# Furniture &cabinetmaking

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DESIGN ▪ INSPIRATION ▪ PROJECTS ▪ TECHNIQUES ▪ TESTS ▪ NEWS ▪ EXCELLENCE


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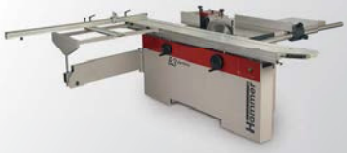

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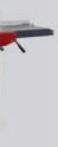

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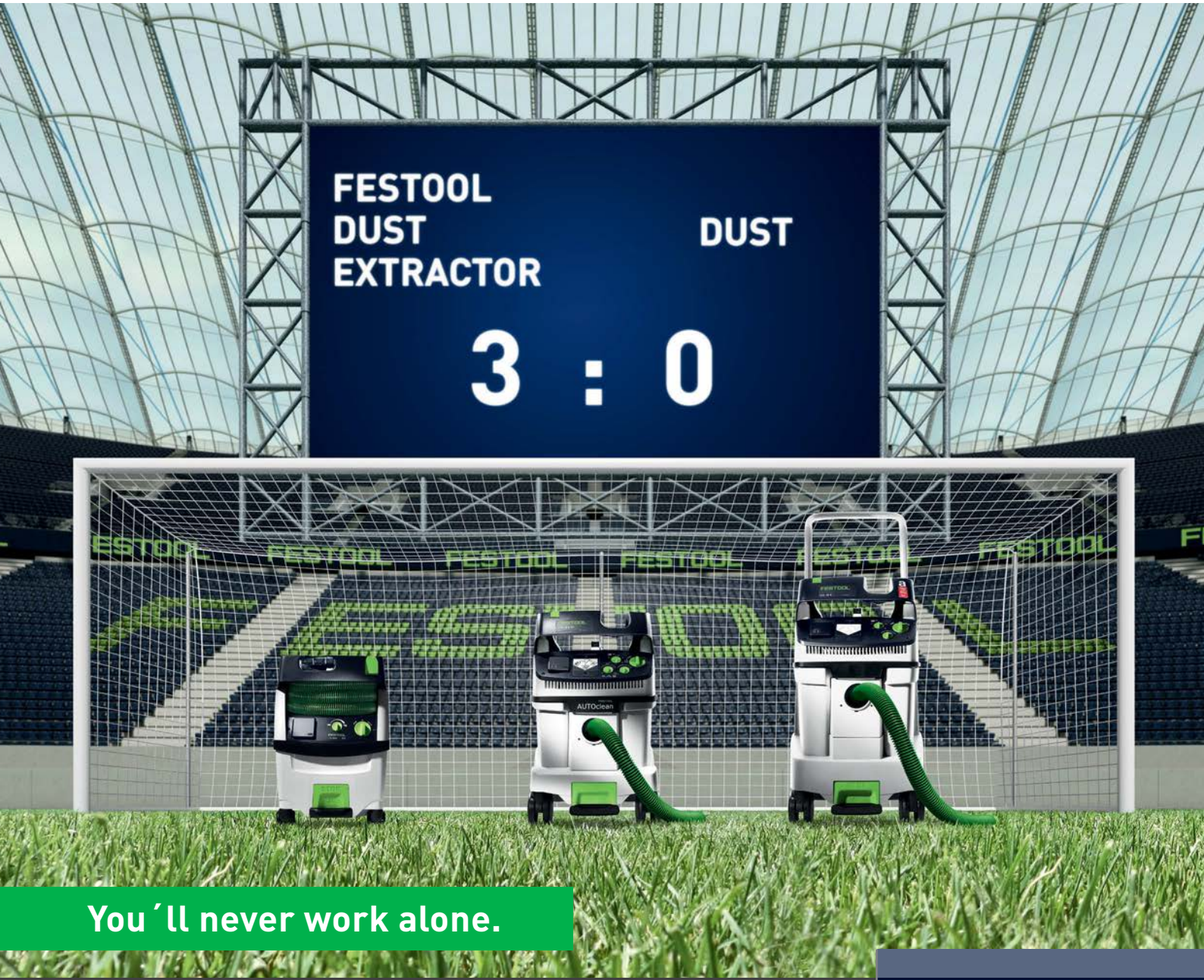


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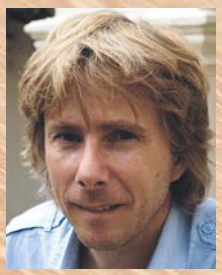

# Welcome to...

## ...prime cuts



**The Aran desk by this month's profile subject Aled Lewis**

The hardest thing to decide this month wasn't what to leave out but what to do with it afterwards. The chances are you probably think we're ankle deep in edits consigned to the cutting room floor for eternity but in fact publishing, clever publishing that is, is probably the most recycled commodity in modern use. And depending on your point of view, the craft skills like the ones featured here represent some of the best or worst offenders.

I'm always being told that in woodworking things don't really change and that it's all been done before. It's a valid point and I accept that, except that the key component missing from this statement is that a fresh pair of eyes, ears and opinions will always disseminate information differently. To see what I'm talking about go straight to page 74 and the first instalment in our new series 'Airbrush with the past'. Readers of a certain age will instantly recognise the image, which first appeared in the magazine back in August 2001, issue 55, to support a project by Gordon Fry. Back then we commissioned an airbrush artist to generate these images, usually from fairly basic drawings and a handful of real photographs. Ian Hall, the artist in question, worked wonders with scant information but his attention to detail and compassion for the subject are clear to see and it's with this in mind that I've decided to share a few of his most elaborate creations. They are undoubtedly of their time and some might even say dated but like any well-crafted piece of furniture, timeless in their appeal. Join me then if you will in a metaphorical two-fingered salute to SketchUp et al and the soulless artwork they spawn so we can continue.

In the preceding pages you couldn't get a cigarette paper between my favourite articles this month such is the calibre of our commissioned maker profile feature. Aled Lewis' career is the stuff of boy's own adventure books and is captured brilliantly by Rod Wales of Wales & Wales who, as it happens, is no stranger to *F&C* past. Rod first appeared in issue 3 of the magazine in February 1997 and penned numerous technical articles thereafter. A more rooted ambassador for the commercial designer-maker model is hard to imagine. On a similar trajectory, and make no mistake about this, is Laurent Peacock, ex Robinson House Studio student who is talking us through his most recent project for our Deconstruct on page 24. His Sika console table won him his first Guild Mark from The Furniture Makers' Company and we suspect it won't be his last. Let's just say if we published a 'one to watch list' he'd be on it more than once.

For technical brilliance and insight this month we've got Rob Porcaro closing up the gaps in the last of his three-part series about edge-to-edge joinery. Even if you have your own technique for edge joining I'd pretty much guarantee Rob will still have thought of something that will help raise your game (see page 50).

Among all this is something equally special in the form of the first printed review of the new Veritas Combination Plane by Kieran Binnie. As you may recall Kieran was at Handworks in May and got an early glimpse of this reworking of an old classic. You can find out what he has to say on page 42.

And so to our back page interview with Gary Rogowski who I first met at the V&A on his way back from delivering a lecture at École Boule a few years ago. Our meeting went something like this; we drank red wine at lunchtime in an Italian restaurant in Kensington, took in the sights courtesy of Victoria & Albert in the afternoon, then retired to a crowded boozer in Chelsea for single malt at sundown. My last memory of that day is waving him off in the direction of Sloane Square, apparently heading towards Seattle but pausing to take pictures of the manhole covers in the pavement along the way. I doubt this escapade will appear in his next book *Handmade: Creative Focus in the Age of Distraction* to be released in December this year, but if it's an indication of what did make the final cut, well you've been warned.

Derek Jones

**Derek Jones**
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Issue 262 October 2017

*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.**

## Your *F&C*



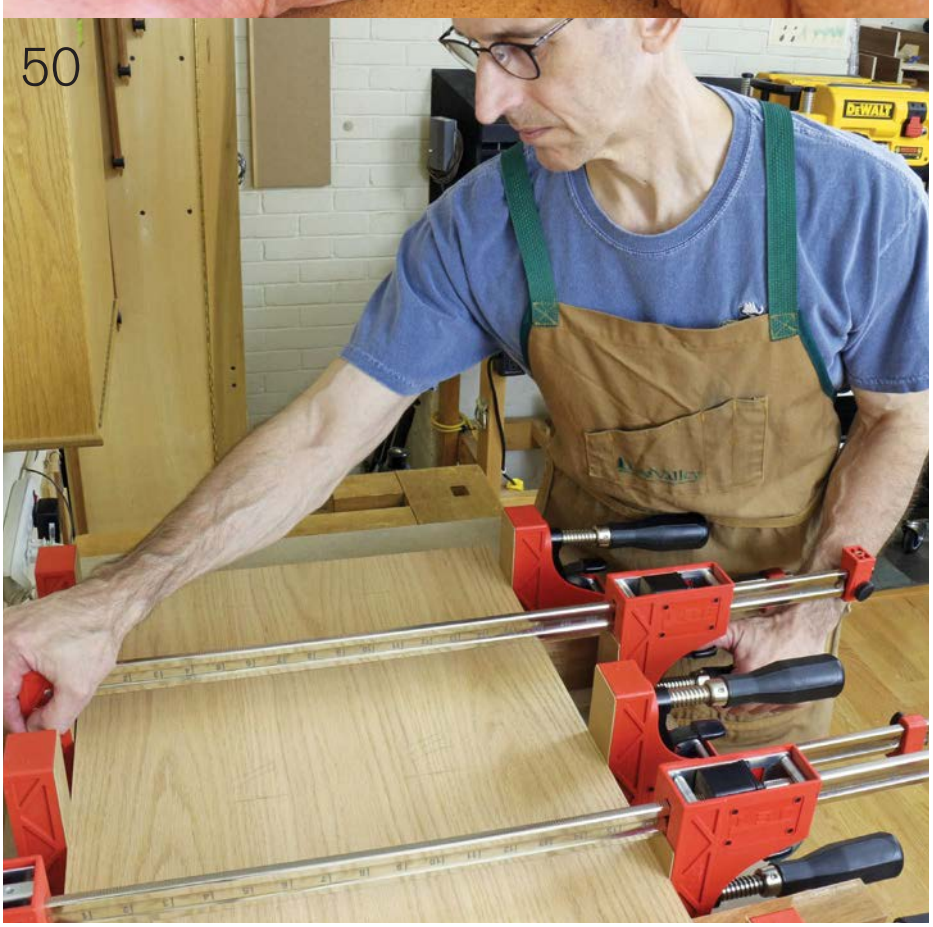
## Design & Inspiration




## Projects & Techniques








# 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 Chairmaker John Brown.
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**Mark Harrell**
After 28 years serving with the U.S. Army, Mark retired and moved to southwest Wisconsin, where he set up Bad Axe Tool Works. He strives to build the best woodworking handsaws around, made from the finest materials available. He also restores vintage tools and is trying to raise his kids in a relatively unplugged workshop.
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**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.

**Laurent Peacock**
With a background in industrial design, Laurent joined the one-year course at Marc Fish's Robinson House Studio in 2016 to learn the skills of the furniture-making trade and to be inspired to design and create. Laurent is now a self-employed furniture designer and maker, working on a mixture of bespoke private commissions and speculative pieces for exhibition.
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**Rob Porcaro**
Rob designs and builds furniture, and writes in Medfield, Massachusetts. Woodworking for more than 35 years, he continues to pursue refinements in techniques, and find the quiet joy of making things. His expertise is well known and trusted in the field as a widely read writer. Rob's work has been exhibited in premier juried artisan shows, fine galleries and numerous publications.
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**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.
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**David Waite**
David has been involved in scientific research for over 20 years prior to enrolling on a one-year designer/maker course at Waters and Acland. Over the coming months he will be writing a series of short articles for *F&C* capturing his observations and experiences to try and become a professional and setting up his own fine furniture making business.
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**Rod Wales**
Rod is a partner in Wales & Wales with his wife Alison. Examples of their work can be seen in the V&A, the Fitzwilliam Museum and the Crafts Council collections among many other public, private and corporate collections. Rod is currently a visiting tutor at the Building Crafts College in Stratford, London and is one of the judging panel of the Wood Awards.
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# Aled Lewis – the lost decade

## Rod Wales introduces the life and work of Aled Lewis

*Part the first; we set sail in Thame*

I've reached a time when pension arrangements and downsizing seem to take up a lot of the foreground. It's rare for one's mind to turn to the mid-1970s, I mean, why on earth would you if you could possibly avoid it? A dreary, culturally indeterminate time, jammed between the fast fading excitement of 60s' counterculture and the uncomfortable, liberating purgative of punk. Bell-bottoms were still worn unironically. Disco ruled, having just about seen off glam. News headlines seesawed between the Troubles in Ireland and the troubles in UK industrial relations. Summertime, and the living was queasy...

At the end of that summer of my 25th year I began a furniture course at Rycotewood College. One of the other entrants that year was a 16-year-old Aled Lewis.

Fast forward over 40 years and it is curious, and for me at least not a little moving, to see how our paths have continually crossed, and in spite of, (perhaps because of), considerably diverse working experience, we have ended up simply enjoying each other's company (we have a great capacity to yak), which is completely underpinned by the understanding and respect for what each of us has since experienced, what each of us has done, what each of us is about to do. Aled, like me, is a maker, a designer and a teacher.

The two-year course at Rycotewood was in those days geared towards making students employable in the industry, whether in a workshop or a factory, and that's exactly what Aled did. There was far less focus then towards setting up as a self-employed designer-maker; the very idea of the artist-craftsman was still, at the time, quite exotic and rare. Consequently there was a broad base of old-school technical instruction, including a strong thread of antique restoration as well as a dose of industrial product model making, delivered by a team of three or four lead instructors and occasional visiting tutors. Design considerations, while far from being ignored, were largely considered secondary to the meat and potatoes business of attaining woodworking trade competence (however that might be defined...) It is salutary to reflect on the decades of varied experience that those teachers brought us and the importance of their often contradictory tastes and preferences when it came to analysing quality. Aled still approves of this mix as a model now he himself is a course leader, setting out to suck in the experience of other instructors with sometimes hugely differing methods and attitudes, all of which eventually contributes to 'the knowledge' within the host college.

But we're getting ahead of ourselves again. By the end of the course, he was very much employable and sallied forth into the antiques trade as a restorer at the commercial sharp end. He readily admits that much of his first employment involved, shall we say, 'creative' reassembly and a degree of fakery, giving new life to Victorian breakers and re-issuing them as the Georgian pieces they always wanted themselves to be. We shall draw a veil over the ethics of that for now. However, the experience of being surrounded by old hands – old masters you might say – began to inculcate the quintessential bench virtues of speed and precision, of getting the job done and out there. Another cardinal

PHOTOGRAPH ON THIS PAGE BY CHRIS PINCHBECK

**The Aran desk in white oak**

virtue was learned, that of humility. He is unfailing in acknowledging the influence on his own development of these modest and anonymous craftsmen.

However, a young man's fancies come thick and fast and after a couple of years of this and the extremely low wages that came with it, he took the plunge as an independent and, largely working out of the back of a van, spent a year fitting out shops and restaurants and even installing sound insulation windows in the mean streets of Hounslow, hard by Heathrow. A 6am start, two houses a day... this was about as far from the romantic, artsy craftsy way of making a living from making as it was possible to get. No scented shavings or fancy pantsy detailing. What he was making though, was decent money – about 10 times more than before, and sometimes, where there's a wad, there's a way.

*Part the second, in which our hero crosses the pond, thus setting a precedent*

**Aled with his dog Kelpie**

Now, we are obviously dealing with a confident young man here, one with a bit of edge despite his courteous disposition and tender years. At 20 a serious attack of wanderlust saw Aled on a Freddie Laker DC10 to New York with a three-month visa and then, on an outstretched thumb and a prayer, through Virginia and the Carolinas down to Jackson, Mississippi. A mere 1200-mile hike. Maybe not quite the full Woody Guthrie, but not bad for a beginner!

In Jackson was an antique dealer, a contact from his first job who had invited Aled to look him up should he ever 'be in the area'. After a temporary job there for a few weeks it was suggested he introduce himself to the owners of an antique dealership in New Orleans, where there was a prospect of a more permanent position.

But first, the itchy thumb and the never-ending highway took him on a little geographical wriggle through the Midwest and then on to California. Cash strapped after time in the sunshine state, he had just enough either to get home or try New Orleans. He chose the latter; landed there at 7am, got the bus downtown, walked in and got the gig! The heat and humidity of New Orleans might have wilted the resolve of anyone, especially a woodworker, and especially one brought up in the mizzle of Mid Wales, but he was to spend the next two years on the banks of Ponchartrain, working once again as a restorer. Well, that was the day job; the nights were a whole other work in progress. A work party you might say. It's that kinda town. Also, weirdly, there was rugby. You can take the boyo out of Wales, but...

In the end, and to the mighty relief of his liver, he was unable to make his stay permanent and returned to England and a job at Design Furniture, the workshop of the fabled Archie Shine (and what a perfect moniker for a furniture manufacturer that is!) Though the new job was as one of a production team of 10, making high-end, Scandinavian-modern inspired domestic furniture, it was also to be an extension to his design education. This was largely to do with the presence of Robert Heritage, the consultant designer to the company. Aled would track the decisions that Heritage made during design development of new products, particularly in the prototyping, and the way he adjusted details after long and close deliberation, sometimes tiny incremental changes, for instance to reduce the visual weight of a rail, or to improve the shadow thrown by an overhang. Aled would watch and listen, a little overawed at times and not always understanding it all. However, he marked and he learned. He began to experience for the first time how furniture 'comes about', that it doesn't just happen by itself. That someone has to make many material, technical, aesthetic and economic decisions about any given piece at some point in the process, whether before, as is usually the case, or during the making. Significantly, the relationship with Heritage, tentative and one-sided as it was, felt like an inclusion, a modest engagement, in the process of design.

However, the job description was furniture maker, not design assistant, and the occasionally cantankerous guvnor was far from sentimental about the business of making furniture for profit. Despite appearances – he would drive to the Oxford workshop every day in his Rolls Royce – he had spent most of his life at, or very near, the bench. His first love was the exotic veneer that was a feature of much of the output, mainly Rio rosewood (*Dalbergia nigra*) and macassar ebony (*Diospyros celebica*) in those pre CITES days, which he kept more or less as his special domain, guarding the stuff like a dog with a bone. He would even squirrel away the best bundles under dust sheets, reserving them jealously for jobs as yet unknown. Aled was blessed in becoming the old man's veneer 'boy', but if he committed the cardinal sin of unearthing one of the favoured bundles for a regular job, he'd get short shrift and an earful; 'nah, nah, dat's too ****ing good!' Aled is quick to acknowledge that Shine had fantastic skill in judging the character of veneer leaves, with the ability to take the scrappiest bundle and find something like a 50mm-wide bundle that could fold out and transform into a peacock's tail.

Unusually for a workshop like this, each maker was in charge of a particular line, and made it from start to finish including all the jigs and templates. It was here that he learned to make furniture at a real pace and developed that strange workshop machismo of seeing just how fast (and well!), you could knock out a dozen cabinets or a set of chairs, assisted in this by proper grown-up industrial machines and processes.

Apart from being the principal veneer assistant, Aled was being driven hard on the making front. Despite thinking that he was already pretty quick, the boss once told him, evidently with all the delicacy of an especially unsentimental regimental sergeant major, 'Aled, you're good, *****y good, but you're the slowest man God put breath into...' Such exchanges, if they can be called that, seem not to have affected morale as Aled recalls it still as a great place to work, and the foundation of his later commercial practice.

Despite being very happy there, the travel bug bit yet again, resulting in a perhaps impetuous decision to leave Oxford for a job in South Africa – still at the time in the last throes of its apartheid agony. Nor could this job in any sense whatsoever be described as living the woodworking dream. The work was dull and often crude, making fitments for caravans and mobile homes to be precise. Techniques were primitive. I think 'character building' might genuinely be the best that could be said of it. At 24 he was put in charge of a team of whites and Indians (those with the permanent jobs) and hiring blacks by the day. A black foreman, Sunrise, became his right-hand man and sometime teacher and mentor, sometimes utilising entertainingly low-tech methods. He had a novel way of using a router template/bearing cutter set-up, in those days before portable plunge routers. Simply nailing the template to a board and starting up the router with the cutter already protruding and then slamming the whole thing down and through the board then round the template. He must have had strong arms, not to mention smoking motors! Note: don't try this at home (or anywhere else!) His 'press' for laminating boards together consisted of two sets of platens made of 4x4s between chipboard sheets. The glue-up was then placed between them and his pickup driven onto and parked on the pile. Necessity is the mother of invention, if not necessarily of delicacy. This has its funny side for us of course, but in this situation, there were often no other options to make the products.

Sunrise guided him through it all until he was tragically killed in the turmoil preceding the end of white rule. A year of this might have been enough for anyone, and so it was for Aled who shook the dust of Durban from his feet and travelled through Africa. That free spirit blew once more, and having never sailed in his life, he answered an ad to crew a yacht for a trip into the Indian Ocean. I'm not sure who exactly took whom on, but he got on the boat. Leaving in a gale, he was sick for 24 hours – a short enough apprenticeship in seafaring? Thereafter he was fine for what turned out to be the next six months, during which he learned how to sail and to navigate by the stars. Finally, for personal reasons he needed to return to England and yet another job search.

*Part the third; an unusually long stint in Blighty*

After making some pieces for Nick Dyson as a sub-contractor, he joined the business, which was, as with many nascent furniture enterprises, initially dependent on domestic commissions from family friends and relations. Within a year, they had two more employees – Rycotewood graduates, and this was effectively Aled's first experience of teaching – helping the young makers grow into becoming fully useful and responsible in the workshop.

This was the mid-1980s and our paths began to cross once more, meeting most commonly at that mainstay of furniture marketing, the trade fair. From smaller, craft-based exhibitions like the Chelsea Craft Fair and the Direct Design Show and later, playing with the contract furniture big boys at Earl's Court and Spectrum, we would regularly bump into one another pitching for a slice of the action. The action at that time and place typically being bespoke corporate or institutional furniture; reception areas, boardrooms and meeting rooms – the most visible and highly invested areas of the office environment.

In the Dyson workshop, there was a distinct division of labour with Aled essentially becoming the production manager while Dyson stayed in the office. The business continued to grow; in reputation as well as capacity and eventually it had to physically expand to meet demand and, perhaps more significantly, its own perceived expectations. It became a conveyer belt of large commercial projects, culminating in the mid-90s with a move to a 4500 square foot workshop and plans to crank up production even higher. Well, turnover certainly did increase. Profits on the other hand were harder to come by, alongside which there were cash flow issues enough to drive anyone to despair. At the same time, not only was production within the workshop having to be taken care of, but the whole gamut of client meeting, design, site visits, installs – the whole nine yards were laid at his door. Relations with Dyson became increasingly fractious and eventually, not being able to face spearheading another large project, the line between them broke.

In the words of the song: The line broke, the monkey got choked, and they all went to heaven in a little rowboat...clap, clap. Well, would that life was always so simple. While Aled may not have ascended on high, downsizing to become once more an independent and indeed solitary designer-maker, proved to be a liberation. He is not sentimental about this freedom however. First of all, the 'liberation' was to a hard seven-day week, and one where he found he desperately missed the camaraderie of the larger workshop. It's not so strange after all when, having spent years making things with other people, it's hard suddenly having to do everything yourself. Not to mention the greater economic uncertainty that's an almost inevitable consequence of being your own man.

Possibly the most difficult, but also most interesting problem facing any new designer-maker after setting up shop is how to be distinct from the competition and develop a recognisable design identity. While any designer worth their salt has to consider this, it is certain that Aled was thinking this way for years before having to actually depend solely on those ideas for his living. For many makers the love of material and a desire to express technical sophistication can be sufficient by themselves, and while these qualities are very evident in the later, post Dyson furniture, they are just the foundation, not the entirety of the work.

Though this was a good few years ago now, for the purposes of this article we can perhaps begin to use the present tense round about here. We are less concerned with the retrospective, and now into the current work.

I am wary of summarising the body of work too neatly, partly because as Aled says, practical as ever, reality needs to shape the mission statement. However, there are features that distinguish the work. They don't amount to a radical shift of vision or a relinquishing of previously held values so much as the inevitable effect of years and years of small decisions that have gradually accrued and settled, or more accurately, been refined into an ethos.

Over time there has been a gradual, but consistent quietening of aesthetic and technical effect and an increasing reliance on a confident subtlety at the expense of showy or overly assertive process. The standout pieces for me are those that are almost instantly readable at first glance, but which then take you deeper in as you realise the refinement and the level of detail, sometimes almost quirky and semi-hidden. The most interesting designs are perhaps those that have least weight, visually and literally; that are sharp and sensual at the same time, and which are materially and graphically clear. A mastery of technique is very evident, even to the uninitiated, but the best work is simply not anxious, it doesn't need to prove anything; it is comfortable – like the man, in its own skin.

This is to some extent attributable to the change in clientele, which is more often domestic rather than corporate now, and partly having simply had enough of certain processes. For instance, after laying thousands of square metres of veneer over the years, he is overjoyed to decline the pleasures of another bookmatched panel, thank you very much. Nothing too deeply philosophical about that, but it indicates another important driver of the work – that after many years in another man's saddle, he now wants to ride his own horse his own way.

PHOTOGRAPH BY MARK JULIANA

**The Dyfi bench**

*Part the last (for the time being): land of our fathers and becoming a Maine man*

No matter the existential satisfaction of being his own man, Aled, like every designer-maker I have ever known, felt caught in the headlights once he was out on his own and having to fend for himself. Self-determination takes considerable, well, determination, commitment, nerve; call it what you will. Whatever your past experience, portfolio or contacts, you still have to land the jobs and get them done, meanwhile juggling the myriad delights of running a small business from supply to accounts.

The stresses of this situation were to some extent displaced (and just possibly financially aggravated), by the purchase and personal renovation of a 200-year-old house in Mid Wales, where he continues to live when, as will become clear, he is in the country at all.

Once more our paths strangely intertwined. By 2004 I had been teaching occasional short courses at the Center for Furniture Craftsmanship in Maine, USA (I even wrote about it for this magazine) and, at roughly the same time Aled began teaching on the nine-month course there, co-tutoring specialist six-week segments within that programme.

A few years later and he was invited to become the lead instructor for the nine-month course, taking over from David Upfill-Brown. With characteristic modesty (he was stunned to be asked), and despite all the years of experience, he finds the process of teaching (after getting over the initial terror), still to be a revelation. Having walked the walk, however imperfectly, we can, however imperfectly, talk the talk. This is very far from implying that he will always know the answer, still less that he will always know best. Teaching at its best is humbling.

It also has the enormous advantage – especially after the isolation of being a one man band, of being socially and intellectually rich and energising. It is for him very much a process of collaboration too, never one of lofty authority handing down tablets of stone. It is not always sweetness and light either; students can take you to some technically difficult and challenging places at times and compromises are viewed as unwelcome distractions. The horse can be led to water, but not always made to drink. C'est la vie. At such times his typical response is to embrace the situation, turn it into a mutual learning opportunity with good grace and a dose of humour. I think I need to learn from that. Maybe we all should.

Experience, finesse and humility. From Thame to Maine, Aled's journey goes on. F&C

**Contact**

To see more of Aled's work, visit: aledlewisfurniture.com
For more information about the Center For Furniture Craftsmanship, see: www.woodschool.org

PHOTOGRAPH BY MARK JULIANA

**Idris Wen hall stand in bleached ash and bloodwood**

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# News&Events

**Contribute to these pages by telling us about matters of interest to furniture makers. Call Derek Jones on 01273 402 843 or email derekj@thegmcgroup.com**

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

# V&A and MADE.COM team up to celebrate plywood

Lifestyle design brand MADE.COM and the Victoria and Albert Museum have launched a collection of accessories inspired by the V&A's exhibition Plywood: Material of the Modern World.

The collection, which comprises pen pots, photo frames, a clock, coat hanger, mirror and memo board, is all made from ash plywood and is designed to highlight the versatility of the material. The V&A collection will be sold both online at MADE.COM, and in store at the V&A Shop. It marks a milestone for the brand as it is the first time MADE.COM has sold its products offline.

The V&A's exhibition explores how plywood, an often overlooked material, has played a key role in shaping the modern world and has revolutionised design over the past 150 years. It features groundbreaking pieces by Alvar Aalto, Marcel Breuer and Charles and Ray Eames, alongside an incredible range of objects including furniture, architecture, cars, aeroplanes, skateboards and more.

The exhibition is free to enter and runs until 12 November, 2017.

Contact: V&A & MADE.COM
Web: www.vam.ac.uk & www.made.com

PHOTOGRAPH © VICTORIA AND ALBERT MUSEUM, LONDON

**Moulded plywood chair designed by Grete Jalk in 1963**

PHOTOGRAPH © VICTORIA AND ALBERT MUSEUM, LONDON

**The exhibition features a huge range of plywood objects**

PHOTOGRAPH COURTESY OF MADE.COM

**MADE.COM collaborated with the V&A Shop on accessories made from ash plywood**

# Young furniture professionals visit Axminster

Four young furniture professionals recently attended an industry experience day at Axminster Tools & Machinery. This formed part of a three-week programme put together by The Furniture Makers' Company, with the aim of giving the young professionals an insight into all aspects of the furniture industry including design, manufacture and retailing.

The four young professionals were Ben Brook (customer service advisor at CD (UK)), Sean Duffin (production manager at Andrew Muirhead & Sons), Lisa Gould Sandall (furniture designer at Ercol) and Sam Ryan (business owner and entrepreneur at Sam Ryan Furniture). The group had already visited other companies including Halstock, DFS, Parker Knoll and Silent Night.

Their day at Axminster focused around how the company buys, markets and sells Lamello. They also had a tour of the premises and spent time with procurement, marketing and in the retail store. The purpose was to give them an understanding of the retail process, from buying and marketing to the sale of a product.

During 2017/18 Axminster will be sponsoring the National Design & Make Competition. The competition is organised by The Furniture Makers' Company for young furniture makers. It is open to those who are over 18 and in full or part-time education. The design brief will ask students to design a piece of innovative, pioneering wood-based furniture. The first placed winner will be awarded a £1000 Axminster gift card and one week's work placement at Axminster. All winners will be announced at an event at The Goldsmiths' Centre in May 2018.

Axminster will also be sponsoring the Young Furniture Makers Exhibition taking place on Tuesday 10 October 2017 (see page 18 for more details).

PHOTOGRAPH COURTESY OF AXMINSTER

**Axminster hosted the group of young furniture professionals**

Contact: Axminster Tools & Machinery
Web: www.axminster.co.uk

## Rob Sollom wins Mixology Student Designer of the Year award

Chichester College student Rob Sollom has won the Mixology17 Student Designer of the Year award, sponsored by KI Europe's KICKSTART programme in association with The Furniture Makers' Company, for his innovative and sleek design of the Easy Chair.

The award is open to any person enrolled on a recognised furniture design course in the UK.

The Easy Chair was influenced by a love of draftsmanship, geometry and architecture, Rob wanted to create a modernised take on a Gothic style, which he tried to achieve with the black lattice and the inclusion of the brass inlay. Functionally, the wide arms allow space for a coffee cup or a glass of wine.

Other winners at the awards included Rooms by Connection, which won Best Product – Furniture. Rooms is a set of flexible reconfigurable furniture, designed to create informal & formal workspace solutions. The Mixology Awards North take place in Manchester on 7 December, 2017.

Contact: The Furniture Makers' Company & Mixology
Web: www.furnituremakers.org.uk & www.mixology-awards.com

PHOTOGRAPH COURTESY OF THE FURNITURE MAKERS' COMPANY

**LEFT: Rob Sollom receiving his award from Jonathan Hindle of KI**
**BELOW: The Rooms project by Connection won the best furniture product award**

PHOTOGRAPH COURTESY OF CONNECTION

## BFC to kick-start review on furniture flammability regulations

The British Furniture Confederation (BFC) is hoping to kick-start the stalled review of Britain's flammability regulations with a proposal it believes offers the industry an optimal solution. In an effort to get the government's review process back on track, the BFC has put forward its own document proposing updates to the Furniture & Furnishings (Fire) (Safety) Regulations 1988, as amended (FFFSR). These are based on industry-wide consultations.

In a letter to the Minister in charge of consumer affairs, Jonathan Hindle, chairman of the BFC said: 'In our view the current BEIS proposals would fail to deliver the stated aims of maintaining current safety levels while at the same time minimising the use of fire retardant chemicals on cover fabrics. We want a set of regulations that protect consumers from fire, health and environmental issues and after widespread consultation across the industry believe our proposal will be accepted by most stakeholders as the optimal solution for making progress on a review process that seems to have stalled.'

The BFC has long campaigned for a full revision of the 1988 regulations to reflect modern materials and manufacturing processes and iron out unclear elements in the legislation. Full details of the proposal can be read on the BFC's website.

Contact: British Furniture Confederation
Web: britishfurnitureconfederation.org.uk

# Events

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

EVENT OF THE MONTH

## The Build Show

Taking place as part of UK Construction Week, the Build Show will feature more than 400 exhibitors showcasing their latest products. Visitors will be able to choose from a mix of seminars, demonstrations, debates and discussions. The event is free to attend.

When: 10–12 October, 2017
Where: The NEC, Birmingham B40 1NT
Web: www.ukconstructionweek.com/build-show


PHOTOGRAPH COURTESY OF THE BUILD SHOW

**The Build Show offers the perfect opportunity for suppliers and contractors to connect**

## Young Furniture Makers Exhibition

The Furniture Makers' Company are relaunching this annual show with treble the number of exhibitors spread over three floors and across two buildings. Around 80 of the finest young furniture designers and makers will be exhibiting their work at the event, which is sponsored by Axminster Tools & Machinery. For more details and to register your interest, visit The Furniture Makers' website.
When: 10 October, 2017
Web: www.furnituremakers.org.uk

## Handmade at Kew

This four-day craft event offers the opportunity to meet and buy directly from over 200 extraordinary designer-makers working across all disciplines. Tickets to the event include entry to both the show and Kew Gardens.
When: 12–15 October 2017
Where: Botanic Gardens, Kew, Richmond, Surrey TW9 3AE
Web: www.handmadeinbritain.co.uk/shows/kew/about/

## Midcentury East

Midcentury East returns to the Erno Goldfinger School in Haggerston where over 55 top midcentury dealers will be selling their wares including furniture, ceramics, glass, wallpaper, vintage fabrics, original artwork, clocks, collectable posters, stunning jewellery and much more. If Eames, Jacobsen, Nelson, Bertoia, Wegner, Charley Harper and the Days inspire you then it is definitely the place to be.

When: 15 October, 2017
Where: Haggerston School, Weymouth Terrace, London E2 8LS
Web: modernshows.com

## Handmade Edinburgh

Following the success of Handmade in Britain's first year in Scotland, Handmade Edinburgh will be returning to the Royal Mile this October. This premiere contemporary craft and design event is a fabulous opportunity to shop for gorgeous textiles, jewellery, ceramics, woodwork and more from a handpicked selection of designer-makers from Scotland and beyond.

When: 27–29 October
Where: The Hub, Castlehill, Edinburgh EH1 2NE
Web: www.handmadeinbritain.co.uk/shows/edinburgh/about/

PHOTOGRAPH COURTESY OF MODERN SHOWS

**Original Cherner chair, an example of the quality of design on offer at Midcentury East**

PHOTOGRAPH COURTESY OF HANDMADE IN BRITAIN

**Woodworkers such as Richard Shock will be exhibiting at Handmade Edinburgh**

## Courses at Robinson House Studio

Dovetails: 7–8 October
French Polishing with Derek Jones, *F&C* Editor: 21–22 October
Wood finishing: 28–29 October
Carbon fibre and modern composites: 30 September–1 October


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# Social media dashboard

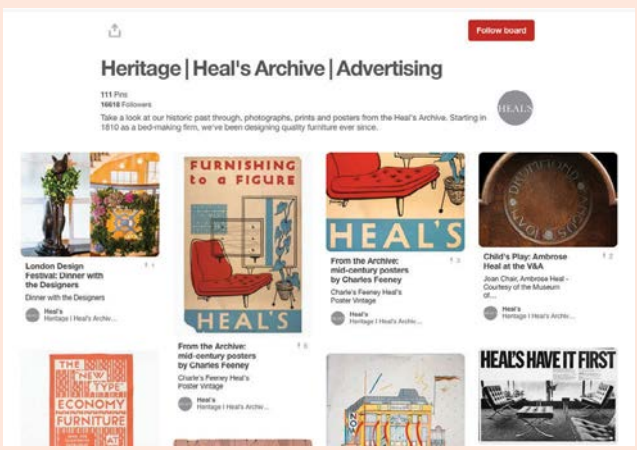
## Bringing you a round-up of the best from the online world plus a selection of the latest projects from our readers

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'll also feature 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

### Pinterest: Heal's

The iconic British design brand Heal's has numerous Pinterest boards that are worthy of attention. Subjects covered include advertising from the company's archive, design classics, colour trends and seasonal inspirations. There are even recipes for cocktails and desserts!

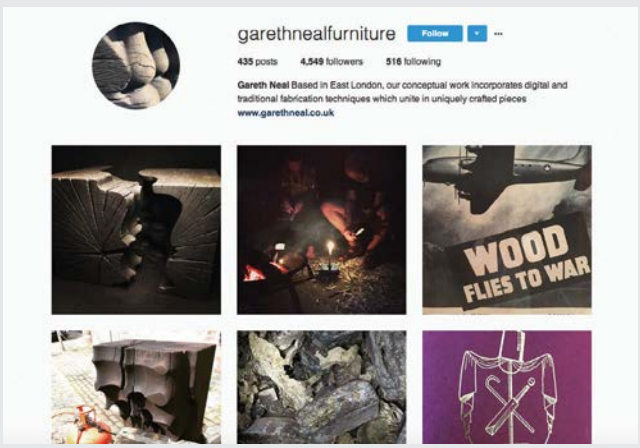
**Address: www.pinterest.co.uk/heals_furniture**




### Instagram: Gareth Neal

Gareth Neal's Instagram page showcases his striking, innovative work. Construction photos offer a glimpse behind the scenes at Gareth's East London studio and highlight the combination of modern and traditional techniques he uses. You can also see the many events and shows where Gareth exhibits.

**Address: garethnealfurniture**




### Facebook: Center for Furniture Craftsmanship

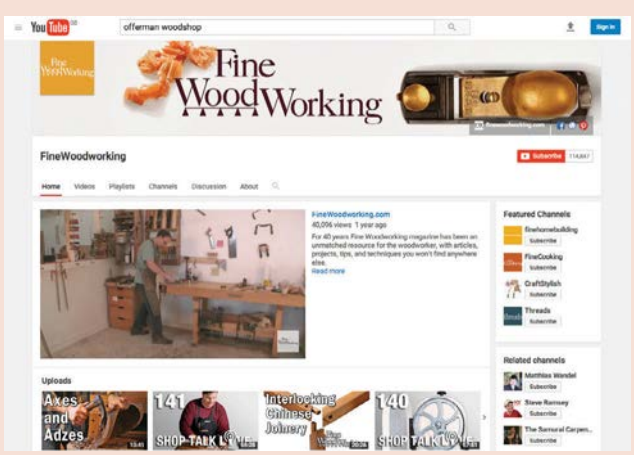
If reading our profile of Aled Lewis on page 10 has piqued your interest in the Center for Furniture Craftsmanship, then the school's Facebook page is a great source of information. There are regular updates on courses and events with plenty of photos and videos of students' work.

**Address: www.facebook.com/CenterforFurnitureCraftsmanship**


### YouTube: Fine Woodworking

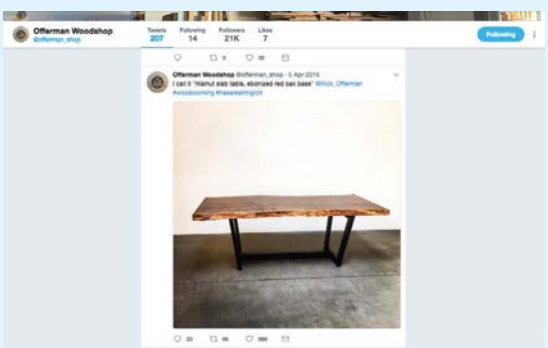
The YouTube channel of American magazine *Fine Woodworking* is a fantastic resource for woodworkers of all levels. Playlists include videos on Hand Tools, Furniture Construction, Power Tools, Woodturning, Joinery and Getting Started. The Masters of the Craft series is well worth a look with its short profiles on the likes of James Krenov.

**Address: www.youtube.com/user/FineWoodworking**



## Twitter: Offerman Wood Shop

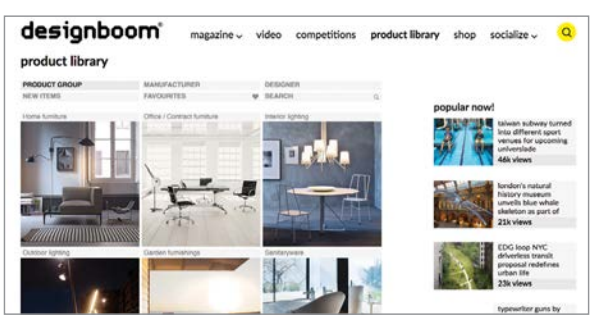

This LA-based collective of woodworkers was established by actor Nick Offerman. The Offerman team specialise in hand-crafted, traditional joinery using sustainable materials. As you'd expect from a wood shop founded by a sitcom actor, there's plenty of humour alongside the wood shavings.
**Address: @offerman_shop**





## Blog: designboom

designboom is an online magazine dedicated to the latest developments in architecture and design. The Magazine section covers news and events in the creative industry along with interviews, while the Product Library provides a useful archive of furniture, fabrics, finishes and building materials. The designboom shop features unusual, design-led products – a great place to browse when you're struggling for gift ideas.
**Address: www.designboom.com**




# 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**

## Bespoke doggie footstools

A recent graduate from the Chippendale International School of Furniture has come up with the ideal gift for dog lovers: a bespoke doggie footstool. Fergus Hart can design and make your very own doggie footstool from a carefully shaped MDF core, covered over by specially chosen English sheepskin.

But more than that – Fergus can also hand-craft your very own personalised and bespoke footstool from pictures of your (real) dog. 'I grew up with dogs and currently have a Labradoodle and a Collie,' says Fergus. 'But I've always wanted a Miniature Newfoundland, so I decided to make one as part of my course work'.

Fergus believes that he's filling a gap in the dog-lovers' market, because he can hand-build any breed of dog from good photography – and he already has four orders.

He is now setting up Fergus Hart Furniture from incubation space at the furniture school, where he's hoping to breed a new generation of dog that doesn't bark, need walkies or mind being treated like…well, a footstool.
**For more information, visit: www.facebook.com/Fergus-Hart-Bespoke-Furniture-418341108567272/ & www.chippendaleschool.com**

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The GYROAIR dust processor revolutionised the traditional principles of dust collecting. It was designed with Axial Centrifugation Technology (or called Gyro Air Technology) which is totally different from any existing dust collectors.

The Gyro Air Technology makes flowing dust stream suddenly spin at high speed (over 4,000rpm), this generates a very strong centrifugal force on dust particles (over 70g). The particles are pushed away from air flow center by the centrifugal force and then dropped into dust tanks. The clean air remains in the flow and go forward to the final air filters. The process can successfully separate 99.7% dust particles by from air, which greatly reduce the pressure of the filters.

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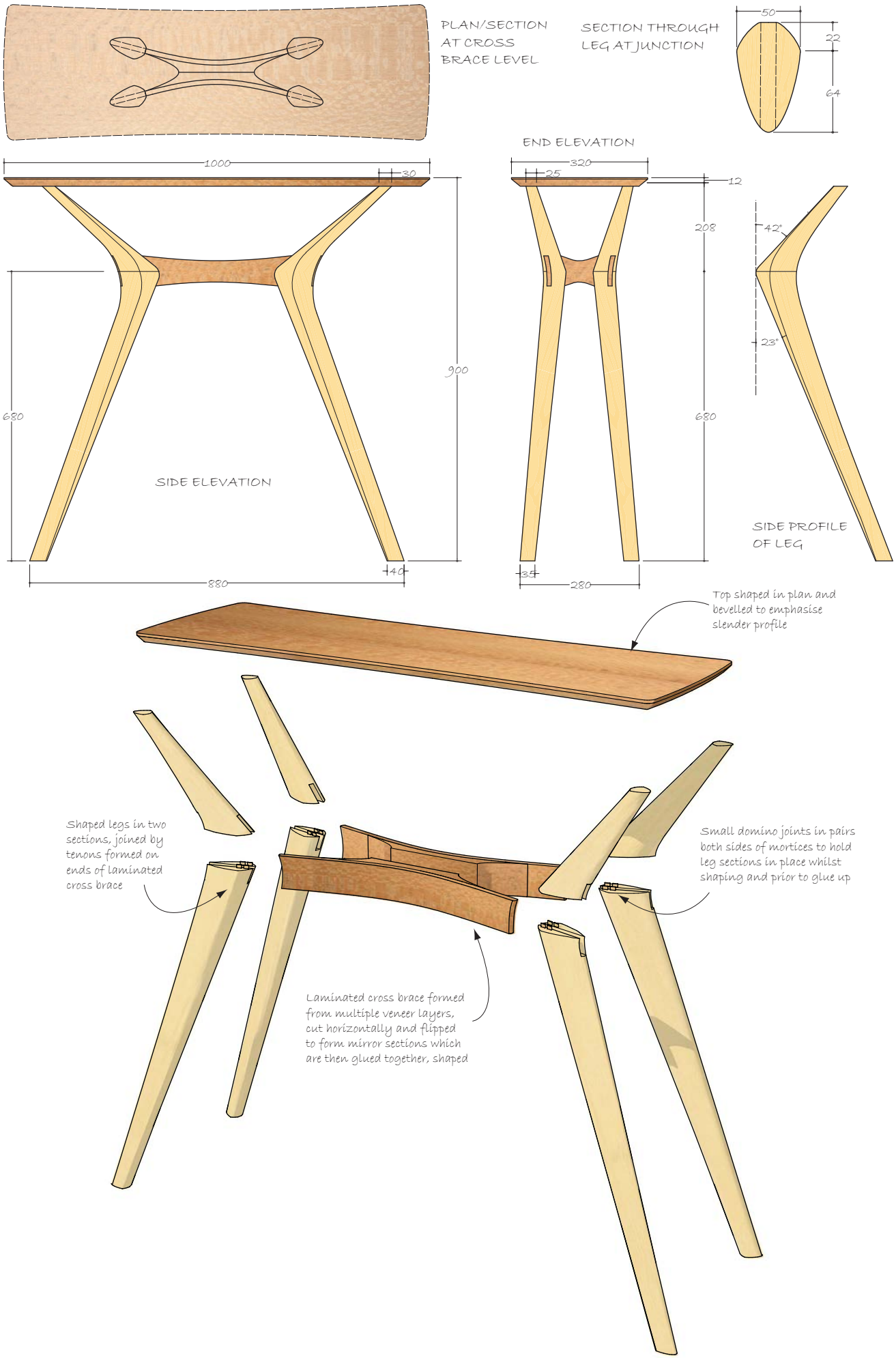
# Deconstructing the Sika console table

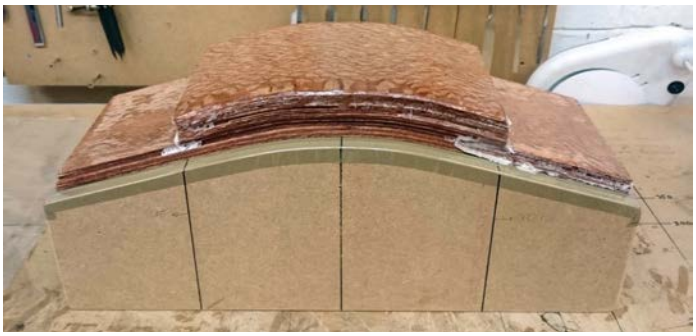
**Laurent Peacock outlines the techniques used in the joinery of his Guild Mark-awarded Sika console table**

PHOTOGRAPH ON THIS PAGE COURTESY OF SIMON ELDON. OTHER PHOTOGRAPHS BY LAURENT PEACOCK

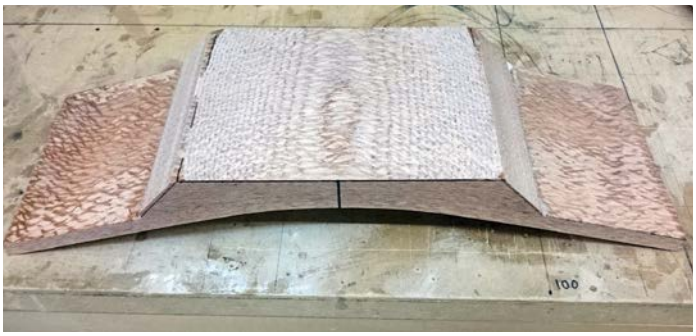
When designers seek inspiration for new work, the old edict 'form follows function' is often a solid starting point. However, when I began developing ideas for a speculative console table design, the relative absence of a specific function to design around prompted me to look further for inspiration. I'm certainly neither the first nor the last designer to be intrigued by the natural world, but as design stimulus I find it far more useful than looking at other man-made objects. I wanted my design to be primarily a study in form, and also to be imbued with a sense of character or personality. I guess in some way it was inevitable then, in developing a design for a tall, skinny, leggy table informed by nature, that an animal-like feel would emerge. The resulting design has the poise of a baby deer, reinforced through the choice of materials: delicate, pale rippled sycamore (*Acer pseudoplatanus*) for the legs and the richer, heavily figured grain of silky oak (*Grevillea robusta*) veneers for the body. The main challenge was to find a way to harmoniously combine the curved forms of these different design elements while doing justice to the materials.


PLAN/SECTION AT CROSS BRACE LEVEL
SECTION THROUGH LEG AT JUNCTION
50
22
64
END ELEVATION
1000
30
320
25
12
208
42°
23°
900
680
680
SIDE ELEVATION
SIDE PROFILE OF LEG
40
880
35
280
Top shaped in plan and bevelled to emphasise slender profile
Shaped legs in two sections, joined by tenons formed on ends of laminated cross brace
Small domino joints in pairs both sides of mortices to hold leg sections in place whilst shaping and prior to glue up
Laminated cross brace formed from multiple veneer layers, cut horizontally and flipped to form mirror sections which are then glued together, shaped

# Laminating the cross-brace



Two stacks of veneer were laminated over a former to create the curved cross-brace



Creating a perfectly flat area at the crown of the laminated piece was essential to ensure a clean joint

The laminated piece was split in half lengthways and bookmatched to form the 'x' shape of the cross-brace

The silky oak I had chosen was only available as knife-cut veneer, however, I wanted to create a solid, sculptural cross-brace to provide structural support for the legs. To achieve this, I stacked and laminated around 60 layers of veneer over a curved former using epoxy resin and a vacuum bag. To speed up the layer shaping process and minimise material wastage, the lamination was a two-stage process. The first glue-up comprised around 25 layers along the full length of the former, with the thicker second stack of 35 layers just covering the central section.

Once released from the former, the sides of the lamination were flattened off and squared up by a couple of runs over the planer, to provide reliable references for marking out. The crown of the curve was bandsawn off, prior to being slowly and carefully flattened with a hand plane. It was crucial to get this surface totally flat so as to avoid an unsightly glue line at the next stage. The ends of the crown stack of veneers were also planed flat and symmetrical.

Ensuring the tenon sections of the cross-brace were flat and parallel was key to getting clean join lines

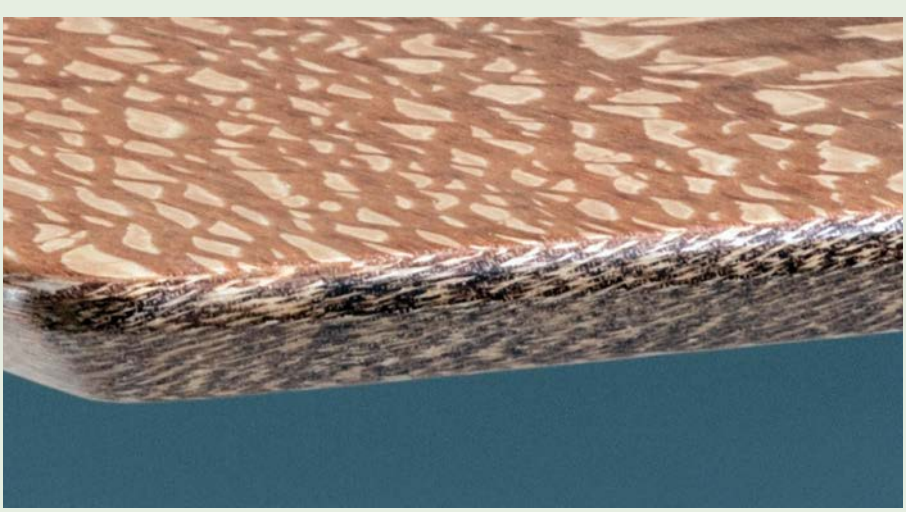
The part was next bandsawn in half along its length, and the two resulting halves rotated to meet flush along the newly flattened surfaces. Prior to gluing the two halves together, the one remaining critical step was to ensure that the ends of each half, which would later become through-tenons in the leg joints, were perfectly flat and parallel. This involved painstaking work with block plane, hard sanding block and straightedge.

The curves of the cross-brace were hand-shaped with a spokeshave, rasps, files and sanding blocks

Once test-fitted within each of the leg joint mortises (more on those later) the tenons were taped up for protection, not to be touched again. The two halves were glued together, again with epoxy, and the remainder of the work on the cross-brace involved hand shaping with rasps, files and sanding blocks.

## Choice of joint

From a structural point of view, it was by no means necessary for me to use a through-tenon joint, particularly of this size. However, having experimented with the silky oak veneer in the early stages of the build, I'd discovered the rather lovely end grain pattern that emerges when layers of the veneer are laminated together. I felt it would be a real shame for this feature to be concealed in the final construction so I chose to project the tenons right through to the front of the leg joints. This was, admittedly, a risk, as any imprecision here would have been plain to see, but the methodical approach to creating the joints helped ensure these were up to scratch.



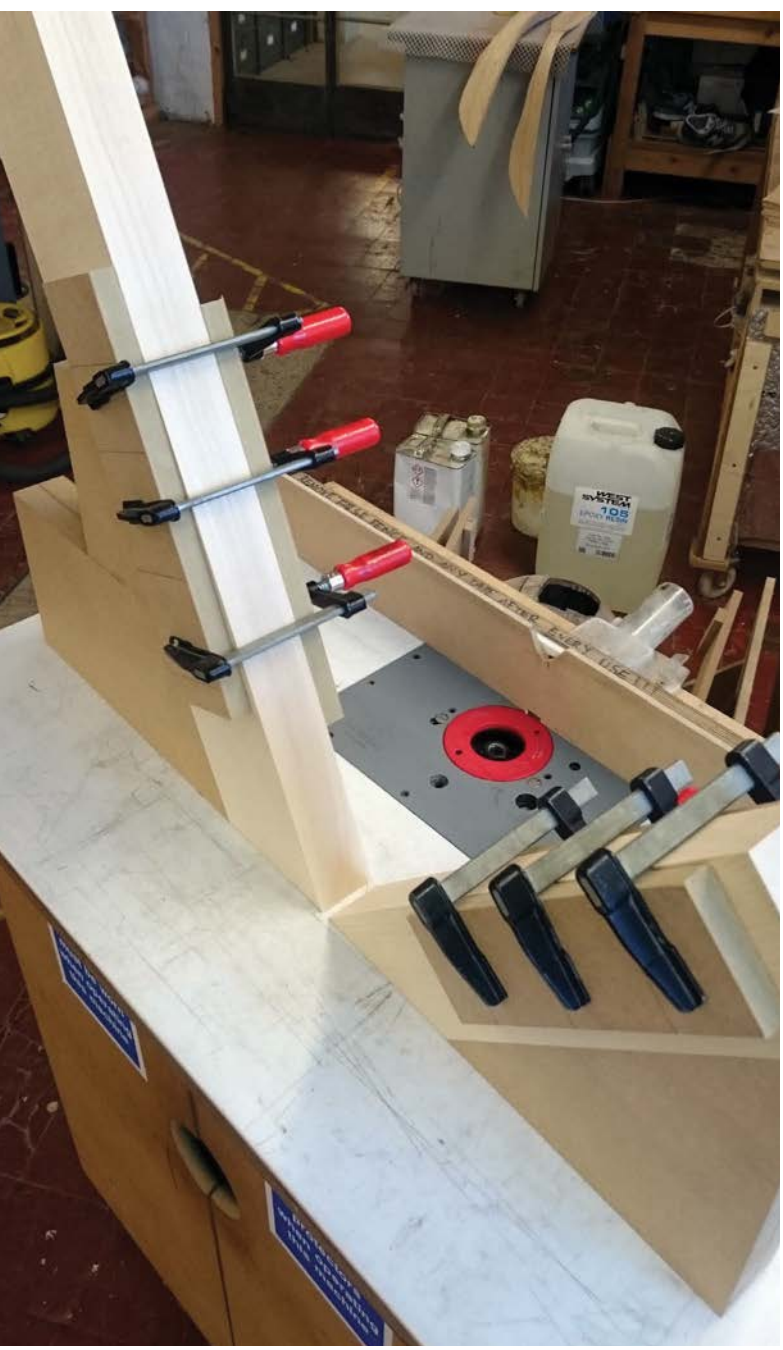
The end-grain pattern of the laminated veneers inspired me to project the tenons through to the front of the joints

## Angled leg joinery

The first challenge to address with the legs was that of creating the angled joint. In order for the final joint line to be horizontal, this involved cutting mitres at two different angles; a straightforward enough job with the duplex on the tablesaw. The more challenging element was the cutting of the mortises to receive the through-tenons of the cross-brace. I decided that attempting to cut the through-mortises after the angled joint had been created would be unlikely to yield the high level of precision necessary, given the width and length of the tenons. Any gap or inaccuracy would be painfully evident in the final joint, with very little room for correction. So instead I cut the mortises in two halves before the stock was jointed. This allowed me to use a square-ended cutter on the router table. I created two different angled jigs to support the two leg components as they travelled over the cutter. Only routing to a 3mm depth on each pass required more than 90 passes over the router for the eight components, with pieces being clamped and unclamped each time. So, it was not a speedy process, but it resulted in mortise slots that were parallel, consistent in both width and depth and with perfectly square bottoms.

The wide tenons of the brace would ultimately provide a great deal of strength to the joints once assembled, but this assembly would only take place at the very end of the process, so I was concerned that during the shaping stage the end-grain leg joint would be weaker and more vulnerable. I therefore incorporated small Dominoes within the joint, in locations that I knew I would not expose through the shaping process.

To achieve a clean, unobtrusive glue line in the pale sycamore of the final joint, I needed to be able to apply sufficient clamping pressure. When joints come together at unconventional angles this can sometimes be tricky. Knowing that the legs were going to be shaped later on in the process anyway, I glued the offcuts from the earlier mitre cuts directly onto the timber to use as clamping blocks. These were later flushed off without trace. I also cut sacrificial dummy tenons that could be used for alignment during glue-up as well as providing an extra degree of mechanical reinforcement during shaping. These dummy tenons were very carefully dimensioned and waxed before insertion, so as to ensure they could be slid in and out once the joint had been formed around them.



**Two different angled jigs were used for routing the mortise slots prior to gluing the angled leg joints together**

**The router approach created clean, parallel and square-bottomed slots**

**Small Dominoes were used to bolster the end grain joint**

**Offcuts from the earlier mitres were glued on to provide clamping locations for glue-up. Sacrificial dummy tenons were also used for alignment and mechanical support**

## Shaping the legs

Given the nature of my leg design, with tapers on all sides combined with compound curves, I knew that the majority of the shaping would need to be done by hand. I was, however, able to rout the internal curve first of all, while the other sides were still square and parallel. I used a toggle clamp MDF template jig and a bearing-guided cutter to replicate the desired curve across all four legs. The dummy tenons were to remain in place throughout the shaping process, both for joint strength and also to limit the risk of breakout or tool damage to the corners of the mortise slots.

Knowing that the work would largely be done by hand, my key concern while shaping the legs was that of ensuring consistency across all four. I decided early on to break the process down into a series of small steps, each of which would be carried out on all four legs before moving onto the next. This meant that I was able to make effective use of reference marks and guide lines at each step.

Both the top and bottom ends of each leg were tapered on both sides, prior to further angles being marked out. Wherever possible for the flat facets in the design I used a block plane, which provided a great degree of control over angles and yielded crisp edges and a smooth surface. This was particularly helpful for the multi-faceted areas around the backs of the joints. The main sweeping inner curve of the leg was formed initially from a number of spokeshaved flat facets, which were later blended together into the continual smooth curve of the final form.

With both the brace and leg shaping finished, the tenons were glued in place with UF glue, to allow for a degree of fine-tuning while fitting. The ends of the tenons were carefully flushed off and blended in with the curves of the legs.

**A template jig was used to rout the internal curves on the legs**

**The dummy tenons remained in place throughout the shaping process to provide structural support and minimise risk of damage to the mortise edges**

**Areas to be shaped were marked out step-by-step, with each step being completed on each leg before moving on**

**Angles upon angles made the shaping process fiddly, but a methodical approach to marking out helped greatly**

Using a block plane wherever possible allowed for close control over the facets and edges being shaped

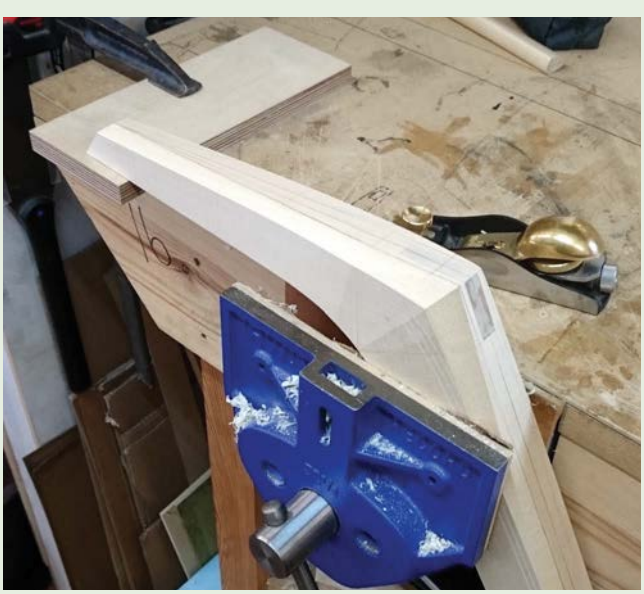
The smooth curve of the inside of the leg was initially formed of several flat facets, later blended together

The smoothed-out form of the finished joint

The tenon ends were blended in with the legs

## Clamping awkward-shaped parts in the vice

While shaping, my bench vice wasn't too successful on its own at preventing the leg from rotating. I found that clamping a simple board horizontally to the top of my bench and using that as extra support provided all of the stability I needed. F&C



Extra support for the odd-shaped workpiece helped a great deal in keeping it stable while shaping

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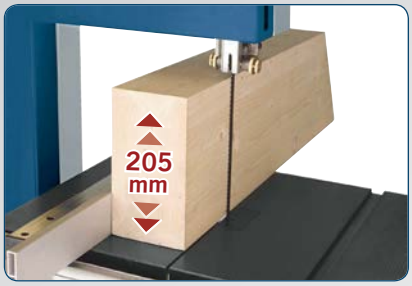


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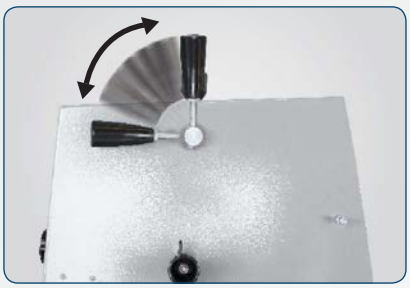

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| | |
|---|---|
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| • Table size: | 548 X 400 mm |
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| • Blade length: | 2360 mm |
| • Input power: | 800 W |
| • Motor: | 230 V |
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# Buy the saws you want
## (but first, get the saws you need!)

**Mark Harrell reveals the three backsaws you really need in your tool kit**

We all like our toys, don't we? We want them just as much as – well, for instance, the lever-action Daisy Winchester BB gun I came into when I was 10 after fulfilling a multitude of chores, strategic hint-dropping and a fervent assurance to my parents that my life would not be otherwise complete. Flash-forward 47 years later, and nothing has really changed. Tools are toys for grownups, and I, like you, want tools. Lots and lots of tools. But do I really need them? My wife will assure you that I do not.

We've all been there, right? It's that holy ritual of acquisition, beginning with an initial aha! moment when we realise we truly want something that we have researched exhaustively, fantasised about on our lunch breaks while surfing the cool tool sites, until the moment of truth arrives and the stars and sun and moon aligns as we finally succumb to our 'I'm worth it' moment, and actually PLACE THE ORDER. Anticipation mounts, our brains on fire with the projects we'll make, and we make damned sure the seller knows to deliver the package to our office ... until finally the tool arrives – Oh, happy, happy day! – and we're like little kids ripping presents asunder on Christmas morning with the goose in the oven and all is well in the world.

And people like me promote this vision to turn a buck in this world.

It's the same with saws, of course – and what a slippery slope that particular addiction can be! Before I became a sawmaker, I, like you, coursed through eBay and Craigslist to dial in an ever-growing collection of saws that I wanted, but didn't necessarily need. So let's address your saw addiction and put things into proper perspective. Perhaps your better half can participate in this journey with you. No, scratch that. Forget I even brought that up. We'll just enter the dragon on a solo basis here, and perhaps these few words can facilitate your journey. But first, let's make one thing abundantly clear: most people really only need three backsaws to complete their kit – a dovetail saw, a longer carcase saw and a tenon saw. Everything else is a want.

But, of these three backsaws, which one should you buy first? Read on.

**Copper backed and with rosewood handles: these saws are a thing of beauty, but do you really need them?**

PHOTOGRAPHS BY MARK HARRELL

## The longer carcase saw

Acquire a hybrid-filed, longer carcase saw first. Why? Because you can dovetail with it and rip small tenon cheeks as well, as long as you stay away from a dedicated crosscut filing. 'Stay away from dedicated crosscut? In God's name, why?' Because dedicated crosscut serves only to slow down a cut; it invites slop and error, and the edge dulls rapidly. We here at Bad Axe promote hybrid-filing, because it offers phenomenal versatility, and prevents one from collecting multiple saws on one's bench (which generally does not end well, as the pantheon of broken saw horns will testify).

**A carcase saw can cut components to length and tackle a wide range of joinery like full width dadoes and rebates**

### The case for hybrid-cut

We very rarely file saws dedicated crosscut anymore, unless our customers specify that's what they want. You'd be surprised how only a modest amount of fleam (aka bevel) will clean up end grain quite nicely, particularly if you stone the toothline after sharpening. Even a rip-filed saw with a stoned toothline promotes clean end grain with little blowout on the far side of the cut. A hybrid-filed saw delivers even cleaner end grain with practically no blowout on the far side of the cut. So optimising a toothline is pretty straightforward: hammer-set the teeth to a combined set that complements the pitch (ppi) and gauge of metal for your saw, then sharpen to joint. De-burr the set by stoning the toothline, and voila – you will sever wood fibre like a pro and be AMAZED at how clean the end grain presents without going fleam-crazy (or bonzo with bevel).

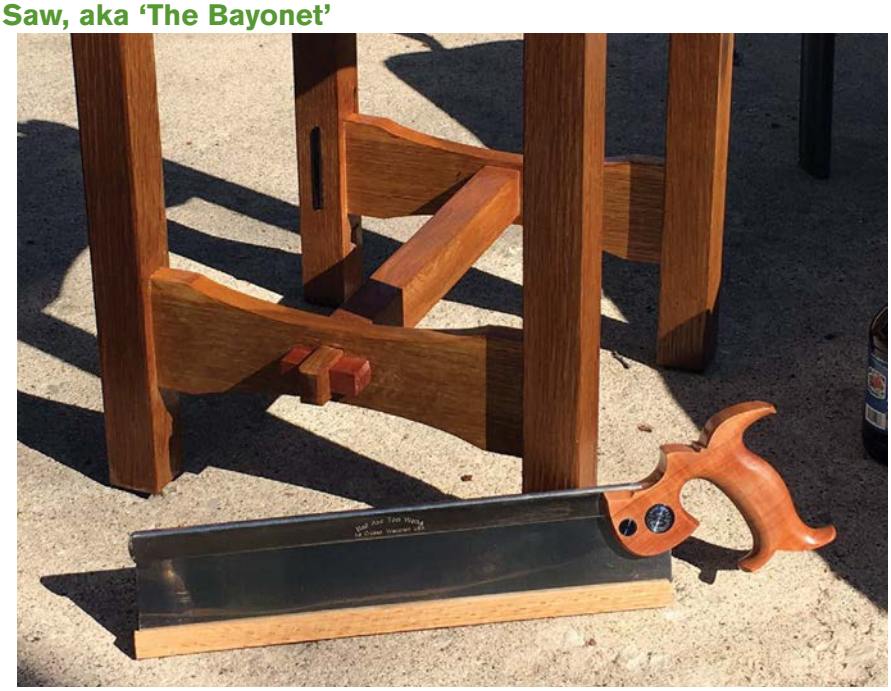
As for ripping efficiency, for every 20 strokes in rip mode, you'll make 23–24 in hybrid. Crosscut compared to hybrid? For every 25 strokes in dedicated crosscut, you'll be done in 18–20 with hybrid, and the end grain/blowout factor is just as clean. Frankly, after nine years of making saws, I've come to believe that dedicated crosscut is just a waste of time for a backsaw. Hybrid excels in the thin-plate world of backsaws, ranging from .015 up to .032, with the most predominant thicknesses between .018 and .025. At the end of the day, it's all about dialling in a consistent set on average about .0075 more than the gauge of metal you're filing, sharpening to joint, then stoning the toothline that will deliver a cut as if it's on rails.

And finally, speaking as a woodworker myself, I prefer having one versatile saw on the bench with which to make the majority if not all of my cuts for a given project, so I don't have to break my concentration looking for another saw, or risk knocking one off the bench.

And the star of the show is...

### The Bad Axe 14in Precision Carcase Saw, aka 'The Bayonet'

This saw presents a 14in-long toothline with a .018 plate filed 14 ppi hybrid cut, with usable plate depth at the heel measuring 2 1/8in, canting to 2in at the toe. Of course, Bad Axe isn't the only game in town when it comes to a longer, low-slung carcase saw finely honed with a thin plate and an expertly sharpened toothline, but ours along with a few others making similar saws all have these characteristics in common: a .018-gauge plate filed 14 ppi, a longer, 14in toothline compared to the traditional 12in carcase saw and a low-hung handle that gets your hand behind the toothline, rather than making it ride bent-wristed above the cutting axis. Our Bayonet is the one saw I've used for the majority of my last few projects, such as the plant stand I made for Yvonne on the right, which oftentimes involve a range of quartersawn white oak (*Quercus alba*) measuring ¾ up to 6/4 stock in thickness, with typical tenon cheeks spanning up to 2in across and 2in in depth. I can use the same saw to make dovetails in ¾ up to 6/4 and even the occasional 8/4 thick stock, dadoes and rabbets up to 02in across, mitred off-cuts and sliding dovetail joints. Whether ripping or crosscutting stock, this saw does it all quite well.



**Hybrid tooth geometry will handle everthing from cross cutting shoulders to ripping tenon cheeks**

## The dovetail saw

You're eventually going to want a dovetail saw as you rise to the challenge of hand-cut drawer joinery and other dovetail missions. There's no real science here, just pick one up when you're ready. I would suggest a plate gauge of .018 filed 15 ppi rip: this configuration presents a thin plate for elegant pins and tails, but with enough of a heat sink that can take the occasional hard workout without flopping the plate into an s-roll: cut friction with hard use generates heat, which can quite easily overwhelm a .015 plate (which is best filed 17 ppi and reserved for half-blind dovetail missions, where finesse and carefully stroked cuts count the most). But honestly, if you're on a budget, you'd be best served to pick up a tenon saw before the dovetail, since you can dovetail with your carcase saw in a pinch (just make sure you get it hybrid-filed).

**A dovetail saw is often the first back saw in a collection but it doesn't have to be that way**

## The tenon saw

Which brings us to the tenon saw. This is where your own personal style of woodworking comes into play; your individual approach to woodworking is what truly drives the train, and it bears repeating. The size of tenon saw you choose has everything to do with your personal style of woodworking, and the scale of projects you most commonly pursue.

So what is your individual woodworking style? Know what it's like when someone you're close to, like your wife, your husband, etc., tries to impart upon you a 'more correct' way to interface with your personal computer, and things quickly get heated when you don't do it their way? That's because we interact with a computer in our own unique manner, just like we woodworkers interact with tools in our own unique manner. Woodworking, after all, is a solitary craft. The style, make and type of tools in your shop reflect your personality: the species of wood, alloys and finishes for your chosen tool all formulate a resonant cocktail of personal choice that reflects you and how you and you alone prefer to get things done in the manner you prefer. It's an incredibly personal construct no one else navigates for you. The same dynamic applies to selecting a tenon saw that's right for you. Following is a list of common tenon saw configurations that will help you identify the size of tenon saw you NEED, rather than a checklist of saws you may think you want.

**Select a tenon saw for the largest joints you expect to cut**

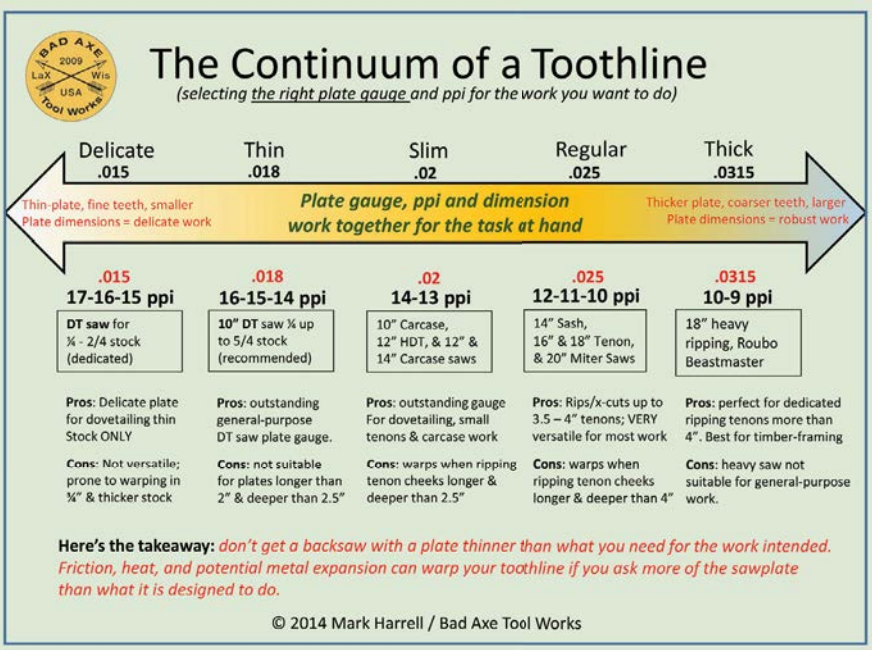
## Choosing between a 14in, 16in or 18in tenon saw

Which size of saw best suits your most typical scale and species of stock, and the kind of joinery you most commonly employ in the kind of projects you gravitate toward?

- 14in sash saw: modest requirements, where the span and depth of your tenon cheek cuts hover around 2½in. These saws are generally best filed 12 ppi hybrid (or 12 ppi rip) on a .025-thick plate. This choice finds a home in a shop where a woodworker primarily focuses on small-scale projects like boxes, smaller furniture pieces and the occasional need to sink a tenon 3in deep and 3in across.
- 16in tenon saw: handles more robust requirements, where the span and depth of your tenon cheeks hover between 3in and 3½in. I like filing these at 12 ppi hybrid on the .025-thick plate, or 11 ppi for dedicated rip. This is a great saw that can handle any cut the 14in saw can make, and can also be employed for a modest bench build.
- 18in tenon saw: Our longer, 18in tenon saw is the most versatile of the mix and my personal favourite, speaking as a woodworker. I generally recommend filing this saw 11 ppi hybrid on the .025 plate. Those of you working predominantly in softwoods should consider 10 ppi hybrid or dedicated rip on the .0315 plate. Our hybrid-filing at 11 ppi on the .025 plate delivers the most versatility for working in hardwoods. For instance, the last 6ft long Trade Show Roubo workbench I made all involved working with dense white oak in dimensions between 2½in up to 5in in timber width and thickness, with tenons ranging from 3in in span and depth, up to 5in in span and 4in in depth. I made every single cut on that bench with the 11 ppi toothcount filed on the .025 plate.

## What is the gauge?

The gauge of a sawplate relates to the thickness of the material in which the teeth are cut. Typically this will be presented in a three-number sequence such as 015, 018, 020, for example. It's shorthand for 0.015in etc. and can sometimes be recorded as .015.


## Which order to buy?

Brand-new to hand tools in general and hand saws in particular – and on a budget? Select your saws one at a time. Start off with the 14in carcase saw, then as your choice of projects reveal better fidelity in scale, buy your tenon saw. Finally, go for the dedicated dovetail saw. These are your needs. Everything else is a want, which may manifest in one of our 20in mitre saws, or perhaps a half-blind dovetail saw once you discover that elegant form of joinery. Maybe you'll develop an interest in timber-framing scale joinery, and our Beastmaster fits the bill for 5in-deep tenons and a rugged .032 plate that can handle it. Or perhaps you're a budding luthier or boat-builder, where one of the speciality saws in our lineup will scratch that itch.

But make no doubt about it: about 90% of your work will be derived from three saws: a hybrid-filed longer carcase saw, a tenon saw and a dovetail saw filed dedicated rip.

Those three workhorses will carry the yeoman's share of any cordless workshop when it comes to severing wood fibre. F&C

**Three steps to workshop heaven: dovetail, carcase and tenon but not necessarily in that order**

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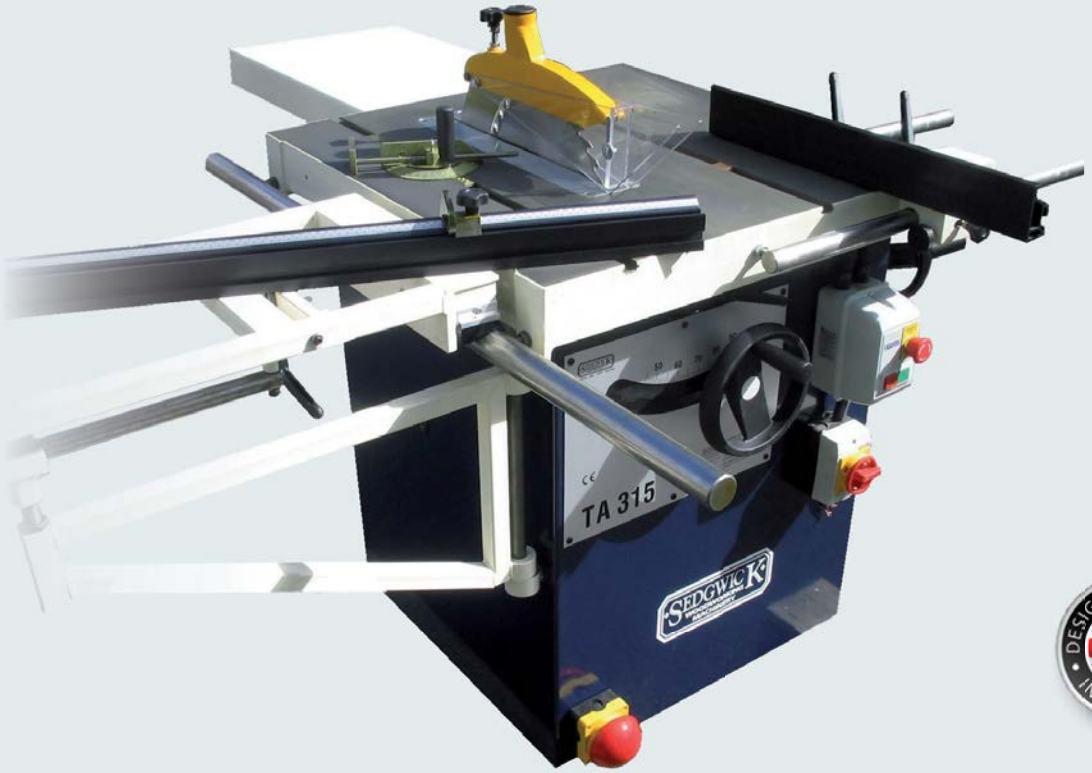


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Detail of Staveley whisky cabinet, made in English oak with walnut detailing by David Waite of Four Limes Design

# Celebration of Craftsmanship and Design

## Highlights from the annual exhibition of bespoke furniture and crafts

Welcome to our main gallery this month featuring a small selection of the work that was on display at the Celebration of Craftsmanship and Design (CCD) on 19–28 August at the Thirlestaine Long Gallery, Cheltenham College.

The show has become the largest selling exhibition of high quality bespoke furniture in the country and every year it draws visitors and exhibitors from around the world.

Established in 1994, the show has evolved and grown significantly and now displays the work of around 70 designer-makers. The emphasis is on furniture, but each year this is complemented by work from several other disciplines such as jewellery, art and glass.

Award-winning furniture designer-maker Jason Heap took over the organisation and curation of the show in 2009 and he is now looking to develop and enhance the exhibition to continue its success. As part of this he has launched several awards to generate awareness of the craft and reward those that continue to push the boundaries of innovation, skill and perfection.

CCD does not take any commission on sales made at the show meaning that the designer-maker receives 100% of their asking price. This makes the show an excellent proposition for both designer-makers and visitors who can be assured that the exhibition truly has the best interests of the designer-makers at heart.

**Visit www.celebrationofcraftsmanship.com for more information.**

PHOTOGRAPHS COURTESY OF CCD

Tephra coffee table designed and made by Alan Flannery from layers of native ash

Charcoal drawing by Erica Sharpe

Apple One picture created from pressure-dyed sycamore veneer squares by Kevin Stamper

Radius II wall cabinet in wild grain English walnut with sycamore-lined drawer by Andrew Strickland

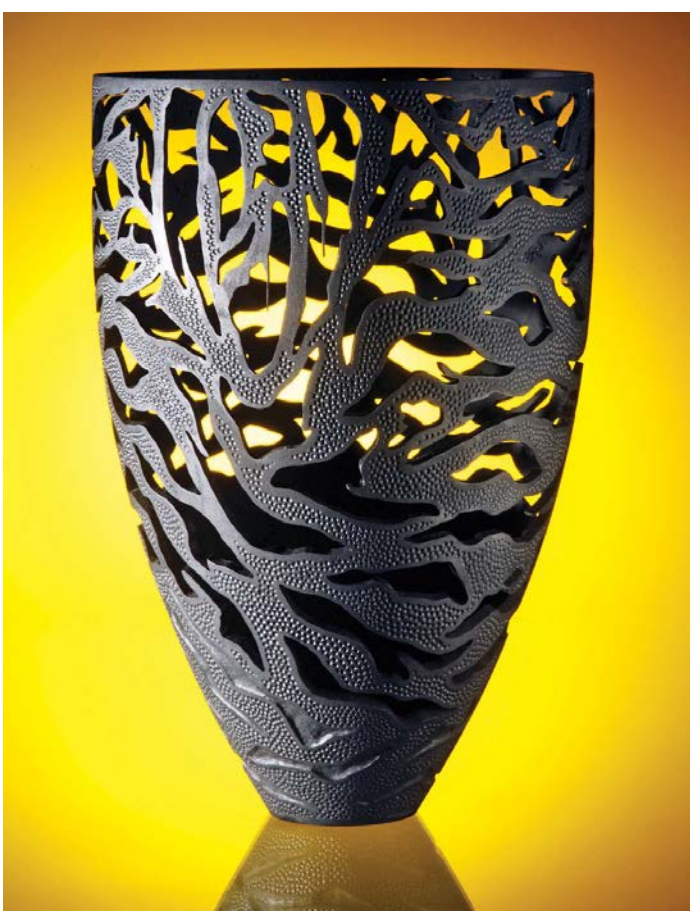
Geodesic jewellery boxes, part of Byron & Gómez's The Offcut Collection

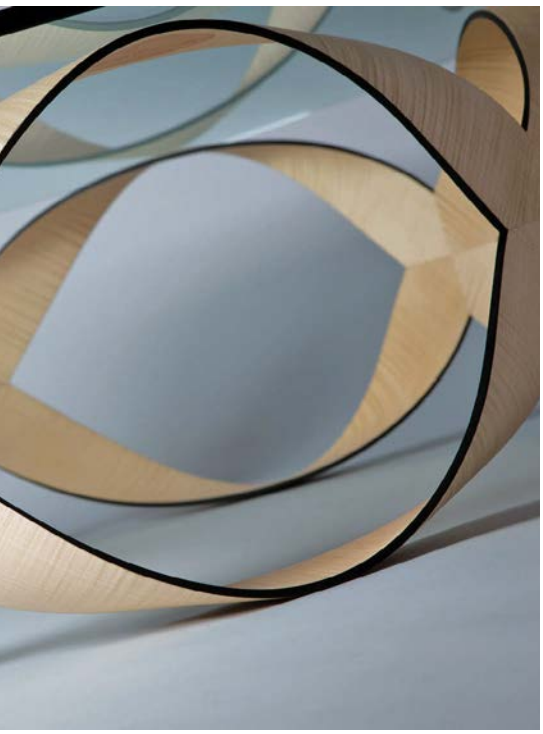
**ABOVE: Infinity + 1 coffee table made by CCD curator Jason Heap**

**LEFT: Aguaviva high table in American walnut, from David Tragen's Strata range**

**BELOW: Fylde Coast Vessel, part of a series by Sally Burnett**

**BELOW LEFT: BlytheHart Made's Hex drinks cabinet**





Beacon floor lamp in oak, aluminium, stainless steel, concrete, burnished copper and brass by BLOTT WORKS

Kinetic Landscape cabinet in oak by Jan Waterston

# Veritas Combination Plane

**Kieran Binnie reviews Veritas' new take on the vintage Stanley No. 45**


PHOTOGRAPHS BY KIERAN BINNIE

The Combination Plane will go on general sale in August and will be available from Classic Hand Tools and Axminster in the UK. For more information, including retail price, visit: **www.veritastools.com, www.classichandtools.com & www.axminster.co.uk**

Few tools are as iconic, or as divisive, as the vintage Stanley No. 45 and 55 combination planes. For every user that declares their love for vintage combination planes, there is another woodworker with horror stories to tell. In theory, a plane that can be used for grooving, cutting dadoes, tongue-and-groove and decorative profiles, is a brilliant idea, obviating the cost of a collection of dedicated planes, and also saving a significant amount of real estate in a tool chest. However, many vintage combination planes have struggled to deliver the functionality they promise. At Handworks this year Canadian manufacturer Veritas caused real excitement when they unveiled their new interpretation of the combination plane. Want to know if the Veritas Combination Plane improves on the chequered performance of its vintage cousins? Read on.

## Specification

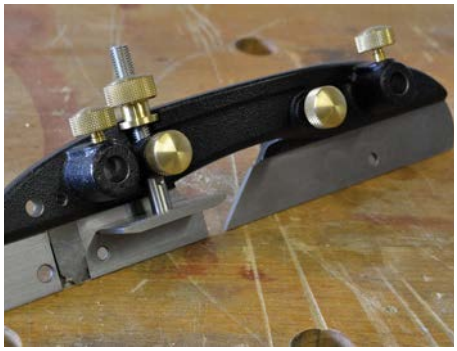
Out of the box, the Veritas Combination Plane will be familiar to anyone who has used the company's planes before. The same flowing space-age lines, textured black finish and plethora of knurled brass thumbscrews that typify the Veritas stable are all present. The tote is made from roasted maple (*Acer* spp.), and matching timber is used for the factory-fitted auxiliary fence. The auxiliary fence measures 38 x 215mm and provides ample surface area to register against the workpiece.

The Combination Plane has three distinct sections: the main body of the plane, to which cutters are fitted; a sliding section, which has a second skate, depth stop and cutting spur; and the fence. The plane is held together by two rails, which pass through each section and are secured by six brass thumbscrews (two on each section). The rails included in the review sample were 125mm long, and Veritas tell me that a second set of rails measuring 200mm long will also be included as standard, so the plane will have plenty of reach onto workpieces.

By moving the position of the sliding section in relation to the main body, cutters of varying widths can be used, and Veritas offer cutters for tongue-and-groove, fluting, beading and reeding in various widths. For the usual grooving and rebating tasks, Veritas currently offer standard straight blades in sizes from ⅛in to ¾in as well as metric equivalents. Veritas also say that vintage Stanley No. 45 and 55 combination plane cutters will fit. The Combination Plane therefore has access to a wide selection of blades.

## In use

This is not a tool that you can just pick out of the box and put straight to use. In fact, it is the first hand tool I've used that really does require you to read the manual. Fortunately the manual is very clearly written and the printed examples do help to keep the learning curve to a minimum. Setting up the tool involves a few steps, particularly as the sliding section needs to be adjusted to accommodate blade width and profile types,



**The sliding section of the body supports the plane irons, and is fitted with a depth stop and cutting spur**

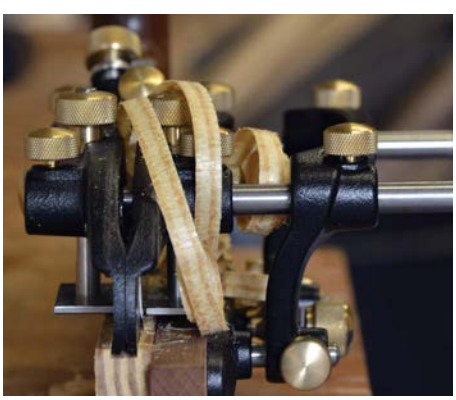
**The main body holds the plane irons, and is fitted with a roasted maple tote, depth stop and cutting spurs**

**The cutting spurs sever fibres for cross-grain work and can be engaged by feeding an Allen key through holes in the body, without needing to disassemble the plane**

**The fence comes fitted with a roasted maple auxiliary fence as standard, which provides a large surface area to register against the workpiece**

**The micro-adjust mechanism allows the fence to be set with real precision**

**The blade clamping mechanism holds plane irons firmly and allows for precise adjustments to the depth of cut**



**Cutting grooves in southern yellow pine**

the fence is adjusted and the depth stops set along with the cutting spurs if working across the grain. Despite the number of steps involved, the plane is not fussy to set up, and I found that within a short space of time changing the configuration of the plane or making adjustments became instinctive.

But how does the plane perform? As one would expect from Veritas' pedigree, very well indeed. The plane has enough mass to push through difficult grain, but not so much as to become fatiguing in use, and the weight is nicely balanced which assists in keeping the plane vertical in the cut.

The tote is comfortable, and the curved face of the fence supports the offside hand while allowing the user to apply lateral pressure and keep the plane snug against the workpiece. The fit and finish of this plane is exactly what we have come to expect from Veritas – the manufacture is extremely clean with no rough edges, and all of the components fit together right out of the box. The auxiliary fence is smooth and glides along the workpiece.

A long-standing criticism of the Veritas Skew Rabbet and small Plough planes is that the fences for those planes have a tendency to slip if tightened only under finger pressure, so I was pleased to find that this is not an issue suffered by the Combination Plane. The fence and depth stops are rock

The dominant hand pushes the plane, while the off-hand holds the fence against the workpiece. The fence can be moved to the other side of the plane for left-handed users

A selection of the plane irons currently available

Reeding cut in yellow poplar

When cutting flutes the sliding section is moved away from the plane iron

The Combination Plane is well balanced and keeping it upright in the cut is easy

solid when finger tightened, even during protracted planing sessions, and try as I might I could not get any of the critical settings on the plane to slip during use.

It is clear that Veritas spent a lot of time thinking about the user experience when designing the Combination Plane. The fence micro-adjust mechanism is a wonderful addition to the tool, and precise lateral adjustments are instantly achievable. The ability to engage and adjust the cutting spurs without disassembling the plane is a really smart feature, and one that allows the user to concentrate on their workflow rather than fussing with the plane settings. Once engaged, the cutting spurs sever fibres cleanly, avoiding spelching and making light work of cross-grain planing.

With the plane set up, it is a simple matter to start grooving, rebating, cutting dadoes, as well as the numerous decorating profiles on offer. The fluting, beading and reeding cutters I tried were effective, easy to use and opened up a whole new range of decorative possibilities. All the cutters provided with the review sample were lapped flat and sharpened with a primary bevel, needing only light honing to get them cutting perfectly.

## (Combination) plane sailing?

To attempt a modern interpretation of such an iconic, and divisive, plane as the Stanley No. 45 takes daring. To improve so substantially on the imperfections of the original, takes a firm grasp on engineering and a real understanding of what woodworkers need from their tools. Veritas should be commended for not only being prepared to accept the challenge of making a combination plane that lives up to the promise (if not the reality) of the Stanley No. 45, but also having the technical prowess to pull it off.

This is not a tool that you can just pick up and expect to work instantly, and reading the manual is to be encouraged. But put a little time into getting to grips with the Veritas Combination Plane, and you will be surprised at how user friendly it is.

Whenever I test a new tool one of the foremost questions in my mind is what sort of woodworker will benefit from the tool in question. This is even more important when testing something as involved as the Veritas Combination Plane. If all you need from your plough plane is the ability to cut 5mm square grooves for drawer bottoms, then this plane is complete overkill, not to mention disproportionately expensive – a more basic plough plane, including Veritas' own small plough (reviewed in *F&C* 257) will do the job at hand and be easier on the wallet. But if you want more from your plough – the ability to make tongue-and-groove, cut flutes and reeding, and cut dados, then the Veritas Combination Plane starts looking like a very good solution indeed.

Where I think the Combination Plane really shines is by encouraging, and really enabling, experimentation by placing a whole range of different techniques and profiles within easy reach. For the woodworker who wants to experiment with new profiles as well as the usual range of grooving duties, the Veritas Combination Plane is a serious contender, and when you factor in the significant engineering improvements over original combination planes, it starts to look like a very one-sided comparison. This is one plane that will not be leaving my tool chest.

**ABOVE: When cutting reeding, the sliding section is positioned so that its skate runs in the groove of the reed**
**RIGHT: Mirror image – fluting and a bead, both cut with the Combination Plane**

## Q&A with Veritas

**Terry Saunders, Senior Product Designer at Veritas talks to *F&C* about the development of the Combination Plane**

**The Stanley combination plane is an iconic plane that provokes many strong opinions. What inspired you to design a modern interpretation of the combination plane?**
We are, of course, very aware of the entire Stanley and Record (and others) offering of planes and are always asking which planes should we add to complete the woodworker's tool kit, balanced with our current technical and manufacturing capabilities. We've been doing this now for close to 20 years, so we've come a long way – we would not have attempted a combination plane even 10 years ago.

**When we met at Handworks, you told me that the design process for this plane had taken two years. Can you describe the design process for a plane of this complexity?**
The combination plane project officially started in December 2014, but actually has its origins further back. Our small plough plane was first offered back in 2006. That project began with the Record 043 as its starting point and through the development process grew to something more akin to the Record 044 to achieve the desired usability. Wanting to expand the capability of the small plough we added the conversion kit in 2011. This enabled the addition of wider blades and tongue-cutting blades, all the while knowing that someday we would tackle a larger, fully featured plough plane or combination plane. Every time it was mentioned, we were sure to qualify it by saying the 45, not the 55.

Once the combination plane project officially started we immersed ourselves in combination planes from our collection. Everything from the early Stanley No. 45 to the Stanley 13-050 to the more recent Record 045. Out of this we established our performance criteria and features, what did we require this plane to be capable of? From there we launched into full scale CAD modelling and subsequent 3D rapid prototypes. The quicker we have actual full-scale things to evaluate and discuss, the easier it is for all involved, be it how a handle feels, or communicating what function is desired with engineering and manufacturing. And it needs to be stated that this project was not so much a design project, as it was a testament to our engineering and manufacturing capabilities. At the end of this stage we took the incredible step of having 3D metal rapid prototypes made. This yields fully functional planes that could be extensively tested before committing to tooling.

**The Stanley No. 45 has a reputation for being fiddly to set up and get working sweetly. In contrast, despite being a complex tool the Veritas Combination Plane is remarkably easy to set up and put to use. Was this ease of use a key design requirement? If so, how did you approach satisfying that requirement?**
We knew from the outset that while the stated functionality of the 45 was fantastic, the actual performance was lacking. A lot of this resulted from the state of manufacturing that produced these planes. We felt that, if it was properly engineered and manufactured with today's CNC machines, we could control and achieve the ease of use expected from a Veritas plane.

**The micro function is a real game changer, and makes precise adjustments to the fence really easy to accomplish. What prompted the development of this feature, and what benefits do you think it adds?**
The micro-adjust fence is one such feature, this concept can be found on some previous models of combination planes, it was just that the actual performance wasn't there. They tended to rack and bind. We knew that if we could get this to perform as desired it would greatly enhance the ease of set-up for this plane. The ability to finely adjust the position of the fence translates into precisely positioning the feature on the workpiece, such as getting a bead to be tangent to the edge. Compare this to a simple plough plane where the position of the fence is a gross adjustment only, a hit or miss thing.

**What is your favourite use for the Combination Plane?**
At this time I really like the ability to cut flutes, probably because it is something we could not do before. In terms of impressing yourself, you can't beat reeds.

**Veritas planes all have a very strong family resemblance, including the strong use of curves instead of straight lines and corners, black textured finish and brass collets. To what extent is that family appearance a design constraint? Do you shape tools to fit the aesthetic once they are fully designed and functioning, or do you start with the aesthetic and design within those parameters?**
All of our planes, and indeed all of our Veritas products, have a design language. We are not making reproductions and we want our products to have a contemporary look and feel. But of course, being a hand tool, the functionality definitely comes first. The nature of our products is that nothing is hidden, in a large part the form is an expression of the functionality, and should convey how the tool is used. In practice, in simple terms, all the functional components (such as the tote, blades, adjusters, rods, etc.) are arranged in CAD and the body or form develops around them, through an iterative process of sketching, CAD modelling and 3D prototypes. *F&C*

# Hard wax polish: the original elbow grease

**If the finish outshines the timber it's time to take action. Derek Jones mixes up a recipe for success with a hard wax polish to rival oils and shellac**


PHOTOGRAPHS BY DEREK JONES/GMC PUBLICATIONS LTD

Long before I got properly acquainted with the wonders of shellac my finishing repertoire consisted of a large 5L tin of P7 Briwax. The fumes from the petroleum-based solvent would fill the air in the tiny first floor workshop I shared and literally make my head spin. I don't recall being given any particular instructions as to how to apply it other than to go with the grain, which as I recall seemed to be the root of every finishing instruction. My remit at the time was to apply the finish coat to stripped pine furniture and I think I got very good at it. I was certainly quick!

As I recall, a fresh tin of wax was not quite as easy to work with as a half tin and an almost empty tin of remnants was so awkward to use it invariably got binned long before it was truly empty. Somewhere in the middle of that 5L tin was a rich seam of wax of the right consistency that would work easily, leave behind a uniform layer, free from streaks and buff to a decent shine.

The Briwax I remember from back in the early 1980s was a single coat solution designed to turn an anaemic sow's ear into a bronzed silk purse and there was nothing else like it on the market.

The loose consistency meant it would spread easily and if you were quick, you could cover quite large areas before the solvent either evaporated or soaked into the bone dry surface of the wood. You could cover a typical full width drawer from a five drawer chest in a single two-finger scoop.

## A definite knack to it

It was always best to avoid overlapping coats of Briwax as the stain in the wax would layer up and leave an uneven surface of stripes or blotches. The only way I found to correct such mistakes was to use a handful of coarse wire wool and rub hard, in the direction of the grain of course. On the few occasions I had cause to strip the wax from the surface completely, none of the paint strippers we had access to at the time seemed to touch it; yellow Nitromors being the most aggressive. This often required intervention from a cabinet scraper, an orbital sander and large quantities of abrasive paper to get back to bare wood.

I haven't opened a tin of Briwax in the last 30 years so can't really pass judgement on its qualities today but back then it was something of a one-trick pony, albeit in different shades. You couldn't, for example, apply it on top of other finishes fearing that the solvent would disturb the underlying finish. I'm sure any antique pine dealer operating today will be able to fill in the gaps if that's changed.

## Similarly inadequate

The other paste waxes commercially available had a turpentine or white spirit solvent and were generally harder in the tin than Briwax. For show surfaces they were

**On open grained timbers like this ropala, one coat of hard wax is enough**

only suitable for use onto an existing finish and weren't terribly good at effecting much of a change in colour despite their names; dark mahogany, walnut, Jacobean oak, etc. Applying more than one coat usually resulted in a less than satisfactory finish. For the reasons just stated I've never really been that enamoured with off-the-shelf waxes preferring latterly to make my own with a range of predictable qualities that are more consistent with my expectations.

The latest blend I've been experimenting with is a hard wax polish that's suitable for use on bare wood and also over an existing finish. I've had great results using it over water-based lacquers of different kinds as well as shellac, the former requiring at least five days to fully cure before applying a wax of any kind. Incidentally shellac benefits from being left to harden as well but in a warm workshop and applied in a thin coat generally not as long.

It's worth pointing out that a hard wax polish is not necessarily harder or more resistant to knocks than a regular paste wax when it's on the furniture. Neither will it offer any noticeable long term increase in protection from water although initial puddling can minimise the chance of water marks appearing on the surface, which begs the question, why use it at all? Simply put, it's all about the feel and look of the finish and not the practicalities of the finish itself. Its best attribute being that when used sparingly in a thin layer it's as if there's no finish present at all.

## French lessons

French polish, or to be more precise a shellac finish, has a reputation for being the king of finishes as, and if done in a particular way, it combines better with the material than any other finish I can think of, with the exception of wax. When we set out to French polish the first stage in the process after any staining is to fill the grain with a slurry that's created by rubbing the surface with a cloth using a combination of shellac polish and a fine abrasive powder such as pumice. The process is generally referred to as 'bodying up' and there are various methods of doing it. Some texts suggest sprinkling the powder onto the surface of the wood while others advise applying it to the cloth. I think there are practical advantages to both methods that are perhaps more related to the nature of the project than the efficacy of one technique over another. It's hard to sprinkle powder onto a vertical plane for example. Either way the principles are the same, the powder cuts tiny wood particles that combine with the shellac to fill the pores. The result is a surface that's filled with a perfectly colour matched grain filler, giving rise to an effect that people often describe as being part of the wood itself.

## Blood, sweat and patina

Many oil finishes, even ones that cure hard and dry completely, will darken the wood and there are those that continue to do so for a very long time such as linseed.

### The rise of shellac

Before the widespread use of shellac towards the end of the 18th century wax was the most popular and accessible finish for furniture makers wishing to show off the natural beauty of the material while providing a moderately successful barrier to dirt and grime. Paints and other concoctions were used primarily to add colour to a surface or to offer a level of protection from various forms of decay. With domestic grown walnut in short supply and latterly that sourced from France under embargo from 1720, cabinetmakers were forced to experiment with new materials to fulfill the growing demand for quality wooden goods. This came in the form of mahogany, a previously rare timber from the American colonies making the journey as ballast in the otherwise empty holds of ships on their homeward passage. While the new material shared some working characteristics with walnut, it was in a league of its own when viewed through a layer of thin but more durable shellac. Unfortunately the craze would continue well into the next century seeing early walnut pieces being stripped of their original wax finish and slathered with shellac.

An alcohol-based finish will not suffer the same consequence, as any change in colour will be attributed to the shellac and not the solvent (even purple meths). And incidentally shellac is affected less by UV light than other finishes so it remains a constant colour for much longer. And we're talking decades here if not centuries in some cases.

The good news is that natural paste wax shares many of these qualities; non-darkening, low opacity (highly transparent) and good adhesion. The bad news is that it's not nearly as durable and through use will eventually wear away or combine with everyday grime to form a natural patina.

One traditional method of applying wax is to use a polisoir. This device is a tightly bound core of reed stems that form a dense bristle brush that's used to apply the wax at the same time as burnishing the surface, and like the bodying up stage in French polishing, embeds the wax into the pores of the timber. This was typically done with raw beeswax and without the use of a solvent; heat generated from the rigorous action being sufficient to soften the wax. It's hard work and difficult to maintain a uniform shine on large areas especially on close grained timbers. It can also be awkward to apply on small items or delicate sections because of the force required to level the wax and bring about a shine at the same time.

## What the butler and the cabinetmaker saw

My foray into hard wax as a finish came after seeing some examples of 17th century furniture finished with only wax, the way the original makers intended. Some months later I happened to buy a slab of genuine English walnut to make some marking gauges and decided to experiment with a hard wax paste to finish a few samples before deciding on a finish for a complete batch. The results quite nearly brought me to tears because for the first time ever I felt I was experiencing precisely what those craftsmen achieved more than 300 years ago; just wood and wax in all their natural beauty.

## Beyond eureka

Although it was possible to fill the grain and get a full shine on the surface with just wax it was taking far too long to make the process commercially viable. To shorten the cycle I mixed up a very dilute solution of shellac sanding sealer from blonde dewaxed shellac and pumice and applied a couple of brush coats to raise the grain prior to sanding with some 400 grit abrasive. The next step was to make a polishing rubber with a core of cotton stockinette wrapped in plain cotton similar to that used in French polishing. The core was doused with white spirit to make it possible to transfer the wax from the jar onto the rubber and keep the bundle from drying out too quickly. The hard wax was rubbed hard across the grain and in circular motions to fill the pores and then straightened off with some light passes to remove any streaks. I keep a plastic bottle of white spirit fitted with a fine nozzle on hand to moisten the rubber on the fly if things start to get too gunky. The following day the wax was buffed up with a soft cloth then a soft bristle brush. The results were incredible with just one application in most cases but a second really sealed the deal, and the grain.

## Conclusion

I've found that beeswax is the most variable ingredient in any wax recipe with the more refined ones being softer and generally lighter in colour. In equal measures I've found that carnauba produces a harder wax overall than when using shellac wax as the hard wax element. Ultimately there is enough variation in just these three elements to create a number of different wax blends to suit a variety of applications. And if it's that bespoke finish you're after then blending your own could be the icing on the cake.

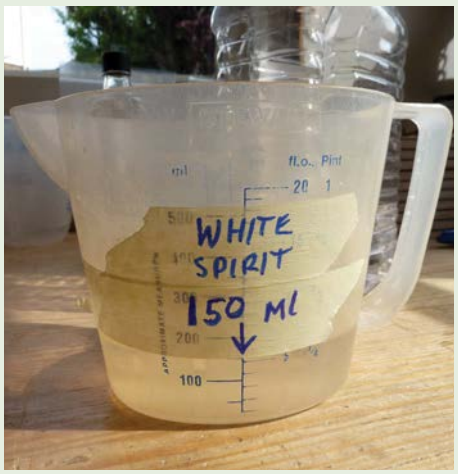
### Suppliers

**Beeswax, carnauba, turpentine, white spirit and citrus oil**
www.dictum.com
www.jpennyltd.co.uk
**Shellac wax**
www.kremer-pigmente.com
**Low odour white spirit**
www.cassart.co.uk

## Recipe

50g shellac wax or carnauba wax, 100g beeswax ▪ 150ml white spirit ▪






**Weigh your ingredients accurately for best results**

## Method

Melt the shellac wax or carnauba wax in a double boiler (bain marie). When it's clear and completely melted add the beeswax and continue heating until the beeswax has also melted.

Remove the pan from the heat source and slowly pour in the white spirit. Return the pan to the heat if the mixture starts to stiffen and stir with a clean spatula until it becomes clear again. Decant into suitable containers and allow to cool. I've used a 50/50 blend of turpentine and white spirit before and the aroma is quite pleasant, to some people. Shellac wax does have a slight bitter smell when it's melted so if you are blending a wax with a view to introducing a particular scent carnauba is virtually odourless. A more expensive option is to use an odour-free white spirit and add a few drops of a citrus oil or other fragrance. *F&C*

**Start by melting the shellac wax or carnauba wax in a double boiler**

**When the entire mixture is totally clear it's ready to decant**

**Find some suitable containers with air tight lids**

**Once cooled the wax is hard and ready to use**

## More information

To see more on this subject go to our *F&C* Instagram page @fandcmagazine to see some short clips and more photos.

# Edge-to-edge joinery part 3

**Having chosen the wood and prepared the edges, Rob Porcaro closes the deal by gluing up the boards into a panel**

At this point, the stakes have grown with considerable investments in expensive wood, the labour of surfacing it and skillfully planing the edges, all to coordinate with the other components of your project. You want to get this right. To do that calmly and confidently, make each step rational in design and predictable in execution. Here's how.

## Set up for success

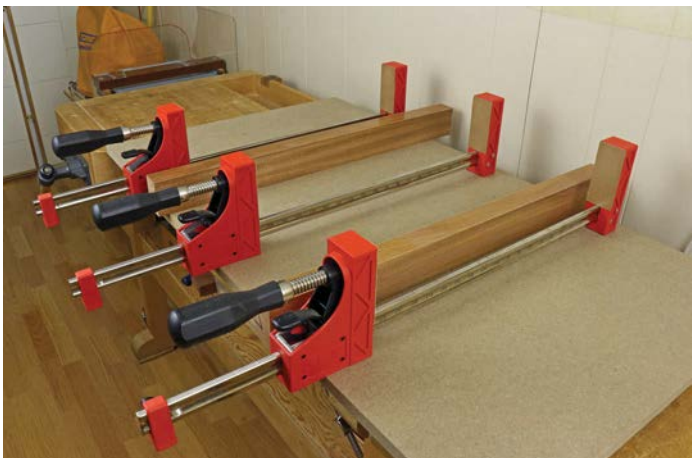
Though they do not seem to garner the respect of the glamour tools, clamps are important and worthy of substantial investment, particularly since they are employed at the crunch time of glue-up. A good set of clamps, such as parallel-jaw models made by Bessey and Jet, is a key to trouble-free panel glue-ups.

Start by making wooden supports. These will run parallel to the clamp bars and the boards will rest upon them. Rip two fairly thick (25–35mm) boards to the same width and a few inches longer than the final panel width. Cover the top edges with plastic packing tape to resist glue. Below, I will discuss how to determine the width (height) of the supports.

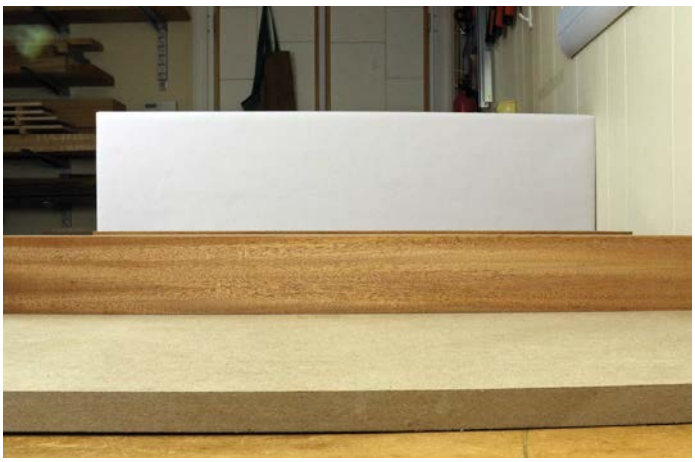
A large flat surface, such as a dedicated assembly table, would be ideal for the glue-up. Accurately ripped supports would then transfer the flatness of the work surface to the panel. However, such a luxury is not available in many small shops. A more versatile approach is to think of the pair of support pieces as winding sticks, and to actually view them that way. Place the supports in the positions they will be used for the glue-up on whatever surface you have available, and simply shim one of them to make their top edges parallel. In this way you have created a flat plane that will be transferred to the panel.

**A worthwhile investment**

PHOTOGRAPHS BY ROB PORCARO



Supports and lower gang of clamps ready to accept the boards



Tune the supports like winding sticks to free you from the need for a perfect table to do an accurate glue-up

## What about alternating the clamp bars above and below?

Ideally, the clamp heads would only exert force parallel to the face of the panel. In reality, some of the force is directed towards the clamp bar, which tends to make it bow towards the face of the panel, potentially distorting it. To help ensure a flat panel, we have two options – either minimise or balance the aberrant forces.

For the first option, put all the clamps below the panel and make the height of the supports so that the boards are very close to the clamp bars, and in this way, minimise the bowing forces.

The other approach, which I prefer, is to alternate the clamps above and below the panel. In this case, define the height of the supports to make the panel sit at about the same distance from the bars of both the upper and lower clamps. In this way, the bowing forces are equalised on both sides of the panel. This arrangement also makes the assembly more stable for moving to set it aside later.

With properly prepared individual boards (even if they have a bit of bow), well-planed joint surfaces, parallel-head clamps, a good board alignment scheme and properly set up supports, there is no need for awkward over-under clamps, cauls or special blocks on the faces of the clamp heads.

Note that the top face of the panel is about the same distance from the bar of the upper clamp as the bottom face is from the bar of the lower clamp

## Glue matters

Most woodworkers use PVA glue, based on its reliability, ease of use, wide availability and, frankly, habit. My favourite is Titebond III, which has a relatively long open time for a PVA. However, at glue-up, one still must heed the words of the late, great basketball coach, John Wooden: 'Act quickly but don't hurry.' If the thin glue layer is allowed to skin over at all, the joint line will be too thick and, worse, the joint is destined to fail.

Furthermore, the US Forest Products Laboratory's *Wood Handbook* points out that increased glue viscosity requires more clamp pressure. They note that viscosity increases by evaporation – during the 'open time' before the joint surfaces meet – and by absorption – during 'closed time' after the joint surfaces are together but before final clamp pressure is applied.

Liquid hide glue offers a convenient alternative with a longer open time. On their websites, Franklin lists 10 minutes open time for their product (versus 8–10 minutes for Titebond III), while Old Brown Glue lists 30 minutes.

Set up edges side by side and work on them together. Put glue in the biscuit slots first where the bulk of it will delay evaporation while you work on the edges. Apply glue to both joint surfaces to ensure good wetting and equal penetration on both sides of the joint.

I run a bead of glue along the edge directly from the bottle, and then spread it with a hog-bristle brush. (Available from Tools for Working Wood.) I crop the 38mm bristles to 20mm to push the glue faster, and use it nearly upright. Flux brushes are too floppy, small and slow, and using my finger inevitably seems to transfer glue to someplace where I do not want it. A roller or notched plastic spreader is a good alternative.

Aim for a light bead of squeeze-out along the full length of the joint, but try to avoid a lot of dripping. Squeeze-out is simply assurance that you have applied enough glue; there is no need to overdo it. On the other hand, if you produce no squeeze-out, you cannot tell if the amount of glue in the joint is just perfect or too little.

This glue is good to go. Act quickly

Game over: this glue has dried too much to make a good joint

This is reasonable squeeze-out

## Assembly

It pays to do a dry run of the assembly process. Unique sets of diagonal hash marks across the joints will avoid confusion. Work out placements for the supports and clamps. Will you have good access to crank the clamp handles? Make sure all the joints close neatly with just slight pressure.

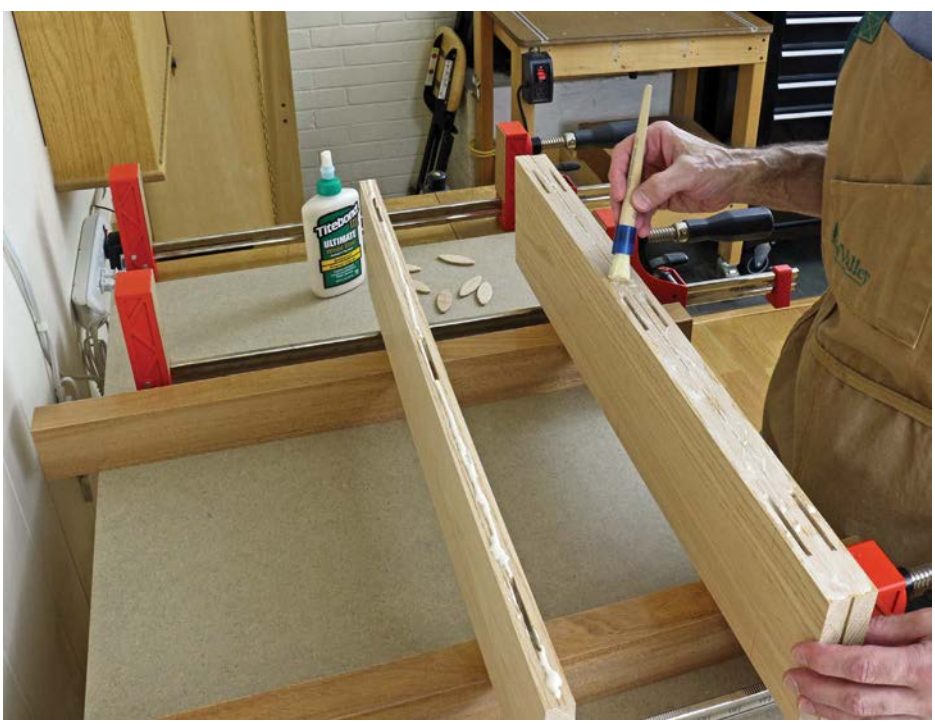
Open the clamps to the correct length, allowing extra room for the width of the biscuits. Consider how you will move and support the boards for applying glue, including on the second edge of a board that already has glue on the other edge. Plan to minimise open time according to the type of glue you are using.

At game time, I move quickly. I close the joint by first gently tightening the centre clamp, and then work outwards. After adding the upper gang of clamps and gently tightening them, I check the panel with a straightedge. If all looks good, I torque down on all the clamps, check again for flatness and make any necessary adjustments to balance the pressure.

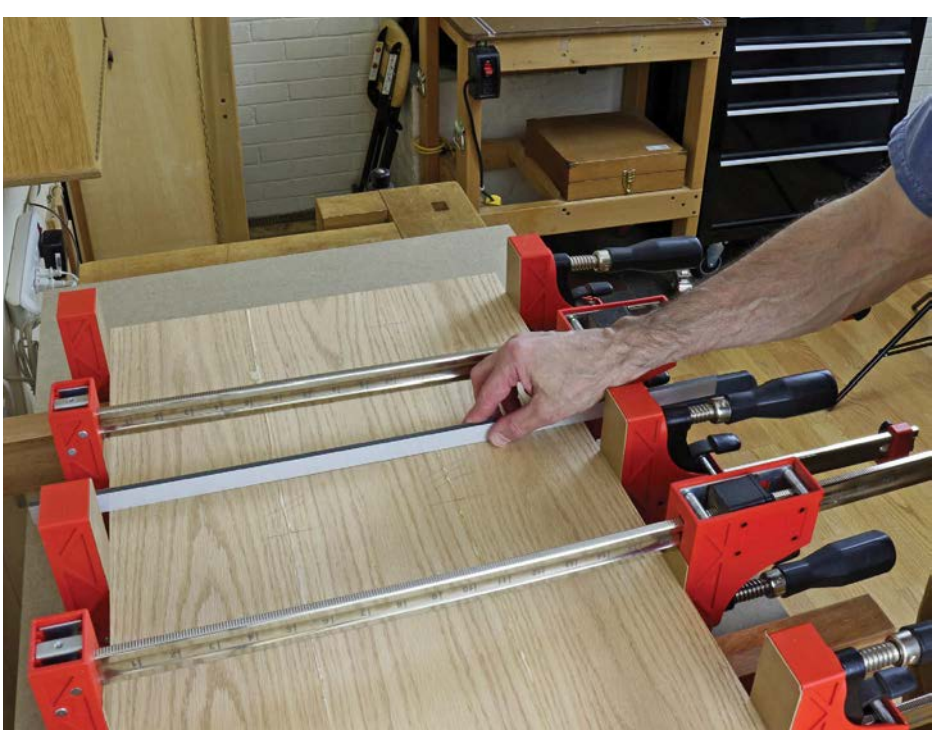
For panels with four or more boards, consider gluing up in separate sections to be combined later. The job takes longer but the work is more relaxed. The intermediate sections can be surfaced to reset any errors in flatness rather than let them accumulate.

I prefer to remove glue squeeze-out when it is still rubbery by lifting it away with a sliver of wood cut to a chisel edge. Then I remove most of the remaining glue with a wet rag that is more than damp but less than drippy.

At least in theory, removing the squeeze-out early like this may cause the outside of the glue line to dry faster than the interior. In fact, I have sometimes observed that the glue line looks a bit wider in the hour or two after assembly, but this has never persisted in a well-made joint. Therefore, I do not consider this a practical concern. In any case, removing a lot of fully hardened squeeze-out is an undesirable chore and can chip the wood.



At assembly time, put your ducks in a row so you can work quickly and confidently



Check with a straightedge to ensure balanced clamping forces

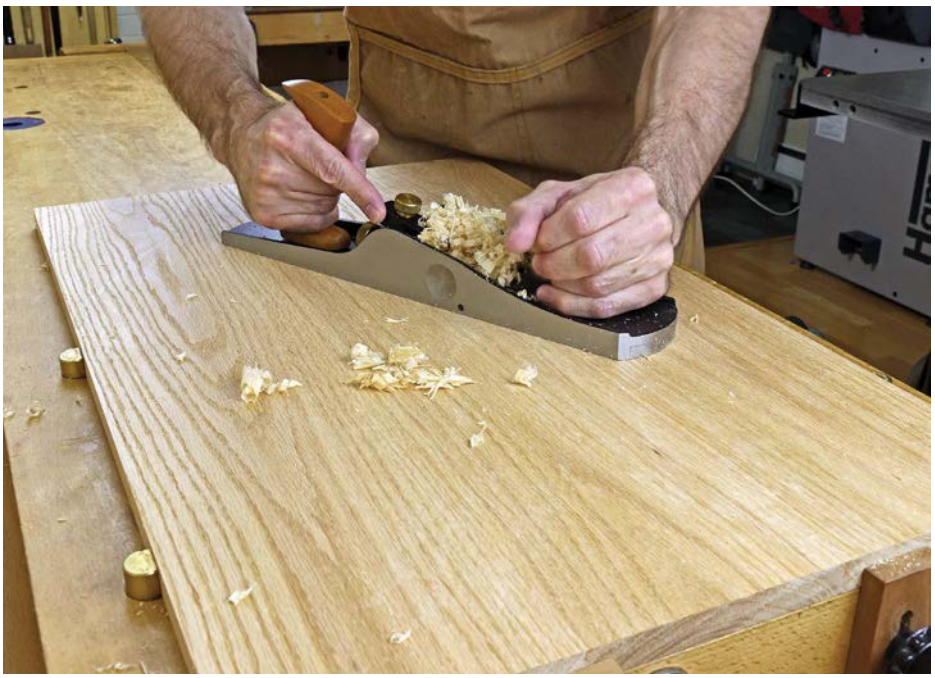
## Afterwards

When is it best to remove the clamps? Unless you need the clamps for something else there is really no hurry to remove them. After all, to avoid a sunken glue line and depressions over the biscuit slots, the panel surface should only be worked when the added moisture and consequent slight swelling at the glue line and biscuit slots have dissipated. This can be verified with a pinless moisture meter or a small rule.

The Titebond III instructions recommend 'clamp for a minimum of 30 minutes (longer is better)' and 'do not stress the joints for 24 hours', which is how long PVA glues generally take to fully cure. Liquid hide glues take at least that long. I wonder if the joint may be significantly stressed from the changing moisture content early on, and also by the applied forces of manoeuvring the panel in the shop.

For these reasons I put the assembly aside and wait until the next day, up to 24 hours, to remove the clamps. Small panels such as a drawer bottom can be safely removed from the clamps sooner.

With these methods, the work required to flatten the finished panel is likely well within the range of easy hand-planing for small to medium panels. Work diagonally with the jack plane, and finish with smooth planing, scraping or sanding, as you prefer. For large work, such as a dining table-top that needs substantial correction, consider the services of a commercial shop with a wide-belt sander.



**Start flattening the panel by planing diagonally across the grain**

Keep in mind that the panel only needs to be flat enough for its function. Small imperfections that yield to light hand pressure are fine, especially if they will be eliminated by the structure of the piece, such as a table frame. On the other hand, do not allow, for example, a panel to distort the frame of a light cabinet door.

By the way, have some fun by bashing an offcut against the corner of a hard table edge. Even if the impact is at, or close to, the joint line, the wood will fail before a well-made joint gives way. Nice.

## Use the force

Are small-shop clamping methods capable of generating enough pressure to make a good edge-to-edge joint? Yes. Let's look at the details.

The very useful *Wood Handbook* (a free download at www.fpl.fs.fed.us – search 'wood handbook' on the site) chapter 10, page 16 (2010 edition) recommends pressures of 100 pounds per square inch (psi) for low-density wood and up to 247 psi for the highest density woods. The book also states: 'Small areas of flat, well-planed surfaces can be bonded satisfactorily at lower pressures.'

Bessey claims 1500 lbs. of clamping force can be generated with their K Body REVO clamps, while Jet claims (I suspect conservatively) 1000 pounds for their parallel clamps. For example, 1500 pounds of force will produce 167 psi over 12in of a ¾in-wide glue joint. Spacing the clamps 8in apart on the same joint requires 1000 pounds of force to produce the same 167psi.

There is no need to calculate in the shop. In general, to create adequate clamping pressure, tend towards more clamps and more torque with denser species or thicker boards. And, of course, make good joint surfaces.

The other influence on clamp distribution is each board acting as its own caul. Thus, the transmission of force to the glue line depends on the width and stiffness of the board, especially for the outer boards of the panel. With narrow boards, if the clamps are spaced too far apart, the 'squish' effect may result in too little pressure in the areas of the joint farthest from the clamps.

I long ago adopted, with consistent success in the shop, Ian Kirby's practical guideline: think of the force as spreading from the clamp head at 45° outwards to both sides. Therefore, a clamp can usually be considered to reliably spread its force over a length of joint equal to twice the width of an outer board.

So, beware of using too few clamps when gluing narrow boards. Likewise, you may be able to get away with fewer clamps when gluing wide boards, but only if the total force at the glue line (and consequent average pressure) is adequate, as discussed above.

**Think of the clamp force as spreading out in a 45° field**

# Putting it all together

## Here's what to remember:

- Select reliable wood, and create visual and structural harmony among the boards, especially along the joint lines.
- Use efficient methods, always finishing with a hand plane, to make good joint surfaces with just a very slight camber.
- Employ a method to reliably align the boards during assembly. I suggest biscuits and, for thin boards, the notched blocks described in the second of this series of articles.
- Use parallel-jaw clamps and board supports that are easily tuned to create a true bearing surface.
- Rehearse the glue-up and get it done quickly.
- These joints will look great and are going to last because you have made them righteously. Relax and enjoy!

**The finished panel – visual and structural harmony that will last**

Fellow woodworkers, the methods I have presented in this three-part series have proven themselves in the 'sawdust and shavings' of my shop. They will help you pursue the joy of building things in wood. Because there is more than one good way to get the job done, heed too your own discoveries, and ultimately, find what works for you, for what you build, in the circumstances of your shop. *F&C*



**Part 1 of this series appeared in *F&C* 259 and part 2 in *F&C* 260**

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# Machine shop training: making an occasional table

**David Waite describes his introduction to power tools in the school's machine shop**



PHOTOGRAPHS BY DAVID WAITE

**A selection of push sticks and gripper blocks used to ensure hands are kept well away from machine blades**

Like other students at the Waters and Acland Furniture School, a significant milestone on my journey to becoming a cabinet designer-maker was achieved when I transitioned from using hand tools, and gained access to the extensive array of powerful equipment found in the school's machine shop.

Before we could operate any machinery, all students were required to complete mandatory training. This was to ensure our safety, which comes first and foremost in any reputable workshop. However, the school also wanted to demonstrate to us the significant efficiencies that power tools can offer the commercial cabinetmaker. To achieve this, students were set the project of creating a simple occasional table; the guidelines stated that the piece should be completed with minimal use of hand tools and once the table was complete, students would be 'signed off' as being trained and capable of safely operating all the machine shop equipment.

## Safety first

The school's machine shop is extremely well equipped, containing all the machinery found in any professional cabinetmaker's shop. Operator safety is paramount. Nobody is allowed in the machine shop unless they are wearing both safety glasses and ear defenders. Each machine is connected into a powerful dust extraction system which must always be switched on before the equipment is operated. All machines are appropriately guarded, conforming to Health & Safety Executive (HSE) guidelines, and at least two 'push sticks' are available on every machine to retain a safe distance between operator and machine. Our training started with a thorough review of the relevant HSE information sheets associated with the operation of each piece of equipment. Our Head Tutor Graham Loveridge then demonstrated how to correctly set up and use each machine. We were required to repeat the set-up and operation of each machine under his careful supervision. A golden rule we adhere to with all machines in the shop is that only stock greater than 300mm can be processed by hand or with push sticks as appropriate. Anything smaller must be held in an appropriate jig.

# Occasional table

The table design is simple and elegant with solid tapered legs, a lower shelf made from an MDF core covered with 3mm bandsaw-cut veneers and enclosed by four lower rails. The top is made from solid boards butt jointed together, a 22.5° chamfer on its lower face and with a delicate string inlay and a 2° chamfer on its top face. Domino joinery is used throughout and traditional buttons housed in a groove cut in the upper and lower rails secure the top.

Not forgetting previous lessons, students were set their first task even before entering the machine room. We were asked to produce a fully resolved drawing of the table in SketchUp, and from this drawing produce a cutting list for all the components required. Training complete, safety goggles and ear defenders on, the first machine we operated was the cross-cut saw, which we used to break down walnut (*Juglans regia*) boards into appropriate sections. An important consideration when cutting thick, wide stock with this machine is to ensure some relief is created at the start of the cut. This mitigates the risk of blade binding as the cut across the board proceeds. With the boards broken down, they were then processed through the planer-thicknesser and tablesaw to provide the dimensioned components for the table.

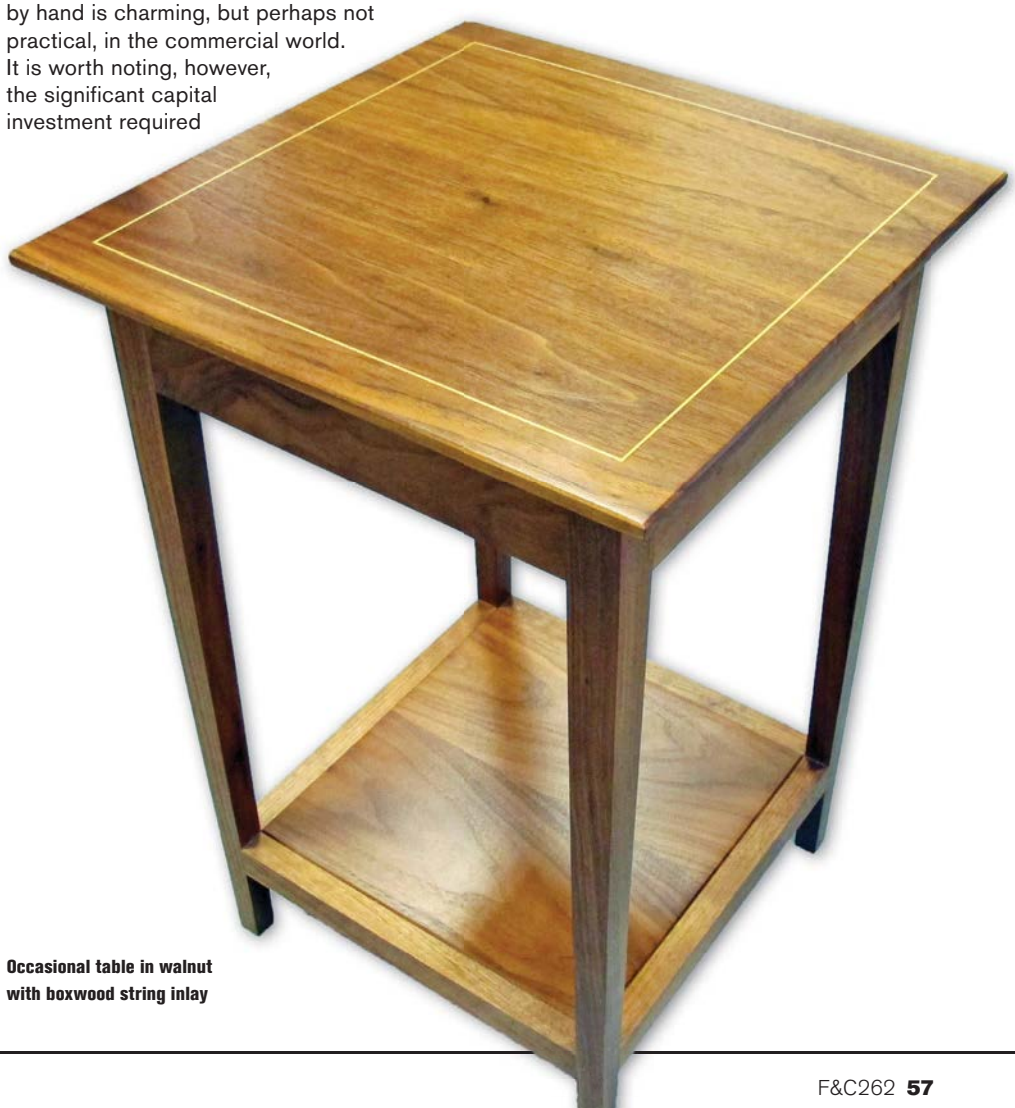
We are fortunate at the school to have a sophisticated wide belt sander at our disposal with the capability of removing 0.1mm thickness of material across a maximum width of 1100mm in a single pass with remarkable precision. As such, all components are dimensioned 0.5mm over thickness and then sanded to their final cutting list dimension. Shorter sections of material must always have a backing board placed directly behind them for support. The sander was particularly useful in achieving the correct dimensions for the veneers cut on the bandsaw for the lower shelf, and for flattening the veneered shelf and table-top once they had been glued up.

With our components appropriately dimensioned, we turned our attention to the spindle moulder which would be used to taper the table legs, put the chamfer on the underside of the table-top and to cut the grooves in the upper and lower rails. As indicated in the HSE information sheet, the spindle moulder has a long history of serious injury associated with it and is perhaps the most feared machine in the workshop. That said, when operated in a safe and correct manner, it is one of the most versatile and useful machines available to the cabinetmaker. Our first task was to apply the taper to the table legs and for this a tapering jig with toggle clamps was used to hold the components safely, ensuring the operator's hands were firmly out of harm's way. Each leg component was placed in the tapering jig and a rebate block and bearing guide were used in conjunction with the spindle fence to apply a taper to two adjoining faces of each leg. Next, the rebate block was tilted at a 22.5° angle, the table-top was held vertically against the spindle fence and the chamfer was cut in two incremental passes. Finally, the rebate block was replaced with a 3mm groove cutter and grooves were cut into the upper and lower table rails.

With all components appropriately machined, the leg rails and lower shelf were joined together with Dominoes and glue. Attention then turned to finishing the table-top. The 1.5mm groove for the string inlay on the table-top was cut with a router and fence, stopping just short of the points where the grooves intersect at the table corners. These groove corners were then carefully cut by hand using a narrow-gauge chisel. 1.5mm commercial box wood stringing was carefully selected both for colour and dimension (there can be significant variation across a bundle). The stringing was mitre cut with a sharp chisel to just a fraction over length so that it fitted into each groove with a slight bow. This ensured a tight mitre was obtained at each corner when glued into place. The table was then hand and orbital sanded to 320 grit followed by grain raising with hot water and further sanding. Application of three coats of Danish oil completed the project.

Training aside, creating the occasional table took just over a week. The use of machinery made short work of the preparative tasks, while hand-finishing details such as the inlays ensured the table retained the character of a hand-built piece. The thought of going back to making pieces by hand is charming, but perhaps not practical, in the commercial world. It is worth noting, however, the significant capital investment required to set up and maintain the equipment that was used in this project. In the weeks ahead, our tutor Graham remains ever present in the shop to oversee machinery checks before every use, and to offer guidance and support. Our newly acquired skills and the efficiency offered by the machine shop will be put to good use in the coming months as we endeavour to make the challenging self-design projects that lie before us. F&C

**Head tutor Graham Loveridge using the spindle moulder to apply the taper to the legs of the occasional table**



**Occasional table in walnut with boxwood string inlay**

# A furniture-quality custom frame

## References


Mak, Charles. 'A mitre shooting block for precision work'. *Furniture & Cabinetmaking*. Issue 236. October 2015.

Wearing, Robert. *The Essential Woodworker*. Lost Art Press. 2010.


**Cutting joints by hand challenges your skills. Charles Mak illustrates the technique of cutting a half-lap mitre joint that gives a rock-solid picture frame**

Don't be fooled by the simple look of a half-lap mitre. The half-lap mitre may not sound as sexy as a dovetail, but it is by no means an easier joint to cut, even for a skilled dovetailer. It requires the same kind of attention to detail and sawing skills to make as any other taxing joints. Your skills and patience will be rewarded with tight corners and flush joints that are the hallmarks of a well-made frame. Are you ready for the challenge?

## Mitre joinery

Mitred frames are usually toughened up in their corners with some kind of fastener, such as loose splines or brads. When good appearance is also required on the edges, loose tongues or biscuits can be used. A half-lap mitre joint combines the element of visual aesthetic (the mitre) with the strength of a structural joint (half-lap). It gives the frame a conventional-looking mitre joint on the front, with a half-lap on the back (see diagram on opposite page).

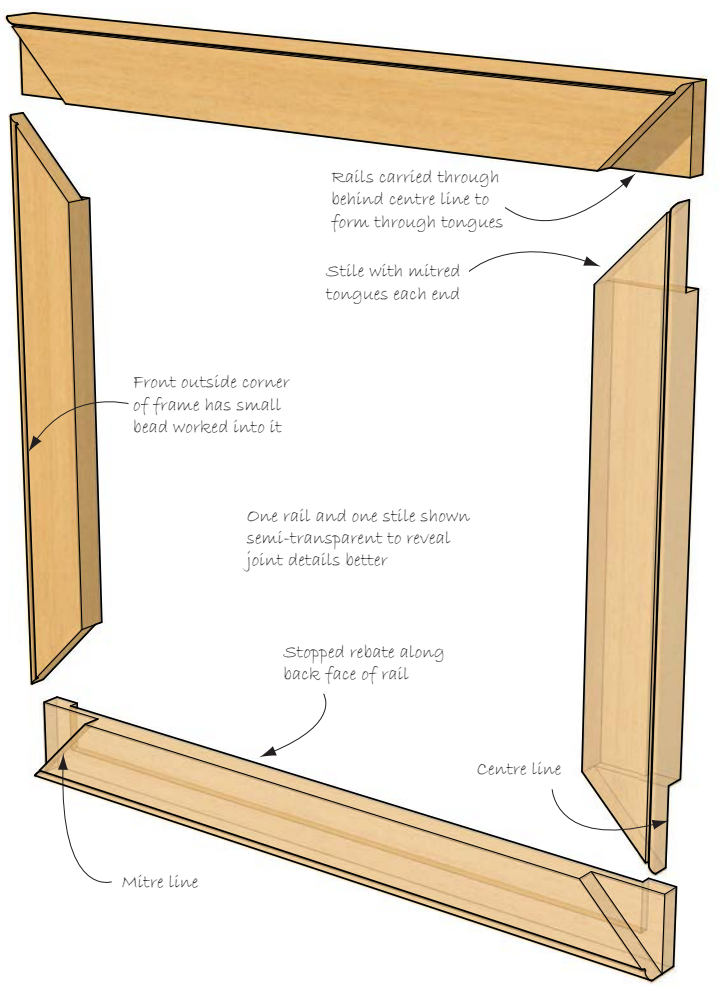
PHOTOGRAPHS BY CHARLES MAK

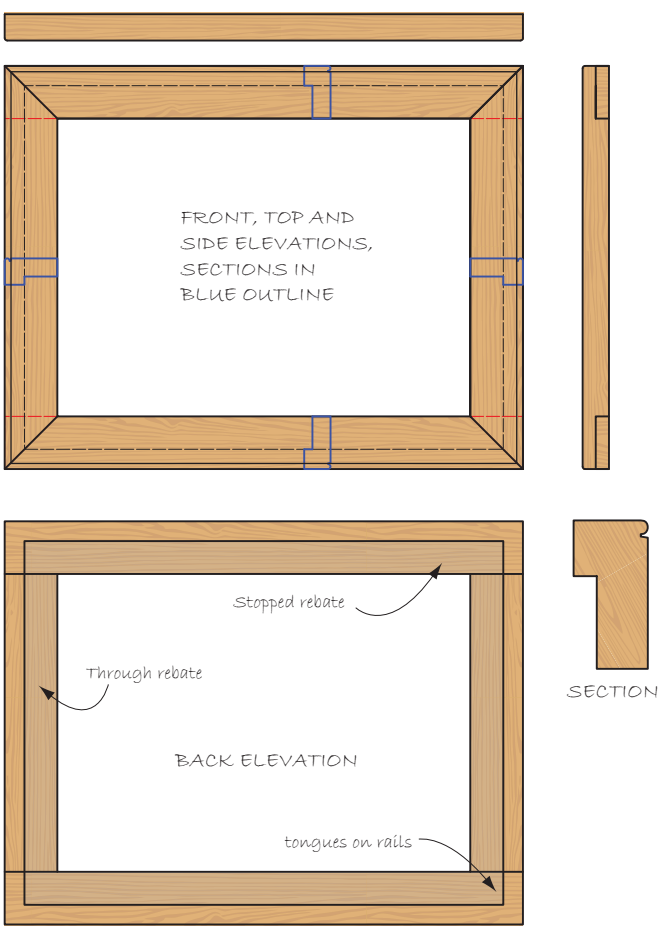
**To help start the saw, you can chisel a triangular nick on the waste side of the line**

**Try to saw up to the gauge lines, not clear of the lines, so as to keep paring to a minimum**

**The mitre shooting block is also ideal for trimming or squaring the shoulders**

**Display your favourite print in a handcrafted frame for a change**



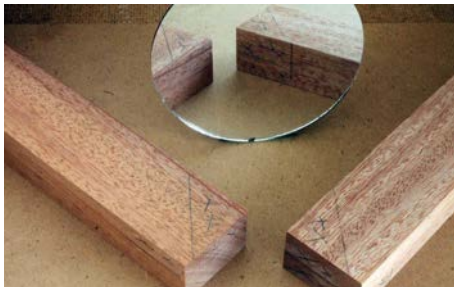



## Setting out the joint

I planed all the stock to identical width and thickness, removing all the machine marks in the process. You can cut the halves in either order; I started with the mitred tongues. I also chose the tongues as the stiles as I wanted the shoulder end-grains to be visible on the sides.

With a pencil, I first roughly marked the cut lines and waste to be sawn. At the scribing stage, I would knife all the mitre lines with a combination square, and score the rest of the lines with marking gauges.

To avoid resetting the stop for separate measurements, I used two marking gauges: one gauge set to the stock's width ('the width gauge'), and the other set to half of the stock's thickness ('the thickness gauge').



**The pencil marks help prevent unnecessary layout or cutting mistakes**

## Marking out the mitred tongue

I scribed the mitre line on the tongue piece, starting from the outside corner down to halfway of the inside edge. Then, with the width gauge, I scored a shoulder line around the underside of the tongue piece and edges. Lastly, the thickness gauge was used to mark a centreline along the three edges of the tongue piece. Repeat the same layout steps for all other tongue pieces.

**Start with a light stroke, then two heavier strokes, to avoid the first cut following the grain line**

**Hold the 'width gauge' tight against the end to scribe the shoulder line**

**Use the 'thickness gauge' to scribe the centreline around the end and both edges**

## Marking out the mitred shoulder lap

Next, on the shoulder lap piece, I scored a mitre line from the outside corner ending halfway on the inside edge. To mark the centreline, I simply ran the thickness gauge along the top end and inside edge. Proceed to mark all your other shoulder lap pieces in the same way.

**For the rail, the centreline is scored only on the inside edge and end**

## Cutting the tongue

Cutting is the critical part. For lap joints or tenons, I usually start with the cross cuts, roughly providing a baseline for the vertical cuts. First, I chiselled a shallow channel on the mitre line as a saw guide. With the workpiece held down, I sawed down the work up to the centreline. As in the case of cutting tenons or dovetails, saw to the gauge lines, rather than clear of the lines, as much as you can.

I flipped the piece over and sawed halfway down the shoulder line at a right angle. With the work cramped vertically, I started to saw at the far corner, gradually lowering the saw to cut a shallow groove on the end. I then sawed down the vertical gauge line, removing the waste to form the tongue.

**Butt the sawblade against the chiselled groove and saw down to the centreline**

**Chisel a sloping groove on the shoulder line as a saw guide and saw down the line**

**After sawing from corner to corner, I finished the cut with horizontal strokes**

## Cutting the shoulder half lap

For the mating shoulder lap piece, I cut the mitre in the same manner, up to the shoulder line. I cramped the work obliquely in the vice when sawing down the vertical line to remove the waste to expose the half lap.

**If you need some sawing warm-up, start with the half lap, which is simpler than the tongue to cut**

**Avoid sawing down two scribed lines at a time or sawing to a line that is out of sight**

## Fine-fitting the joint

After cutting all the frame members, I pared the lap surfaces with a sharp chisel until the joints were flush on both faces. It is faster if you use a router plane to trim the parts to depth. For fine-tuning the mitres, I used a low angle smoother with my secret weapon: the unrivalled mitre shooting block. Alternatively, you can shoot with a shooting board fitted with an auxiliary angled fence.

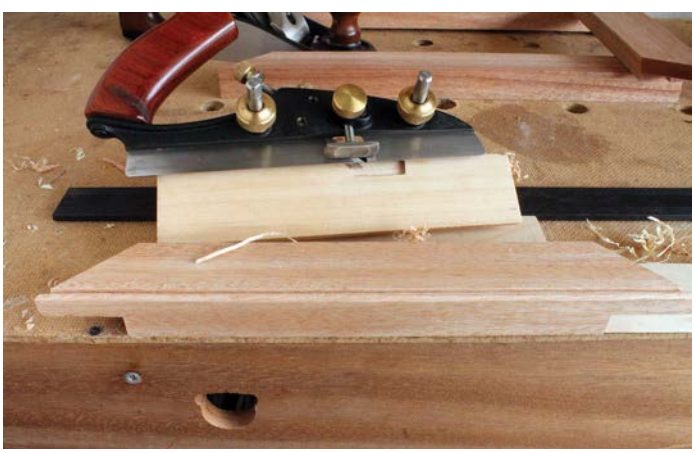
**With the stock pinched in the mitre jig, I trimmed the mitre with a precise finish cut**

## Rebating and beading

Many find it easier to cut a frame's decorative elements and rebates when the workpieces are still flat and rectangular. However, I chose to cut the mitre and then bead, as beads cut that way would always meet seamlessly at the corners.

I first cut the rebates on the back of the frame with a skew rebate plane. For the stopped rebates on the stiles, I chiselled the last sections after cutting most of the rebates with the plane. A simpler but less elegant approach is to cut through rebates on both the rails and the stiles, and then carefully plug the openings. Finally, I ploughed a round bead on the outside edges.

**A through rebate was planed on the rails, while a stopped rebate was cut on the stiles**



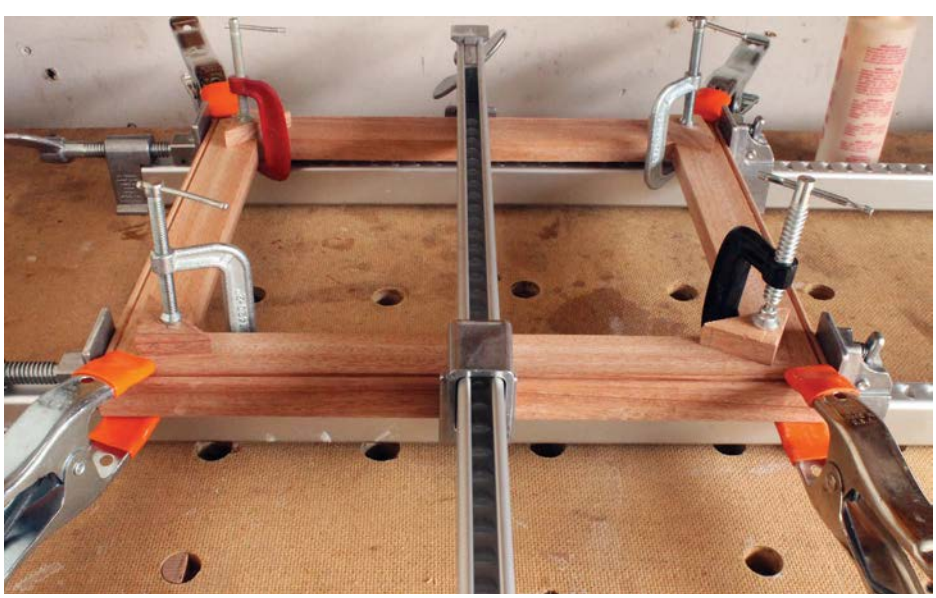
**I used a back-bevelled cutter so I could bead against the grain without tear-out concerns**

## Assembly and finishing

Mitres can be a hassle to glue up, often requiring the use of speciality cramps or cramping jigs. But for lapped mitre joints, some bar cramps and spring cramps are usually sufficient for getting the job done. I would recommend using a reversible glue such as liquid hide glue, if you usually struggle with a mitre assembly.

Put on a few coats of finish of your choice, and, after the finish cures, your frame is ready to receive its glass, mat, artwork, backer board and mounting hardware.

Framing your treasured family memories or woodworking inspirations is distinctly gratifying when you do it by hand! *F&C*



**C-cramps and spring cramps kept the faces flush while bar cramps drew the frame together**

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# UNDER THE HAMMER:

# A connoisseur's collection

**We look at examples of 18th-century furniture from Bonhams' European Collections**

Bonhams European Collections auction, which was held in London in June, featured several items once owned by Charles Alfred Vernon.

Vernon was born in the late 19th century in Sheffield and traded as a manufacturer's agent, initially for Jonas and Colver who produced alloy steels for the automobile and aircraft industries.

He started to collect antique furniture from the Queen Anne and George I, II and III periods when he moved to London in the early 1900s. He added and exchanged a number of items during the war years, a time when many fine items were coming to market including the legendary Percival Griffiths Collection, which was auctioned in 1939. Vernon worked with renowned London antique dealers such as Botibol and Partridge who advised him on obtaining and preserving the best pieces of furniture for his collection. Vernon was meticulous in keeping records and most of the lots included in the auction were sold with their original receipts.

Since his death in 1959 his family have bequeathed a George I walnut armchair and a George II mahogany armchair with Mortlake tapestry to the National Trust's Mompesson House in Salisbury.

## £10,000

**An early George II walnut chest on chest. The upper section has a cavetto cornice above three short and three long herringbone banded drawers flanked by fluted canted corners; the lower section has three further long drawers. Vernon's records show that he bought this piece from H.C. Foot in Oxford on 13 March, 1940 for £74, plus £3 for restoration.**

## £23,750

George I walnut armchair. It has an upholstered arched back and shepherd's crook arms and the seat rail has an unusual c-scroll moulding. The cabriole legs are carved with shells and husks, ending in well-carved claw-and-ball feet. Vernon bought the chair from H.C. Foot in Oxford on 19 March, 1941 for £135.

## £18,750

A fine early George III mahogany tripod table. The table-top has an unusually carved piecrust edge, it sits on a fluted and whorl-carved column and cabriole support divided by Gothic panels and carved with acanthus and ending in stylised dolphin feet. This piece was probably purchased from J. M. Botibol, on 12 April, 1939 for £150.

## £2375

A George II walnut lowboy. It has a quarter veneered and herringbone banded top above one long and three small drawers, on cabriole legs with claw-and-ball feet. Vernon bought the lowboy from Birch & Gaydon at 8th Antique Dealers Fair, Grosvenor House on 15 June, 1948, along with 96 pieces of Georgian flatware for £1250.

# 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***

£66.50

PHOTOGRAPHS BY DEREK JONES/GMC PUBLICATIONS

## MINI TEST
## Bahco 100mm Smooth Cut File Set

Break it down and the process of making furniture or anything else for that matter is merely a series of problems solved; the accumulative effect being that, as one progresses onto the next project, there should be fewer new problems to solve. The reality, as I'm sure you're aware, is quite different as nothing raises more questions than a series of freshly answered ones. And so it was when I needed to fine-tune the mortises on a batch of marking gauges. Until now I've been relying on the accuracy of paired tooling to obtain a good fit for the beams as they passed through the mortise on the stock; a 19mm dia. drill bit matched to a 9.5mm radius half-round router cutter. If a good interference fit was the desired outcome I'd be laughing, but in this instance a degree of wriggle room was required and after dismissing the finest rasps available (that's finest as in least coarse), I happened upon this set of fine files from Workshop Heaven. These are 100mm-long smooth cut files made by Bahco suitable for metal and wood and come with a Holtzapffel-style handle made from English walnut with a brass ferule. The dimensions make them extremely useful for fine work, and with a little practice leave behind only a trace of a toothed pattern. The trick I discovered is to reduce pressure at the end of the stroke before lifting the tool off the surface of the material. OK, so it may not be rocket science but there is a knack to it and it's one I think you'll find solves a lot of fettling issues.

To keep your files in tip-top condition I'd recommend investing in a few sticks of French chalk to rub on the file before using it. The chalk dust sits in the fine gullets of the grooves helping to prevent the wood dust from getting too attached to the file. Periodically or at the end of a session you can brush the waste material away with a brass wire brush. This five-piece set includes a single cut tapered round, a half round that's double cut on the flat side and single cut on the round side, a thin bladed warding file double cut on both sides and edges, a double cut tapered triangular file and a flat hand file with one safe edge. To use a moulding plane analogy this is the equivalent of a complete set of rounds and hollows with a multi-plane thrown in. And at £66.50 including the tool roll, that's a lot of precision shaping right there.

*Web: www.workshopheaven.com*

## Dictum Saw Vice

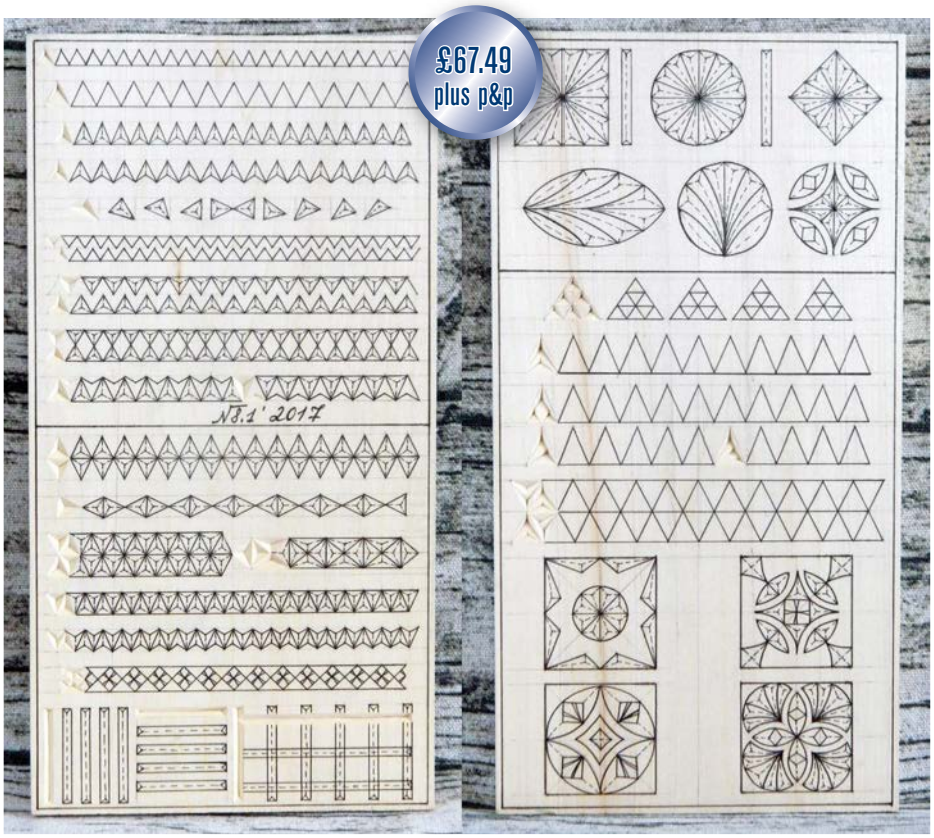

On my travels earlier this year I came across this saw-sharpening vice in the tool showroom at Dictum in Munich. As much as I like making things like this for myself, and I've shared my plans for something similar in *F&C* 230, if I'd seen this first I might not have bothered. Made from ash, the jaws are cork lined and sprung apart with a very simple but effective cam lever lock mechanism. The square stock can be clamped in a regular vice or in the jaws of a wagon tail vice at a height that makes filing comfortable. Considering the work involved to make one, let alone the cost of materials I think €129 is a steal. Ignore the Japanese saw plate shown in the jaws in the picture. My gues it was left there after an impromptu demo earlier in the day!

*From: www.dictum.com*

## Chip carving practice board

Whatever you decide to learn, whether it's a second language, a musical instrument or deep sea diving, one thing is certain: you'll start by mastering the basics. And so it goes for chip carving. Tatiana Baldina creates the most exquisite items decorated with chip-carved patterns, which have captured the imagination of craft lovers all over the world. In addition to her finished pieces she has now made available a two-piece practice board set for beginners to get acquainted with the art form. Each set comes complete with a series of patterns hand drawn onto the board in varying degrees of complexity with a small section pre-carved to serve as a reference, and one complete panel. In short, they're the perfect way to expand your decorative repertoire. We love this idea and have asked Tatiana to write a short series outlining some of the techniques you can use to get started, including how to generate patterns and which tools to use. For now though visit her Etsy store and get yourself kitted out with a starter pack.

*From: www.etsy.com/uk/people/tatbalcarvings & tatbalcarvings@gmail.com*




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.


# Tricks of the trade. . . . . .Perfect veneer seams

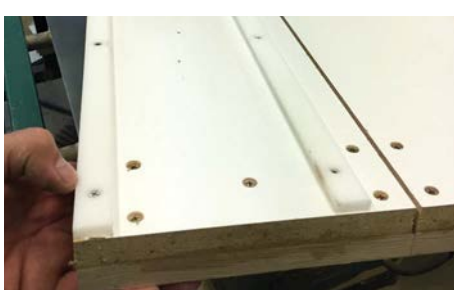
**No guillotine? No problem. Ramon Valdez uses a dedicated crosscut jig to trim square edges ready for assembly straight off the saw**

I love veneer, the possibilities in furniture making abound when it is used. Cutting perfect seams is essential for making a quality product and this sled makes it easy, repeatable and accurate. It works similar to a crosscut sled with one obvious difference – it rides and is guided by a straightedge. You could use one made of aluminium, phenolic or whatever you have, but it must be straight and true. I have my tablesaw fence exactly parallel to the blade, so it was easy to set up. By placing my straightedge along the fence, I created a position to allow me to accurately line things up. I used a machine screw threaded into the cast table as an anchor point to enable consistent setups in the future.

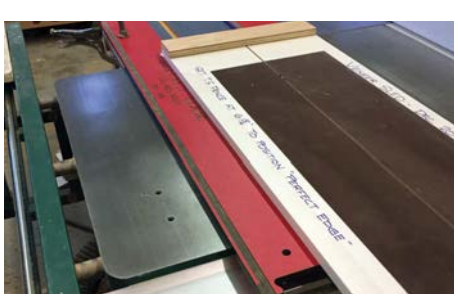
The sled consists of the main platform and two runners. I used plastic (Ultra High Molecular Weight Polyethylene – UHMW) or you could use phenolic or even quartersawn wood. The shorter straightedge that's clamped in place is just to offer support. Also note the sandpaper applied on top for better gription. I used a dull blade to

PHOTOGRAPHS BY RAMON VALDEZ

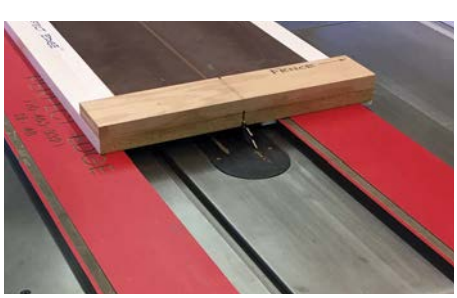
1. Fix a suitable straightedge in place with a machine screw directly into the saw table-top



2. Use UHMW strips to guide the sled between the rails



3. Ensure you have sufficient length in the sled to accommodate a wide range of veneers



4. Use a stop at the far end of the rails to limit the sled's travel and prevent the blade from becoming exposed

cut through the sandpaper just for the first few cuts. After that I like using a rip blade (Alternate Top Bevel – ATB) to make my cuts. In use, the blade should just barely be above the veneer or veneers that you're cutting. I always use a fresh sacrificial board (particle board shown here) to keep the veneers in place, reduce flutter and provide a zero clearance cut. The use of toggle clamps to secure the sacrificial board and veneer pack results in a hands-free operation.

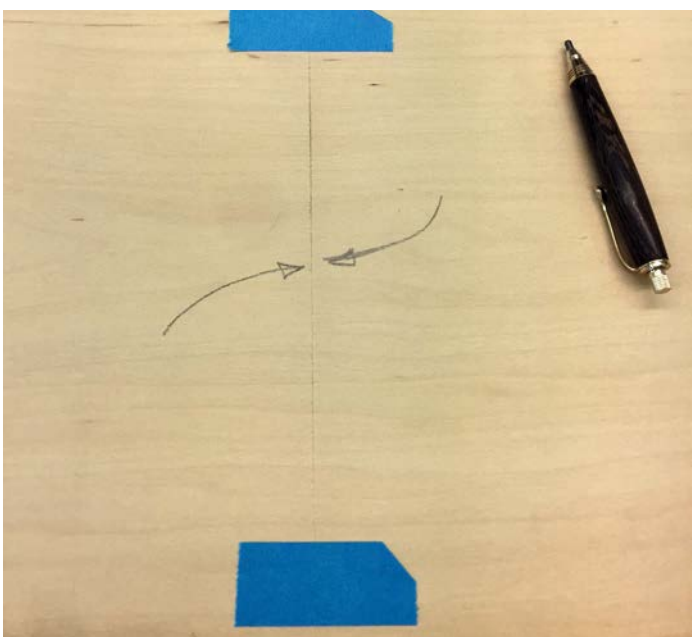
I love this method and straight off the saw (no shooting with a hand plane necessary), I can easily produce perfect seams that disappear when glued together. I simply edge glue, then pull the joint together with blue tape. Alternate the tape location from front side to the back side to prevent the veneers from buckling. To keep the thin veneers lined up while gluing, it's vital to use a small roller to apply adequate pressure. Keep applying tape where needed to create a perfect veneer seam.

## Check your set-up

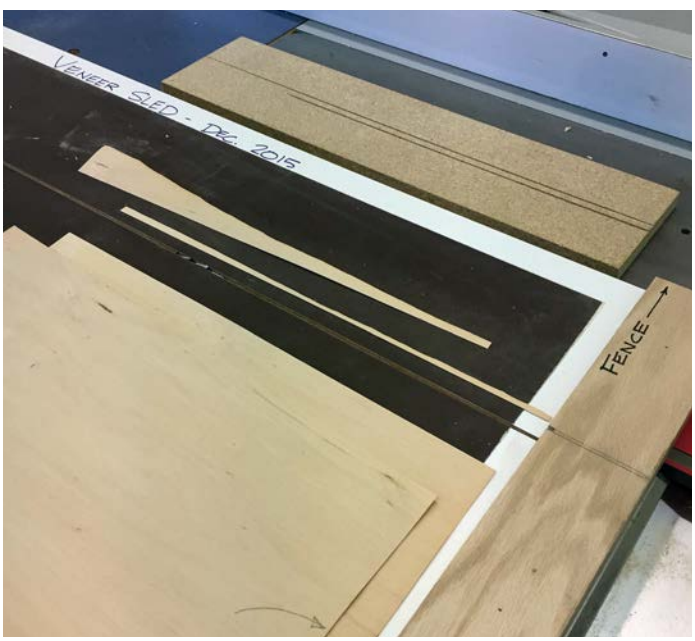
In the US and other parts of the world there is a different approach to using a tablesaw than in the UK and other parts of Europe, so to some readers this jig may seem a little unconventional. It will not allow the saw to be operated with a crown guard that's attached to a riving knife. However, larger machines built for commercial 'shops typically have this safety feature suspended from an overhead beam allowing sleds to be used safely. The production 'shop where I use this sled has precisely that set-up. The dangers associated with tablesaws extend beyond those related to the blade and include the extraction of fine dust particles. We use a lot of sheet material and consider the crown guard to be an extension of our dust management system. F&C

**5. Move your fence so it does not interfere with the path of the veneer when cross cutting**

**6. Use a fresh piece of sacrificial board for each cut**

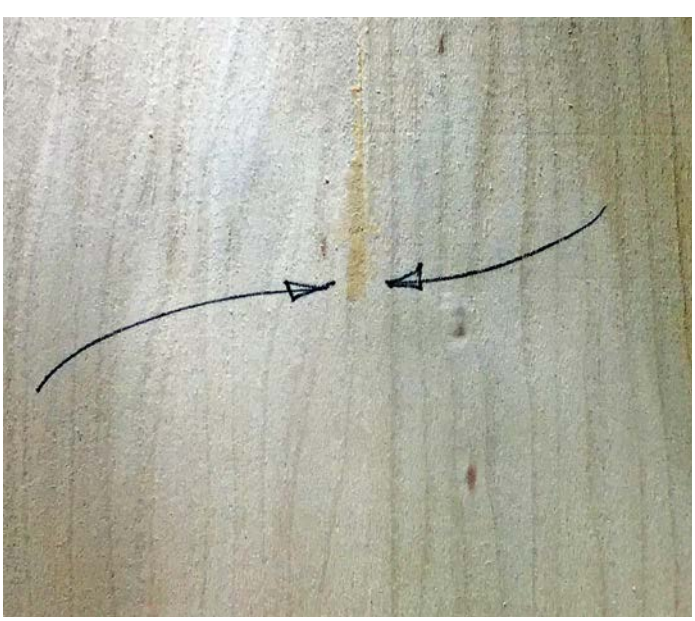


**7. Apply tension to the tape from alternate leaves**




**8. Adjust the height of the blade to accommodate a thicker stack of veneer**

**9. Roll the tape to ensure good contact**



**10. Perfect seamless joints straight off the saw**

PHOTOGRAPH ABOVE © VITRA DESIGN MUSEUM/THOMAS DIX

# Out & about:

# Vitra Design Museum

**This month we head to Germany to visit one of the world's leading design museums**

The Vitra Design Museum in Weil am Rhein, Germany is dedicated to the research and presentation of design, past and present, and examines design's relationship to architecture, art and everyday culture. Its extensive collection of furniture makes this a must-visit.

## History

The Vitra Design Museum was founded in 1989 by the furniture company Vitra and its owner Rolf Fehlbaum. Originally envisioned as a private collector's museum, it initially produced smaller exclusive exhibitions, such as on Erich Dieckmann or the then little-known Ron Arad. In the 1990s, the first major internationally acclaimed exhibitions were presented by the museum, including retrospectives on Charles and Ray Eames, Frank Lloyd Wright and Luis Barragán along with influential thematic exhibitions on Czech Cubism and the future of mobility. Parallel to this, the museum initiated its highly successful system of travelling exhibitions and began to develop its own product lines to help finance the programme of cultural activities. At the same time, the museum's collection was continually expanded and an independent publishing house was established. In 2011, the museum inaugurated a second exhibition space, the Vitra Design Museum Gallery. A new building, the Schaudepot, was opened in June 2016 and is used to showcase key objects from the museum's extensive furniture collection.


**Reconstruction of Charles Eames' office**

## Architecture

A trip to the Vitra Design Museum is a treat for fans of modern architecture. The main building was designed by Frank Gehry. It was Gehry's first European project and is made in his trademark sculptural deconstructivist style. The Vitra Schaudepot was designed by Herzog & de Mauron; it replaced an old industrial shed but takes a similar form to the original factory building. The museum offers regular guided architecture tours of the Vitra Campus.

**The main museum building was designed by Frank Gehry**



# What to see



**The Schaudepot contains 400 pieces of furniture**

**The museum's collection includes work by Charles and Ray Eames, Verner Panton, Le Corbusier, Alvar Aalto, Gerrit Rietveld and many more**

The main museum building holds two major temporary exhibitions each year, while the Schaudepot is used to exhibit items from the permanent collection, which includes 7000 pieces of furniture. There are 400 items on display, made from 1800 to the present day. The objects shown include early bentwood furniture, icons of Classical Modernism by Le Corbusier, Alvar Aalto and Gerrit Rietveld, along with colourful plastic objects from the Pop era and recent designs produced with a 3D printer. On the lower ground level, the Schaudepot offers insights into additional focal points of the collection, such as Scandinavian and Italian design, the lighting collection and the estate of Charles and Ray Eames. The Vitra Design Museum Gallery is used to show smaller, experimental projects.

## Where else to see … design museums

**Cooper Hewitt National Design Museum**
New York, USA
www.cooperhewitt.org

**Danish Museum of Art and Design**
Copenhagen, Denmark
www.designmuseum.dk

**The Design Museum**
London, UK
designmuseum.org

**Gordon Russell Design Museum**
Broadway, UK
www.gordonrusselldesign museum.org

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

**Triennale di Milano**
Milan, Italy
www.triennale.org

**Victoria & Albert Museum**
London, UK
www.vam.ac.uk

## The ultimate coffee table book

This autumn, the Vitra Design Museum will publish the *Atlas of Furniture Design*, the most comprehensive overview of the history of furniture design ever published. The 1000-page book documents over 1,700 objects by approximately 280 designers and 130 manufacturers, and features more than 2750 images. Based on the museum's furniture collection, the book has been several years in the making involving a team of over 60 authors.

## Information for visiting

**Address:** Charles-Eames-Str. 2, D-79576 Weil am Rhein, Germany
**Website:** www.design-museum.de/en
**Opening:** Open daily 10am–6pm
**Charges:** 17.00 € (15.00 € with reduction) for combined Vitra Design Museum & Schaudepot, separate tickets are also available

Information correct at time of publication, check Vitra Design Museum's website before making your visit

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# An airbrush with the past

**In a brand-new series Derek Jones shares a selection of his favourite pieces from the *F&C* archives**

*F&C* is an invaluable resource of knowledge and inspiration to many, me included, but I suspect very few have access to the complete back catalogue of all 262 issues. My office archive is stored in binders and takes up nearly 5½ft of continuous shelf space so I guess that's hardly surprising. The depth and breadth of expertise contained within these 25 volumes amounts to several lifetimes worth of experience and insight into the different ways to shape material into pleasing and useful artefacts. And although 21 years is a mere blink of an eye in the overall scheme of woodworking techniques, I'm always fascinated by how much or how little things have changed. Oddly enough the changes that we might constitute as being 'for the better' are generally as a result of delving further into the history of cabinetmaking to bridge the gaps in our knowledge. Changes 'for the worse' are largely down to the influx of products and materials that promise much and deliver very little.

At the heart of every article is the desire to connect with our audience and share as unambiguously as we can ideas and concepts that contribute to the general story of furniture making. Pictures play a huge part in that process and we've been fortunate to have a great team of technical illustrators on board since day one, which was some time in November 1996 if anyone's counting. Over the next few issues I'm going to share with you a few extracts from our back catalogue by one of my favourite contributors, Ian Hall, whose illustrations helped to convey a mind-boggling range of technical information. The images are the best quality scans taken from Ian's original airbrush artwork on to A3 card, which I know isn't quite like handling the real thing. These images are masterpieces in their own right; highly stylised and unique in every respect. I hope you enjoy them.

Our first airbrush with the past appeared in the August 2001 issue 55 to support a project by Gordon Fry. Gordon made the piece to complement an earlier commission for a Georgian-style table. His attention to detail stems from a traditional training in antique furniture restoration and cabinetmaking. Note the use of cross grain moulding on the cornice and plinth sections built up onto sections of soft wood. In his accompanying text he refers to removing the bulk of the waste for these using a spindle moulder but preferring to complete the shaping with wooden moulding planes.

With the exception of the back panels, which were made from veneered ply, the entire carcass was made from jointed boards of quartersawn mahogany (*Swietenia* spp.) then veneered with walnut (*Juglans regia*) on both faces. Not obvious from the artwork is that the panels are connected with hand cut lapped dovetails. My favourite feature of the drawing is Ian's fractured glass panels which displays a real understanding and consideration for the materials he's been asked to interpret. F&C

## Next month

Next month we'll be going back to March 2001 and *F&C*'s 50th issue with Ian Lyon's interpretation of a Gillows' ladies dressing table.

NEXT MONTH in

# Furniture &cabinetmaking

ISSUE 263
ON SALE 28 SEP

## PROJECTS
Vic Tesolin's Japanese-style tool box

## DESIGN INSPIRATION
Australian mid-century modern

## ON TEST
Luban No.22 mitre plane

## DECONSTRUCT
Grant Featherston chair

## TECH
Reproduce medieval Gothic decoration

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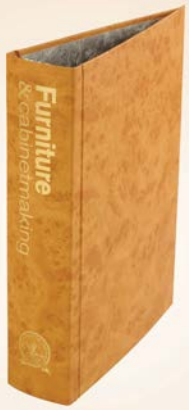


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# Shop talk:
# Gary Rogowski

## *F&C* talks to the Director of The Northwest Woodworking Studio

**When you see a live edge do you think 'lazy sod' or 'creative genius'?**
Not being British, I tend to avoid lawns or any reference to them. I prefer to wander in the gardens of actual creative genius not found in the current liking for an au naturel edge. Design is not chequebook related. It should find inspiration in nature or architecture or the human form. Letting the tree do all the work to produce a beautiful pattern, sticking an ugly base underneath a board to hold up that beauty and then calling oneself a designer, doesn't work for me. A design needs to be integrated throughout.

**If you could trade the workshop for an alternative career what might it be, and don't say writer?**
Captain of industry might work, the head of a major corporation would be better, general of an empire could fit, but most likely an actor. Being a ham bone in front of students I have found to be a useful skill and I enjoy parading my small wit in front of them.

**Describe your most memorable eureka moment in the workshop?**
Besides cutting myself with a chisel do you mean? Well then it has to be when I realised that after 15 years of designing and building, that I actually knew something. Not a lot, but I realised that I was developing a vocabulary of design. This was an 'a ha' moment for me. I knew that I had forms and shapes at my disposal, things that I knew would work for me.

**Is there a particular style or period of craft you're drawn to?**
I think when Mackintosh, et al, designed the Glasgow School of Art, he purposely put tiles divided into nine squares in each of the stairwells. But they all had a different colour pattern. This was so drunk students could find their way home or to the library or wherever they were headed. Design meeting function. No better example. (For clarity's sake, I do not mean to impugn the students of GSA or their ability to hold their liquor without getting lost.)

The Four of Scotland, then, would be my flame and I the moth.

**Do you think you might have taken woodwork at school if it was offered?**
I did take woodwork in the 6th grade. I gave a lecture, no doubt memorable still to my classmates, on the Wood Screw. It was brilliant, replete with a poster board image of this great invention. I thought very little, however, of the rest of my time in class there. As with most young people, I gave no thought to the value of one's work to one's life. There were simply careers or choices one made to please one's father or mother or bank balance. I never realised that the value of woodworking comes from what it gives back to me and not in what I make at the bench, valuable as that is when I hand it over to someone else.

**What's your sharpening regime, little and often or when there's not a sharp edge left in the 'shop?**
I hate sharpening. I love the results. I have two of most every blade in the shop so I'm lazy. I let the dull ones pile up, use a fresh one as needed, and then when guilt overtakes me, start to sharpen three or four at a time so I have a new fresh rotation of edges to work with. When carving, I strop my edges almost more than I carve.

**Greatest success to date**
Learning to forgive myself. Ergo: not throwing my tools.

**Beyond the bench**
Gary gets up every morning at 5am and starts writing because it is intriguing, difficult and makes him laugh. After his last non-fiction book on mastery and inspiration, he is now writing a book about his late great friend and nemesis, Jimmy the Beagle.

He reads David Mitchell and Salman Rushdie with glee. He believes that Bach's 1st Cello Concerto played by YoYo Ma comes as close to the divine as John Coltrane did.

Gary is not competitive. He is extremely competitive, but, now weighed down by his years, he simply cheers on others.

**What haven't you got time for?**
Wasting time. Like looking for a lost tool.

**How amenable would you be to making a piece of furniture to someone else's design?**
I've done it, when I needed the money. It's like kissing your aunt. It feels dutiful and lacks excitement or risk. It does, however, guarantee you a piece of cake later.

**Is there a Gary Rogowski style that we're not aware of?**
I love African art and I have tried to carve several heads and totems in this coarse rich style. Time flies when I'm carving wood and it always feels like progress when I work on a piece for hours. Plus there are never any mistakes as there can be when building furniture. There are only design opportunities.

**Alive or dead, who would you most like to commission a piece of furniture from for your own home?**
Fascinating question. I would have to go with Wharton Esherick. He is so influential on my work these days. His modernist sculptures, his work with graphic design and the stark simplicity of his designs are very appealing. I would love to be a client and tell a craftsperson 'build me something special'. To give Esherick the reins would be fantastic.

**What's the tool you can't live without?**
One, I only get one? Is it my 6in rule, or my Lie-Nielsen low angle block plane? My ¾ Japanese chisel or my father's leather head mallet he gave me? Very difficult to answer and yet in the end, quite simple. It is my 16in Yates American Band Saw. At my old 'shop, I would tell my students that if there was a fire, and there we were on the second floor, they were to follow the lighted signs to the stairs and safety. I was dragging my Yates bandsaw outside with me on my back.

**Did you ever get a call from that lady from Martha's Vinyard?**
I have no idea to whom you are referring. Had I received that call I would have remembered her or at the very least, I would have given her a name, a shape, a visage for us both to recall with fondness.

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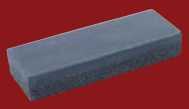

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