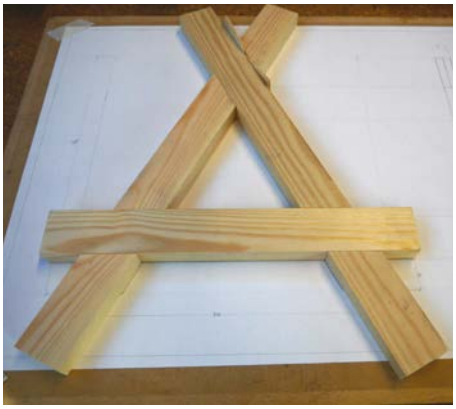
Removing the waste using a chisel and mallet

Using a router plane to tidy the base of the joints

Checking the joint

Interlock the two uprights and place them against your rod to check if they are joined at the correct angle. If not, use the technique described earlier to make small adjustments.

At this stage don't worry if your joint isn't a tight fit, the angle is more important than the joint in this instance and the horns extending beyond the joints at the apex will be cut away once the frame is glued. You may however need to make allowances for a loose joint. You can do this by making small wedges to insert into the outer edges of the joint on both faces to push your timbers into the correct position while you continue with the frame.

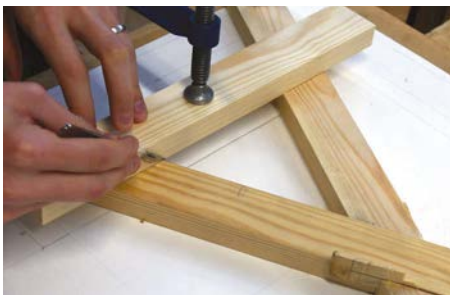


Wedges allow for small adjustments to be made to loose-fitting joints until the frame is glued

Marking the crosspiece

With your uprights together, clamp them to your rod to prevent them from moving during the next step. Using a marking knife, create marks where your uprights meet the crosspiece on the rod; you'll end up with eight points. Now use a square to create marks on the edges of the timber in line with the original knife marks.

Next, clamp the crosspiece in position onto the frame using the marks you have just created and extend them across the face of the uprights. Then mark on the reverse side of the crosspiece where it meets the uprights, before removing the clamps to finish marking all the joints. Use the same technique as before to cut and fit these joints.



Clamping the crosspiece may require the use of a single deep throat clamp for better access and to aid accuracy

When you're happy with the fit make a test dry assembly using blocks that span the joints to apply even pressure to both sides of the frame.

The setup used for gluing the frame

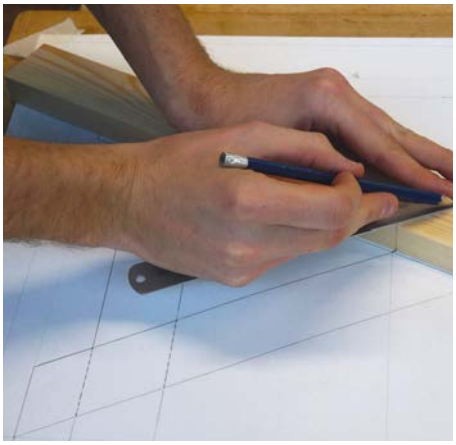
Removing the excess timber

Place the frame against the rod and use a marking knife to mark where the ends of the uprights will be. Use a steel rule to connect these and extend the marks all around the timber. Remove the waste allowing a few millimetres to trim later with a plane. Also cut the excess from the top of the frame leaving a little material to trim later.

To do this clamp the frame upside-down and low in the vice and gradually plane down to your marks. Be careful to avoid tear-out by setting your plane to take very fine shavings as you will need to plane the same edge in both directions. Finally, you can use a scraper or plane to remove any remaining marks from your timber, and then your frame is complete. F&C

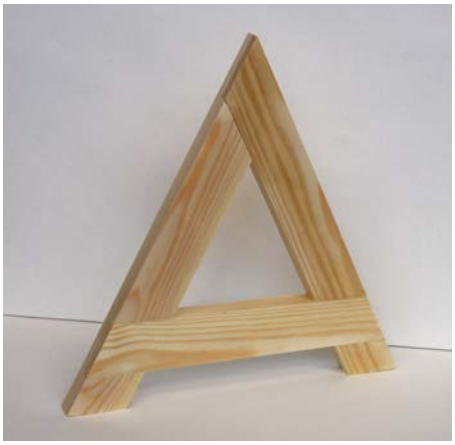
Working from the rod to mark the length of the legs

Removing the excess timber from the frame



I found a No.4½ smoothing plane to be the right balance of weight and size for trimming a frame of this size

A freshly burnished scraper will give you the best results when tidying the frame up



The completed A-frame


Jennie Starbuck


Andrew Hall


Mick Hanbury


Wayne Mack


Michael Painter


Rick Dobney


Peter Sefton


Martin Pidgen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Tricks of the trade... hold-down clamps and go-no-go jig

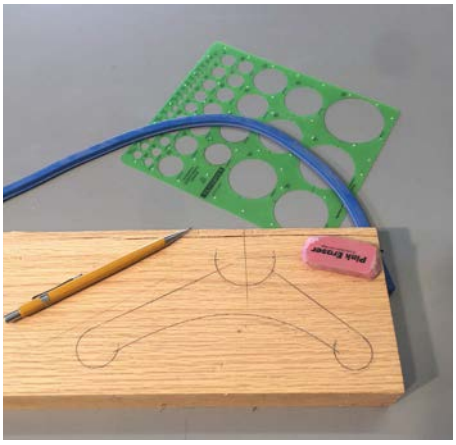
Ramon Valdez makes some custom holding accessories for his new sliding tablesaw

Near the end of the summer of 2017 I finally received my Hammer K3 Winner sliding tablesaw. These aren't the largest sliders, but for my small workshop, it is absolutely ideal. Sliding tablesaws are finally gaining popularity here in the US, and rightly so –they're extremely versatile, can be very accurate and simply fun and amazing to use! I recently had a project that required some smallish pieces of wood with slight angles. I needed a quick and easy way to hold them down as I made my cuts, with safety as an ever-present concern. Here was my solution.

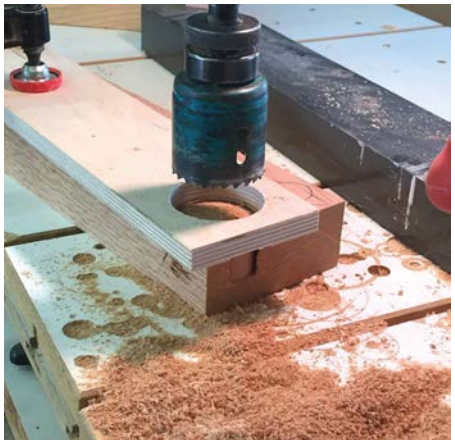
Hold-down clamps

I created a pair of hold-down clamps from some 8/4 (commonly known here in the US and about 1 13/16in or 46mm) oak that utilise a simple 'star' knob and a section of 'all thread' bolt section. I wanted the clamps to be as versatile as possible in relation to the height or thickness of material that they could clamp down to the sliding part of my Hammer K3. Using a fair curve jig and some drafting templates, I laid out the overall shapes of two identical clamps. The oak clamps consist of the main body or clamp itself and a pivoting (circular) section that engages in a saddle of the clamp body. These are similar to a shop-bought design commonly used at a drill press or a crosscut sled, but I wanted mine to be larger in order to clamp up to about 3½in (90mm). To create the circular part without the hole (that usually gets made from the hole saw mandrel drill bit), I made a simple jig or template to guide the hole-saw without the centring drill bit. The main body of the clamp was cut out on the bandsaw after first drilling a one-size-up hole in the body (saddle) to accommodate the circular section. I used my stationary edge sander, an oscillating drum sander and a scraper to clean up the bandsaw marks on all of the pieces. Next, I drilled a hole (25/64in or a 64th of an inch larger than a ⅜in bit) in the circular sections. The all-thread that I used was ⅜in. (Incidentally, I wish the entire world was metric! I find it easier and quicker… but that's another story.) I secured the pieces that make the main body of the clamps at the drill press fence with spacers underneath for support where needed to drill several overlapping holes. These overlapping and angled holes will allow these shop-made clamps to pivot to accommodate different thickness of materials. I cleaned up the drill bit cuts with a rat-tail file and chamfered the inside edges. I eased all the corners and sanded things smoothly.

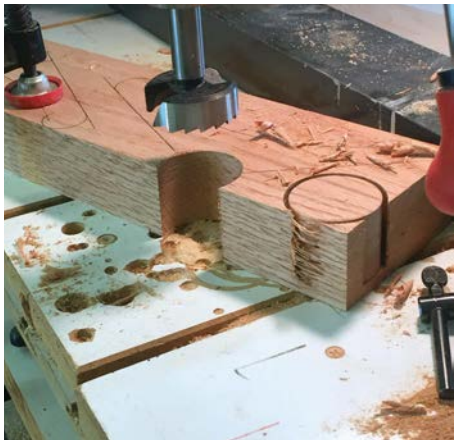
PHOTOGRAPHS BY RAMON VALDEZ



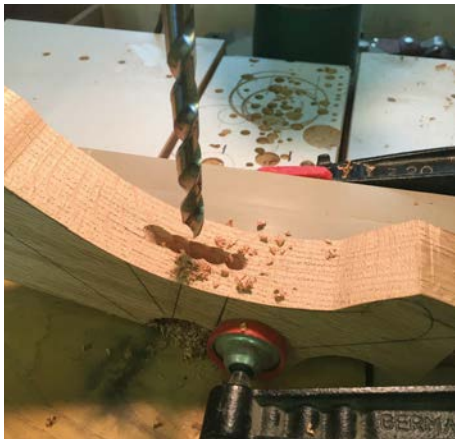
Start your layout with some basic geometry equipment



Use a template to cut the discs without centring holes

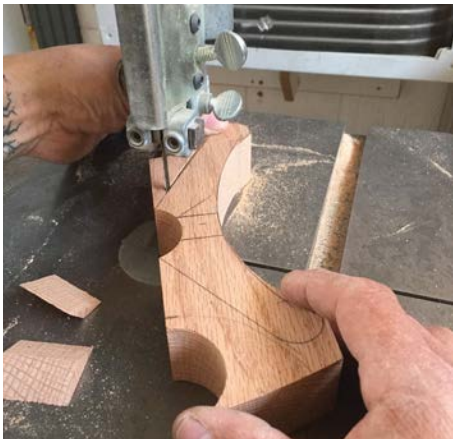


A Forstner bit will create an arc or 'saddle' for the pivot disc (circular section)



Remove the waste for the slot using the pillar drill

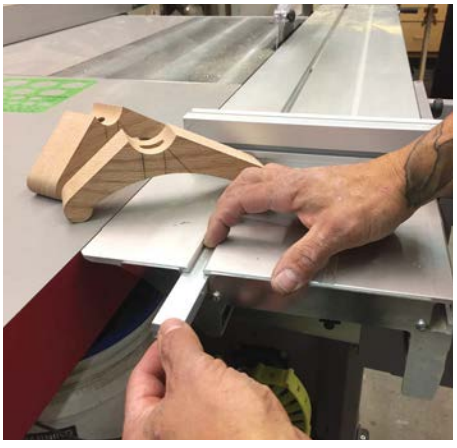
Smooth the angled slot with a round rasp



Rough out the remaining edges on the bandsaw

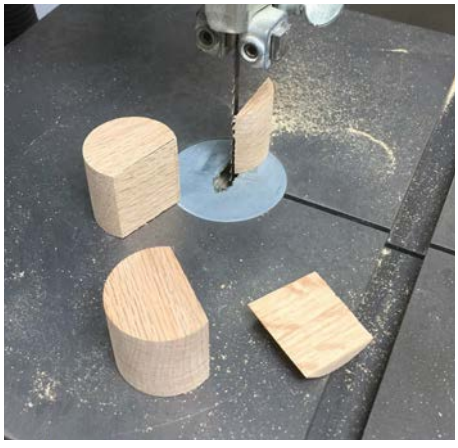
Smooth all cuts with an edge sander, bobbin sander, scraper, etc.

Your finished clamps should look something like this

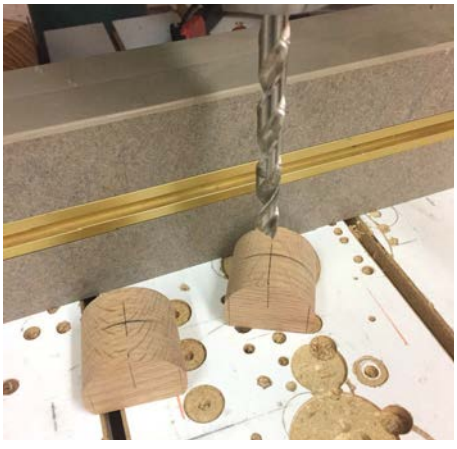


Select a piece of aluminium or steel bar to fit the slot

Drill and tap a couple of holes to suit your thread. I left mine long for easier clamping, then cut the aluminium into halves



Flatten off a part of the pivot disc...



... and drill a clearance hole for the thread

Ensure the blocks slide freely in the mitre slot

The 'Go-no-go' jig quickly ensures precise and repeatable alignment with the left side of the saw blade

Use the clamps to securely hold small workpieces

Small pieces of abrasive paper (sandpaper)will tremendously improve 'gription'

The clamps have an 'all-thread' bolt section (about 6in long) that connects to a piece of aluminium with tapped threads. One could use steel bar for this, but I think that the aluminium is plenty strong for this application and is much easier to work with regular woodworking tools. I added a couple of star knobs, although one could easily make these, as well. After adding a couple of coats of an oil/urethane mixture, I let them fully dry. I then added some sandpaper to the points that contact the material and the saw table. This is such an easy way to create a better bite on the clamped timber or sheet goods.

Incidentally, while I was creating these hold-down clamps, an Instagram friend of mine told me about the Fritz & Franz jig. I had never seen these before, they are an excellent addition to any sliding tablesaw and they seem super quick and easy to use. I'll need to make one of those soon! My clamps, however, will hold small parts a bit more securely than the Fritz & Franz jig. I think a guy (or girl) could use both types of these clamping fixtures. Also, I am aware of the factory type of hold-down clamps for this kind of tablesaw … and they work very well. However, I needed to cut my angled parts quickly so I decided to just make something and I like the fact that I now have two of them. And setup is super quick and easy: I simply leave the aluminium bars in the slots and my shop-made clamps nearby are always ready to go!

Go-no-go jig

The 'go-no-go' jig is a simple chunk of Baltic birch plywood with a glued-on cleat that fits snugly in the slot of the slider part of the tablesaw. Of course, make it oversize, then run it through the saw blade to establish the exact location of the left side of your blade. I made a larger blank that I crosscut, and saved the fall off for later use. Once I have the current blade sharpened, I'll need to crosscut a new jig. Or if I switch blades, the kerf could be different (more than likely) so I currently have one of these jigs for each of the two different-sized blades that I use on this saw.

I'm actually surprised and pleased as to how well these hold-down clamps work and I find myself reaching for them often. Make yourself a set and you'll love the added benefits of securely clamped pieces of timber with little to no vibration and your cuts stay safer and more accurate. F&C

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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

MINI TEST
Pax 1776 Dovetail saw from Thomas Flinn

When you're playing in the major league the physical difference between best, better and better still can usually be measured in tiny amounts. The gap between pole position and second place on the grid can often be a humongous 10th of a second in F1 and when it comes to premium handtools, as far as performance is concerned, the gaps tend to be similarly spaced. I took delivery of a new Pax 1776 10in dovetail saw from Thomas Flinn recently and have been using it without complaint for a couple of weeks now. The 15tpi is the same as my other dovetail saws and copes

From £125

A maker's mark proudly displaying its heritage

Walnut and brass fittings add a touch of class

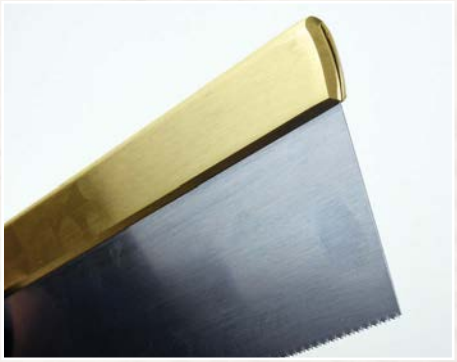
Split nuts enable disassembly for future maintenance

well in the range of material I'm used to working; typically 12 to 18mm and thicker if I'm gang cutting, which I have a tendency to do on thinner stock. It took me a while to adjust to a shorter plate at first but nothing I wouldn't expect to have to overcome with any new tool. I'm loath to over complicate the workings of a saw for the simple reason that like planes and chisels once you've got the right size tool for the job, sharp fixes most things. The degree of hang and graduated tooth lines have been introduced for people to talk about as far as I'm concerned and offer little advantage by way of performance. If the hang's not right, move the board in the vice and change your stance not the saw, and if you can't get a clean start off the blocks just be a little more gentle to begin with. Remember it's only woodwork and not rocket science.

Like other Pax saws I own, the 1776 dovetail is also the heavyweight in its class, which could mean you need to get used to the extra heft at first. This is mainly due to a generous folded brass back in the tradition of Sheffield's finest. The method isn't the prettiest way to secure the two parts perhaps, but the advantages far outweigh any cosmetic refinements as it is a way of future proofing the tool should it take a tumble off the bench or need the plate straightening for some reason.

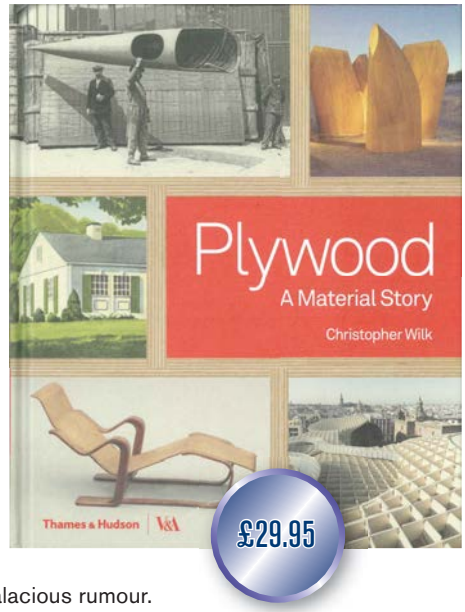
In soft and hard wood the Pax 1776 dovetail saw tracks a straight line to its full depth with the tell tale wisps of material left on the far side of the cut; the sign of a sharp dedicated rip saw. In terms of kerf and set I've never found it very helpful to know the exact figures. I find that if I can consistently leave a slither of material thinner than the kerf between a couple of test cuts, I've got a saw I can work with. Establish that and accuracy will follow. At £150 this saw is competitively priced and performs every bit as well as its nearest rival in that price range. There are aspects of the handle that aren't quite as crisp as some other makes for a lot more money but a thoroughly reliable workhorse it is and well worth considering. Something also worth noting is that when it's time to re-sharpen you can send it back to the factory for a tune-up. That alone is worth its weight in gold.

From: www.flinn-garlick-saws.co.uk



A generous amount of rolled brass for the back

Plywood: A Material Story



By Christopher Wilk

Whether you like it, loath it or just choose to put up with it, plywood has been around for centuries and shows no signs of disappearing from our homes any time soon. Christopher Wilk is Keeper of the Furniture, Textiles and Fashion Department at the Victoria and Albert Museum and has put together a fascinating history of the material we all either love or love to hate. He takes us back to the origins of the material with references that come from the tombs at Thebes where craftsmen are identified as laying up veneer with hot glue on to a substrate, and to how the process went through a period of negative press to be associated with inferior goods. In Charles Dickens' fantasy tale *The Posthumous Papers of the Pickwick Club* a fine Spanish mahogany armchair suggests his keeper could not 'treat him with less respect if I was veneered' and it's here that Wilk suggests we might find the route cause of that particularly salacious rumour.

With hundreds of historical pictorial references he explains the role that plywood has played in nearly every significant technological achievement with references to products you'll be familiar with as well as those I bet you never knew existed. To be honest I don't think your woodworking education could be seen as complete without it.

From: thamesandhudson.com

Glue Monster Wood Adhesive

Bond It has added two new products to its range of adhesives. Glue Monster Wood Adhesive is a one-part, ready to use PVA timber adhesive with an EN 204 D3 rating. It is suitable for a variety of general purpose joinery applications and delivers impressive results when used on hard and softwoods, decorative laminates and chipboard blockwood as well as other types of engineered timber panels. It is also water resistant. The Beast is a one-part polyurethane super strength adhesive with an EN 204 D4 rating. It is solvent-free, completely waterproof, permanently flexible and cures in just 20 minutes. In addition, it can be overpainted or stained once cured. The Beast is also highly versatile and can be used to effectively bond a whole range of common household and construction materials. This includes ceramic, stone, concrete, plaster, wood, chipboard, laminate, metal, glass, leather and most plastics.

From: www.bond-it.co.uk

From £23.50

Trend slot mortise tools

Trend have launched a new range of five professional spiral slotting cutters for use in the Festool Domino DF500. The five sizes of 4mm, 5mm, 6mm, 8mm and 10mm correspond to the standard Domino dowels for high quality, like-for-like performance, creating perfect mortises every time. Micro-granular Tungsten Carbide Tips to each cutter ensure a fast cutting action offering durability and performance in both solid timber and abrasive man made materials. A double spiral up-cut profile clears debris from the mortises quickly minimising heat build-up and helping to prolong the life of the tooling.

From: www.trend-uk.com

SABRE 350

The Record Power SABRE range of bandsaws are the next evolutionary step from the highly regarded and market-leading Record Power premium bandsaws. The SABRE-350 is effective, accurate and easy to use. Featuring an 1100 W output (1½ horsepower) motor coupled with the heavy-duty cast-iron band wheels, the SABRE-350 packs a real punch and can handle cuts to its full capacity with ease. The two speeds, which are slightly faster than comparable machines, make it ideal for cutting non-ferrous metals as well as wood. The cam-action fence adjustment, spring-loaded guides, cam-action blade tension release and double-sided fence mount make this a machine that is so easy to set up and use it leaves you free to concentrate fully on the project at hand. The SABRE-350 stands on a sturdy cabinet base, giving plenty of storage beneath the machine to help keep the workshop tidy. The resaw bar, which is easily attached to the fence, is included as standard. This is ideal when sizing long pieces of timber as the timber can be pivoted to compensate for grain variations, helping to achieve straighter cuts than would be otherwise possible.

From: www.recordpower.co.uk

£899.99

£24

Air Stealth half mask

This compact and lightweight half mask respirator is suitable for protection from all woodworking nuisance dusts including MDF as well as other industrial dusts such as silica, glass fibre and also agricultural related dusts. The Air Stealth design incorporates easy-to-change flat filters that locate behind hinged access grilles, while the large filter area offers less breathing resistance in use to keep comfort levels maintained as you work.

Manufactured from high-grade materials, the mask is odour free and non-allergenic with latex- and silicone-free Thermoplastic elastomers (TPE) offering a soft, comfortable fit to the face while sealing against inward leakage beyond the standard recommendation for maximum protection. The HEPAC (High Efficiency Particulate Air Composite) filters protect to higher than industry standard requirements, capturing 99.99% of all airborne particles of 0.3 microns and above, including aerosol emissions.

With the flat filter design, the mask offers superb all-round vision as you work making it ideal for high volume dust generating woodworking applications such as routing, sanding and woodturning. The mask can also be used with prescription or safety glasses and is designed with the exhalation vent mounted at the bottom of the mask to prevent fogging and misting as you breathe.

From: www.trend-uk.com

Futura Aqua paints

Futura Aqua waterborne urethane-alkyd based paints are ideal for exterior and interior joinery items and provide varying sheen levels: Futura Aqua 20 semi-matt, Futura Aqua 40 semi-gloss and Futura Aqua 80 gloss. Incredibly durable, the products are suited to professionals requiring a hand-applied brush finish that flows easily with few brush marks, as well as application by roller or spray.

From: www.teknos.co.uk

From £18

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.

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C300

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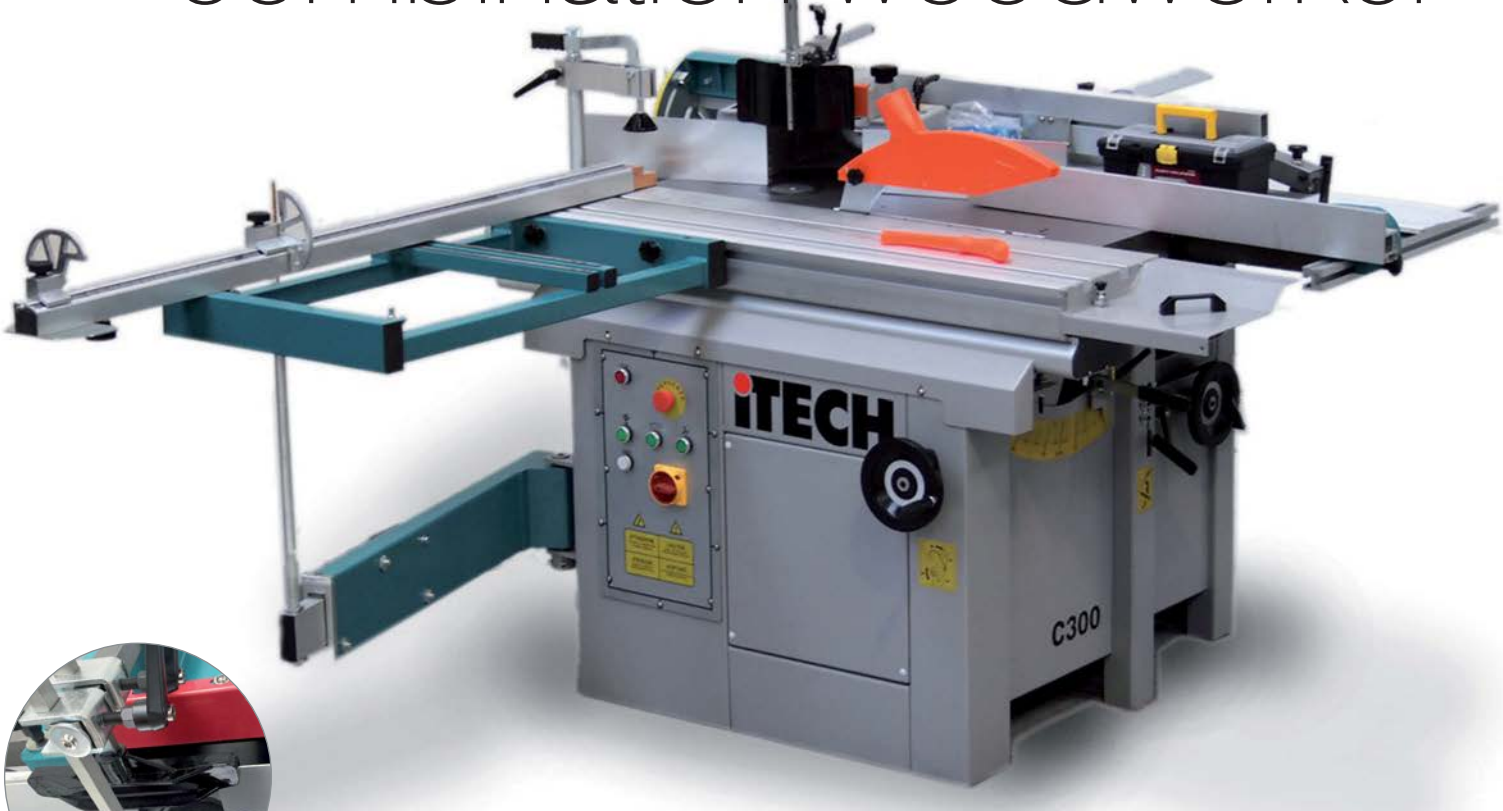

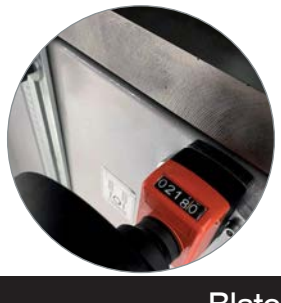

The C300 Universal Machine is the latest addition to the iTECH family. It has been designed to have industrial quality features combined in a size intended for the small professional workshop or home user.

This industrially rated machine features a panel scoring saw, sliding table with large support, surface planer, thicknesser and spindle moulder in one neat package.

The cast iron construction, accurate cross cut fence and superb build quality put this machine in a class of its own.

£4499

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Technical Specification:

Motors	3 x 2.0 hp
Planing width	300 mm
Thicknessing Depth	220 mm
Cutter Bock Diameter	70 mm
Depth of Saw Cut	80 mm
Sliding Carriage	1250 mm
Saw Blade Diamter	250 mm
Scoring Saw Blade	90 mm
Spindle Moulder Shaft	30 mm
Spindle Moulder Max Diameter	160 mm

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Out & about: Hofmobiliendepot

This month we visit Vienna's Imperial Furniture Collection

BELOW: Recreation of the bedroom of Emperor Franz and his fourth wife, Carolina Augusta, whom he married in 1816. Their furniture was made of mahogany and decorated with bronze fittings

The Hofmobiliendepot (Imperial Furniture Collection) is one of the largest furniture collections in the world, with over 165,000 objects in its archive. The exhibits span three centuries of furniture history, from the Imperial collection through the Biedermeier style, Historicism and the Viennese Modern, to contemporary design.

History

The museum's history begins in 1747 when Empress Maria Theresa established a furniture depository in which all the furniture of the Imperial court household was stored and maintained. The depository has been in the ownership of the Republic of Austria since 1919, and in 1924 the first permanent display was opened. Part of this original display in the form of 15 'Biedermeier alcoves' has been preserved as a kind of 'museum within the museum' and integrated into the current permanent exhibition. The alcoves contain furniture from the Imperial household arranged into ensembles illustrating lower middle class interiors.

In 1998 the museum was reopened following extensive remodelling and restoration. The reorientation of the museum was to focus not only on presenting the holdings according to customary museum conventions but also to emphasise its continuing role as a repository. For this reason, 'walk-in' access was created to a repository that has remained virtually unchanged since the time of Emperor Franz Joseph. The holdings still supply furniture for federal offices, embassies and state receptions.

Maria Theresa's writing desk. The desk was made by Italian cabinetmaker Giuseppe Maggiolini and uses palisander and maple veneers. The desk was a gift from Maria Theresa's son, Archduke Ferdinand Karl

While other Italian cabinetmakers generally adhered to the repertoire of forms from the Rococo period, Maggiolini revived the Renaissance-inspired tradition of inlays and marquetry. The writing desk is decorated with marquetry panels

What to see

The core of the collection is the original items of furniture from the Habsburg court household that were used to furnish Schönbrunn Palace, Belvedere Palace, Laxenburg Palace and many other Imperial residences. On display are carpets, chandeliers, paintings, tableware, chairs, tables, beds, commodes and even entire suites. Linked to individual personalities such as Prince Eugene of Savoy, Crown Prince Rudolf or Empress Elisabeth, these objects reflect not only political events and Imperial court ceremonial but also day-to-day life.

Since its reopening in 1998, the museum has also focused on Viennese furniture design from the Modern era to the present day, holding items of furniture by major Austrian architects such as Adolf Loos, Otto Wagner and Josef Hoffmann, as well as contemporary designers.

Set of walnut and brass dining room furniture designed by Adolf Loos in 1899. The furniture designed for Eugene Stösser's Viennese apartment was some of the earliest work carried out by Loos as an interior designer

As well as the permanent collection, the museum also hosts temporary exhibitions that explore the architecture, design and furniture of the 20th century or famous personalities from the Habsburg dynasty.

The Habsburgs

The museum's website includes a link to the interactive web portal The World of the Habsburgs, which enables interested persons to take a virtual walk in the footsteps of the Hapsburgs. Through a wealth of detailed texts and images the lives of the most important Habsburg rulers and their times are critically examined and the contemporary background explained. For more information, visit: www.habsburger.net/en

Where else to see… Habsburg life

The Imperial Apartments
Vienna, Austria
www.hofburg-wien.at/en

Schönbrunn Palace
Vienna, Austria
www.schoenbrunn.at/en

Information for visiting

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Secretaire from the estate of Marie Antoinette, given by Napoleon III to Archduke Ferdinand Maximillian. The secretaire was made by French cabinetmaker Adam Weisweiler

Recreation of the apartment used by Archduchess Sophie and Archduke Karl Franz in the Blauer Hof at Laxenburg. These rooms were furnished in the Biedermeier style, with brightly coloured fabrics and patterned wallpapers

Sitzmaschine designed by Josef Hoffmann ca. 1905. Hoffmann worked in close collaboration with the bentwood furnishing firm of Jacob and Josef Kohn, and this beech and plywood armchair is one of the highlights of their work together

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Precisa 6.0VR-P1	Inc 2m STC + TWE + TLE + pre-scorer (as illustrated)	4.0 / 6.5 + 1.0	110 mm x 1400 mm	£3,450.00	£4,140.00
Forsa 8.0-P3	Inc Pro STC + TWE + TLE + rear support table + clamp + scorer	NA / 6.5 + 1.0	107 mm x 2600 mm	£5,420.00	£6,504.00
Forsa 9.0-P3	Inc Pro STC + TWE + TLE + rear support table + clamp + scorer (as illustrated)	NA / 6.5 + 1.0	107 mm x 3200 mm	£5,575.00	£6,690.00

STC = Sliding Table Carriage. TWE = Table Width Extension. TLE = Table Length Extension.

An airbrush with the past

Derek Jones dips into the *F&C* archives for this china cabinet

Illustrator Ian Hall did an excellent job of capturing all the construction details. Check out the entire front column to get an idea of its full complexity

IMAGE BY IAN HALL/ROBERT INGHAM/GMC PUBLICATIONS

This month we're going back to 2002 and issue 71. On his way to becoming Principal at the world renowned school for cabinetmaking Parnham, Robert Ingham nursed a great number of trainee cabinetmakers through their most challenging projects. The china cabinet in this article was in fact the last in a series of three articles published in *F&C* that dealt with two pieces of furniture built along the same lines as this design. The basic principle of any carcass used to suspend doors from or contain drawers is to remain rigid under stress and for that Robert Ingham is the undeniable master of detail.

In setting up the article he explains the mechanics of a torsion box and how this lightweight construction uses brains instead of brawn to provide the structural integrity required of this piece. He also mentions the extraordinary lengths he went to to source a sheet material known as 'lamin board' to make the doors. Once a stock item for sheet good suppliers, it has much in common with block board but rather than wide or square billets of timber sandwiched between layers of veneer the core is made up from thinner strips of between 3–5mm wide solid timber. Soft wood is the ideal core material as it's cheaper and lighter than hard wood, and in this configuration surprisingly stable. In 2018 lamin board seems to be more easily obtained than in 2002 but primarily for the manufacture of internal doors.

The show surfaces on Robert's china cabinet are bog oak and rippled cherry with drawer linings of oak that feature his trademark central drawer runner; a design that uses a central muntin to ensure wide drawers run smoothly without racking.

The most significant details on this design, however, are the cylinder spines that are attached to the doors and pivot on sprung-loaded hidden stainless steel pins top and bottom. With no means of adjusting them after installation they just have to go together with the utmost precision. I'm reliably informed they did. F&C

Next month

Next month we'll be going back to July 2003 and issue 78 for a closer look at John Bullar's oak and ebony demi-lune table.

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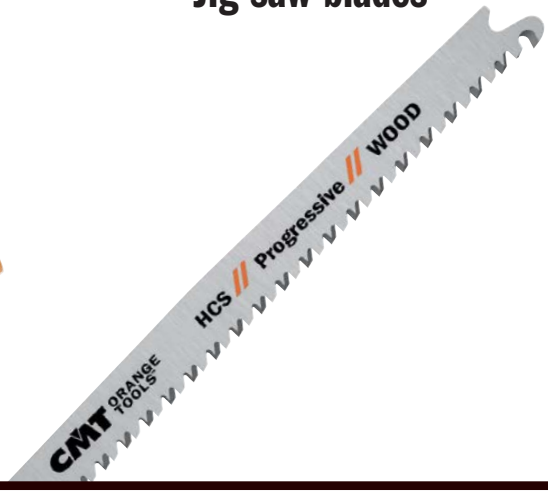

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