FURNITURE & CABINETMAKING





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WELCOME

We're thinking big in this edition of *Furniture & Cabinetmaking*. Dallas, Texas-based Doc Wright of The Wright Edge shares the secrets of how a two-man operation can create massive live-edge furniture that, he admits, wouldn't fit into a single room in his own house. Josh Brower was part of a team that made a stunning live-edge boardroom table that seats 18 and gives a step-by-step guide to how they did it.

How big are your furniture-making dreams? We talk to craftsmen who have turned their love of woodworking into successful businesses, including Canadian staircase expert Brian Guenther; Oregon-based Justin Nelson of Fernweh Woodworking, who takes inspiration from natural curves for his stylish, minimalist pieces; and Andrew Hunter of Accord, New York, who has adopted a simple lifestyle in order to pursue his art.

If you're already running a business and looking to grow, is now the time to invest? We look at the pros and cons to help you decide the best way to spend your money. And who are you competing against? Maybe your biggest and most useful competitor is yourself.

But it's not just size that matters. We've got projects to suit all tastes, including a beautiful round dining table by Thomas Eddolls, a veneered nest of tables by Louise Biggs, a bookcase and shoji screens by Brian Holcombe and a chessboard box with a drawer for its pieces by Michael T Collins. Plus there are top tips on creating a really unusual dovetail joint, carving a headboard and gilding – and much more.

'If your dreams don't scare you, they aren't big enough.'

MUHAMMAD ALI

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F&C ISSUE 298

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



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FURNITURE & CABINETMAKING

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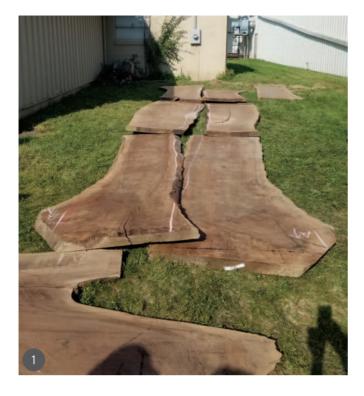


BOARDROOM TABLE

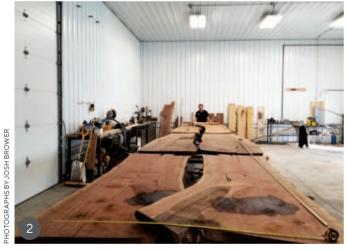
JOSH BROWER EXPLAINS HOW THE TOP FOR AN IMPRESSIVE WALNUT TABLE WAS MADE

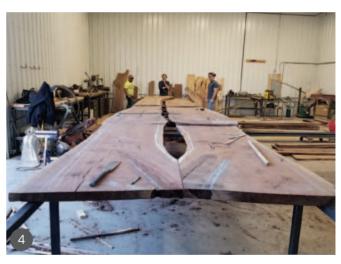
A couple of years ago I was contacted by a good friend who had an enquiry about a large boardroom table needed for a non-profit organisation called the Sanford Health Foundation. The foundation has six regional facilities in North Dakota but was in need of a large table for when all the major administrators and donors come together for meetings. The table involved some specific guidelines, which made the project both challenging and enjoyable.

I'm going to focus here on the table top, and the challenges associated with this. The bases of large tables are variable depending on the use and style of the end user, and could make up an entire article in themselves. Resin table tops with live edges are very popular right now, and I have been actively seeking out and getting trees that will create at least dining room table top sizes in a single piece.









- $\textbf{1} \text{ Laying out the slabs to find the best way to bookmatch and end match them to get 6ft (1.8m) wide and 32ft (9.7m) long pieces for the table top and the slabs to find the best way to bookmatch and end match them to get 6ft (1.8m) wide and 32ft (9.7m) long pieces for the table top and the slabs to find the best way to bookmatch and end match them to get 6ft (1.8m) wide and 32ft (9.7m) long pieces for the table top and the slabs to find the best way to bookmatch and end match them to get 6ft (1.8m) wide and 32ft (9.7m) long pieces for the table top and the slabs to find the best way to bookmatch and end match them to get 6ft (1.8m) wide and 32ft (9.7m) long pieces for the table top and the slabs to find the best way to bookmatch and end match them to get 6ft (1.8m) wide and 32ft (9.7m) long pieces for the table top and the slabs to find the best way to bookmatch and end match them to get 6ft (1.8m) wide and 32ft (9.7m) long pieces for the table top and the slabs to find the best way to be a slab to find the slabs to$
- 2 Back in the shop, the slabs are overlapped to get the edges parallel while maintaining the bookmatches
- ${f 3}$ Using a tracksaw to true all the edges and close the centre to the required size
- 4 Gradually working the wood and cutting the centre while maintaining parallel edges

THE TIMBER

I have my own wood company so that allows me to have first pick of all the wood for the projects that come my way, and my friends who are also makers always come to me first when they're working on pieces that require something special. I specialise in figured American hardwoods, and only use some bits of exotics as accents to these native species.

Large native slabs that are available to American makers in single pieces for dining and boardroom tables are usually claro

walnut, silver maple, Douglas fir, redwood, sycamore (which is a close cousin to London plane) and live oak. If you count bookmatching slabs then most species will yield the typical 42in (107cm) width of a standard dining table in a large tree.

The original requirements for the table were for it to be 33ft (10m) long, and 7ft (2m) wide. I was in possession of some walnut slabs that had been taken from the limbs of the world's largest walnut tree. The slabs were over 7ft (2m) wide and 9ft (2.7m) long, but the uniqueness of them meant the cost was more than













 $\textbf{5} \ \mathsf{Ripping} \ \mathsf{the} \ \mathsf{centres} \ \mathsf{to} \ \mathsf{make} \ \mathsf{the} \ \mathsf{edges} \ \mathsf{parallel} \ \mathsf{again} \ \mathsf{after} \ \mathsf{grain} \ \mathsf{matching}. \ \mathsf{Josh} \ \mathsf{is} \ \mathsf{in} \ \mathsf{the} \ \mathsf{background} \ \mathsf{for} \ \mathsf{scale!}$

6 Detail of the bookmatching on the table top 7 Getting close to finishing the sizing of the table top

8 Welding the levellers in place so each piece of the top can self-level 9 Bronze plates and the joinery to hold the pieces of table top together

the foundation wanted to pay. The foundation also asked for two Lorraine Crosses to be made part of the top of the table, which made the wider tops unnecessary. I knew I was going to provide a large discount for the wood to the foundation to help with the project so they could choose whatever they wanted, but it made most sense to give them a discount on six slabs that would allow three bookmatches and two separations to be made for the Lorraine Crosses that would be placed in the top across the width.

LORRAINE CROSSES

The Lorraine Cross, known as the Crusader's Cross in the Middle Ages, is a two-barred symbol that originally served as a rally point in battle. Its meaning evolved in the 1900s when it became associated with the crusade against the tuberculosis pandemic. It began appearing on hospitals and took on a new, broader meaning as a symbol for the crusade for health. It is now the main symbol for the Sanford Health Foundation.

ARRANGING THE SLABS

There was a team of designers assigned to the project, and multiple meetings ensued to make sure everyone was happy. Moving around 3in (76mm) thick slabs that are 3–4ft (0.9–1.2m) wide and averaging 9–10ft (2.6–3m) long is not easy, even for two people. A number of friends were begged, tricked and paid into lending their muscles for an afternoon of slab movement. The slabs were brought out of the building one at a time and laid out in rapid succession across the lawn in bookmatches. The slabs were then moved over and over and rearranged in different configurations. Sides were picked to see which bookmatch went best with another and were flipped over and over and end for end until three different configurations were found to be possible.

Initially the designers wanted live edges inside that would also be used to allow computer and equipment cords to be brought from the table base below. However, when they saw the true size of what they had asked for they had another meeting and determined that the distance across the table would be too great for easy communication, so they asked for the table to be







10 Grinding the excess bronze to blend into the natural curvature on the outside of the table top

- 11 Josh and Jesse made a great team on this project 12 The end result of grinding blends the wood and bronze together
- 13 Laying out the Lorraine Crosses in bronze for inlay work

narrowed down to 6ft (1.8m). This allowed the removal of the majority of the live edges. After overlaying the slabs to that size, they determined that they wanted very uniform live edges on the inside. As the slabs were 3in (76mm) thick, the bookmatches were not very exact and required custom carving and shaping to make sure every edge matched another.

I used straight lines and outlined them in chalk. I frequently get asked about my chalk. I buy children's chalk, the kind that is used on pavements to draw pictures! It is affordable and large, so it lasts much longer than standard chalk. Once I had the straight outlines for the slabs I measured and marked the bookmatches individually. When the bookmatches were close to the edges, the figure was marked carefully with chalk and straight lines drawn down the centre of the table from them to cut along to bring the figure together as closely as possible. A Festool tracksaw was used to true all the edges and close the centre to the size desired by the designers.

The base had to be welded to allow the proper layout and matching of the slabs and was completed full length by Jesse Lewter (Grain LLC) who had asked for help on the project.

DISASSEMBLY SYSTEM

A secondary project requirement was that the table could be disassembled quickly to make it easy to move. It would need to be possible for laypeople without woodworking skills to reassemble the separate pieces efficiently and accurately.

To make it possible to take the table apart, I designed an affordable levelling system made from a bolt, a hole drilled through the base and a nut welded on the bottom. I didn't want to use nylon bushing nuts since the nylon would wear over time. I used longer bolts so that a second nut could be used to 'double nut' and lock the bolt at the height required to level each edge of the table. Levellers were used around the circumference of each slab so that they could be individually adjusted easily from underneath while someone on top could look and call out measurements until everything was perfect each time.

THE CROSSES

The bronze Lorraine Crosses were commissioned from a local foundry. They were full thickness along the edges so they could be shaped and ¼in (6mm) thick in the centre. They were





14 The pieces of the Lorraine lattice inlaid into the top 15 Sculpting the edges of the table top to be smooth and flow with the grain 16 The table base is a box steel frame cut and welded to size 17 Details on the table top include bowties and epoxy filler for a smooth writing surface and a stable worktop 18 The boardroom table in situ, after two years' use

fabricated wider than the table itself by a couple of inches and delivered in pieces. The pieces were marked along the table size for location and then returned to the foundry for welding. The designers wanted them to match 'seamlessly' into the natural edges on the outside of the table.

Once the final bookmatches were made the outside edges had to be hand carved and matched to blend nicely to the eye. The bronze was cut square and I had to grind and carve the metal to match the natural edges that I had just blended together for appearance.

Once the top was bookmatched, a Domino was used with 3in (76mm) loose tenons; this will allow easy alignment without glue when the foundation's staff need to slide the slabs together to reassemble the table. All of the parts floated on the base to allow for lots of wood movement as seasonal and climate-controlled changes occur.

FINISHING TOUCHES

The top was completed in three separate bookmatched pieces and then finish was applied. Each set was wrapped in moving blankets and transported together to the site before unpacking and layout in the space.

The base was metal welded together for lightness and clad in walnut with room for the wood movement which would be dissimilar to that of the metal. Electrical components would be held on metal shelves welded into the interior framework.

After the base was seated the top was applied in sections and put together before the chairs were brought in. The base was made narrower than normal due to the chairs chosen by the designers, and metal allowed a finer design and lighter frame than if wood had been required.

The final assembly took an entire day on site with the team of workers from the foundation as well as the team from Grain LLC. Two years later I went back and took these photos to see how it was doing – the foundation is still happy.

THE SANFORD HEALTH FOUNDATION

The Sanford Health Foundation was established by Denny Sanford who is also owner of Citibank, and a long time serial entrepreneur. Denny Sanford has already given almost US\$1 billion to care for people around the world and to develop the next generation of treatments and cures. The Sanford Foundation is a philanthropic company that seeks to improve healthcare worldwide for those in need with 100% of the gifts to help given to care for communities, accelerate medical research and drive collaboration to find cures faster, save lives and empower people to live every day more fully.

sanfordhealthfoundation.org









Designers Fran Fang and Sophia Chen reached out to me with a unique project last year. They wanted to outfit an apartment as a tea room, complete with a tatami platform, shoji, architectural details and a bookcase featuring shoji screens. To help with a project of this size, I contacted my friend and fellow woodworker, Allen Fulmer, and together Allen and I put together a proposal for the work.

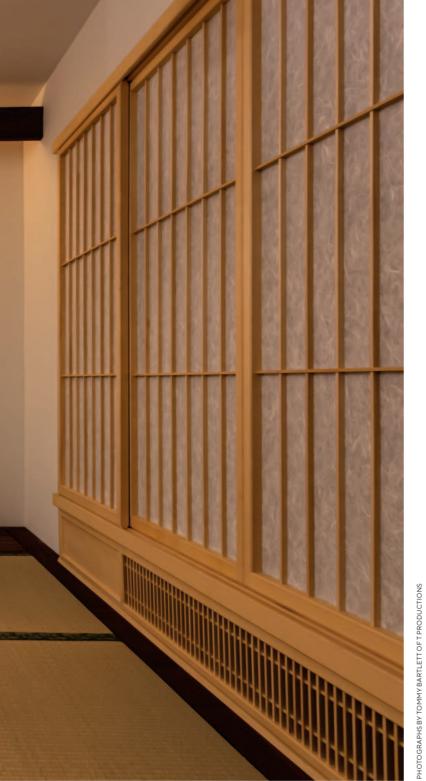
THE MATERIALS

Fran and Sophia chose oil-finished walnut for the casework, tatami platform and shelf. I later proposed mixing in Alasakan

yellow cedar for the architectural details and window covering and together we determined the mix of materials would be great for this project.

THE CASEWORK

I began the build starting with the casework. The casework presented some challenges unique to the installation site because access to the apartment was through a tight staircase or a tight elevator. The finished size of the casework was $14 \times 6ft$, a dimension too large to be carried up in one piece, so I divided the bookcase into four units which would join together on the wall.







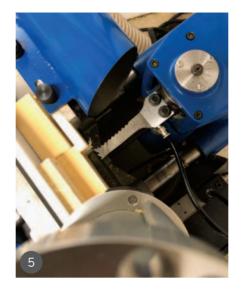
The bookcase sections were separated by heavy uprights which I split into thinner sections and capped off after the case was assembled. The caps hid the seams and provided the necessary visual heft for casework of this scale.

The exterior case was constructed of 8/4 walnut and it was joined together using a combination of dovetailing and mortise work. The case interior was populated by thinner shelves fitted into dado housings and located using stub tenons and plugs.

Once the casework was complete and ready for assembly on the wall, Allen helped me to lift and locate the bookcases on to temporary battens. Once on the wall, and mostly assembled, the bookcase was shifted into its final position and attached. After being joined to the wall the shoji tracks were applied, completing the joinery work.

- 1 The heavy uprights were split into thinner sections
- 2 The assembled casework, ready for installation













- 3 The veneered panels were assembled in a slip-matched pattern 4 LED strips were installed in the casework to light the panels
- **5 & 6** The mortises were made on the swing chisel mortiser **7** The tenons have mitred fronts
- 8 The mortises for the kumiko gridwork were made on the hollow chisel mortiser

THE BACK PANELS

Fran and Sophia decided the bookcase would look best with a set of walnut back panels. These panels would be lit by LED strips placed about the interior of the casework and a wood background was desired. I measured up for the case backs and began fabrication.

To create the veneered panels that would make up the back of the case I worked from shop sawn veneers. Unlike commercial veneers which are around .020in thick, the shop sawn veneers start off heavier and are finished out at around .050in. Veneers of this thickness still behave as veneer, but they can be hand planed to a finish.

After completing the veneer making I began assembling the panels in a slip-matched pattern and gluing them to the birch ply substrate. The material yielded slip-matched sections across the entire back of the cabinet and luckily each panel section was completed with a single flitch of veneers.

THE SHOJI

Once the panels were installed to complete the casework, I turned my attention to making shoji for the bookcase, room

divider and the window frame. The shoji work started by prepping material to size and marking out the joinery. In my approach to making shoji, I use open-ended mortises at the corners of the frame and I connect the kumiko, or gridwork, to the frame using square mortise and tenon joinery.

The mortise work at the frame corners is completed by using a specialised piece of machinery: the swing chisel mortiser. This mortiser oscillates a chisel very quickly while automatically plunging into the material. The resulting mortise is perfectly clean and accurate.

After the mortises were cut I began creating the tenons. I ran fully shouldered tenons featuring a mitred front. The full shoulder and mitred front, referred to as a jaguchi, helps to hide gaps created by seasonal movement. This work was done in a series of cuts on the router table.

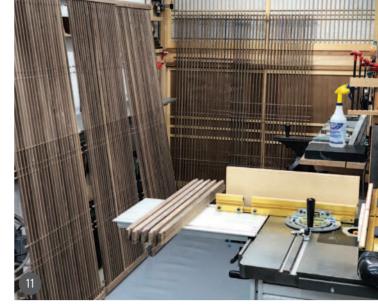
Once the frame joinery was complete I moved to another machine, the hollow chisel mortiser, for making the mortises which will receive the kumiko gridwork's tenons. The kumiko on these shoji were planned at a fairly tight spacing and so this mortise work was carefully laid out. With tight mortise spacing, one must











9 Precise gauge blocks were used to make the spacing accurate 10 & 11 The kumiko grid was assembled using a tight compression fit

be careful about the effect of 'stacking tolerances' created by slack in machine set-up, measurement or simple rounding errors.

This work must be accurate to a few thousandths of an inch between positions or the last position will deviate significantly. To combat stacking tolerance errors, I used machinist gauge blocks, accurate to 0.45um, and put them between two 1-2-3 fixturing blocks to position each cut.

An error as small as .010in could have created a positioning error as large as ¼in at the end of this chain of mortises, so using blocks this precise along with hard-fixed stop positions eliminates two forms of potential error.

Once the mortises were cut, I created slats for kumiko and cut joinery in them using the tablesaw with a dado stack. Positioning on the tablesaw was accomplished using the same stack of gauge blocks and was completed rapidly. The precision of these blocks allows for very accurate spacing on both machines. Eliminating the error from this work pays dividends both in quality and expedience.

After the kumiko grids were cut out, I moved on to the process of chamfering every part, followed by finish planing. A planed surface is considered finished for most shoji, so I left the Alaskan cedar shoji work bare. For the walnut shoji, however, the finished

panels were oiled to bring the walnut to the desired hue and texture. Once finish planed and chamfered the kumiko grids were assembled. They were not glued but rather a compression fit between parts keeps the grid locked tight. This fit was occasionally aided by a process of lightly hammering the sides of the kumiko slats, at the connection, with a rounded face hammer. This temporarily compresses the wood. Once this compression releases back closer to normal, the joint is locked tight.

The shoji work was intended to cover the bookcases, to be used as a room divider and as window covers. The shoji intended to cover the windows for this project were to be backed with washi paper, which allows a soft glow of light to enter.

Once the shoji were complete I returned to the tea room, and with Allen's help, installed the window covers, room divider and bookcase shoji. During the time I spent building out the casework and shoji, Allen was constructing a tatami platform and many architectural details for the room including a beam, a beautiful kumiko grillwork and windowsills. This completed a wonderful project which I am very glad to have been a part of.

You can see more of this project on Instagram @bp.holcombe









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PERFECT CURVES

PARABOLAS AND SMOOTH LINES INSPIRE OREGON-BASED FERNWEH WOODWORKING'S MODERN AMERICAN CLASSIC DESIGNS.

OWNER JUSTIN NELSON TALKS TO F&C

Fernweh is a German word meaning 'to be homesick for somewhere you've never been', and is the name chosen by designer and craftsman Justin Nelson for his woodworking studio in Bend, Oregon. He formed the business in 2015 and launched the first item in what was to become a series of seamless designs in 2017 – his Tripod Table. Since then he has launched a range of small-batch furniture lines including benches, wooden seats and tables and the leather-and-wood Sling Chair, described by interiors blogger Emily Henderson as 'the world's most beautiful chairs'.

Justin takes inspiration both from natural curves and from great modern designers. He says: 'I'm always tempted to say that I'm inspired by nature, but looking around, nature doesn't have many natural, smooth curves. I think a better

description would be that I'm inspired by physics: I've always liked parabolas. I remember really enjoying graphing parabolic functions on my graphing calculator in high school.

'I like taking one or two very simple ideas and making a piece of furniture out of those. For the Oxbend Collection, it was the idea of one tubular curve against which you rest your back, and one shapely seat that was reminiscent of a classic Windsor chair seat with wedged joinery. The outline template for the seat was made from two short straight lights and four circles with varying diameters. The result felt very natural.'

He is also inspired by the designers he most admires: 'Sam Maloof's passion, kindness and work ethic; Hans Wegner's practicality and purposeful creativity and Finn Juhl's obvious pursuit of perfect curves and natural beauty,' Justin says. He



explains: 'Sam Maloof's work is what got me passionate about furniture design. At the time, I just had no idea that what he was doing was even possible. I didn't have any background in art or design or sculpture. I got really inspired by him when I read his book, and I just really admire his legacy and work ethic. After that I did a deeper dive into the great Danish designers. My favourite furniture book is *Just One Good Chair*, about Wegner's designs. He was such an incredibly diverse designer. Everything he did was beautiful, and I really admire how he partnered with manufacturers to make his designs accessible without sacrificing quality. Although he didn't produce the pieces himself, he had a deep understanding of the technical aspects needed for production. With Finn Juhl, I love how you can just see his passion for design come out. He had such playful, lavish curves and details

in his furniture while avoiding any sort of overdone gaudiness.'

Justin didn't start out in life as a furniture designer and maker – in fact he spent years in the Marines and as a wildfire fighter before becoming a craftsman. 'I very much stumbled into this career field,' he admits. 'After college, I joined the Marine Corps for four years. I'm very thankful for those experiences, which include a year-long deployment to Afghanistan working with the Afghan Uniform Police. After my time in the Marine Corps, my wife – who is former Air Force – and I moved up to Oregon and I joined a hotshot crew fighting wildfire for one season. Although I absolutely loved the work and considered staying in the forest service long term, it wasn't a very family-friendly job, especially considering that my wife and I had been long distance for our entire relationship until we moved to Oregon.





I needed to find something that would let me feel like I actually lived at home. In the off-season from wildland fire, I started experimenting in the shop and wondered if I could start a small business selling wooden home decor: planters, vases, shelving and lamps.'

With this in mind, he turned to books, YouTube, Instagram and a lot of trial and error to teach himself woodworking. 'I didn't have any furniture or cabinetry experience when I started this business. The only experience that I realise in retrospect was helpful was hobby tobacco pipe-making. With no real art or design background to speak of, making tobacco pipes for fun was a makeshift introduction to form and sculpture,' he says. Justin's first projects were rustic lamps made from reclaimed wood, which 'looked sort of like birdhouses' and were a starting point that he is now glad to have behind him. Having had two jobs working for the government, he craved independence and the freedom to be creative, so he decided to make a business out of his passion for woodworking. 'It was before we had kids, in the off-season from fighting wildfire. I knew that if I didn't do it then, I probably never would,' he explains.

'There was a lot of stab-in-the-dark experimenting in the early days of the business. I had a lot to learn about woodworking, design, photography, marketing, and small-business financing. The only way that the business survived those first couple years was because we weren't reliant on my income at the time! I didn't

have a grand vision, but I knew that if I persisted I would be able to hone in on my niche over time.' Over the next two to three years he got by on custom work and commissions that were more along the lines of right angles and cabinetmaking than what he does now, but which whetted his appetite to learn more about furniture design. He recalls: 'I began to set aside a little bit of time to start designing pieces I would be more passionate about. That was the beginning of me finding my own place in the woodworking world, and really enjoying the design side of this business. I always say that our mission is to do our small part to keep the craft of woodworking not only alive, but fresh!'

ON THE MOVE

The company moved to a new, 2,000 sq ft workshop in 2020, in the middle of the first wave of the Covid-19 pandemic. 'The first half of 2020 was very scary for the business,' says Justin. 'I had invested very heavily in two big design shows in New York City, and I had already shipped all the furniture across the country and put months of energy into the launch of the Oxbend Collection. I was all-in on those shows and very tight financially as a result. When those shows got cancelled due to Covid-19 and I had a huge crate of furniture sitting in a warehouse in New York City, I almost had a meltdown. I truly feared that this pandemic would end the business.'

But things didn't end up nearly as badly as he had feared. 'As the year wore on and we moved into our larger shop – we









were already too deep into those plans to back out when the pandemic hit – things began to improve. August was our biggest month of sales ever, and then September came along and doubled August! I couldn't believe it. Since then, orders have become more steady, but I think the fact that people are stuck at home has caused them to invest more heavily in their living spaces, which has been good for us. As far as whether that will continue, only time will tell.' Justin now has two full-time employees in the business, Zach and Sara, and says: 'We all have a great time together!'

The new workshop is on the Nelson family's property in the countryside outside Bend, Oregon. 'We still have to pinch ourselves,' Justin says: 'We love the five acres, the mountain views and the fact that I essentially work from home. The workshop is mostly set up for woodworking, but we also have a small leather studio and a showroom that doubles as a photography studio. The woodshop is already feeling cosy, and we'll probably be adding a bit more storage in the coming years. The leather studio also doubles as an office, and has built-in cubbies for materials storage, a large work table and a sewing machine. The showroom has huge shelves for finished furniture, a large photography wall and we also sometimes use that space to crate shipments.'

Justin's favourite wood to work with is walnut, although his preferred finish is charcoal ash – which is white ash, stained jet black. 'It really shows off the deep grain of the ash,' he says. 'Walnut just mills so nicely, and is quite easy to sand and shape,'

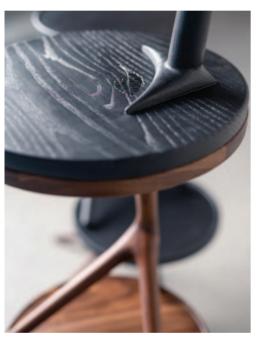
he adds. He also loves working with leather and is experimenting with upholstery for future designs, including leather, wool felt and shearling. 'I'm also a bit obsessed with recycled plastic currently. There's nothing official yet, but I'm working with a local company which is starting to make recycled architectural sheet plastic, trying to put recycled plastic to good long-term use instead of just allowing it to immediately go back to the landfill. It may sound like quite a departure from hardwoods, but when done well it's quite a beautiful material. I'm excited to incorporate it into a couple of future designs,' he says.

For his tool choices he tries to be both creative and classic, and regularly uses a bandsaw, angle grinder and sander, as well as classic hand tools such as Auriou rasps, Lie-Nielsen Boggs spokeshave and sandpaper wrapped around a foam block. He tends to avoid CNCs - 'I spend enough time in front of the computer as it is'. He loves his Shaper Origin, which he uses for engraving logos and serial numbers: 'The Shaper Origin has been key for me: when I really need precise CNC work, whether it's for creating jigs or patterns or carving our logo into our furniture, we use the Origin, but I love that then we can put it away and not be stuck with a huge CNC in the middle of our shop.' His favourite finish is Rubio Monocoat 'because it's consistent, VOC-free and, when applied properly, quite beautiful'. In fact he likes it so much that he has started selling it online and to local woodworkers, and offering advice on its use in furniture.













THE PROTOTYPE PROCESS

Justin's work is mainly on his own collection now, although he does do some custom commissions. His favourite was a recent job for a local plastic surgery practice. He says: 'They needed a reception desk, and in the process they also purchased furniture for the waiting room as well as a few pieces for other rooms. They gave me a lot of creative leeway, and any time I designed anything or made any modifications to our plans, they thoughtfully asked my opinion and what I thought would tie all the furniture together in the room. Since the other furniture was our standard designs that we produce regularly, it was especially fun to get to match a totally custom reception desk to the style that I have already developed. It was quite challenging, but also fun.'

When designing he likes to start with a prototype. 'Usually I'll stew on rough ideas for new designs for months, and sometimes experiment with parts or joints or jigs. Then when I'm ready to start prototyping, I have to be very patient with myself, reminding

myself that it'll probably take three or four full prototypes before I start to actually like a new design. Often I'll hit a mental block, and when that happens I set the problem piece aside for a while.

'My entire Oxbend Collection, which launched in January 2020, was originally only going to be a dining chair, and I was also working out some other new designs for the AD Design Show in New York. But it was all beginning to feel forced. Then, one day while on a nice long run, I realised that I was over-complicating things. The chair design could easily be developed into a bench, which is now one of our best sellers, and a bar stool. Since we don't do much custom work, I really enjoy getting to prolong my design process. My goal is to launch two or three brand new designs every two to three years, and focus on production the rest of the time. Whether I'm designing furniture or a product samples kit for interior designers, I'm constantly asking myself: "How could I simplify this design?" and "Does this addition distract from the minimalism?" To me, minimalist



design doesn't mean pulling out a log to sit on in lieu of a chair: minimalist design seeks to make a piece as simple as possible while accomplishing the creation of beauty and comfort, the synergy of form and function.'

One of his most challenging projects has been to make a dining table, built-in sofa with drawer storage and end-cabinet for a houseboat in the Bay Area, when he was just starting out in furniture. 'I took it on really not knowing what I was getting into – up until that point I had only built one or two dining tables, and a solid wood built-in,' he admits. 'Although I severely undercharged, I also didn't really know what I was doing, so it probably worked out! I learned a lot, struggled a lot and delivered some nice furniture. That order carried me through an otherwise very dry time, and honestly I'm not sure if the business would have survived without those commissions.'

Following the studio's busiest ever late summer and autumn, right now 'we are keeping our heads down, just trying to get

caught up on production. I have a few designs that I'm playing with in my head, but it will probably be several months before I even begin to build them. My plan is to get caught up on orders, and then to build several pieces for our showroom so we can have a "ready to ship" section on our website.

'As the world hopefully begins to open back up in 2021, I see the need to get some physical pieces into showrooms, and up until now we just haven't really had the capacity to do that. The most common reaction I get when people see our furniture in person for the first time is "Oh! It's even more beautiful than the pictures!" That is a huge compliment, as I usually hire my good friend and world-class photographer Benjamin Edwards for photographs, and he does an amazing job! That comment always makes me think I need to get more of these pieces out into showrooms where people can see and interact with them.'

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RISING DOVETAIL JOINT

MITCH PEACOCK PREPARES A MIND-BENDING DOVETAIL JOINT

I first became aware of this joint several years ago, although, due to the way it's assembled, I have yet to use it in any project – I've just made samples for fun. It would make a nice way to connect front legs flush to a workbench top, leaving the back of the bench top to rest free on rear legs or top side rails. As such, for the sake of this article, I shall refer to the female component as the 'top' and the male as the 'leg'.

INITIAL PREPARATION

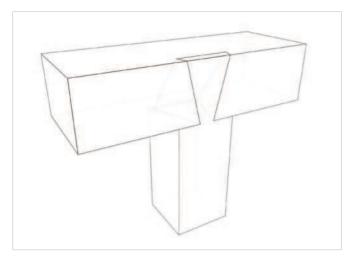
1 The top was prepared parallel in thickness, and with a straight and squared edge. The leg was square in section with a squared end.

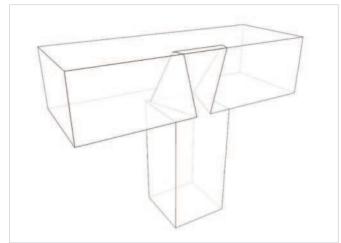
MARKING OUT

2 I used a pencil for clarity during marking out, but crisp knife and gauge lines are certainly advised. The two halves of the

joint are, for the most part, independently marked out, and reducing marking errors at all stages will pay dividends in the final fit. The thickness of the top was gauged around the top of the leg, giving shoulder lines.

- **3** Next, the thickness of the shoulders were gauged on the leg sides and end. I used the same thickness for all shoulders, but that isn't necessary.
- **4** Offering up the top to the leg, held in the vice, the side shoulder lines were transferred and squared around from the top to the bottom surfaces.
- **5** The rear shoulder was gauged on to the bottom surface of the top, showing the position at which the dovetail will first enter during assembly.





















6 After gauging in the desired dovetail thickness on the top and the leg, the sides of the dovetail were marked in.

7 In my case, I used a slope of one in three.

8 On the underside of the top, the same slope angle was used to join the meeting points of the rear shoulder line and side shoulder lines to the front edge. The dovetail this creates matches the previous one at its widest end, and will allow it to enter.

9 The dovetails marked on the top were joined across the front edge, completing the socket layout.

10 The bevel gauge was reset to the slope that these made.

11 With the newly set bevel gauge, the leg dovetail slopes were marked in ...

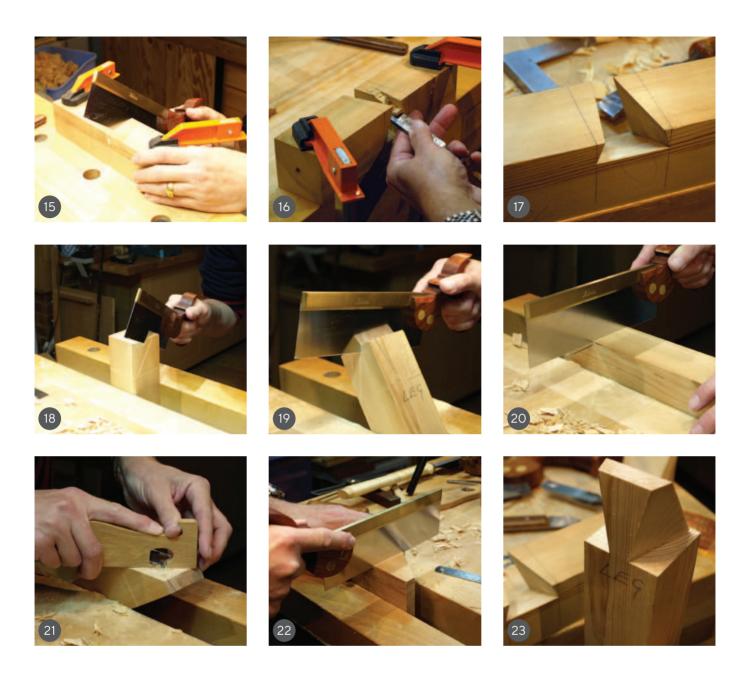
 $12\ldots$ and extending the shoulder lines to meet these slopes completed the tail.

13 To complete the marking out of the leg, the rear line of the dovetail was joined to the intersection of the shoulders towards the rear of the leg.

CUTTING

14 With a sharp saw and chisel, and a steady hand, all that was left was to remove the waste. Starting with the socket, I cut the sides, following the three slope lines, down to the rear of the dovetails marked on the topside and underside.

 $15\ \mathrm{A}\ \mathrm{second}\ \mathrm{cut},$ through the middle, eased waste removal.



16 I used a coping saw to remove most of the waste from one side, and chopped the other. The socket was completed by following up with a paring chisel to create a flat slope, and cleaning into both the corners.

- 17 The completed socket.
- $18\,\mathrm{l}$ began the dovetail by sawing to the dovetail slope lines on the top and front of the leg. The shoulder cuts were left for the time being ...
- 19 ... allowing the back slope to be cut, following the marked lines.
- 20 The rear shoulder cut was made, releasing the rear waste.
- $21\,\mathrm{l}$ used a homemade wooden shoulder plane to clean the rear slope ...

- 22 ... before sawing away the remaining waste from the sides of the dovetail.
- 23 With both halves completed, the joint was offered up a few times, with a little skimming of sawn surfaces in between, before it would slide fully together. With glue applied, it took a fair bit of clamping pressure to squeeze it home.

This is a joint to show your non-woodworking friends. At first glance it looks impossible, then maybe confusing, but once you know how it's done, it's actually fairly easy. Enjoy trying it out, and just between you and me, my first attempt was a right dog's dinner.



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TURNED QUADRANT MOULDING

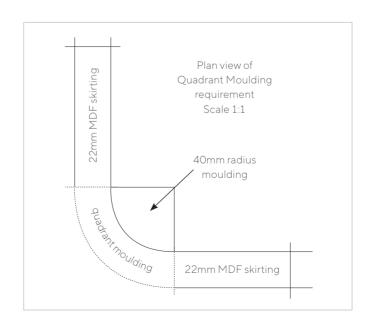
PROFESSIONAL WOODTURNER

RICHARD FINDLEY EXPLAINS HOW

HE MAKES QUADRANT MOULDINGS

FOR BESPOKE UNITS

A good customer of mine orders batches of quadrant mouldings, two or three times a year. David Barham Furniture makes highend furniture and builds bespoke kitchens, studies and bedrooms for customers in the south-east of the UK. His kitchens often feature curved or rounded corner details, most of which he can produce on a spindle moulder in his own workshop, but the moulding for the skirting and occasionally the cornice is best turned. He supplied me with the quadrant that forms the corner of the units and a section of the skirting, leaving the rest up to me.















- 1 Checking the blocks are perfectly square 2 Holding the blocks together in clamps ensures a tight join while turning
- 3 Lining up the pads with 'cross hairs' 4 Fixing the pads with screws
- 5 Mounted on the lathe 6 Turning to a cylinder with my spindle roughing gouge

TOOLS USED

Despite the huge array of tools available to woodturners today, I tend to use a fairly basic tool kit, especially for spindle turning. I use:

- 25mm spindle roughing gouge
- 10mm spindle gouge
- 10mm beading & parting tool (used as a small skew chisel)
- 3.5mm parting tool
- 2mm narrow parting tool



MATERIAL REQUIREMENTS

Tulip is a favourite wood of mine for painted details: it works easily and sands to a smooth, even finish that accepts paint extremely well. My first job is to draw out the detail to work out the dimensions needed.

The corner of the unit is based around a 40mm quadrant, on which the skirting runs. My quadrant moulding blocks need to sit in such a way that the skirting appears to continuously flow around the corner. The drawing on the previous page shows that if I prepare my timber to 65mm square, it should work perfectly.

Because the skirting is MDF and the wood is being painted, there is no need to make the grain run around the corner, which would be necessary if it was a wooden skirting, showing the grain. It will be far easier to turn with the grain running vertically on these blocks. So, I need four pieces of tulip, planed 65mm square and cut a little longer than the 150mm of the MDF skirting. When the four pieces are blocked together, I can turn four pieces with a 65mm radius all at once.

HOLDING ON THE LATHE

Work holding is a huge part of successful turning and there are several ways that this job could be tackled. The primary objective of work holding is that it is safe. Chunks of wood flying around a workshop are at best, unpleasant and at worst require a trip to hospital.

Paper joints - where newspaper or brown paper is added to a













7 Marking out the positions of the details 8 My narrow 2mm parting tool fits this groove perfectly 9 Parting tool in action 10–12 Turning the details with my spindle gouge

joint and delaminates when split to give two perfect halves – work well for split turnings but there is only one chance to get it right with a split turning, it would be great if I could check my progress and further refine or adjust the turning should I need to.

The way that I tackle these quadrant blocks is to fix them together with end pads and screws, which secures them in place, making them safe to turn, but also allows me to remove a quadrant to compare it to the original moulding. Mounting is then essentially between centres, with one end held in a chuck and the live centre giving support at the other, making it safer still.

TIMBER PREPARATION

I use ex75mm tulip and rip it to around 70mm, leaving 5mm to plane off on the planer-thicknesser. It is very important that the planer is set up well and can produce perfectly square sections, otherwise, the blocks won't sit together tightly and the edges will chip, leaving the work less than crisp.

Once the blocks are planed square, they can be cut to length. I usually leave them a few millimetres over-long to give some adjustment when fitting.

I cut two discs of softwood, although any offcuts of timber would be fine. These are just roughly bandsawn round with a centre marked and drilled with an 8mm hole. I then roughly mark the quadrant positions on the discs and drill eight holes, two in each quadrant, with a 6mm drill and countersink, all on the pillar drill.

With the blocks prepared, I stand them on their ends and use

quick-grip clamps to pinch them together tightly. The wooden discs are placed on the ends of the clamped blocks and centred by eye through the central 8mm hole on the join between the blocks, like cross hairs. I pilot drill through the pre-drilled holes and fix 5 x 50mm long screws to hold it all in place. Once one end is done, I flip it over and repeat the process, including using the clamps and screw the other pad into place. The four tulip blocks are now securely and tightly held together.

TURNING

I mount the block on a screw chuck (mine requires an 8mm hole, if yours needs different then adjust accordingly) and bring up my 60° live centre into the other 8mm hole.

Best practice is always to start the lathe slowly and build up to a speed that feels right. I turned these at 960rpm. I turn the blocks to a cylinder with my spindle roughing gouge and then mark out the positions of the moulding.

One of the main things to get right when matching anything on a lathe is to make sure details are in the correct place. I lay the sample of the skirting on the turned cylinder and mark each detail, the main ones being the groove at the base of the moulding, the top of the main bead and the position of the smaller top bead.

If I was turning something like a table leg, I would be able to get the diameters from the original part or a drawing and while I'm sure it would be possible to work out the diameters I need to achieve on paper, I develop the shapes gradually and match them













13 Checking my progress against the sample 14 Removing a quadrant from the block

- 15 Comparing it to the sample shows which areas need more work 16 Further refining the shape
- 17 Sanding with 180 grit 18 The finished moulding blocks

as closely as possible to the silhouette of the sample piece I have, which is remarkably effective.

My first cut is the narrow groove at the base of the mould. I have a very narrow 2mm parting tool which fits this perfectly. It isn't a tool I use often as I prefer a more traditional parting tool, but it certainly comes in handy. From here I can turn the curve into the groove with my beading and parting tool used as a skew and begin shaping the main bead, which flows into an ogee curve.

I use my standard 3.5mm parting tool to cut the small fillets either side of the smaller top bead which I then cut with my spindle gouge.

As I progress, I check the profile of my work against the sample and adjust as I feel necessary. Once I think I am close, or reach a point where I'm not certain which area to work on next, it is time to remove it from the lathe and physically check it against the sample. The block simply unscrews from the screw chuck and I remove the four screws from one of the quadrants. I use a chisel to wiggle it free from the block and hold it against the sample. You can see that the top bead is correct but I need to remove more wood from the ogee, so I reassemble the block and put it back in the lathe, using my spindle gouge to refine the curve. Having this picture is very handy to keep in mind the areas that need work. Once again, I compare it to the sample on the lathe and, once I'm happy with it, I remove the quadrant from the block and check it again. It needs just a tiny amount more and then I can sand.

SANDING

For painted tulip, I find that 180 grit is an ideal level of sanding. It is coarse enough to smooth out any minor tool marks but fine enough that the surface isn't scratched. Many turners will sand to very fine grits, but for painted work it simply isn't needed, or indeed desirable as sanding too fine can round over fine details and lose some of the crispness, as well as giving no key for the paint to stick to. Once sanded with 180 grit I will use a red abrasive pad to give a slight burnish to the surface and it is done.

The end pads can be removed from the block and I'm left with four equal quadrants that match the sample.



A David Barham kitchen, featuring my quadrant moulding blocks







BESPOKE DINING TABLE

THOMAS EDDOLLS DESCRIBES HOW HE MADE A FOUR-SEATER TABLE FROM ELM AND OAK

Partway through 2020 I was approached by a wonderful couple who were locating to a nearby village. They wanted to commission a four-seater dining table to be located in an alcove window space in their new home.







- 1 Elm and oak were chosen as the timbers
- 2 The legs were cut from the solid oak timber and shaped using a ply template
- 3 The joints for the trefoil form were carefully marked out after much planning

DESIGN AND MATERIALS

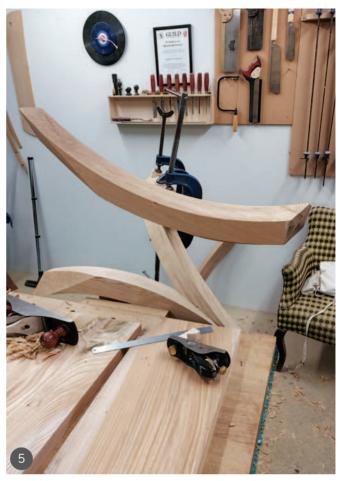
The brief specified a 1,200mm-wide table top to seat four. After initial discussions with my clients, I sat down to sketch out concept ideas in my book by hand. After looking at various models of interplaying leg frame structures I developed a concept that I was happy to develop further.

Arriving at the workshop the next day I rather excitedly began to create a 1:10 scale model to further investigate the idea, very

quickly producing an effective representation of what could be achieved full scale. I contacted the clients to put forth my design solution. Much to my joy and satisfaction the initial response was positive and after a short while the project was agreed and pencilled into the order book.

As oak is a predominant feature in the clients' house our first thought was to make the entire project in oak, but after further discussions regarding contrasting timbers, the clients chose a





4 I mocked up a fit of the framework to check the shape 5 & 6 The underframe was carefully assembled in stages, working around the structure

solid elm top over a solid oak underframe. With these details in mind, I set off to my timber merchant, Tyler Hardwoods, to select the materials for the project.

THE OAK UNDERFRAME

The first part of the making process was constructing the underframe. At the concept stage I had been playing with ways of creating a visually interesting and attractive form from a relatively simple arrangement of common components.

Looking closely at my scale model and thinking about leg room for comfortable usability, the first task was to machine out the leg frame sections. These would be cut out of the solid oak to a pre-determined radius, roughed out on the bandsaw and left to settle before spindle moulding to finished shape.

They were worked from a ply template which was spun to shape via a router on a trammel arm to the appropriate radiuses. The leg sections were left over-length and the template was used to make a sturdy MDF baseboard on which I could mount the legs screwed into the waste section at either end of the leg, before I dropped the set-up on to the spindle moulder with a ring fence and rebate block set-up. As they were cut from the solid

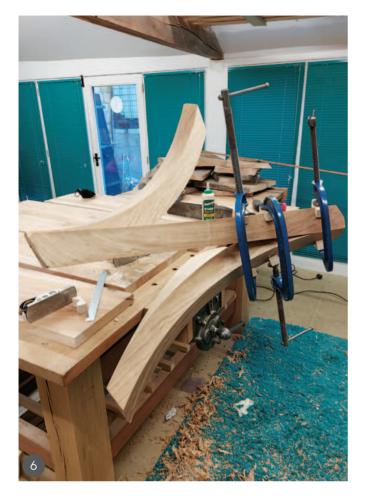
timber, grain direction was a consideration in the machining process, especially with the stock being quite thick at 70mm. I machined one way with the grain and with the arc of the component being a true radius, I was able to flip the component and baseboard over to work with the grain the other way.

With the leg blanks machined out, the next stage was to arrange them into their trefoil form. During the briefing process we all agreed that the three-legged option was stylistically more attractive than the busier four-legged model.

I had a bit of figuring out to do here using my compass trammel heads to work out the jointing angles but, after quite a bit of head scratching, I arrived at a conclusion.

With so many shapes and transverse angles going on, rather than jig up to machine the joints I simply marked them out to carefully measured lines and removed the waste on the bandsaw before hand planing to the correct junctions, being careful to ensure everything was handed up correctly.

Once this was achieved, leaving things over-size for adjustment, I was able to mock up the framework. I used double-sided tape to hold the joints together before lightly clamping the assembly rigid.







7 After milling the elm, the boards were arranged to find the best combination8 A quick check of the top against the underframe

I was pleased with the way the forms were interacting and so I began to fettle everything together more definitely before reinforcing the mating surfaces with a single Domino, which I was just able to get at the stem for reference, and multiple dowels. This gave me a really strong and solid joint.

The assembly process was tackled in stages. I started out gluing the first joint and working around the structure, carefully checking that things were still in the appropriate places, and fettling the joints in by hand where necessary, before finally bringing it all together for the conclusive glue-up.

THE TABLE TOP

Meanwhile, in between these glue-ups, I had been milling out the elm for the table top. I was a bit tight on materials here so had to be careful. After surface planing and thicknessing I played around with various different board match combinations before settling on the final arrangement. With each mating edge run over the jointer, I skimmed off the machine marks with a sharp, finely set No.7 in preparation for jointing and assembly.

I used biscuit joints to reinforce the joints and provide locations for the glue-up, being mindful to mark the finished

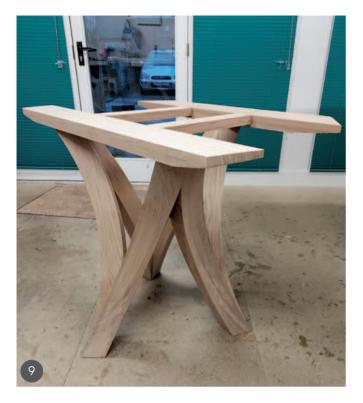
circular shape on to the board selection before strongly marking out the biscuit positions. Shaping the top out to reveal a mechanical beech joint would have been a disaster!

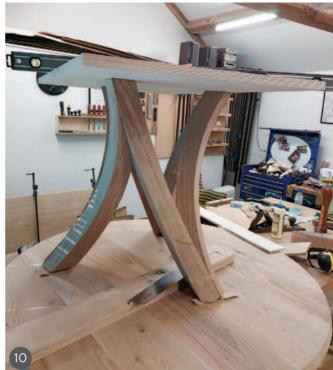
Heavy duty T-bar sash clamps were employed to pinch everything up together and careful attention was paid to make sure the surface was kept flat and true. Once everything was set, the clamps came off and it was time for shaping.

I had already rough plotted the circular outline to get the best out of the timber. Another more accurate outline was marked onto the face side with my antique trammel heads and the shape was cut out using a jigsaw.

Flipping the top over, I then accurately dimensioned the top to size with a router on a shop-made trammel arm.

Dropping the top on to the leg frame was very satisfying but there was still a lot to do. A supporting underframe was needed and, to finish the top, I needed to relief chamfer the edge. On this occasion I opted to use simply an angled base trimming router with a bottom cutting edge flusher. I worked gently round the circumference, bringing the angle back until it felt right, finally arriving at a 20° undercut and refining the edge by taking the weight off but still showing the 30mm top thickness.





9 & 10 A supporting framework was made from 30mm solid oak
11 The top was oiled first as this was the main feature of the table
12 With the oil finish complete, the table was ready for delivery on Christmas Eve

THE SUPPORTING UNDERFRAME

Bearing in mind that by now it was quite late on in the year and the Christmas deadline was looming, I had to make some decisions on the order in which I would set about the last aspects of the job. As I was going to use an oiled finish, drying times were going to come into play, so with this in mind I needed to work out a schedule in which I could finish and deliver the table on time.

From the outset I had been thinking of a suitable way to underframe a trefoil structure. Like many things, it became more apparent when I had the works in front of me. Elm can sometimes be unpredictable in its stability, so I was anxious to work a good, strong supporting underframe across the width of the table top. I constructed a simple framework out of 30mm section solid oak, which I bolted into threaded inserts that were epoxy resined into the top of the leg structure. I then screwed up through the frame arms using slotted openings in the top, which secured everything nicely.

The underframe was still over-length, so using a good spirit level and a sized spacer I marked off first the base lines, working in slight saw cuts with an old Japanese cross-cut blade, riding off the spacer, before hand-cutting to these scribe marks with a sharp pull saw.

I turned the assembly over and repeated this process for the top, making sure to allow for the underframe. A bit of a tickle with a smoother was necessary to bring it all true.

FINISHING

I oiled the table top first in order to build up the coats, and because this was to be the most important aspect of the piece. I worked over the top rhythmically with an orbital sander across the grain in even, timed strokes. I then repeated this process, but going with the grain until I was happy that the top was flat and clean, eventually going down to 320 grit. With the oil on, the figure and colour instantly came out – always a happy moment. I then set about the laborious task of a final clean-up on the curved underframe.

I often dress things straight off the plane irons to hold flatness. This can add to a piece's crispness, such things requiring only a very light sand for uniformity. On the curved elements I opted to heavily scrape and got stuck in the old-fashioned way with a block and abrasive papers. A very useful implement I often use is an old plane iron ground at 45° with a burr turned on to it. This is an incredibly versatile scraping and finishing tool for all sorts of occasions.

After all that sweat and toil I could get the oil on. It was then just a question of building up the coats. After two applications and feeling my way around the process I decided to cut it all right back with 400-grit abrasive to get rid of any slight build and minor raising of the grain. I personally find this gives a good base to layer on another couple of fine builds for a nice finish.

Using the last few days of the year to get the builds for this finish, I was extremely pleased to be able to deliver the piece to my clients on a fine and sunny Christmas Eve, marking the end of an extraordinary year.





Stairway to heaven

EDMONTON, ALBERTA-BASED **BRIAN GUENTHER** HAS STEPPED UP TO THE CHALLENGES OF RUNNING HIS OWN STAIRCASE AND FURNITURE BUSINESS IN DIFFICULT TIMES. HE TELLS *F&C* HIS STORY

How did you come to be working in fine furniture?

My Dad owned a small sawmill business, so I grew up surrounded by trees and lumber. I don't remember what exactly sparked my interest in woodworking, but maybe it had something to do with the abundance of scrap wood available. I started building tree forts with my brother, and seeing a wood carving book at the library I began to play around with carving using the simple and crude tools my dad had. I soon began to try to replicate furniture I saw and I began to 'design' my own furniture. I made a cot for sleeping in the tree fort, a side table with a tapered pedestal base and one design was a chair with a fixed reclined back, propped up with two sticks that extended to the floor. This was my solution to getting in trouble for leaning on the two back legs of the kitchen chairs all the time.

When I moved to the city around the age of 14 I didn't have access to tools or a workshop and didn't do any woodworking for about six or seven years. My interest was piqued again when I wandered into a furniture gallery that showcased handcrafted furniture. The pieces were so unique and interesting that I immediately decided that was the career I wanted. At that time I was already working in the trades, fabricating aluminium window and door frames for commercial buildings and highrises. I fell in love with the idea of being creative rather than the pure functional work I was currently building.

How did you learn your craft?

I told my sister about my new goal and a few days later she found a course being offered at the local trades college called Advanced Woodworking and Furniture Design. I was elated: I had found a path towards a goal I just realised I had, but had no idea how to achieve, not knowing it existed as an option before. During my teens I felt I had better things to do than attend school and I soon found out that this was coming back to haunt me. With another nudge from my sister, I enrolled to take classes at night school and after a year of studying every day after work, I was able to enrol in the millwork and carpentry course, which was a prerequisite for the advanced course.

Both courses were full time eight-month courses and I would need to apply for student loans in order to attend. I got the loans and, a few months into the prerequisite course, I found out that the advanced course did not have enough people interested in it, and the opportunity to jump from the prerequisite course into the advanced course became available. It was an intense course that included classes on learning to draw and sketch, design, maths, blueprinting and AutoCAD, as well as shop class. In shop we learned veneering and marquetry, hand-cut and machine-cut joinery, and carving. We were required to build three major pieces including a previously designed hall table from plans, some sort of table with drawers of our own design, and a chair, also of our own design.

After completing this course I went on to become the apprentice to a local furniture maker, George Heagle, where I was able to build several more pieces of furniture over the course of about six months before it became necessary for me to look for better paying work, or I would never pay off those student loans. I eventually settled on working for a local stair company, and over the next several years I apprenticed and got my Journeyman Carpentry ticket as well.

How did you go about building your business?

For approximately the next decade I slowly worked towards owning my own furniture business. My wife and I bought a house with just a concrete pad in the backyard that I would eventually build my shop on. I slowly filled my shop with tools and one year, when work at the stair company was particularly uncertain and slow, I had the opportunity to build the White Ribbon Stair that included a recessed and backlit handrail, and that job triggered the process of working solely for myself.

Why did you decide to focus on stairs as well as furniture?

During my time spent working for stair companies, I developed a fondness for the craft of stair building. I realised it is one of the few carpentry-related jobs that still relies heavily on solid wood and traditional woodworking skills. I began to love it just as much as I love building furniture.

Probably one of the biggest benefits of working on stairs is that you can make a living wage doing it. The work involved in a custom piece of furniture is not usually valued in the same way as the work that goes into building a set of stairs. The challenges of building stairs and railings is that you have to work on a job site, loading and unloading tools every day, working among other trades and educating people on what makes a quality custom stair compared to a mass-produced stair.













What advice would you offer other woodworkers who would like to try working on stairs?

I would say do some research about building stairs and start with something simple like a straight run. A personal project like a set of deck stairs could be a good starting point, or if that's not available, begin with a scale drawing and build a scale model to match so you can understand the process before cutting up valuable lumber.

Tell us about your workshop.

My workshop is a simple two-car garage that I built myself. I was able to plan out the space for electrical plugs, lighting and heating as well as incorporating a 10ft ceiling and a storage loft in the attic.

I enjoy having my shop close to home, and I can do quite a bit of what I need to do. Its size does limit the projects that I can build in there, but for now it serves my needs. Like many woodworkers I would love a bigger shop, but I think that I'll be making do with the one I have until I can afford to build a new shop on an acreage.

Where do you get your ideas and inspiration?

Usually I'm inspired by something and I'll have a vision in my mind about a specific shape or detail that I want to create. If I want to explore that idea further I will begin to sketch it out with pad and pen, feeling out how it will look. From there I will begin to make full-size drawings, from which I will begin to build.







Inspiration often spawns from a shape or line that is a by-product of a project I'm already working on, like the waste piece from a curve I'm cutting out. Sometimes it comes from a client who has a vision for what they want, and sometimes I'm inspired by other furniture makers or stair builders. While I do get inspired by other builders, it's important to me that my designs are not direct copies and are organically grown using my design process. I usually pull from several different sources based on my experience and expand upon those ideas to create a new one.

What are your favourite types of wood to work with?

My favourite types of woods are hardwoods that are relatively easy to carve and shape with hand tools, like walnut, cherry or mahogany. White oak is one of my favourite looking woods and therefore one I use a lot, however it is not the most fun to work as it dulls tools quickly and requires a lot of extra sharpening.

Do you work with other materials as well?

In working with stairs I often have to incorporate metal or glass, but the work I do with that is very limited. Using those different materials gives me the confidence and desire to incorporate different materials into my projects and I have on occasion, but I also like to collaborate with other makers who specialise in using those different materials.

Tell us about the tools you like to use.

Hand tools and power tools are both welcome in my work and I use both often. I love to carve and shape by hand using whatever tool does the job the best, and grinders and spokeshaves both have their place for that type of work. If I'm cutting dovetails I enjoy cutting them by hand and I like the freedom of just doing it without investing time into a tricky set-up, unless I have a large number to do. For most other joinery like mortise and tenons I like to use power tools. I also really enjoy the challenge of building jigs that can stretch the possibilities of a power tool beyond the obvious or built-in functions.

I avoid tools that are unreliable in giving predictable results. Nothing is more frustrating to me than a tool that doesn't perform to the high standards that I set for myself.

What sort of finishes do you prefer?

I'm constantly exploring different finishing techniques and products, but depending on the project and its intended use my favourites so far are spraying waterborne lacquer, hand-rubbed Danish oil or oil and wax finishes.

What is your favourite project you have worked on?

My favourite types of projects are ones that include curves or compound angles. It's important for me that my work has a degree





of complexity to it that separates it from mass-produced items. I want to create works of art as opposed to production pieces.

I think my favourite project I've worked on would be the White Ribbon Stair that started me on my own. I really love that soft sculptural look and how the stair became seamlessly integrated with the rest of the home. The whole job just came together so thoughtfully and it is really breathtaking in person. Kudos to Lori Dundas Interior Design for her vision.

What is the most challenging project you have worked on?

The most challenging projects I've worked on are ones that stretch the limits of my space or what I'm able to do solo. I really enjoy technical challenges, so I don't really see them as challenging but rather as engaging. If I have to name one most challenging job it would probably be the two black and white mono stringers with metal screens that waterfall over the steps. I took on the woodwork, the metalwork, the finishing work and the glass, all while trying to train someone. At the time it really stretched my capabilities as a business owner, with just me and my trainee working to finish by the deadline. It was quite stressful at the time.

What are you working on now and next?

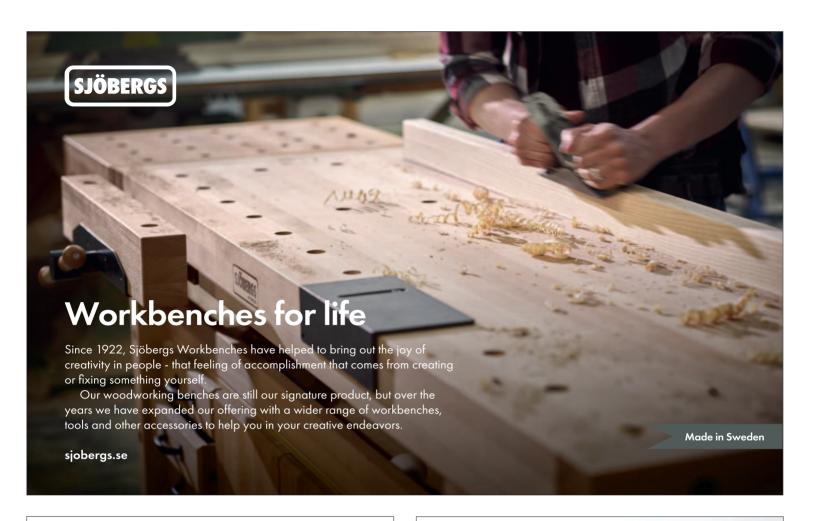
Currently I'm working on a few small railing jobs, and lately I've been taking on the typical finish carpentry aspects of a few jobs as well. Up next I have several smaller railing and finish carpentry jobs, and I'm also working with a client who is commissioning several pieces of furniture to be made out of a tree from his back yard, one of which I completed at the end of last year.

In the future I see myself working alongside interior designers catering to homeowners with specific needs and wants. I want to build relationships with discerning clients who trust me to do everything from stairs and railings to finish carpentry, and finally the custom furniture pieces they incorporate into their homes.

Have the Covid-19 pandemic and the lockdown affected your business?

I've set myself up to be fairly versatile, which has helped me to be able to work at home quite a bit, but that being said, carpentry has remained an essential service and business has more or less carried on as usual, aside from a few new safety measures. It has had an impact on the number of jobs coming in however, and I can only assume that staying home and not being able to travel has led to people spending more money on upgrading their homes. Long term I think this has actually been a growth period for my business, as I've had breathing room to fix issues and build it stronger than before, and my hope is that the momentum will carry on and lead to a stronger, more established business.

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SMART DESIGN FOR CITY LIVING

WE DISCOVER HOW A CLEVER USE OF FURNITURE CAN TRANSFORM EVEN THE SMALLEST OF SPACES

When living space is at a premium, every inch counts. The design and placement of furniture can help to maximise the space, particularly when it is tailored to the specific needs of the user. A perfect example of this is the renovation project undertaken by architects A Little Design and Szumin Wang on this flat in Taipei City, which measures just 22m^2 and 3.3m in height.

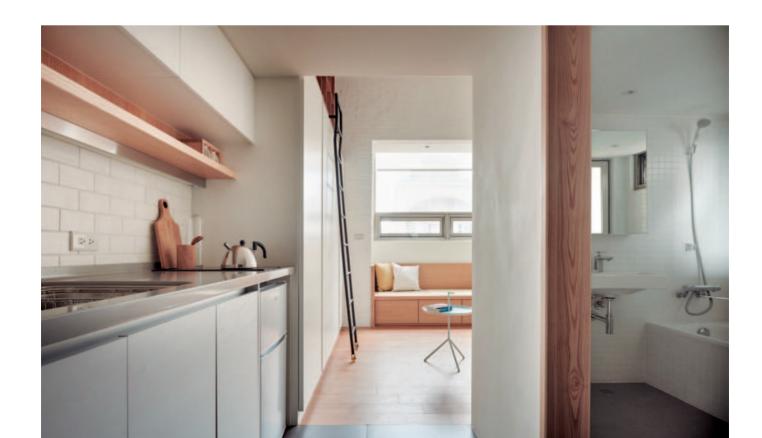
TAIPEI CITY APARTMENT

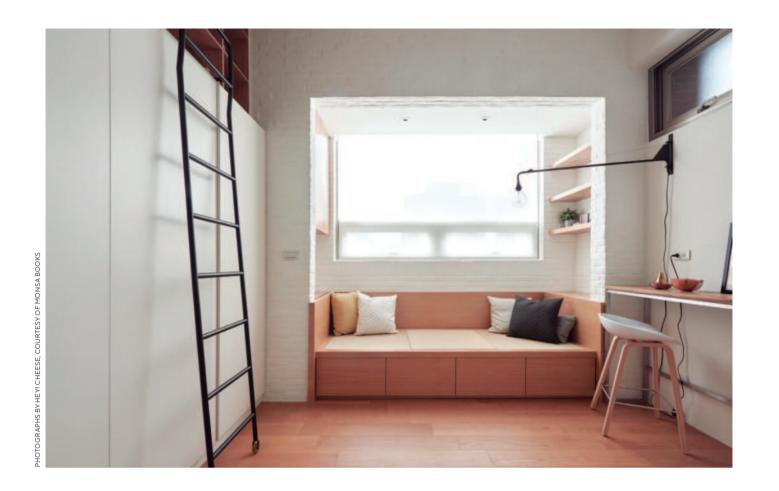
Due to the high housing prices in Taipei City, the living space that young people can afford has become smaller and smaller over the last decade. Faced with living units that are not spacious but still have a chance to fulfil all basic living functions, the needs of clients must be analysed more precisely and arranged suitably. Space is as important as function when it comes to a

place where people will live for a long time rather than a room for a short-term stay (though the footprint of some flats might be smaller than many hotel rooms). In such cases, space should be left free with the main furniture arranged discreetly to make the long-term living experience more comfortable.

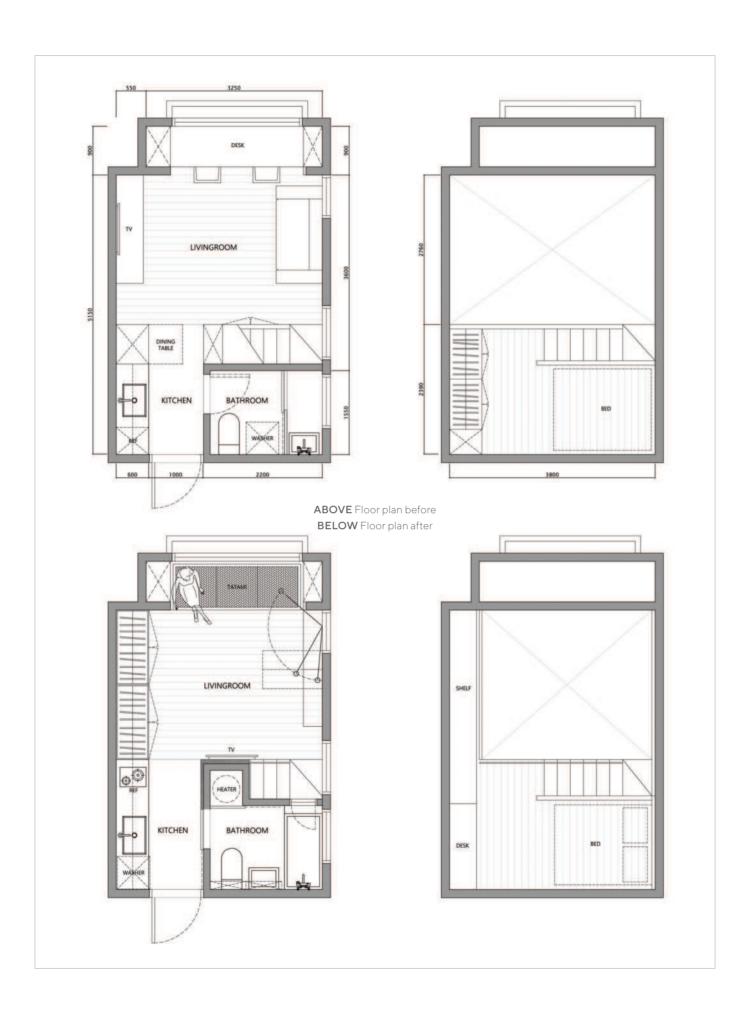
Take the client in this project for example: she has to travel abroad frequently for work, and after finishing work and coming home, all she needs is a hot bath and a good sleep. Besides a fully equipped bathroom, a compact kitchen is also required and storage is needed for clothes and books. She also wanted to be able to fit a sofa and dining table in the living room. In addition, she wanted to keep the left room empty for doing some exercise. Understanding these needs, the architects decided to accept the restriction of the space and utilise it more effectively.









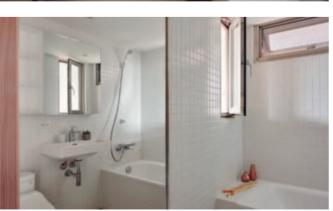




Firstly, the shower was replaced with a bath, and the washer was moved to the kitchen. Because in Taiwan the gas cannot be piped into a house without a balcony and a small electric heater cannot provide sufficient hot water for a bath, they adjusted the layout of the toilet to make room for a storage water heater, and a sliding door with a mirror, which not only makes the maintenance easy but also amplifies the space visually.

Fixed furniture such as the kitchen cabinet, the wardrobe and the shelf are attached to the wall to fully utilise the height and avoid aisles. The wardrobe is below the shelf due to its higher frequency of use, but a part of the shelf can still be accessed conveniently from the mezzanine area. Because the height of the mezzanine floor cannot allow standing, the furniture on it must be used in a sitting or lying position, so the bed and desk were placed here.











The tatami area and cabinet alongside the window make full use of the alcove and also provide ample storage. The light steel handrail on the stairs increases the visual penetration, and the wall below it contains a TV and two concealed cabinets for storing shoes. There are two wooden tables alongside the wall in the living room that could be a long bar table which maximises the use of space and can be combined in the other direction to be a dining table. Therefore, the empty space is flexible for different needs, and makes the small flat less cramped.

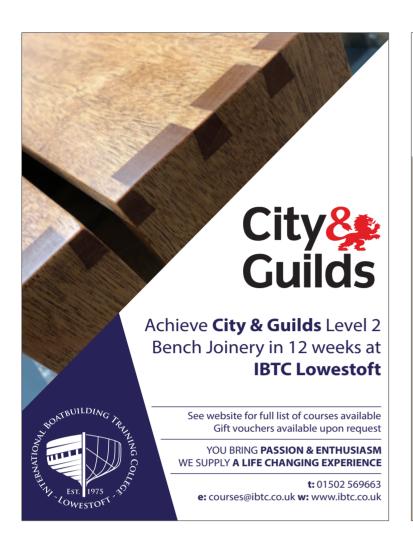
The flat has sufficient natural light and ventilation, and the main colours used are white and oak which makes the space feel brighter and more spacious. All equipment and fixtures are

stacked according to the confines, but not compressed in size. In a city like Taipei, where living space is limited, projects like this can provide a practical solution for people who own a tiny space.



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ANTHONY BAILEY EXPLORES THE HISTORY

OF THIS LATE GEORGIAN DROP-LEAF TABLE

I found this small, drop-leaf mahogany table outside a local furniture charity shop. It was jammed between a pile of stacking chairs and a Formica-topped kitchen table but it caught my eye instantly – it had a gorgeous, honey-coloured patina that screamed Georgian. I wanted to rescue this unloved item and luckily the shop owner only wanted £10 for it. I took the table home and so began a very interesting journey of discovery...



FIRST THOUGHTS

On my first inspection of the table, I saw that the honey-coloured top was covered in myriad marks, including hundreds of ancient, fine cut marks running at all angles – why? Something looked wrong – yes, the drop leaves were too short. Lifting each one up, it was clear an extra piece had gone missing and the hinged supports had extra pieces held with old iron nails to support the wider leaves, but these had been crudely cut off when the outer boards had finally broken off. The drawer ran roughly as it was so worn and it had a plastic knob where once a large, probably metal knob and backplate had been. The table top was decidedly wavy where it had sprung out of shape.

LEFT Before any conservation work it was a tired, unloved little table with lots of issues

FURNITURE DETECTIVE

This table was going on my restoration bench for a much more thorough examination. It was carefully upturned and placed on rubber matting to protect the top surface. The table frame was loosely fixed with screws set in very crudely cut pockets. The pine frame would have been difficult to cut cleanly without a really sharp incannel gouge, and it showed. The underside of the mahogany top didn't inspire confidence. There was a remover's chalk writing of 'Miss Howes' - so she would regain her table safely. Unfortunately, someone had practised doing some faint but just visible outline incised lettering to no good effect. There was something else even fainter still - there appeared to be barely noticeable letters possibly punched into the hard, dark wood. I struggled to make it out, but my daughter Amber, who was a graduate in restoration and conservation of antique furniture, had given me a fax roll. This acts like carbon paper when rubbed down, but without leaving

any inking. The fuzzy result seemed to say something with a fancy scrolled 'G'. G – then a space – then reeve, underneath – March 13. This wasn't good enough, so I used a bright LED torch aimed crosswise, the result was: G Shreeve, March 13.

A quick Google search brought up The Directory of Norfolk Furniture Makers. Shreeve is an unusual name with a preponderance of them in Norfolk. I found one in London and one in Norwich with the wrong initials, but the one I settled on was GT Shreeve, Great Yarmouth, registered in 1807 as a cabinetmaker. It was a 'hairs on the back of the neck' moment. Could this be my man? Why only the 'G' on the stamping? And why March 13th? Then it struck me – perhaps he had experimented with cutting his name into the wood, hence the incised letters, gave up and had a brass stamp engraved instead. The person making the stamp would have charged per character. It would be cheaper to only have a 'G' and miss off the '18' from the '13' - this table was stamped in March 1813, it was more than 200 years old and the mahogany was as tough then as it is now, and it resisted being stamped into

submission. So it was exactly as I thought – a late-Georgian drop-leaf table, made in an east coast town famous for its fishing and naval connections. Next stop was Ancestry. co.uk account to find out more.



The script showing faintly on fax paper



A clearer view of the script

A BRIEF HISTORY OF GT SHREEVE

From my online search, I was able to find the following records:

- Godfrey Thomas Shreeve was baptised at the church of Yarmouth St Nicholas, (Great Yarmouth) in 1783 to William and Ann Shreeve. Thomas G Shreeve was apprenticed to Samuel Bream (junior) on 27/11/1797 for the sum of £30. In 1807 he was noted as Thomas Godfrey Shreeve, a cabinetmaker in Yarmouth and on the 8th and 9th days of May 1807, Shreeve G T, was noted as a 'freeman' (apprenticeship completed) on the Poll for Members of Parliament for the borough of Great Yarmouth. In other words, he was one of a select group, the freemen who were allowed to vote for landowners and 'gentlemen of means' who could stand for Parliament. Women would not have the right to vote for another 111 years.
- On the 1812 Voting register for Great Yarmouth, Shreeve (T.G) is now noted as 'gent.' i.e. a gentleman and no longer pursuing a trade.
- In 1837, various Middlesex newspapers mention him as a clerk when he was a witness in a case of forgery committed against Barclays Anchor Brewery, Southwark by an otherwise respectable individual by the name of Charles Newcomb, heard at Lambeth Street court.

- On April 18th 1841 at the age of 58 he married Lycia Potter of Norwich, in the parish of Bermondsey. He is noted as a 'merchants clerk' living at Grange Place, Newington.
- The 1849 Yarmouth voting records list Thomas Godfrey Shreeve of Barclays Brewery London, born Great Yarmouth, freehold house, Chapel Street.
- The 1851 Pigots Directory include Thomas Godfrey Shreeve as a supplier of 'ready made linen ware, 56 Charing Cross'.
- His entry on the 1851 census is: 56 Charing Cross, St Martinin-the-Fields, Middlesex – Thomas G. Shreeve – Head, outfitter employing three female assistants. Born in Norfolk, Yarmouth. It also lists Lycia, wife. Harriet, Scholar. Martha, sister, outfitters assistant. Ellen D. Harker, outfitters assistant. Mary Woodward, servant.
- His will dates from 1867 and lists effects under £6,000.
 'Formerly of Grotes-place, Blackheath but formerly of 25
 Turner-road, Lee both in the County of Kent who died 5th
 November 1867 at 25 Turner-road aforesaid was proved by the oath of Lycia Shreeve aforesaid Widow of the Relict the sole Executrix.'

MAKING SENSE OF THE HISTORICAL RECORDS

In 1807, at the age of 24 Thomas Godfrey was a freeman. In 1813 he put his mark on this table, the top of which decided to misbehave, perhaps a lesson that he needed to consider a better future than just slaving away in a small back-street workshop trying to earn a living. However, it may be this little table was a very early example of his work that had hung around the workshop, since he is noted in 1812 voting records as 'a gent' – this term suggests he was now a man of means.

So he moved to London as a clerk working at the Anchor Brewery, Southwark, once the largest brewery in the world and owned by a member of the Barclays banking dynasty. The Victorian middle class emerged from the need for white collar workers in a burgeoning Empire, working for state and industry.

Remarkably, Thomas showed great acumen by climbing even further up the social ladder, opening a linen outfitters in Charing Cross, then part of Middlesex before metropolitan boundaries were redrawn in 1889. It is quite likely that his wife Lycia had worked in haberdashery, which would have given him the opportunity to take up a retail occupation. We know Lycia worked in the shop and must have been the third outfitters' assistant mentioned on the census, since Old Bailey records show that both she and Thomas Godfrey were witnesses in a case of fraudulently attempting to pass off a fake half sovereign, Lycia having confronted the accused, Emma Wayland, at the cash desk.

At Thomas Godfrey's demise he clearly did not have great wealth to pass on to Lycia, it no doubt being used as their joint income in retirement since pensions did not become written into law until 1908.

To conclude, my little Georgian drop-leaf table may not have been his finest work. It may have come back from a disgruntled customer to haunt him, just sitting in the corner of his workshop and probably then being used for cutting up veneers, hence the very fine cut marks everywhere – but my wife and I love it, because it represents an earlier stage of a man's life who worked really hard for everything he got. Thomas Godfrey Shreeve, we salute you!

RESTORATION VS CONSERVATION

It's worth taking a moment to distinguish between restoration and conservation. Restoration means basically putting an object back into a usable state, replacing missing and damaged parts and using new upholstery and/or applying a new finish. It's usually done for a private client or an antique dealer.

Conservation is concerned with stabilising an item and keeping it in its last, best state and, if necessary, revealing hidden detail and compiling a report on its condition, any conservation work carried out and its provenance or history if known. Such items are not for use, but for museum collections.

In the case of this little table, I chose to repair the essentials but not try to flatten the top – conventional methods would do more damage. Damage to the wood on the hinge line was left nor did I attempt to replace missing leaf sections as none of the repairs would be convincing and I wanted its past on show. I also have collated what history I could find, so this personal project is a mixture of sympathetic restoration and conservation.

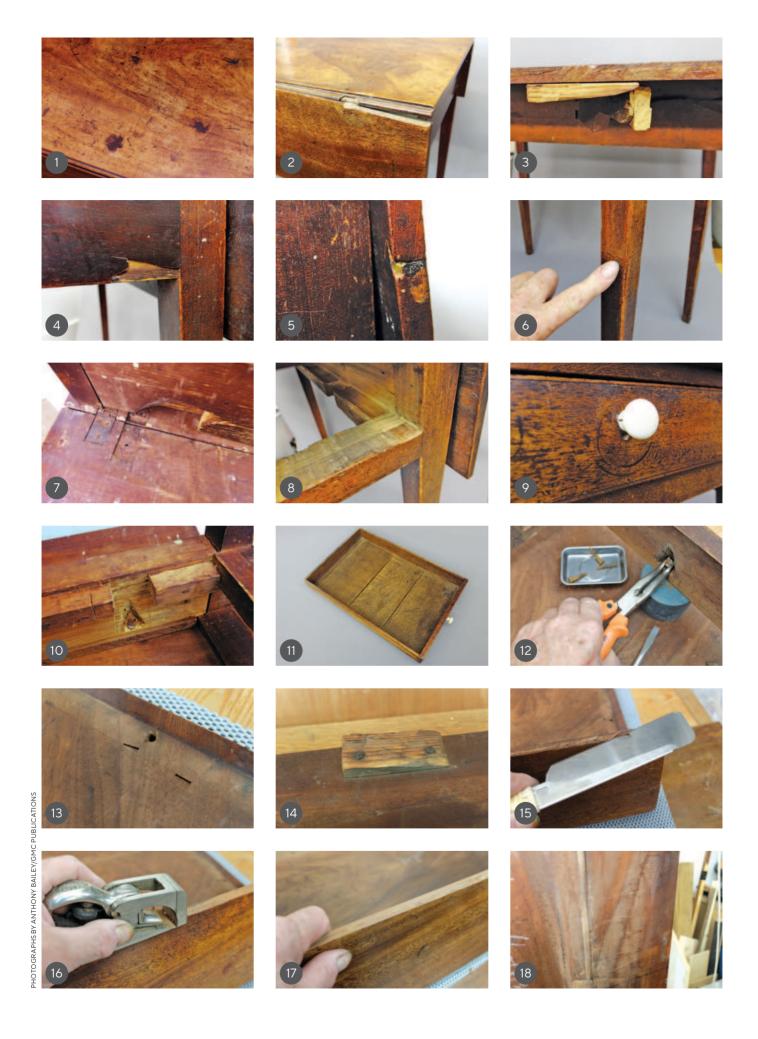
IDENTIFYING THE TABLE'S PROBLEMS

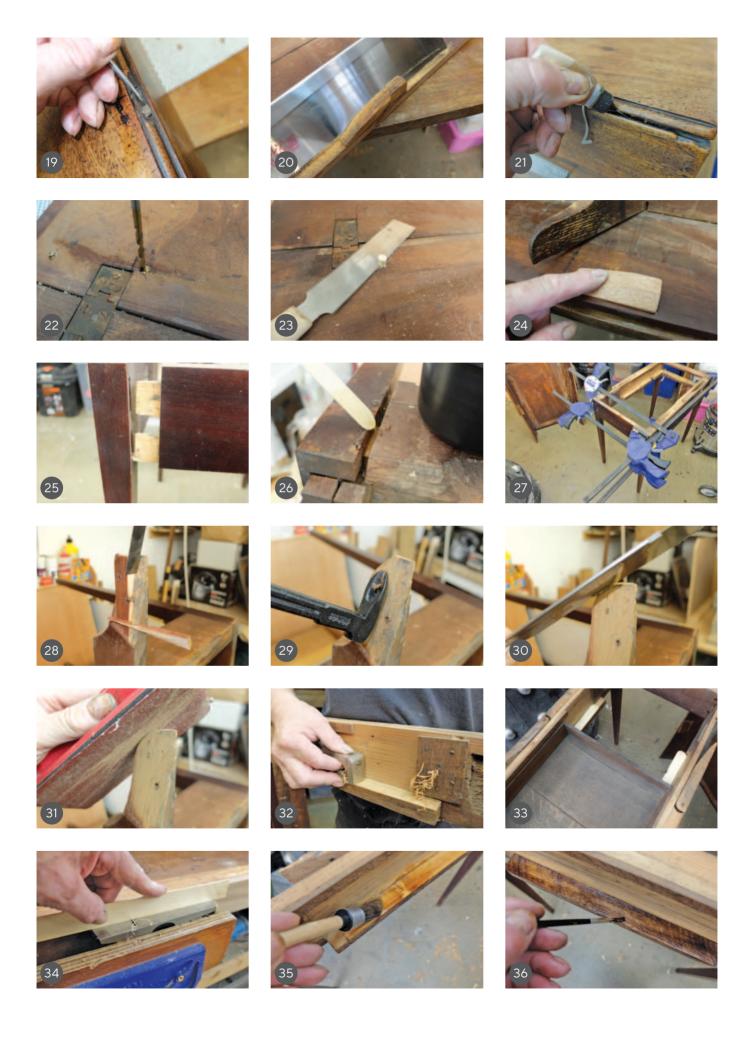
- 1 Plenty of surface markings on the top, including lots of random fine cut lines.
- 2 Loose hinges and broken-off leaf edges and moulding.
- **3** A crudely hacked-off leaf and support, with additional piece cut off.
- 4 The softwood underframe with toothing to key it when gluing on the veneer.
- **5** An old lump of rosin-type filler used to fill a gap in the mahogany.
- **6** A faint mark showing where the leaf originally reached down.
- 7 The original hinge position where the screws must have pulled out.
- 8 Badly worn drawer runners that need repair.
- **9** A plastic knob with ring marks from an old knob backplate visible.

- 10 A crudely marked and cut screw pocket for a table-top screw.
- **11** The oak drawer bottom separated into three sections by shrinkage.

THE TABLE TOP AND FLAPS

- **12** Pressing a screw tip down on a piece of cast iron while pulling with pliers.
- 13 These original narrow chisel marks were used to locate the frame position.
- 14 Only one nailed-on wedge present, used to hold a leaf level.
- **15** Cutting off the remains of a tongue that fitted a groove in the missing board.
- **16** Using a bullnose rebate plane to remove most of the edge damage.
- 17 The edge deliberately left imperfect to show its history, before refinishing.
- 18 Original cross-grain plane marks on the underside of one leaf.





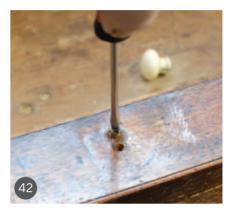












- 19 Fluff-of-ages being picked out of the leaf gap to aid smooth opening.
- **20** Trimming the leaf wedge at an angle to make it less visually obvious.
- 21 Injecting hide glue under a waggly hinge to set it firmly in place.
- 22 The screw holes were worn out. First some hide glue was squirted in, then a softwood plug inserted, which was then drilled to pilot diameter.
- 23 The plug trimmed off with a flexible flush-cut saw.
- 24 The last job for the top was a new support wedge glued to the other leaf.

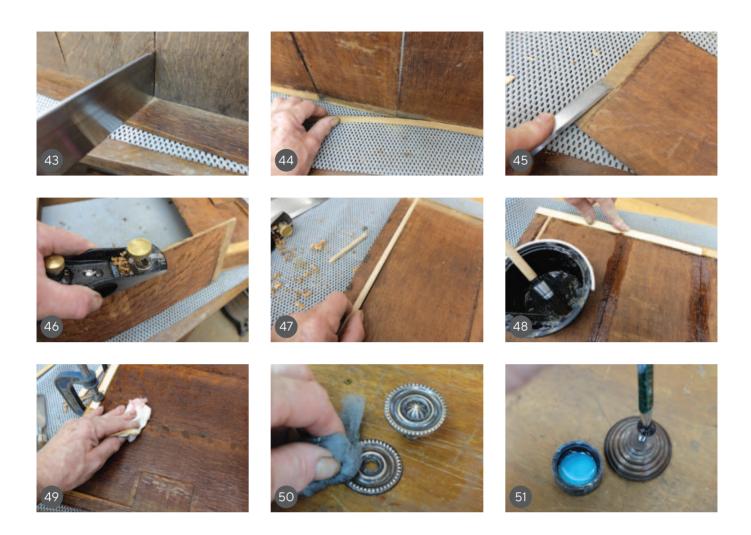
THE UNDERFRAME AND LEGS

- **25** One frame and leg joint was completely loose and needed re-gluing.
- **26** Another joint could be partly separated one tenon had broken off.
- 27 As soon as the glue-up was done the frame was clamped tight overnight.
- 28 The leaf supports had their add-on sections chiselled off.
- 29 A cat's paw was used to withdraw the iron nails.
- 30 The leaf supports were shortened and reshaped to tidy them up.

- 31 They were sanded to give a smooth curve profile.
- 32 Heavily worn drawer runners were planed level again.
- 33 Slips of softwood were tried for thickness prior to gluing.
- **34** The slips were planed to width by running them over a block plane in a vice.
- 35 Animal hide glue was brushed on both runners and slips to ensure bonding.
- **36** The slips were coloured down to blend them in better.
- 37 The broken frame tenon was drilled through, then dowelled and plugged.
- 38 The broken area of veneer was trimmed ready for patching.
- **39** A large area of the mahogany veneer was loose and needed re-gluing.
- **40** The legs were wiped down with a brown dye to colour scuff marks.
- **41** The top was buffed with beeswax, no cleaning required.

THE DRAWER

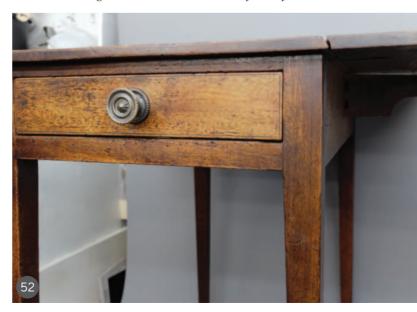
42 A broken-off thread was removed by hacksawing a slot and using a screwdriver.



- **43** Where the drawer bottom boards were still joined, a pullsaw separated them.
- **44** The drawer bottom slips were simply pulled away thanks to failed glue.
- **45** The boards were scraped clean of the remaining glue.
- **46** The front board was left in place. The others had their edges planed.
- **47** A new piece was fitted in the gap left by shrinkage and edge planning.
- **48** Plenty of glue on the board joints and the new slips added at each side.
- **49** A thorough wash-down with hot water to remove all the surplus glue.
- $50\,\mathrm{l}$ prefer to rub down patinated brassware and add my own patination.
- **51** Patinating the fixing screw, the pencil point breaks the fluid surface tension.

52 The finished drawer.

This conservation project has been complex because its history had to be researched first, to help inform how to proceed. What it does show is that, by being observant and following a hunch, you can make exciting discoveries in the most unexpected places.

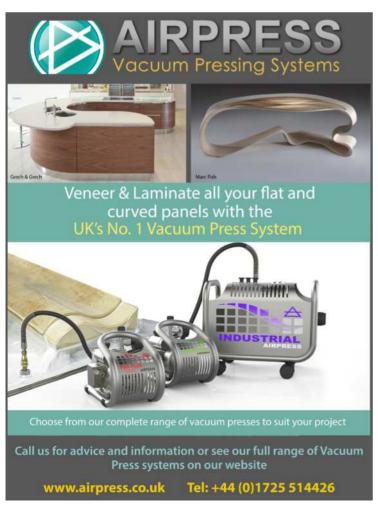


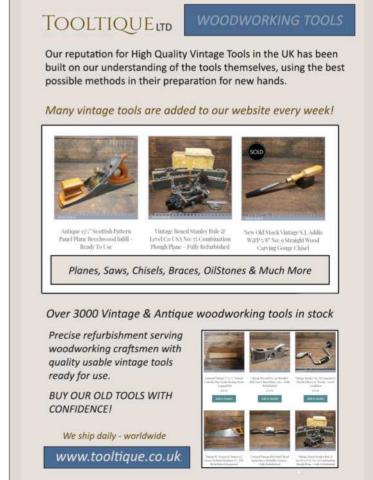


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ACCORD, NEW YORK-BASED **ANDREW HUNTER** IS ON A LIFELONG JOURNEY TO BECOME A MASTER FURNITURE MAKER. HE TELLS *F&C* ABOUT HIS ART, INSPIRATION AND HOLISTIC APPROACH TO MAKING

'Furniture making is more than a job for me, it is my art,' says Andrew Hunter. Based in Accord, New York, Andrew makes furniture with clean lines and intriguing details which aims to combine the curiosity and freedom of a layman with the skill of a master craftsman. 'I wanted to be an artist, and you can't work for someone else to build your own art,' he says, recalling his decision to set up his own workshop and studio.

Andrew studied biology at college, and in his senior year, needing some extra storage, he built himself a nailed bookshelf. 'I had had very little exposure to furniture making before this, but I have been focused on it ever since,' he recalls. 'I did manage to finish school, but right away I got a job in a local cabinet shop.' He adds: 'I certainly don't regret my time in school. Having a scientifically oriented mind has helped me in learning to be a woodworker.' His early pieces were very simple – 'I was most focused on improving my skills,' he explains.

'For the most part I am self-taught. I learned the basics of the craft by working in the trades, mostly as a carpenter building houses. This familiarised me with working with tools and established a good work ethic. Most of my understanding of furniture making came from working in my own shop after work hours and on weekends. Like the biology student I once was, I became a student of furniture making. I read every book and article I could find. Like a good scientist I wasn't satisfied with being told how to do something, I wanted to know why. Right from the beginning I was drawn to hand tools, western at first, but then Japanese hand tools. I spent a lot of time learning to sharpen!'

Every dollar Andrew earned went into taking time off work as a carpenter to spend time in his own workshop building furniture. Once he had enough pieces he put on a studio show, and since then he has been supporting himself as a furniture maker. 'For the most part,' he puts in: 'I should note that "making a living" as a furniture maker mostly means learning to live a simple life.'

A NEW PHASE

'Twenty years later, I am in a new phase of my life,' says Andrew. 'I'm married, have two young children and have been renovating an old farmhouse for longer than I am willing to admit. My family and I live in a section of the house that will one day be my new studio. I have been splitting time between doing furniture commissions, working on the house and being a dad.'

He adds: 'Fortunately, the way I work doesn't require a big permanent shop. When it's time for me to work on a commission, I set up my workbench in whichever room is most available and I get to work. I also have a garage where I have power tools set up — tablesaw, mitresaw and planer.' This simple, flexible approach flows into Andrew's work itself. 'I rely on hand tools for much of my process and Japanese handplanes or kanna are at the heart of it. They not only influence the surface quality of my pieces, they also play an instrumental role in the precision and crispness of my joinery. I rely on power tools to do my grunt work. I don't spend a lot of time or money trying to get them dialled in for perfection. Accuracy, for me, comes with my hand tools. I use extremely sharp blades to shave right up to my layout lines.'

He adds: 'I enjoy the process of woodworking, I don't want my power tools stealing all of the fun. It's not that I avoid using my power tools, but I am glad to have learned not to rely on them. There is a freedom I have over my work that comes from using hand tools. I'm not dictated by the limitations of my machines. I also feel there is more of a connection between myself and the material, which is a very important part of my process.'

While Andrew loves Japanese hand tools and has taken inspiration from the patience and dedication of a traditional Japanese apprenticeship, he says his work has not been hugely influenced by Japanese joinery. 'As a furniture maker the joinery used in classical Chinese furniture is far more applicable to what I do,' he says. 'Like most things, I discovered these joints in a book, Gustav Ecke's *Chinese Domestic Furniture*. Written in the 1940s, this book is one of my favourites of all time.'

So where does he draw his inspiration from? 'I'm a furniture geek,' Andrew admits. 'I look at a lot of furniture, mostly in books. I'm that guy sitting on the floor in the craft section of the bookstore flipping through pages. Every style has something to offer. It all inspires me. I certainly have my favourites, but I don't limit myself to studying only those. With that said, I'm particularly drawn to simple, well-constructed furniture with a sense of refined elegance. Classical Chinese furniture and early Victoriana play a major role in my studying. At the same time, I really appreciate the humble honesty of a simpler country style. I like to involve both of these elements in my work, trying to balance the freedom and curiosity of a layman with the skill and refinement of a master craftsman.'



When he's not making furniture Andrew has been working with Kezurou-kai USA, a diverse group of designers, builders and makers with an interest in learning and perpetuating the practice of hand tool woodworking, to promote traditional Japanese techniques in the US. 'Japan has so much to offer the craft world, I'm eager to share all it has shared with me,' he says.

THE BIGGER PICTURE

Andrew loves to work with woods he can find locally in the north-eastern US. 'The more of a relationship I can have with the tree, the better,' he explains. 'There are plenty to choose from: oak, maple, walnut, cherry. They all grow in my backyard, plus many more. Eastern white pine is probably my favourite wood to work with. It's a joy to cut and plane with sharp hand tools, but mostly it's the way it ages in a piece of furniture that I really like. I use a lot of white oak for the same reason. Every species, every board, has its own personality. Trying to match the wood's personality with the personality of the piece is the trick.'

When choosing finishes he always bears in mind how it will look as it ages over time. 'For this reason I tend to avoid irreversible film finishes,' he says. 'Most of the time, if I can get away with it, I prefer to use a pure tung oil finish. I should mention that all of my surface prep is done with a handplane – I very rarely use sandpaper. This leaves an extremely flat surface that reflects light like a mirror. I don't need a flat shiny surface to be applied, it's already there! The oil brings out the rich colour of the hardwoods I use. For most of the work I do in softwoods I stop at just a handplane finish. I apply no other treatment. The lustre and depth of a finely planed softwood cannot be matched by any other application.'

Struggling to find the right hardware for his furniture, Andrew has even bought an old coal forge to make his own. '1 am by no means a good blacksmith, but I can make what I want,' he says. 'It is liberating being able to shape metal. I don't think I will be changing professions any time soon, but it's nice to have it in the repertoire.'

So how does his design process work? 'The design process to me is like a marble rolling down a funnel. Starting at the top, the

marble moves slowly with wide circles. At this point I try to look at the design without a conclusion. I'm not sure what I want yet, and that's OK. As the process progresses, the ball spins faster and the circles tighten. In my mind I start to see the finished piece, but not the details. I begin to know what I want. By the end, the ball spins faster and the intensity grows. This is the point when I lose sleep. All the details are falling into place. I can build the piece in my head. Then, pop! Out drops the design at the bottom of the funnel, complete and ready for layout.'

When embarking on commissions Andrew will ideally invite clients to his workshop – 'to see first hand the care and investment I put into every piece'. He says: 'Feeling a hand-planed surface is believing. I've never been very good with computers or documenting my work online, hopefully I can improve in this area. I've had the most success working in person with clients to create a piece we are both happy with. I'm looking forward to being back in my shop. Open studios are a terrific way to connect to new clients.'

MAKING A HOUSE A HOME

The most challenging, and the most enjoyable project Andrew has worked on is the complete renovation of his home, a late 1800s farmhouse. 'This will be the home we raise our children in. I've made a career out of building beautiful things for other people, and it's a nice change investing in something that I'll get to experience and enjoy.' But he adds: 'I've been plugging away at this for too long. Building furniture is a much more appropriate task for someone as detail oriented as myself.'

He says the Covid-19 pandemic hasn't particularly affected his business – 'once a shop-bound hermit, always a shop-bound hermit,' he says. But he is looking forward to getting back to work full time once his house renovation is complete. He says: 'I feel an explosion of creativity brewing. Having a permanent shop set up will definitely help my focus. My studio is my safe space, everything else in the world can wait while I'm in there.'

@andrew_hunter_furniture



























CHESSBOARD BOX

MICHAEL T COLLINS MAKES AN ANTIQUE-STYLE

BOARD AND BOX FOR A CHESS SET

The true origins of chess are unknown, but it's believed to have originated in India some time before the 7th century AD. It has been a popular pastime ever since, but there has recently been a surge of interest in the game.

In this article, I'll show how you can use your box-making skills to create a chessboard and a box to store the pieces.

THE WOOD

You'll need to use two contrasting woods. For the antique look, you can use old

wood, as I am here, or stain the wood to give it that aged look.

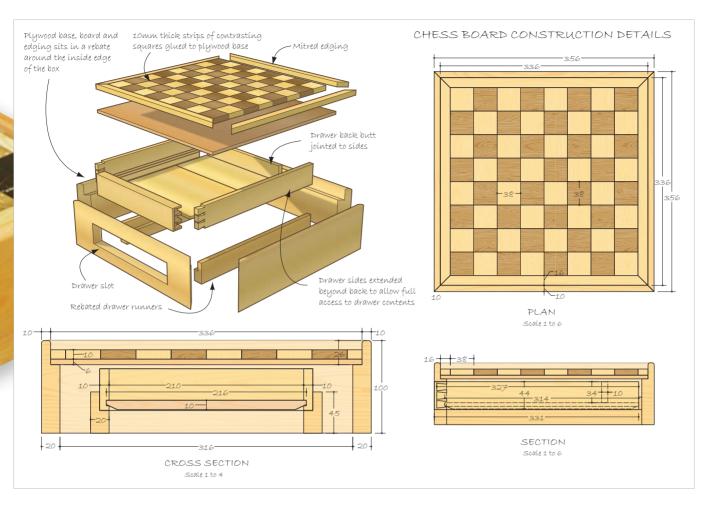
l am using some very old maple and a piece of equally old walnut. The pieces are about 460mm long. You will also need a strip of wood $12 \times 10 \times 1000$ x approx 1,727mm for the edging and 1,727 $\times 20 \times 1000$ mm wood for the box and drawer – for this l am using an old pine panel door.

MAKING THE BOARD

11 like butcher blocks and this very decorative wood lends itself to showing

end grain. Rip and plane the contrasting wood to 38mm square – it is important that the pieces are perfectly square.

- 2 Then cut all the pieces to approximately 100mm long and glue together in an alternating pattern.
- $3\,$ Next, using the marking gauge, mark a $10 mm \, strip \dots$
- 4 ... and then rip on the waste side.























10TOGRAPHS BY MICHAEL T COLLINS

5 Plane the back of the first strip. There is no need to make the backs perfectly flat, just remove the bulk of the saw marks.

6 Repeat the process of marking, sawing and planing until you have eight strips. I am backing the strips with a 6mm sheet of birch ply 336 x 336mm, this will allow for a 12mm shoulder all the way round for the edging to sit in and allow for planing.

7 Mark the outline of the chessboard on the ply and position the strips on the board, applying glue to the plywood. Ply absorbs glue readily so you might need to apply a couple of coats to seal the surface, and don't forget to seal the back – not doing so will cause the wood to bow as the glue on one side dries and contracts. Apply glue to the back of the first strip and rub it into place. Here, I am using hide glue, but you can use any PVA glue. Apply glue to the inside edge of the strip.

8 Apply glue to the next piece and align with the previous – rub them into position. Continue working until all the pieces are in place – remember to alternate the pieces.

9 Place the banding strip in place, mitring the corners. Wipe off any excess glue and

place a second board on top to weigh it down while drying. If you are concerned about glue squeeze-out, place a sheet of newspaper between the two boards – this can easily be removed later. The whole board now needs to be flattened. First remove any glue with a card scraper. Use the smoothing plane to level the surface – work from the outside in. Finish off with a card scraper or 120-, 180- and finally 220-grit sandpaper.

MAKING THE BOX

10 To make the base, first rip the pine and plane to 20 x 100mm, mark the face and edge and then, using the



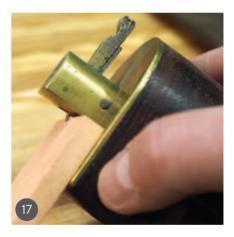












combination plane, create a rebate in the inside top edge.

11 Using a plane, put a bullnose profile on the top edge.

12 A nice technique to use after planing is to burnish the wood with a handful of shavings. Once the profile is cut, use a mitre box and cut all but the front panel to final length. This piece has a drawer and needs to have some additional treatment. Remember to always saw from the face side. Clean up the mitred ends with a block plane.

13 For the drawer front, take the piece without mitres and mark a section 45mm wide in the centre. From the centre piece, cut out a piece about 200 or 230mm long in the middle. This will be the front of the drawer.

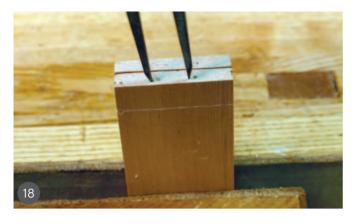
14 While keeping all of the pieces in the same orientation, clean up all the saw marks and glue the outside pieces back together. Now mitre the ends of this front piece. Ripping will remove some of the height from the side, so plane all the side parts down to match the front piece's height. Using the combination plane, add the base rebate of 10 x 6mm

on the inside of all the bottom edges.

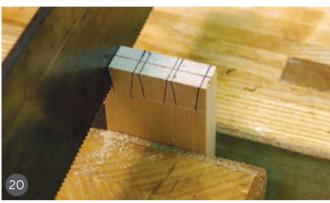
15 The drawer will be made using halfblind dovetails. Take the cutting gauge and mark the depth of the tails on the end grain of the drawer face. I make my tails three-quarters the thickness of the wood, so in this example about 15mm.

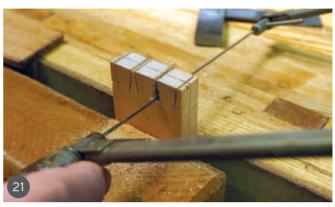
16 Take this same setting and mark the location of the front end of the drawer sides.

17 Now take the cutting gauge and set it to the thickness of the drawer side and mark the inside of the drawer front.













18 There are two schools of thought regarding the cutting of dovetails – do you cut the pins or the tails first? For me it has to be tails first. I like to gang draw sides together and cut tails simultaneously, and this would be impossible to do if pins were cut first. This drawer will have three evenly spaced tails. To mark the dovetails use a pair of dividers, setting them to a little over one-third the width of the piece. Starting at one end, walk them across the end grain of the drawer front, then reposition and walk back – this involves a little trial and error.

19 Using a shop-made dovetail template and try square, mark the tails. Tails are angled at approximately $1:6 - 26^{\circ} - 1$ prefer

to make English-style dovetails, which have a very narrow apex to the pins.

20 Clamp the two sides together and cut the diagonals on the waste side \dots

21 ... then use a coping saw to remove the waste.

22 Clean up the tails with a chisel placed in the knife line. Since all dovetails are custom fit, now is a good time to label mating parts. Use a marking knife or a very sharp pencil to mark the pin location on the end grain of the drawer front – be careful not to move the pieces when doing this.

23 Using a set square, bring the lines down the face side. Mark the waste and saw at an angle to create the boundaries of the pins – make sure you don't go beyond the end grain line. Sawing into the face however, is quite acceptable, historically correct and shows that they are hand cut.

24 Start cutting the pins by placing the chisel about 1.5mm from the line and chop into the waste, then from the end grain, use the chisel to remove the waste – repeat this process until you have excavated the waste.

25 Clean up the pins, but do not go beyond the lines. Slightly undercutting the front vertical wall of the dovetail will













provide a cleaner, tighter fit. Chamfer the inside edges of the tails to aid in the fitting.

26 Test fit the joints. When making dovetails, it is important to not test too often as this can make for a sloppy fit.

27 The rear of the drawer is a 10mm piece of pine that is butt jointed to the drawer sides. Set the combination plane so that it will cut a 6 x 3mm groove that lies within the bottom tail and pin – the back will not need a groove as the back panel sits on the drawer bottom.

28 The drawer bottom is made from a couple of pieces of 10mm pine jointed

with a rubbed glue joint and the edge is chamfered to slide into the groove. Plane the mating pieces together to create a perfect joint. The drawer's grain should run parallel to the drawer front to allow for expansion. In order to control the direction of that expansion, run a small bead of glue on the leading edge of the drawer bottom and seat it into the groove, leave the drawer about 12mm over long so that the end can move in and out without leaving a gap at the back of the drawer. Glue the drawer together and check for squareness. Test fit the drawer and plane accordingly until a good fit is produced. Make a couple of L-shaped runners and a stop for the drawer. The chessboard can now be lowered into the top rebate - just

a thin bead of glue is all that is needed on the bottom of the rebate. Place a heavy object on top while the glue dries.

29 To bring out the colours of the wood and give the appearance of age, use an oil varnish finish – I used Danish oil.

Best results are achieved by flooding the surface and allowing the oil to soak in.

After leaving for 30 minutes, wipe off any excess oil and repeat – the second coat will not soak in so readily. Leave for 20 minutes, then again wipe off any excess oil and finish by rubbing the surface out using 0000 steel wool. Apply one final coat of oil. Finish off the drawer with a pull – here I used an antique brass pull that I have had for many years.

GORDON RUSSELL DESIGN COMPETITION WINNER – THE STRUNG CHAIR

A SHOWCASE OF GEORGE PEIRCE'S AWARD-WINNING CHAIR

The Gordon Russell Design Competition was established by the Gordon Russell Design Museum in 2018 to celebrate new design talent. The biennial award is part of the museum's ongoing commitment to support the next generation of furniture designers, building on Gordon Russell's legacy as a champion of design and education.

Inspired by Gordon Russell's design philosophy, the 2020 competition called for innovative designs for a chair suitable for batch or mass production, made from any material. The competition was open to students aged 16 or over in full or part-time education, and the museum received an array of stimulating and creative submissions from students across a range of disciplines.

AWARD WINNER

The 2020 award was presented to George Peirce, a recent graduate of the Product and Furniture Design course at Kingston University, for his Strung chair design. The idea for the design arose through, as he describes it, 'an exploration of tension', and the outcome is a minimal, tubular steel-framed lounge chair strung with 91m of tennis racket wire, which is stretched across two planes to intersect and form the seat.

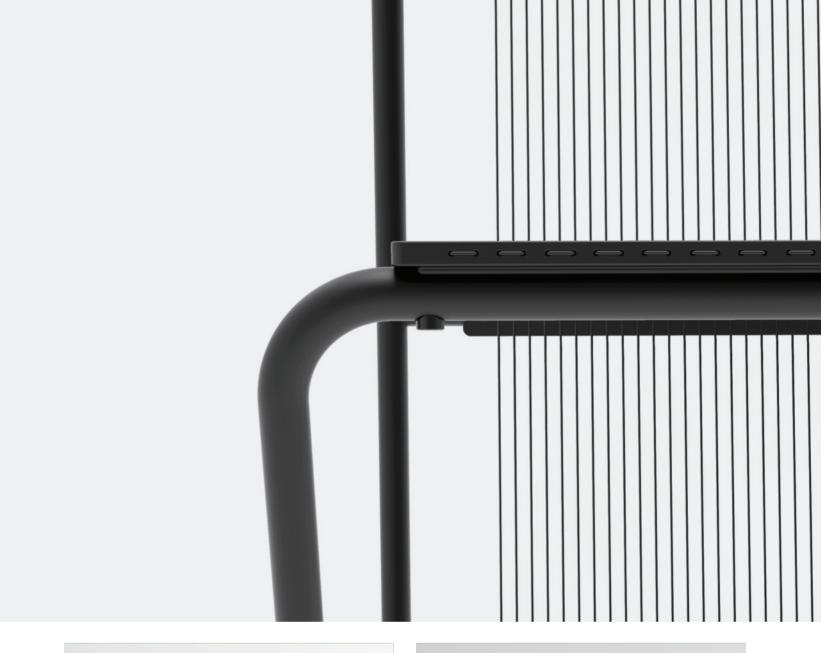
The judges were very impressed with George's graphic, beautifully detailed and beautifully executed design, its outline creating an instantly recognisable shape and cleverly hinting at its lightweight construction. 'An exquisite visual tension – tuned to perfection,' commented judge Steuart Padwick. The judging panel also included Katie Walker and Arash Shahbaz, and the prize was sponsored by Imagination.

George says of his winning design: 'Tension is all around us in our day to day lives ranging from large civil engineering masterpieces to things as small as the coping saw that you used in design and technology at school, and even within many sports such as tennis and badminton. However, tension is rarely used within furniture. Strung is a material exploration project celebrating the magic of tension by using the wire that's hatched in the middle of a tennis racket which has been stretched across two intersecting planes to create a minimal seat that suspends the user in its tubular steel frame, as if they were levitating.'

George won the first prize of £1,000 plus a year's free membership of ACID (Anti-copying in Design), and his chair will be exhibited at the Gordon Russell Design Museum.

For more information about the Gordon Russell Design Museum, visit **gordonrusselldesignmuseum.org**. George Peirce is launching his own website – **georgepeirce.co.uk** – and you can see more of his work on Instagram **@georgepeirce.uk**









UNDER THE HAMMER – ANTIQUE AMERICAN FURNITURE

BONHAMS' HOME & INTERIORS SALE IN LOS ANGELES FEATURED MANY PIECES OF DECORATIVE ART. WE TAKE A CLOSER LOOK AT SOME OF THE TOP-SELLING 18TH- AND 19TH-CENTURY AMERICAN FURNITURE



▲ LOT 126 · US\$37,812 (£27,619)

This carved cherry and walnut block front slant lid desk achieved the highest price of any lot in the auction. It was made in the Chippendale style in the early 19th century and is attributed to the workshop of John Shearer, of Martinsburg, Virginia.

Known as the 'Tory Joiner of Martinsburg', Shearer was a Scottish cabinetmaker who immigrated to America around 1775 and was active in Martinsburg from around 1801–17. Shearer infamously incorporated his loyalist affiliations to Great Britain in his 52 surviving pieces of idiosyncratic furniture, crafting his furniture almost as political statements.

Shearer had stylistic peculiarities that distinguish his pieces, such as the vertical placement of the brass hardware, the ogee feet and the vertical backboards. He often added the Federal Knot to his pieces; this was a pierced loop of four intertwined teardrops, and was an allusion to the entailed and ineffective new American government. The complex construction of his furniture was also purposeful for a more mysterious reason.

The most particular of Shearer's techniques was the use of his furniture as a vessel for hidden pro-Tory propaganda. Following the American Revolution and preceding the Civil War, Americans

found themselves split between Jeffersonian Republicans and Federalists. Pro-British sympathies weren't widely acknowledged or favoured in the South at this time, prompting Shearer to use symbolic inlay and hidden inscriptions to relay his ideologies and glorify Great Britain and the Royal Navy. Because of their complex construction, these areas were only visible when deconstructing his furniture – removing the nailed back board and looking into a compartment at a very particular angle.

Shearer's patrons were largely Anglo-Americans and he shared his personal political stance on the furniture he made for them. Shearer was known to have written 'To a Tory' or 'God Save the King' on furniture, presumably for those more politically aligned customers. His work is a rare example of furniture being involved in documenting political and social conflicts.

This particular desk contains a hidden letter referring to when the British burned Washington, DC in August 1814. Attached to the interior face of the rear tambour partition, the document reads: 'Made by me John S---- When the British ---- Capital of America. God save the King ---- amen ---- the worst and greatest vill ---- in Loudoun County Virginia By ---- e Torrys on ---- ard.'

An enigmatic figure in history, this desk is another mystery that makes John Shearer an even more enticing figure in Americana.





▲ LOT 82 · US\$4,080 (£2,980)

A carved walnut high chest of drawers, in the Chippendale style. It was made in Philadelphia in the late 18th century.



PHOTOGRAPHS COURTESY OF BONHAMS





▼ LOT 134 US\$3,187 (£2,328)

A Federal-style inlaid mahogany butler's secretary or linen chest, made in the 19th century. Federal Period furniture (1789–1823) was influenced by the British Georgian and Adam styles.

► LOT 100 US\$2,167 (£1,583)

A Federal-style inlaid mahogany bowfront chest of drawers, made in New England in the early 19th century.





THE GILDING MASTERS

WE LEARN ABOUT THE WORK OF GILDING AND RESTORATION SPECIALISTS

CHYROWSKI STUDIO

Chyrowski Studio was established in Wroclaw, Poland in 1982 by master craftsman Kazimierz Chyrowski. Today the company is led by Kazimierz's son, Janusz Chyrowski, who continues the family tradition in gilding and gilded wood conservation.

Janusz is a gilder and restorer master craftsman. He began as an apprentice in his father's studio in 1987. Ten years later he gained a diploma as a Master of Gilding Craft. One of his most significant projects in Poland was gilding a wall in Europe's oldest restaurant, Piwnica Swidnicka. The restaurant is in the underground cellars of the Old Town Hall in Wroclaw. Built in 1273, it prides itself on offering traditional Polish dishes and is a popular tourist destination.

Janusz moved to London in early 2000 to further his career opportunities. The

London-based Chyrowski Studio works with antique and art dealers, galleries and museums, interior designers, architects and private collectors worldwide.

Janusz's wife Dorota Chyrowska is also a gilder and restorer. She graduated with an MA in Protection of Monuments in Toruń, Poland, specialising in conservation. For over 20 years she worked both for the heritage institution and in the private sector. She joined Chyrowski Studio in 2018 to work on the restoration of gilded objects.

RESTORATIONS, ART AND INTERIORS

Chyrowski Studio performs water, oil or mordant gilding to the highest standard on any surface including wood, metal, glass, stone, leather or paper. Some of its architectural work is done in situ, either indoors or outdoors. In addition, the

studio provides wood conservation and restoration of gilt wood and polychrome decorated items, fine antique gilded furniture and picture frames. For each restoration project it produces a condition report, conservation and restoration programme, final report and full photo documentation for its customers.

As well as restorations, Chyrowski Studio also makes quality gilt frames and gilded furniture to commission.

Building on the family tradition of gilding and restoration, Janusz has also expanded his expertise into the world of modern art and interior designs for his London clientele. As an artist, Janusz creates gilded geometrical or abstract artworks on boards or canvas using his gilding skills. These are much sought after by interior designers, art dealers and investors.



Intrigued by the Studio's work, F&C asked Janusz to tell us more.

You were an apprentice in your father's studio. Did you always know this was the business you wanted to work in?

No, I didn't. When I was younger I wanted to be a rock star - I played guitar with a band, wrote songs, lyrics and played gigs, mostly wanting to impress girls! But during one summer I worked in my father's studio. I joined the team of fantastic craftsmen and restorers, earned some money and played a small part in a very complex project which lasted a few months. It gave me the satisfaction of seeing the finished work having played my small part in it and since then I knew that manual work, learning the crafts and belonging to this society would be my future.

What drew Dorota to working in gilding?

Dorota's passion towards antiques and national heritage began during college on visits to historical buildings, museums and collections. She was fascinated by all the precious objects created centuries ago and so she decided to start her career in the conservation field. She graduated from UMK University with a Master's degree in Protection of Monuments, specialising in conservation. She worked at the Regional Office for the Protection of Monuments in Poland, running and developing substantive decisions for entries to the register of historic monuments. In London she has worked in the private sector, doing restoration service for all kinds of gilded and decorative surfaces, joining different teams of carvers, restorers and gilders. Her academic knowledge, manual skills and experience in treating precious objects are a great contribution to the Studio.

What has been the most difficult or ambitious project you have worked on?

Generally, all the early projects were challenging for me when I had to take full responsibility for every aspect of the work. One project is always on my mind - the gilding of the wall in the restaurant in the Town Hall in Wroclaw has been the most difficult and ambitious one. It is a medieval building and the preparation of the wall for gilding was crucial, checking the level of humidity in the wall, protection layers, and so on. Many very important steps needed to be taken to achieve a good quality of gilding and the final effect presents as a mosaic. I was 29 years old and I knew I had to deliver a masterpiece that would last for decades.

What are the challenges of working in situ and outdoors?

Working in situ and particularly outdoors is always a big challenge. The weather, the time of day, the direct sunlight and the wind are the main factors that affect successful gilding work. Before we start a gilding project, we carefully consider how long a warranty of gilding may be (which is usually 15 to 50 years).

What factors are important to consider when you assess an antique piece?

The restoration of an antique piece is what we love the most and what gives us the biggest satisfaction, no matter what the object is - a small picture frame, a piece of museum quality and very valuable gilded furniture, a few metres high church altar or an organ. This is the field my father started in and we can proudly continue it.

The basic examination of the antique piece from the gilding perspective is: the condition of the main substance, the



gilding technique, the colour of clay under the gold leaf, any original underlayers. All these factors guide us, helping to define the age and the origin of the object. Our experience and dedication are admired by many antique dealers and private collectors all over the world.

Does working on modern art and interiors gives you more artistic freedom, or are the processes very similar?

We serve the modern art galleries which require a simple and immaculate gilding on furniture, mirror frames, sculptures and art objects. This work requires a very disciplined procedure of a gilding craft to deliver the best quality of gilt on any base. There is no freedom at all.

How has the Covid-19 pandemic and subsequent lockdowns impacted your work and business?

Working in our home studio has really saved us throughout lockdown. It helps us to keep expenses to a minimum and thankfully our clients have kept us busy. The diversity of our work allows us to survive, even when side jobs stopped.

Chyrowski Studio is a member of the Guild of Master Craftsmen. For more information about its work, see chyrowski.com



HOTOGRAPHS COURTESY OF CHYROWSKI STUDIO







MEET YOUR BIGGEST COMPETITOR - YOU

IT'S NATURAL TO COMPARE OUR WORK TO OTHERS AND FEEL LIKE
WE'RE IN A COMPETITION. HOWEVER, AS **DONNA FINDLAY** DISCOVERS,
IT CAN BE WORTH TAKING A MORE PERSONAL PERSPECTIVE

Many people enjoy watching competitions, whether it be supporting a sports team, listening to a debate or watching TV quiz shows. But how many of us enjoy actually being a competitor?

Those born naturally competitive thrive on the desire to be the best and it's a great motivator. Often, these people are confident, ambitious and determined in their climb to the top, and this doesn't mean they're selfish or only out for themselves – it's how they survive and improve on what they do. But what if the thought of competing against others causes anxiety or panic instead of an adrenaline rush? For some, any kind of competition is enough to cause a cold sweat, whether they're the best or not.

Outside of shows and awards, creative pursuits like furniture making may not seem competitive but there are certainly times when we compare our work (and ourselves) with our fellow makers. Social media feeds are flooded with images of others' achievements, whether it's finished projects, fancy new kit or a big new commission. Yet comparing yourself with others or vying against them could leave you feeling demotivated because you don't feel as good as them. Whether you relish competitions or loathe them, however, there's one person you can compete with on a regular basis to improve all areas of your life. Take a look in the mirror - it's you. What better person is there? You're not in the spotlight, you can set your own targets and it doesn't need to be stressful.

EVERYONE'S DIFFERENT

One hard truth of life is that there will be skills and activities you struggle with that others find a breeze. Think back to schooldays and the students around you. Remember the maths geniuses who couldn't spell? Or the straight-A students who couldn't throw a cricket ball? A widely used saying, attributed to physicist Albert Einstein, states: 'Everybody is a genius, but if you judge a fish by its ability to climb a tree it will live its whole life believing it's stupid.'

It's a reminder that everyone has

different strengths and weaknesses and as adults it helps to understand that whether it's a result of the brain, genetics or socialisation, we'll all be good, bad and okay at different things. However, that doesn't mean you can't improve on skills and, by deciding to set yourself targets to compete against, you can develop any aspect of your life. You don't have to panic because there's a time limit, others watching your every move or that there'll be an element of losing. You can set the goal, the pace and remove all the stress and anxiety of competition with others.



'Everybody is a genius, but if you judge a fish by its ability to climb a tree it will live its whole life believing it's stupid.'

ALBERT EINSTEIN

YOU'LL BE HAPPIER

When you compare your work against others, you follow their rules. Success is often defined by those around you. For example, you're only successful if you're the winner in a competition, getting the highest paid commissions or own a big house and have a perfect family. If you let go of others' expectations and follow what makes you happy, you can define your own success. You make the rules. When you compete with yourself, you are freeing yourself from external judgments and relying on your own opinion. You're the best person to answer questions such as: 'am I doing the best I can?' and 'is there more I could do?' But even then, don't berate yourself. Instead, reassess and keep moving towards your own success.

REMOVE NEGATIVITY

To avoid placing stress on yourself, focus on the positives in your efforts. Consider how much progress you make rather than how long it takes. If you have a bad day, week or month, don't let it upset you. Instead, be proud of your achievements so far and get back on course the next time you can. Everyone has bad days but it's the determination to keep going that matters. Sometimes you may want to just have fun: you can just go into the workshop with no particular aim in mind, just play around with some offcuts and see what happens!

Whether you tell anyone other than your diary is up to you. Telling people has its disadvantages in that you may feel under pressure to do well because you've told them, but it can also be a motivator as people can support you. So, if you want to post work-in-progress photos on

Instagram or are proud of an achievement and want to let people know about it, then go for it. The important thing is to be happy and stress-free.

By competing against yourself, you will recognise that winning and achievement come in many forms – not just money or glory. There's an inner satisfaction in doing something that brings self-improvement. Furthermore, the elation of winning competitions of any form is fleeting. What lasts forever is that feeling inside of being inspired, of conquering a challenge, and if you can keep improving yourself and looking for ways to do that, you will be fulfilled.

HOW TO COMPETE WITH YOURSELF

- 1. Choose your goal. Start by considering what kind of things you would like to achieve. It could be to master a new technique, expand your product range or build up your customer base.
- 2. Make a plan. Grab a new notebook and write down your target. Then consider a realistic time scale. How long should it take? Be realistic with your target. Also, be prepared to move your target or amend it if you need to.
- 3. Set mini-goals. Between now and your chosen date, set small targets to have been achieved each week or month or by a certain time. Make a list of achievable goals, which will enable you to keep improving and progressing.
- **4.** Embark on your adventure. Don't put it off get started as soon as possible.



DENNIS ZONGKER ADDS A VARIETY OF EMBELLISHMENTS TO THE HEADBOARD OF A KING-SIZE MAHOGANY BED

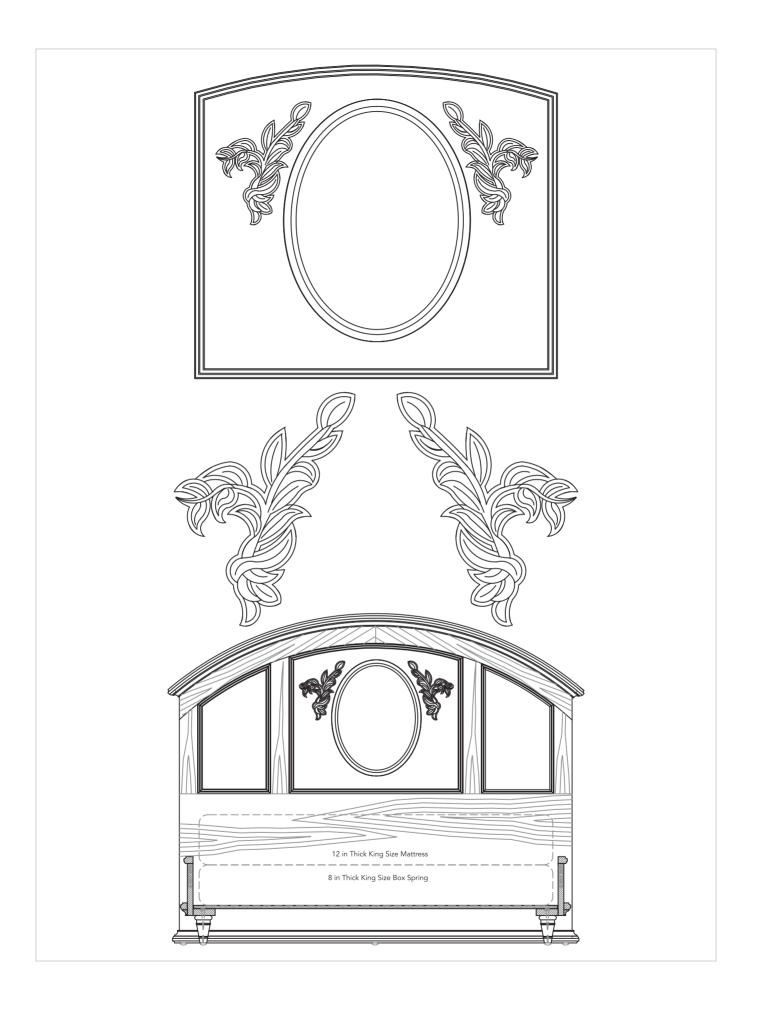
Many 18th-century furniture makers used a wide variety of hand-carved embellishments to enhance and add visual interest to their pieces. This king-size bed is made of African mahogany hardwood and plywood. For this style of headboard my goal was to carve out an elliptical centre dome with leaves and stems to accent the centre of the headboard. To carve out the centre elliptical medallion, I used large carving knives to shave off the large amount of wood. I then blended them together to create a gradual radius to form a dome into the ellipse. To give the leaf and stem carvings a more 3D look, I carved them with a double relief cut. This also provides extra strength to the carvings so that over time they will stay intact.

YOU WILL NEED

Carving gouges:

- No.2, 5mm
- No.2, 3mm
- No.2, 8mm
- No.2, 10mm
- No.2, 20mm
- No.2, 12mm
- No.3, 8mm
- No.3, 16mm
- No.3, 12mm
- No.5, 16mm
- No.5, 12mm

- No.7, 14mm
- No.9, 10mm
- No.15, 3mm V-tool
- Large No.2, 35mm carving gouge
- An assortment of detail rifflers
- Large flat chisel
- Mallet





PREPARING THE CARVING

1 Make a photocopy of the left and right side of the carving templates to the size and proportion needed. I used two pieces of 20mm thick, 200mm wide and 355mm long mahogany. Spray adhesive on to the back of the template, then press it on to the hardwood.

2 Secure the carving to a block of wood, then mount the block to a carver's vice. The goal for carving the double layer of relief on to the leaves and stems is to provide extra strength at the narrow, thin areas of the stems; this gives the carving an extra layer of shadow and depth. Stab cut around the outline of the leaves and stems. As you work your way around the template, it's important to be able to choose the gouge with a sweep that most closely matches the curve of the outline. Lightly tap the gouge with a

carving mallet, cutting approximately 3mm deep. Using a mallet like this provides greater control and helps prevent accidentally carving beyond the stab cut. Take care not to tap your mallet too hard as this can cause the wood to crack or chip.

- 3 Once you have made the stab cuts, begin relief carving around the outside edges using No.3, 16mm and No.2, 8mm carving gouges and tap lightly with a mallet to remove the waste wood.
- 4 When removing the waste wood in the smaller corners use the No.2, 5mm or the No.2, 3mm.
- **5** Repeat steps 2 and 3 several times until you get the outside relief edges down to 6mm thick.













CARVING THE LEAVES AND STEMS

6 Once all the outside relief edges are complete you can start to separate the leaves and stems using the same assortment of carving gouges. Stab cut into each leaf. Cut and relief each line approximately 6mm deep. At this stage, work on groups of leaves that are close together. At the lower section there are five leaves where you can focus on the high and low areas before moving to the next section.

7 To round the larger end of the stem, flip a No.3, 12mm gouge upside down and shave off enough wood to get a round shape that makes it look like it is coming out from the leaf.

8 When carving out the leaves the goal is to make them look as natural as possible. Try to get each single leaf to look as if they are on different planes coming out of each other. Start by removing the waste wood that is closest to the base of each leaf.

9 On this larger leaf, carve in a concave sweep into the middle section using a No.5, 16mm carving gouge.

10 On the outside base of the long leaf use the same No.5, 16mm gouge upside down to carve in an even convex radius that flows from the very base to the upper end of the leaf. Also on the bottom leaf, carve an arch leaving the centre of the leaf at the highest point. You can then carve off all the paper templates on these bottom five leaves, smoothing each leaf to where there is a gradual natural flow before moving on to the next set.

11 Continuing up the stem, carve into the base of the leaves using a No.2, 10mm gouge to stab and relief cut the waste wood away. Each leaf should vary a little in its depth and sweep. For example, some of the leaves can be carved all the way down to the lowest part of the stem while the next leaf only goes 6mm deep by the stem.

12 As you continue up the stem it is important to carve low sweeps into sections of the stem with a No.3, 12mm gouge. You can then flip the gouge upside down to carve in the concave radius.

13 On the very top leaf use a No.2, 10mm gouge to carve the tip with a downward sweep. Also, carve a downward sweep at the base of the stem, leaving the centre of the leaf at its highest point. Carve off any leftover paper template to smooth out each leaf.

14 Each leaf should have different arches and sweeps to its profile. On this leaf, the tip has a sharp sweep carved down to the tip and a larger convex sweep towards the centre of the leaf. Blend each sweep and arch together by carving off the paper template.

15 This leaf resembles the side view growing out of the stem. Use a No.5, 12mm gouge to carve in a large convex arch into the centre and lower edge of the leaf while leaving the top edge at its highest point.















 $16\,\mathrm{On}$ the smaller remaining section of this carving use the same steps to complete the leaves and stems. On the smaller stem use a No.2, 5mm gouge upside down to carve the concave shape of the stem.

17 The next step is to carve the veins into the leaves using a No.15, 3mm V-tool. Start by using a pencil to draw in each vein and follow the contour of each leaf. Using your V-tool, you can then follow the pencil lines to carve in the veins.











18 Using a No.2, 5mm carving gouge upside down, you can begin to carve a small radius on all the edges of each leaf.

19 Next, using a No.3, 8mm carving gouge upside down, carve a radius on to the outside to reveal the edges.

20 Using an assortment of detail rifflers, file the rough edges of the leaf veins and stems; this will give the carving a nice clean look.

21 To remove the carving from the glued-up block of wood, use a large flat chisel upside down and gently pry the carving free. As you do this, it is important to lightly pry all the thin vein and leaf areas around the entire carving before trying to remove the completed flowers and stems; this will help to avoid any breakage occurring and potentially ruining all your hard work.

CARVING THE ELLIPSES

22 I used eight 100mm-thick pieces of mahogany for this: 38mm thick, 460mm wide and 610mm tall ellipse. Glue up the width a little oversized then plane the block down to its finished thickness of 38mm. Next, draw the ellipse on to the face of the mahogany block. Cut out the ellipse using a bandsaw with a 6mm-wide blade, keeping the blade on the outside edges of your pencil line.

23 Next you will need to draw a line 32mm inwards from the outside edge around the complete face; this will be the width of the carved outside ring of the ellipse. Also draw a pencil line

on the face of the outside edge 8mm up from the bottom edge, which will be the depth of the outside ring. Start the carving using a large No.2, 35mm carving gouge. Stab cut into the wood following the pencil line. Use your mallet and give it a couple of harder taps to go about 5mm deep. Use a No.2, 20mm gouge towards the smaller ends of the ellipse.

24 Using the same No.2, 35mm and No.2, 20mm carving gouges, remove the waste wood around the outside profile ring. Use your mallet to carve off flat and even cuts. Repeat steps 2 and 3 until you reach the depth pencil line. To smooth out the ring use the No.2, 20mm to shave off thin layers of wood with a slight bevel from the inside edge to the outside edge. Next, using the No.2, 35mm gouge, carve a convex slope into the edge around the entire ellipse.

25 Carve in the concave ring around the ellipse using a No.9, 10mm carving gouge. You will need to make two or three passes until you reach a 6mm depth below the outside ring edge.

26 The last step is to blend the inner ellipse with a gradual convex sweep from the centre down to the concave ring. Use both the No.2, 35mm and No.2, 20mm carving gouges. This may take a little while but it is well worth the results. Next, using 150-grit sandpaper, sand the complete ellipse smooth. After staining and finishing the entire bed and carvings, attach the carvings with hot animal hide glue and a few finish nails.

27 The completed headboard should look something like this.



SUPERSIZE ME

DALLAS, TEXAS-BASED **DOC WRIGHT** CREATES MASSIVE, LIVE EDGE PIECES OF FURNITURE THAT SHOW OFF THE NATURAL BEAUTY OF THE WOOD. F&C MEETS HIM

Doc Wright started woodworking on December 6, 2016, and quit his job in the oil industry three months later. He has never looked back. 'This woke up something inside me that I never knew I had,' he tells *F&C*.

Doc specialises in massive live edge pieces sold to highend residential, corporate and hospitality clients, and his business, The Wright Edge, is based in Dallas, Texas. He had no background in woodworking, going to college in Minnesota on a wrestling scholarship but returning home to Texas after he was injured and lost the scholarship. 'I liked subjects where it wasn't about my opinion, so I naturally drifted towards the sciences where it was all about data, and got a degree in geology and chemistry,' he says. He left college and started working in corporate America in 2008, but struggled with the stress and politics in that world. Doc started his furniture business in February 2017 - four years to the day before F&C caught up with him during one of the worst freezes Texas has seen, when temperatures dropped to -17°C, water pipes were frozen and intermittent electricity blackouts had brought work in his workshop to a halt.

He initially got into woodworking to relieve stress, and because a friend asked him to build him a bench. 'Work was too much to handle sometimes,' he says. 'I wanted to have a hobby outside of going to the gym, and when my friend asked me to do this it gave me something to do in the garage.' Just a few months later, Doc was asked to bid on a large job – 'and to my disbelief I got it,' he says. He decided that if he wanted to take a chance, leave behind the security of his well-paid job and benefits, now was the time – he was young, unmarried and facing an unexpected opportunity. He took the plunge and The Wright Edge was born.

Doc is 100% self-taught, and found that because of the sheer scale of the projects he is working on, even YouTube didn't offer much in the way of instructional videos, and nor did he find any books on the subject. 'I learned by making mistakes,' he says. 'I grew up very hands-on doing construction, so I always understood that whatever you are trying to do there is a tool out there for it. When I wanted to try different things in woodworking I needed to get a router, and then I needed chisels, and it progressed very quickly from there.'

When he took on his first project, an 8ft-long red oak bench for

a friend, he had never used a sander or tried to finish anything. 'It was your most basic, garage-type build,' he recalls. 'That went well and he asked me to make him a coffee table. Then I made a second coffee table that I threw into the burn pile, nobody has ever seen it.' He worked on a few smaller projects before a couple in Dallas asked him to build them an 8ft-long dining table. He posted it on social media and a week later was approached by an interior designer who first asked him for a 14 x 5ft table, then asked him to bid for a contract to make five of them. 'I went from zero to 150 pretty much overnight,' he says.

Before bidding for the project Doc checked with Andy Hood, who operated a sawmill and had provided him with wood for his previous projects. Now Doc has a workshop based on Andy's property, and Andy does all the business's metal fabrication and welding, as well as helping out with the heavy lifting. 'It's been just me and him for the last four years until October, when I brought on my first full office employee who handles business development,' says Doc. 'Andy's a big old redneck and I'm short and thick so we are good at lifting heavy stuff.'

For pieces that are too big for them to lift, and so that he can work on his own, Doc imported a giant piece of machinery from Australia called a Wood Wizz. 'It has a crane arm attachment so I can flip over a 25ft slab by myself, no problem,' he says.

LET THE WOOD DO THE TALKING

He was attracted to live edge pieces straight away. 'I liked the size and the natural beauty of it,' he says. 'I think a lot of woodwork is overdone to the point where it doesn't look natural, where it takes away from the wood. I want to highlight the wood and let the wood do the talking for me. I started seeing diverse species and how every tree is different, and I loved it so much.' But he doesn't have a favourite wood to work with. 'Honestly, I like working with woods that yield me the highest quality possible build with the highest margin of profit,' he says. He imports his wood mainly from Costa Rica, but also from Panama and Thailand. 'I import for a reason,' Doc explains. 'Domestic woods here in the US are extremely expensive, especially when you are building the size of stuff we build. I can get bigger, prettier stuff that is of higher quality for a fraction of the price abroad. We seem to just keep going bigger and bigger, and it is hard to find domestic pieces of wood 10-12ft in length.'

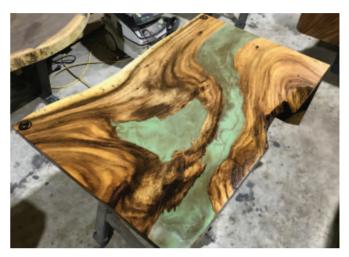












Apart from the Wood Wizz, Doc uses almost exclusively hand tools. 'We don't need a lot of typical woodworking machinery like jointers, massive bandsaws or belt sanders. Our stuff is too big and it would cost too much money and take up too much space to actually use. Right now we are making a 39ft double waterfall edge table. There are three pieces of wood and it is huge. That whole table is going to be made with the Wood Wizz, a tracksaw, a Domino jointer and a router, and that's it.' He uses mainly Festool tools and says he has almost everything by that brand – including some things that aren't available in the US, which he has had to buy from abroad. Finishes depend on the wood and on the client. He particularly likes a tung oil and wax finishing product from Vietnam-based Lucero, especially for residential builds. 'It takes more maintenance, but if it gets damaged it can be fixed on site – you can do it,' he says.

The Wright Edge works 100% on commission, and Doc says he prefers working with residential clients to jumping through the hoops needed to work with major corporates and hospitality clients employing interior designers. He has produced some non-commissioned pieces which he recently put on display in a new showroom in Dallas's Design District, but says: 'We have yet to figure out the magic formula of how to make stuff and sell it – all our clients are the type of people who say: "That is cool, but I want it custom made for me".' There are some clients who will simply tell Doc the size of the piece they want and then give him free rein. 'Andy and I have a million ideas for stuff we want to make – it just comes down to finding the right client who sees what we see,' he explains.

From a relaxing hobby, woodworking has become Doc's whole life. 'I work seven days a week, 24-seven,' he says. 'I handle the business, I do all the woodworking, I'm the one dealing with

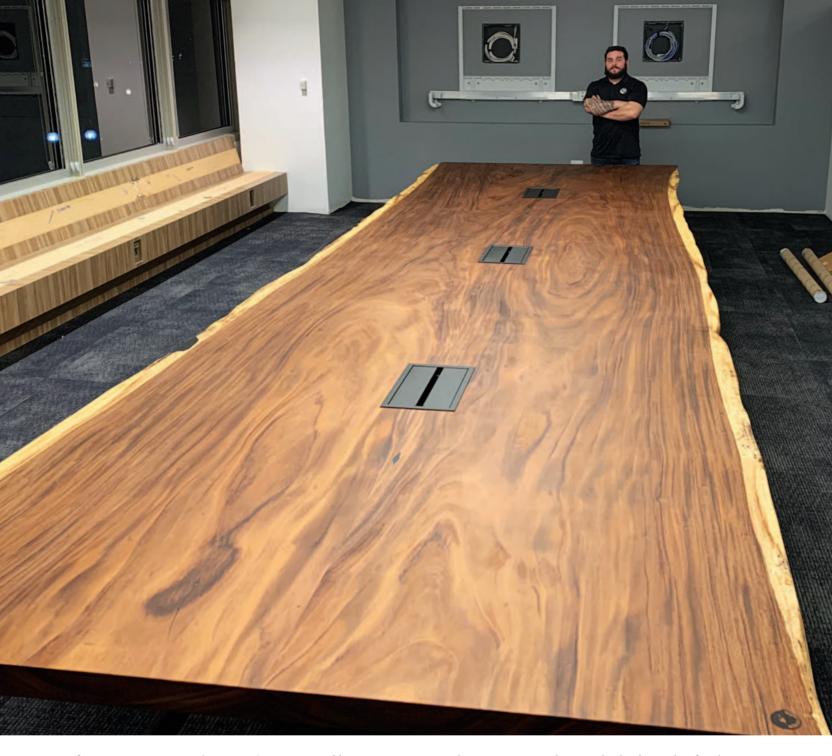
clients, doing 3D design work, dealing with designers and I also have to be in the shop making stuff. It's hard to do that.' But when he does take a very rare day off, he will still turn to woodworking for fun. 'Last week I finally took a full day off, and messed around with parts of a couple of guitars I'm going to make for friends. It was pretty fun to work with something that I could move around myself,' he says.

SPECIAL DELIVERY

One of the key challenges when making such massive pieces is the delivery and installation, which the small operation delegates to a third-party moving company. 'We can't handle that size,' Doc says. 'The second a piece is done we don't touch it again. If anything happens to that piece from ship to installation, the clients are not liable and nor are we, and that is built into all my budgets.'

A design for the Hard Rock Café in Miami highlighted some of the issues involved. Doc recalls: 'We did a table for their presidential suite. They wanted it to be 14ft long with a giant piece of glass on the top. I said, that's easy, but how are you going to get it in there? They came back and asked, can the table come in two pieces? I said, yes, but what about the glass? We had to reduce the size of the table by 4ft to get it in the service elevator. Because of that job I learned how to write my contract. We get paid when we are done, not when the piece is installed, because we can't account for construction delays.'

But his most challenging job ever has been a massive commission for the Delta Hotel in Allen, Texas. 'To this day it is our measure for stress,' he says. The project included a 1,800ft decorative wall art piece, three giant barn doors and a hostess stand that weighed about 2,000lb. 'It was quite an undertaking



for a two-man operation,' says Doc. 'It was just maddening, because from the very first meeting the designers had no idea how to construct this. Luckily for me one of the owners of the hotel is an engineer. We went through it with him, but we still can't believe we pulled that job off.' He adds: 'Because of that job we now can foresee issues that even the designers or architects won't see.'

One of his favourite builds has been an 8ft round table he made from a single 19ft slab of monkey pod. 'It is so unique and so different. If you look back on Instagram, you wouldn't believe the number of woodworkers who came out and told me you can't join straight grain and end grain, that is going to come out. I'm a scientist, I'm pretty knowledgeable about structural engineering, and that table now is almost two years old and it still looks just as good as the day we installed it.'

With many corporate clients on his book, Doc has faced serious challenges because of the Covid-19 pandemic and lockdowns, and last year was his worst year of business. In March four corporate clients cancelled big contracts, leaving the company with little business until the third quarter, when things started picking up again, ahead of a 'really decent' fourth quarter. 'We are still navigating how to handle some of this,' says Doc. Presentations are a real challenge, with video conferencing making nothing like the same sort of impact, especially given the nature of his pieces. 'We are trying to evolve and work out how we can do this the best way. It is very interesting and difficult to figure out.' Going forward he would love to work more with residential clients. 'I like to figure out what they want and make it better, with no red tape and restrictions,' he says. 'The corporate side is so rigid you don't get a lot of that creativity.'

TIPS FROM THE TOP

Doc's advice to woodworkers who want to try something bigger is to be bold. 'There is a piece of advice I read when I first started out, and it is how I handle social media and critics to this day: the saying is, you will never be criticised by somebody who is doing more than you. So if you are wanting to try your hand at something bigger or you are nervous about it, just do it. You are not going to please everybody, you are going to learn in the process, but you have to be the one to believe in yourself – so just do it.'

Doc says he gets far more questions about the business side of his work than about the actual woodworking, and he has the following tips for people like him, who want to turn a hobby into a full-time occupation. 'My biggest piece of advice is to take time to go on Etsy and Instagram and see what everybody else is making. There are hundreds of thousands of guys all making the same stuff. What can you do and what can you make that is different, that will separate you from the crowd?

'The next thing is do your absolute best to become a subject matter expert. Whether it is the chemical processes you use or the finishes, become an expert on how to sell your product. You can be the best woodworker in the world, but if you are not likeable and you can't sell your stuff, it doesn't matter. You can't train somebody to be likeable. If you are really serious I would find a mentor. You are going to have to pay them, but if you can find somebody to help with the initial structure of your business, pricing, sourcing materials and so on, you will save yourself years of banging your head against a wall like I did.'

Looking back over what helped him to make the leap from a secure job to a dream business of his own, Doc goes right back to his earliest training – wrestling. 'Sports is what moulded me and my mindset to a tee growing up,' he says. 'Outside my parents teaching me discipline, sports is where I learned true adversity: when things are not going right and you have to go out there and do your thing. It's a battle.' He adds: 'I don't have the ability to do something half-assed – it's either 100% or nothing.'

thewrightedge.com @thewrightedge









TO INVEST OR NOT TO INVEST

WHAT ARE THE CRITERIA YOU SHOULD LOOK AT WHEN CONSIDERING TAKING YOUR FURNITURE BUSINESS TO THE NEXT LEVEL?

You're selling your furniture and you enjoy the success that comes from being very good at what you do. For some people, that's enough, that's it. Meeting the cost of your bills, enjoying your money and seeing your business thrive, that's fine. But at the back of your mind, there's that little voice that asks: 'Could you do more with your money?'

It may be that you've been toying with investing more into your own business or have seen some ventures outside your sphere that you'd like to explore. The bigger question is, will you leap into the unknown or will you stay safe on dry land?

Perhaps it is unfair to call a step into investment 'the unknown' – after all, you're bound to carry out some due diligence before you take the plunge. Nevertheless, investment nearly always carries some degree of risk and it is important to weigh this up.

KEY CONSIDERATIONS

When it comes to deciding on making an investment the only way to choose is from an objective standpoint. So often in business you hear about investors following their hearts, or their gut instincts. This is romanticism at its finest and it rarely works. When you're considering a hefty investment think through these questions first:

Evaluate your experience: Have you made similar investments before? How did it go? Was there anything you did that you wouldn't do again? If you can learn from past mistakes or past wins

then you're in a good position to make a positive decision. If you've rarely been successful with investments, some serious thought needs to go into why. What makes this investment different? Why will this work when it hasn't in the past? Take your feelings out of the equation and look purely at the facts.

Identify your objectives: This is a key element to identifying why you want to invest. If you're looking at investing in your own business, what will you achieve? Put real figures behind those goals to help you work out if they're reasonable and achievable.

If you're looking at investing in another company, ask yourself why. Is it purely a money-making opportunity? If so, again look for concrete figures. Is it to increase your portfolio or give you more exposure? Unless there are real, tangible benefits that meet your objectives, you may need to reconsider. It's easy to be swayed by a good pitch, but always look for the realities.





Identify the psychology: The psychology behind investment is a fascinating one. For some interesting background reading, take a look at Dr Gary Dayton's work on getting peak performance from traders. Dayton is at pains to point out that many investments come from a place of fear or panic, especially when trying to recoup a loss. Approaching an investment with a clear mind is absolutely key. The pressures of the workshop are different from the pressures of the trading floor, but the theory is still applicable.

If your decision-making comes from desperation to claw back a loss, avoid a loss or atone for a past mistake, chances are that this decision will not be based on reason and the facts in front of you. Dayton teaches his traders mindfulness techniques, but giving yourself space to think and reflect before jumping in is easily as effective.

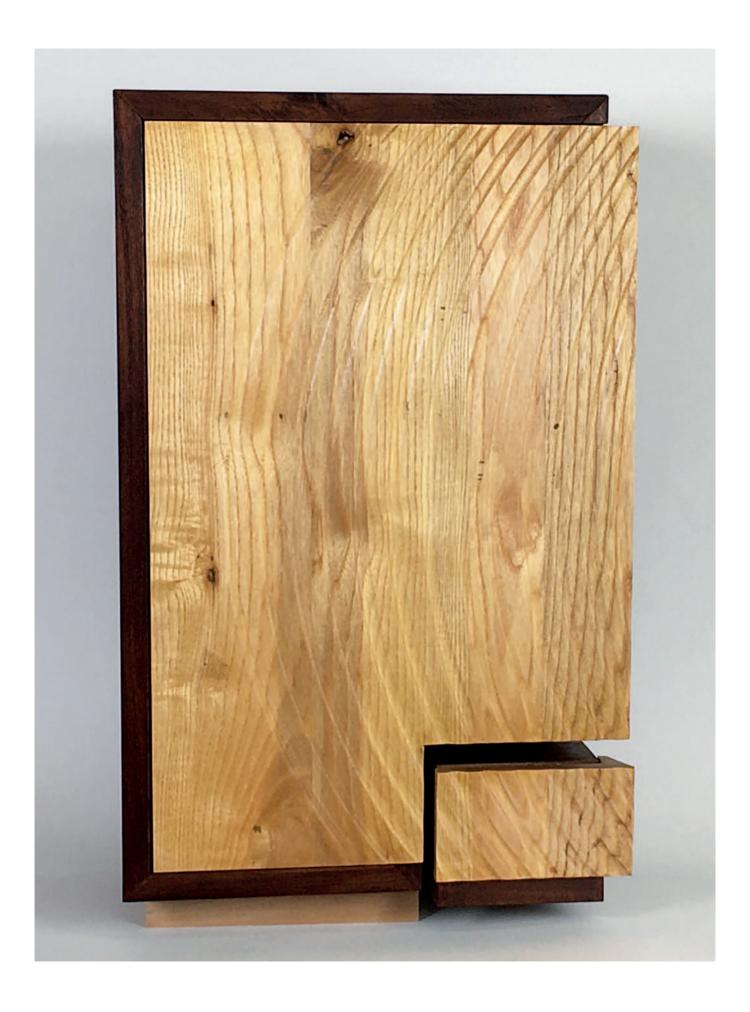
Think about your time frames: This is another crucial element to consider. Whether you're investing in your own or someone else's business or even stocks and shares, how long can you hang on before you need to see a return?

Investments live a life, they go up and down over time and if you're looking to cash your chips in 25 years down the line, you can afford to ride the fluctuations. If, however, you're looking for a quicker win, the kind of investment you make will probably require a different level of risk. Finding the right balance between risk, the length of your investment and your expected return is quite a feat and one that often requires some expert input.

Avoid high-risk investments: As a rule of thumb, avoid those deals that are at the higher end of the risk spectrum unless you fully understand the individual risks associated with them and are happy to take them on. If you do decide to invest in this kind of product, make sure the risks are fully explained, that there are no grey areas and that you are eligible to a degree of compensation should they go wrong.

Discovering how much you are prepared to risk, for how long and why are key elements to stepping up your investment game. Becoming an investor is the easy part, making the right choices that make you a good investor are quite another. Take your time, explore your options and always have the facts in mind before you decide to go all in or walk away. Taking your investments to the next level is to play the long game and with experience and the right mindset you can make that happen.

'Take your time, explore your options and always have the facts in mind before you decide to go all in or walk away.'



AGOSTINO'S LOCKER

DIEGO CARELLI MAKES A WALL-MOUNTED LOCKER

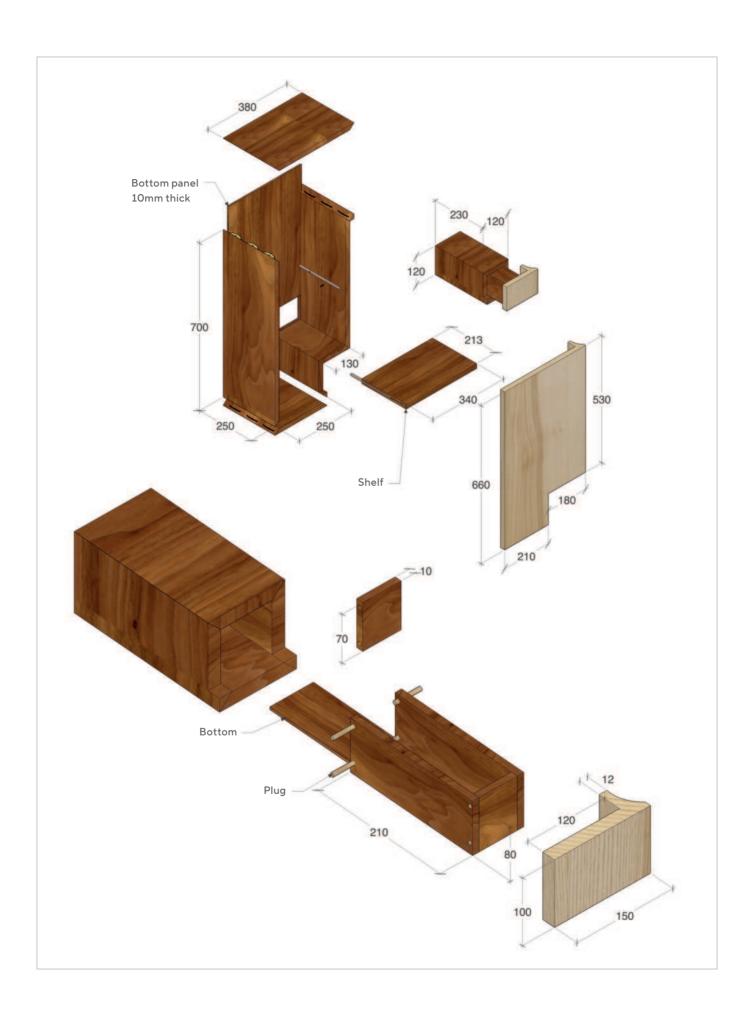
When I make a piece of furniture for myself I usually tend to be more hasty and less attentive to details, however if I am making something for a friend (as in this case), I try to give the best of myself. Agostino is a dear friend of mine; he is a farmer and I decided to give him a locker to hang in his beautiful farmhouse.

The project has three elements that give it character and I hope they will make it unique:

- 1. A door fixed flush on the hinge side but which will partially wrap around the other side with the handle in continuity with the same panel.
- 2. A series of concentric circles - created on the door - in decreasing depths as if to simulate the circular ripples that are formed in a body of water when a stone is thrown in.
- 3. A drawer that is detached from the main carcass but integral with the structure. It features a front created with a recess in the door panel.

I decided to use elm for the carcasses and ash for the fronts. To create a strong colour contrast between the parts, I opted to stain the elm carcass. This operation is quite unusual for me as I usually prefer to respect the natural colours of the wood, but in this case it seemed to me the best choice to enhance the tonal differences.













- 1 The front panel is the largest part of the project. The assembly was biscuit joined together. For gluing, pipe-clamp type clamps were used starting from planed and trimmed boards. The final thickness is 20mm for both the cabinet carcass and the door
- 2 Some of the panels already glued and sanded. On the left door panel you can see the square piece that will become the handle when it is shaped 3 The 45° cut made with the circular saw may not be precise enough to obtain 90° angles; however, it's useful for a first roughing cut before accurate finishing with a 45° cutter
- 4 A piece of wood to act as a stop is applied to the top of the workpiece with double-sided tape for the cutter's bearing to run on

THE CARCASS

As always when working with solid wood, the first tasks were to cut the boards, reduce the thickness with a bandsaw and planer, then join the edges of the boards. I'll skip explaining these processes for the sake of brevity and move on to the actual work. The carcass, as can be seen from the images, has a rectangular shape with a recessed corner, so six joints were needed. They are all at 45° with the use of biscuits to strengthen the joint.

Even though the construction of the carcass is quite simple, this operation had some potential pitfalls that I had to be wary of: in particular, when you're trying to create a carcass with the angles at exactly 90°, any inaccuracies introduced at this stage would cause a chain of errors. To obtain right angles, the first step is to have perfect 45° cuts but the circular saw, even if well set, does not guarantee sufficient precision. So, after roughing the corners on the saw, I finished them

with a pass over a 45° router cutter.

The gluing needed to be done in a slightly different way from usual. For a carcass with a uniform perimeter you can proceed by gluing all sides at the same time and with the use of straps. For this irregular shape, however, I had to join each side individually, paying particular attention to maintaining the squareness between the pieces. Before assembling the carcass, I cut a 6mm groove on the bottom to contain the back, also in solid elm. I left the carcass of the cabinet











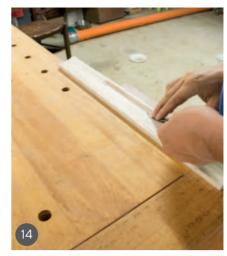




- **5** Two of the panels that form the carcass of the cabinet (upright of the recess and right side) must be cut and shaped to form a recess that can accommodate the door from the closing side
- $\boldsymbol{6}$ A third panel, the horizontal one of the recess, can be cut exactly to length
- 7 The carcass is not assembled and glued in a single step but is joined one corner at a time, paying particular attention to maintaining the squareness
- $\textbf{8} \ \mathsf{Note} \ \mathsf{on} \ \mathsf{the} \ \mathsf{right} \ \mathsf{side}, \mathsf{the} \ \mathsf{different} \ \mathsf{depths} \ \mathsf{of} \ \mathsf{the} \ \mathsf{three} \ \mathsf{pieces} \ \mathsf{that} \ \mathsf{make} \ \mathsf{up} \ \mathsf{the} \ \mathsf{carcass}$
- 9 & 10 The bottom of the cabinet is also solid wood, with a thickness of 15mm. Its perimeter's thickness was trimmed to allow insertion into the groove on the bottom of the carcass
- 11 The difficult part is in cutting the shape precisely, in particular the internal corners, which can only be done with a chisel











12 The wrap-around part of the door is made by cutting the L-shaped square with several passes on the circular saw, a slightly curved shape was prepared 13 The piece was then reinforced to prevent breakage

14 On the rounded part, as a grip, there is a shallow cut whose perimeter was softened and joined with rasp and sandpaper 15 & 16 The circles were cut using an MDF compass and a base with holes at the required distances

open in the upper part for almost the entire duration of the project in order to insert and remove the rear panel at the last moment. This allowed me to work without obstruction through the finishing phase and for other internal workings.

THE DOOR

The door is the main element of the piece and contains the small details that give the finished piece its character. On the hinge side it is straight and fits flush with the frame, while on the opposite side it has an L shape that partially wraps around the shaped side. The detail of this cut is added, then the section that will become the front of the drawer is

removed from the front panel.

To obtain the wrap-around shape of the L, I cut the shape on the square piece with a gentle curve. I did the roughing out with the circular saw and then finished with gouges, rasps and sandpaper. To eliminate the risk of breaking the lip that wraps around the side, I reinforced it with pins which are then hidden by a strip.

Once the door was completed, but not yet separated from the future drawer front, I was able to create the decorative concentric circles. I used an MDF compass made from nothing more than a 6mm-thick strip with a recess for the base plate of the router at one end, and a pin at the other. The compass was then

combined with a scrap table prepared with a sequence of holes at regular distances, so as to be able to perform the passes necessary to create the effect of concentric circles. The depth of the cuts, from the inside to the outside of the circles, decreases with each pass, just a few tenths of a millimetre, to give the idea of a fading effect.

The next step consisted of cutting the portion of the door destined to become the front of the drawer. I proceeded with the circular saw so as to get a clean job right away. The cut was a partial one to avoid going past the stop line with the radius of the blade, and the final removal was with a hand saw.













- 17 To get the circular 'ripples on water' effect, the passes decrease in depth as you proceed towards the outside from the inside
- 18 The front of the drawer was partially separated from the rest of the door with a partial cut on the saw bench
- 19 The cut was then finished with a hand saw
- $\textbf{20} \, \text{The drawer has a very simple structure: four pieces glued and then reinforced with pins. It is housed in a 45° jointed case}$
- 21 Note the longer base which incorporates the style of the main case and, on the top, the assembly screw holes
- 22 The internal shelf is fixed with two strips inserted in the ends of the shelf











23 A stopped cut at the front hides it completely from view once the shelf is in place 24 The wall fixing system consists of two simple self-made metal brackets. They are set flush in recessed cuts and have a small slot suitable for receiving a hook. At the slot, the wood must be cut just deep enough to be able to insert the hooks 25-27 The three phases of the finish: dyeing the carcass with walnut stain, smoothing and applying shellac with a brush. Using the dewaxed formula avoids the colouring effect of this natural resin while preserving the shades of the ash. After shellac, the surfaces were finished with medium iron wool and waxed

For the opening and closing of the door I used two cushioned cup-type hinges; I chose these for their ease of installation, the adjustment on three axes and the possibility of being able to insert and remove the door as many times as you want without unscrewing anything. These qualities compensate for their somewhat cumbersome aesthetics.

The drawer was made without joints. Given its small size I only glued the sides and then reinforced them with pins. Even the front panel, coming from the door, was only glued. The box that

contains it was assembled with the 45° process described earlier and was fixed to the cabinet carcass by inserting two elm pieces as spacers. They were glued and screwed through the inside of the main cabinet. The screw heads were sunk into the thickness of the wood and then covered with elm dowels.

Lastly, I prepared the internal shelf; this was made from a small elm panel. It was fixed by means of a small strip screwed to the sides of the cabinet. Two blind grooves, cut in the ends of the shelf, allow it to be inserted from the front without the fixing system being visible.

THE FINISH

As mentioned at the beginning of the article, I wanted to experiment with elm dyeing to give more prominence to the ash door. As a dye I used the classic walnut stain diluted in water, distributing it abundantly with a cloth. No dye was used for the ash. The finish is one of the most natural of all: shellac as a base coat, followed by beeswax. The only peculiarity is shellac, which is of the dewaxed type, so as not to turn the shade of the lighter wood to orange.







VENEERED NEST OF TABLES

LOUISE BIGGS EXPLORES VARIOUS DIFFERENT METHODS OF VENEERING

This nest of tables was made some years ago to complement a client's existing furniture. Designed around the requested size of the large table, they were made from Brazilian mahogany timber and veneer. Later, however, the client decided to refresh them and have the tops veneered. I did this by hand, but as veneering is an extensive subject, I will endeavour to explain the different methods you can use depending on the equipment you have available.

YOU WILL NEED

General veneering equipment:

- Tablesaw
- Planer/thicknesser
- Bandsaw
- Squares
- Spokeshaves flat and round
- Mortiser or mortise chisel
- Router and table with straight cutter
- Profile gauge
- · Sash clamps
- Chisels
- Cabinet scraper
- Abrasives

- Straightedge
- Veneer cutter
- · Card for templates

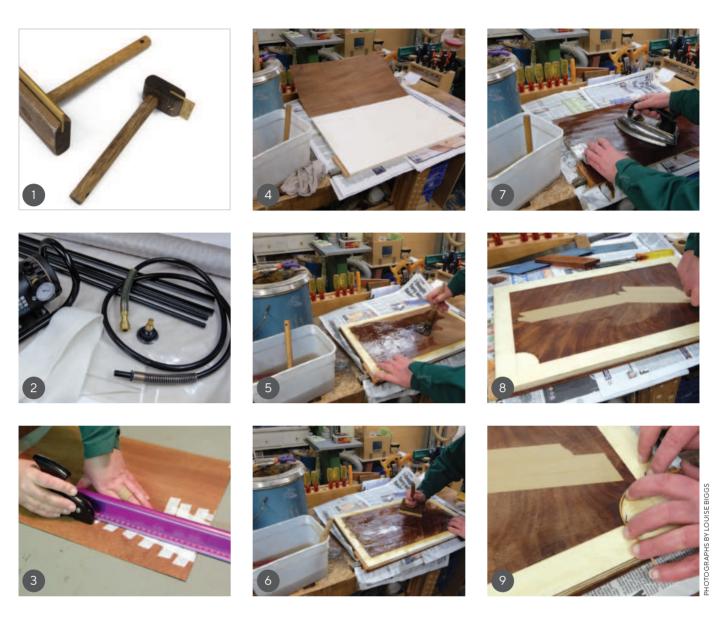
For hand veneering:

- Glue pot with animal or hide glue
- Veneer hammer
- Gummed brown tape
- · Rule and knife

For press veneering:

- Bag press more than one make is available
- Cold press glue for veneering
- Veneer tape





1 I made these veneer hammers from beech and brass 2 A bag press kit helps you get consistent pressure 3 Hand veneering: cutting the counterbalance veneer 4 Veneering a top with everything in reach 5 Gluing the back side of the veneer before turning over 6 Laying the veneer with the veneer hammer 7 Warming areas as necessary with an iron 8 Trimming the corners to a template 9 Square white line being shaped to the corner

VENEERING TOOLS

Veneer hammers can be simply made from beech and a piece of brass. I made the two hammers shown in photo 1 about 30 years ago and they have served me well. Alternatively, you can buy them from specialist retailers.

If you intend to do a large amount of veneering, a vacuum bag press is an ideal way to obtain the consistent pressure required to lay veneers on boards or indeed shaped formers and can be stored away when not in use.

SETTING UP AND PREPARATION

First I had to work out the size of the tables using a workshop rod. The sizes of the tops were established and the veneers prepared for the top and bottom – the counterbalance veneer. Flame veneers tend to resemble a mountain range and need to be flattened before veneering. They can be soaked with water and clamped between two pieces of board with even pressure or, as I was shown many years ago, a thin solution of wallpaper paste can be spread on both sides of the veneer and placed between sheets of newspaper to flatten as before. The newspaper was changed frequently to prevent the veneer sticking to the paper and aid drying. The paste will hold the veneer flat long enough for you to lay the veneer and makes no difference to staining and polishing.

Both methods of veneering require counterbalance veneers on the bottom and all the veneers were cut using a straightedge and a veneer cutter. Splits were taped with veneer tape or gummed











10 Veneering the cross-banding into place 11 The flame veneers, reducing in size, to keep the pattern central 12 Lifting the top corner piece to remove the waste piece below 13 Squeezing the glue out through the joint 14 Veneering with a vacuum press: the flame veneer, oversize and pressed into place ready for the edging

brown tape to prevent the splits increasing. I also taped over the centre section of the flame to prevent splitting as it dries.

The flame veneer was cut for the large top first and then reduced for the next two pieces accordingly. The aim was to have the pattern on the small top the same as the central part of the large top as shown.

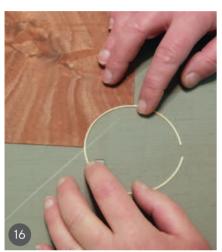
HAND VENEERING

Hand veneering requires the animal or hide glue to be heated in a glue pot, which should be hot but not to the point of boiling. A warm workshop is advisable and everything you need should be within reach, ie hot iron, hot water and cloth and a veneer hammer – kept hot in the water.

The flame veneer was cut 10mm larger all round and working quickly the glue was spread on the ground. With the veneer placed over the ground, the back face of the veneer was covered with glue and then turned over into position. There was a certain amount of glue on the veneer face, to which was added a small amount of hot water to make the hammer glide easily over the surface.

To work out the excess glue the heated veneer hammer was worked from the centre to the outer edges and corners. Enough pressure was used to squeeze the glue out without breaking the veneer, with the aid of a zigzag action. When the glue started to solidify a warm iron was used on the surface to re-melt the glue and continue. I ran my fingers over the veneer surface













 $\textbf{15} \, \mathsf{The \, complete \, built-up \, pattern \, taped \, on \, the \, face \, side \, \textbf{16} \, \mathsf{Fitting \, a} \, \mathsf{preformed \, corner \, line \, to \, the \, corner \, line \, l$

- 17 Finding and marking the line of the mitre 18 The completed pattern from the back 19 The panel placed in the vacuum bag press
- 20 Press-veneered panel (top), hand-veneered panel (bottom)

to check for high spots: these indicated glue trapped below the veneer and needed to be squeezed out. The area was then again warmed with the iron and the process repeated until the surface was flat.

The flame veneer was trimmed back to the required size with a knife and square and the curved corners cut out using a template. White lines were fitted to the corners using square sections of line – these are easier to bend than the flat lines. Four pieces were soaked in hot water and when flexible bent to the shape of the corner; heat from the tip of the iron helped this process but it will form to the shape as it cools and dries. When sufficiently shaped they were glued into position, leaving the ends long and held with pins where required. The straight sections of line were mitred into the curved lines and glued in position. The veneer for the cross banding along the straight edges were cut, then glued and hammered into position.

The joints between the flame, white line and cross-banding were taped; the tape helped keep the joints tight as it dried. Moving on to the curved corners, the two pieces of veneer were glued into position and the mitre cut through both pieces of veneer at the same time to create a tight joint. Removing the top waste piece first, I carefully lifted the top corner piece to

remove the waste from the lower corner piece. Both pieces were hammered down, squeezing out excess glue, and the joint taped as before. The counterbalance veneer was laid in the same way as the flame veneer.

VENEERING WITH A VACUUM PRESS

When using a vacuum press there are two ways to go about veneering the tops. The first is to lay the oversize central flame veneer, using a cold press glue specific for veneering – this has a longer working time and minimises bleed-through – then trim back and build up the white line and edging in a similar way to the hand veneering. Use the same glue or, if you prefer, a contact adhesive. This method allows you to tweak the mitres so that the corner points line up.

Alternatively, you can build the whole pattern and lay the veneers in one action. This technique requires accurate marking and cutting and when the top is glued and pressed, the positioning of the veneer must be accurate or the corner points may not line up. The pattern is built up in the same way as with the hand veneering but this time the veneers are taped together on the face side of the veneers instead of being glued.

The central flame was cut to the correct size and a template











21 Side and back rails graduating in length and width 22 The leg templates reducing in size 23 Shaping the curve to the profile gauge 24 Bead edging ready for the glass tops 25 The completed nest of tables

or object to the required radius was used to cut out the corners. Preformed corners, made from flat lines, were fitted and taped into each corner, leaving the ends long again. The remaining straight flat line sections were fitted before cutting the crossbanding along the straight edges.

Before you mitre the corner pieces you need to establish the mitre line. The centre point was measured between the points of the curves and with a rule and square a line was marked on the back side of the veneer.

The corner pieces were shaped and taped in position. Mitre joints were cut through both pieces at the same time to form a tight joint, as with the hand veneering.

For both cases, the bag press was set up on a flat surface and the breather strips placed around the inside of the bag, leaving room for the panel in the centre. The breather strips overlap and pass under the hose connector, to aid the press in extracting the air from the bag. In either case, the cold press veneer glue was spread using a small roller for even coverage, the veneers were laid in position on the ground and taped at two points to prevent movement. The boards were placed within the bag and the vacuum press turned on. Counterbalancing was done as before.

MAKING THE TABLE FRAMES

Timber was prepared to the required dimensions. The shape of the rails for the three frames followed the same curves but graduated in length and width, which was reduced from the top straight edge. A bandsaw was used to cut the shaped rails and the shape finalised using flat and round-bottomed spokeshaves. The side rails were trued up in pairs, checking the shapes against the templates.

The legs followed the same shape but the height was reduced from the top straight section in each case.

Straight sections were used for the stretchers curving the top edge to match the curve on the front edge of the legs, shaped using flat and round-bottomed spokeshaves, a profile gauge was used to get the same curve along each section. I cut mortise and tenons to join the rails and legs, gluing the end frames first and then the two frames with the back rails using sash cramps. All sections of the frames were finished with cabinet scrapers and abrasives and the tops cleaned up in the same way. A beading was formed, then mitred and fitted around the edges of the tops to create a 4mm upstand, allowing for toughened glass tops to fit within. The original nest of tables was stained and French polished to match the existing furniture, but alternative finishes can be used.



FALLING INTO FURNITURE

FINE FURNITURE MAKER AND REGULAR FURNITURE & CABINETMAKING
CONTRIBUTOR THOMAS EDDOLLS TELLS US ABOUT HIS LIFE AND WORK

Thomas Eddolls doesn't really know what made him want to be a woodworker – the idea just came to him one day when he was in sixth form studying art and English. 'I just decided I wanted to be a woodworker. I can't explain the reason why, there just seemed to be a resonance with furniture and craft inside me,' he recalls.

He began a three-year apprenticeship with Sunningend Joinery and Cabinet Makers near his school in Bourton-On-The-Water, Gloucestershire. Thomas says: 'I made a lot of tea, did a lot of sanding and gained a realistic basis for a career in woodworking. After leaving them and trying different things, I enrolled in a full-time course at Warwickshire College, where

I achieved my City and Guilds qualifications with distinction.'

Early projects included a pair of veneered mahogany bedside tables and a solid mahogany box to house a ceremonial sword won in the Battle of Britain. He went on to work in a number of topclass workshops, but after a decade realised he wanted to launch his own business. Thomas recalls: 'I started to work evenings and Saturdays at my workplace, Fine Furniture Designs, a studio with a rich connection to the Gordon Russell workshops. They were very encouraging, and after six months of toil I had completed an ambitious pair of hall tables which I planned to exhibit. From this point a slender foundation was made.'











A CRAFTSMAN AT HEART

'If there was ever a guiding influence then for me, it lies with the arts and crafts ethos,' Thomas says. 'I am predominantly craft-based in my approach and am happiest working by hand, but that does not mean that proficiency in machining is of lesser importance – both skill sets are invaluable.'

Based in studio rooms in a rural workshop with two fellow cabinetmakers, Thomas makes fine furniture and regularly writes about his experiences for *Furniture & Cabinetmaking* and other woodworking titles. One of his favourite pieces he worked on as an employee was Gloucester Cathedral's altar, while among his own work he particularly enjoyed his Raise chest of drawers, which was made for and sold at the Celebration of Craftsmanship & Design in Cheltenham. He is currently working on a nest of tables derived from a previous hall table commission, and his next job is a very large bookcase for a Knightsbridge apartment.

'Inspiration can come from anywhere,' Thomas says. 'My previous professional experience involved a lot of high-end, design-led making covering all aspects of the creative process. I find I keep reverting to organic shapes and curves and hold with the arts and crafts ethos. Ideas come often from sketching, simple concepts and shapes evolving from one idea into another, often looking through books to rekindle the spark of an idea.'

IN THE STUDIO

His workshop includes a bench room with a small combination machine and a back room for storage and draughting. 'With access to my colleagues' larger industrial machinery I am fortunate to be able to take on many aspects of my craft. I have

been here for two years and would like to stay for as long as they will have me,' he says.

Thomas begins his design process by roughly sketching ideas in his book. 'I pick up on details and elements, involving and incorporating them with each other as the ideas develop.' He shows these rough sketches to clients, who pick a concept from them. 'From here the piece can be pushed on further, going to presentation drawing and on to hand-drawn working drawings and full-sized rods,' he explains.

Among his favourite woods are rippled sycamore, walnut, cherry – for their use, looks and workability. 'My favourite timber to work with is pear, which yields beneath the tool steel beautifully and is always a pleasure to work with. But generally, I will consider using most solid timbers, as all have their own attributes and personalities.' He also occasionally works with glass, metals, plastics and electrical works, but most of his pieces are crafted from solid timber and veneers.

'I like to oil finish a lot,' says Thomas. 'The process is enjoyable and the results natural and beautiful. I do this a lot on solid timber pieces, and it is fully restorable in that instance. If a piece was veneered and under heavy use I would opt for a sprayed lacquer finish. I try and avoid staining and colouring if I can, just letting the natural colours of things speak for themselves, although I have used dyed coloured veneers on occasion, which was visually interesting.'

Looking ahead, he prefers not to plan too rigidly. 'Every job is of a different nature; life, times and people in general are continually changing and evolving. I will be happy to find whichever path is right for myself,' he says.

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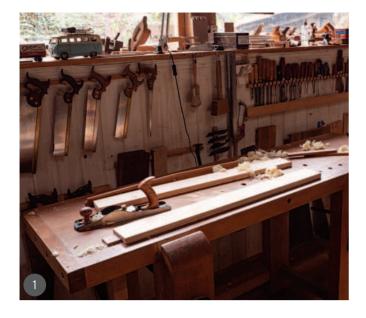


SHAKER-INSPIRED BENCH

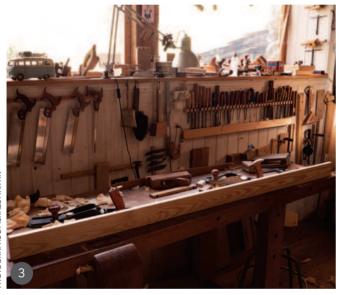
ISRAEL MARTIN DESCRIBES THE TECHNIQUES USED

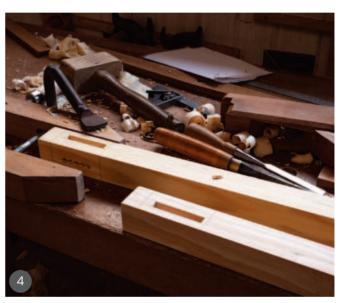
TO MAKE THIS EBONISED PINE BENCH

I've always been inspired by the simple lines of Shaker furniture, which match typical Spanish rural furniture for simplicity and long-lasting features. I chose southern yellow pine for this bench because it is easy to work by hand but it is also a very resistant wood. To add a little bit more interest on the piece I decided to ebonise the legs, back support and aprons, but because of the wood's lack of tannins I decided to use Indian ink for this. It is really easy to use and the results are very nice. I used Danish oil as the finish and added two ebony pegs on the crest rail.









1 Planing the aprons and legs 2 The prepared front and back legs 3 Planing the long apron edges 4 The mitred mortises

DIMENSIONING THE PIECES

I only had 25mm-thick yellow pine in stock, so in order to get the desired thickness I matched two pieces and glued them together. First, I dimensioned the pieces separately and then used a spring joint before gluing them up. I like to start with a bevel-down jack plane and then change to a bevel-up one with the blade sharpened at 32°, to finish it smooth. Once they were smooth, I made the joinery for the aprons and then shaped them. The legs are shaped to the inside and the back is a couple of centimetres off from the square.

JOINERY

Before shaping the legs and back, I made mortises and mitred tenons to join the aprons with the legs and added two pegs on each

joint after everything was glued up. I like to drill first and then pare the joint instead of using mortise chisels. I used sliding dovetails to join a middle piece that joins the two long aprons to add stability.

Next, I shaped the legs, then made the half-lap joints to attach the crest rail to the back and shaped the crest rail. I had the perfect dimensions for the joints and screwed the crest rail to the back to lay out the joint. The router plane is very helpful for this kind of joinery.

THE SEAT AND CREST RAIL

To make the seat I joined two long pine boards trying to match the grain. I glued up the two pieces with a spring joint. The seat has a recess where it meets the back, which I marked once everything else was done.





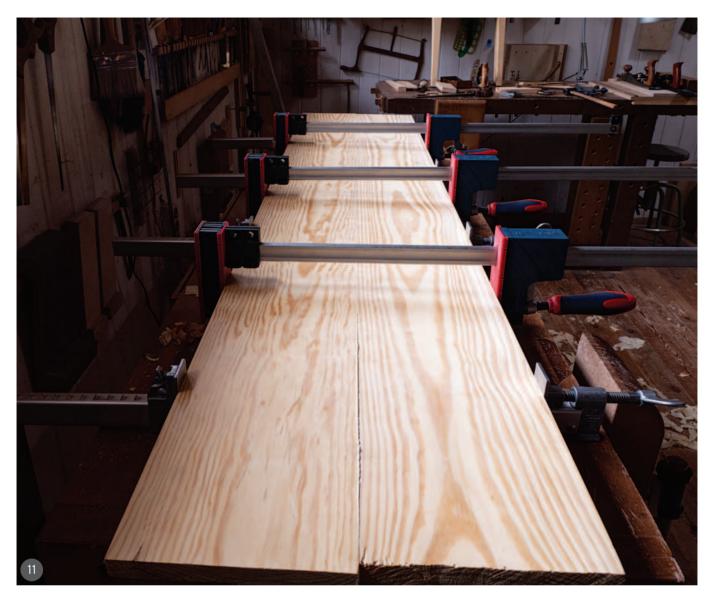








5 Drilling with the hand brace. 6 The mitred tenons and sliding dovetail in the middle of the aprons 7 & 8 Details of the crest rail joinery 9 The half-lap joint with the router plane 10 Planing the seat to join the two boards









 $\bf 11$ Gluing the 2m-long seat $\bf 12$ The seat and leg joint $\bf 13$ Details of the crest rail end $\bf 14$ The crest rail joint and seat back joint









15 Detail of the facets on the ebony pegs 16 Ebony peg detail 17 Before India ink was applied 18 After India ink was applied 19 First step of the glue-up: gluing the front and back legs 20 Using the webbing to glue-up the whole piece

I added a detail on the crest rail ends once the joinery was done. I used a rasp to get the rough shape after sawing it, and then finished it with the spokeshave.

EBONY PEGS

To reinforce the half-lap joint, I made an ebony peg for each of the joints. It was drilled to join the two pieces and the head was shaped before gluing it up. These pegs add a nice touch on the back of the bench.

EBONISING WITH INDIAN INK

Indian ink is a really fast and easy way to ebonise a piece. I applied three coats of it, wiping off the excess of each layer after it was dry, because pine hard rings don't take dye very well.

Once it was dry l applied Danish oil, because shellac will remove the Indian ink. I removed the excess on every coat of oil after approximately three minutes.

GLUE UP A BIG PIECE

I glued up in two steps, first the short aprons plus the legs, and then that set with the long aprons plus the middle dovetailed piece. I don't have very large clamps because I don't normally build big pieces, so I used a webbing to join this 2m-long bench. The sliding dovetails were glued up with a clamp. This process was very fast and the results are great.









THE JOINT THAT SHOULD NEVER HAVE BEEN MADE

DOC WRIGHT OF THE WRIGHT EDGE DEFIED CRITICS AND LONG HELD
TRADITIONS TO JOIN STRAIGHT GRAIN TO END GRAIN
IN THIS MAGNIFICENT MONKEY POD TABLE

'Technically what I did, you are not supposed to do,' says Doc Wright of the Wright Edge, in Dallas, Texas. When he first came up with the idea to create this round table from a single 19ft slab of monkey pod and posted about it on Instagram, he slammed into a wall of doubt. 'If you go back to the original post and read the comments, there was a bunch of woodworkers and "people who had been doing this for a lifetime" that said you can't join straight grain and end grain,' says Doc. 'It shouldn't technically be done, but what I did underneath the table to prevent that thing from ever moving, only my clients know.'

He explains: 'Because I'm a scientist and a research nerd, I did a deep dive researching into how much the wood shrinks when you dry it. Every wood shrinks when you dry it, but this species, once dry, doesn't absorb back any moisture – so the movement factor on it is extremely low. Underneath it is where literally the magic happens. The joints themselves, that was just geometry and trigonometry.'

Doc used a range of standard joints, including Festool Dominos and butterflies, to shore up the table just in case – but thanks to his research he was confident the table wouldn't move, and two years on 'it still looks just as good as the day we installed it'.

He adds: 'Technically it shouldn't be done, but with modern tools and somebody who is a scientist, who actually looked into the wood species itself, it can be done – if you do it right. There are newer and better ways to do things than just what has been done since the history of man.'



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