

Furniture & cabinetmaking

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

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skies for
inspiration

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Build Mike Pekovich's
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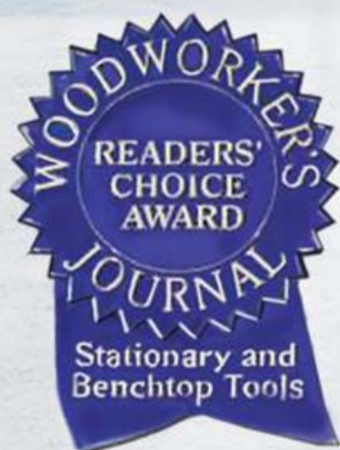
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Chippendale School's award-winning graduates

Each year The Chippendale International School of Furniture takes 26 students from around the world for its 30-week professional course that is a pathway to a career in fine furniture design and making.

The school, near Edinburgh, this year welcomed students from the USA, UK, Ireland, Canada, Australia, Poland, Germany and Iceland.

Here are the graduates of 2019 who were singled out for special awards:



Christian Burt

Student of the Year

Christian Burt, from Portland, Oregon, won the prestigious award for his Japanese-inspired tea cabinet, made in Sycamore and Beech.

It has a kumiko limewood front panel, which is the delicate and ancient Japanese art of assembling pieces of wood without using nails, and Christian's specific design, asanoha, is a particularly popular motif still used in architecture, fashion and graphic design.

The asanoha pattern, based on regular hexagons or an aggregate of triangles, is widely used on kimono and baby clothes, and is believed to give health and long life.

Christian came to the Chippendale school having originally studied photography, but with no background in woodworking, and his cabinet is a reflection of innate confidence, considerable skill and a real understanding of the design process.

He's now returning to Portland to set up Christian Taylor Fine Woodcraft.

Students' Choice Award

This award is chosen by the students themselves. Each year the winner is the student that has not only made the most impressive furniture but also the student that has helped others the most while on the course.

Our students voted for Grant Anderson, originally from Zimbabwe but now living in Scotland, for his stunning furniture, amongst which a drinks cabinet with some 1.8 metres of tambour door stands out as his signature piece.

The complexity involved in Grant's drinks cabinet is that the external tambour doors also attach to an inner tambour mechanism, giving a real sense of motion as the tambour doors move in opposite directions.

But further difficulty is added to complexity with the creation of a secret compartment, that can be accessed by turning each of the burr Elm holders.

It means that an everyday blended

whisky can be displayed and shared with mere acquaintances but, for good friends, a few twists of the cup holders reveals the hidden and expensive single malt whisky.

Grant will now pursue a new career in fine woodworking.

Best Design Award

This award went to Ross Cunnison, originally from Aberdeenshire but now living in Edinburgh, who first came to the Chippendale school on one of our one-week introductory courses.

Not only has he mastered the skills and dark arts of woodworking, he's also learned how to incorporate the small design flourishes that turn a good piece of furniture into a great piece.

Ross came to us having previously spent ten years working offshore in the oil and gas sector.

His first piece was a sideboard made from olive Ash, and the creative flourish of this piece was to incorporate a waterfall edge, with the grain of the wood perfectly falling from the cabinet's top and down its sides.

He also made a lovely coffee table in walnut and Oak, and a hall table in solid Oak and, even on the day before graduation, was busy completing a Shaker-style Windsor bench.

Ross is going forwards with his furniture making business, Ross Cunnison Bespoke Furniture.

Public's Choice Award

Each year, our students show off their pieces at a public exhibition in Edinburgh, with the public invited to vote for their favourite designer.

This year's award went to Paul Hartman from Alberta, Canada who made one of the most beautiful rocking chairs that we've seen for some years.

It was inspired by the late-great Sam Maloof whose rockers are in national collections, and have been owned by US presidents.

What was great about it was that Paul 'wove' the seat back into a complex



Grant Anderson



Ross Cunnison

and sinuous pattern, yet retaining a simple honesty.

That honesty shines through in other pieces that Paul completed during his year with us, which included an Elm coffee table decorated with a compass rose, and a yew hall table with a frame of rippled Sycamore.

Paul is returning to Alberta to set up his own furniture design business, Dry Tree Construction.

Marketing Award

One of the unique aspects of a professional course at the Chippendale school is that we also teach some of the basics of business planning and marketing.

After all, you can be the best woodworker in the world but, if you can't plan your business and sell yourself to a buying market, you won't succeed.

That's why we also have a marketing award, given to the student who creates the best portfolio of marketing materials.

This year, the award went to Heather Jones from Los Angeles who came to us with no woodworking skills but demonstrated a very real aptitude for furniture design and making.

But she also demonstrated a flair for giving personality to her pieces, carrying fun and quirky descriptions into her promotional materials.

For example, her cocktail cabinet in stained sycamore. Instead of a simple description, she named it Gertrude's Cabinet of Cocktail Curiosities.

It's a glamorous piece that reflects her past as an art director and graphic designer, and who also worked as a set and production designer in Hollywood.

Inside, it has two drawers ideal, so Heather's business leaflet says, "for love poems scribbled on napkins while sipping (too much) gin."

That playful nature is also evident in her Double "Oh James Darling, Get me a Cocktail" Table.

Heather will be staying on at the school for a few months then returning to the USA. But she's loved her time in Scotland so much that she'll be back soon!

The Richard Demarco Prize 2019

The Richard Demarco Prize 2019 was awarded to a Northern Irish student who used the Brexit debate to create a humorous, yet pointed, piece of furniture.

The annual prize is awarded by the celebrated Professor Richard Demarco CBE, one of the UK's leading arts commentators and advocate for contemporary art.

Professor Demarco's prize is awarded to the student whose work not only displays design and woodworking skill but exceptional artistic talent.

Stephen Barr's "Strong and Stable Brexit Cabinet," in walnut and Japanese ash, depicts the Union Jack on one door, and the EU's

stars on the other.

It's a piece of furniture that is both a parody on the Brexit debate and a pointed reminder that we are living in uncertain political times.

Stephen, who ran his own IT business, first came to the school on a one-week introductory course which confirmed to him that furniture design and making was something that he wanted to pursue.

Now living in Edinburgh, Stephen is setting up Starship Unicorn Furniture from premises in West Lothian.

Heather Jones



Stephen Barr



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Welcome to...

...workshops

A place for everything and everything in its place, that's pretty much what was drummed in to me when I started hanging out in the workshop. The scene that greeted me every Saturday morning as I climbed the narrow winding staircase up to the first floor workshop was almost clinical in its layout. Rows of boxwood-handled chisels graduating in size from left to right on one side of a window with a similar assortment of screwdrivers on the other. Spanning the divide was a separate rack for scrapers, punches, rulers, squares, scalpels and a couple of gent saws. The layout was not unique, in fact it's one that occurs in every workshop in every corner of the world to some degree. Our main project this month comes from an extract from the book *Workshops* and features a tool cabinet designed and built by Mike Pekovich. It's a masterpiece of ingenuity that will give no end of pleasure to its user and, not unlike a traditional collector's cabinet, will impress everyone lucky enough to open its doors.

The workshop theme continues with a fine bench build from ex-Waters & Acland student Mark Dunning. Mark incorporated prefabricated solid timber kitchen worktops into his build for convenience as much as economy along with some cunning joinery designed to compensate for any seasonal movement. Where there's a will ...

The topic of workholding is never far from our minds; it's something we tackle every time we pick up a tool whether it's a simple bench hook for sawing or a convoluted shooting board with mitre attachments. What makes for an appropriate solution is generally a combination of convenience and versatility matched with quality materials and a solid construction. Meeting all these criteria is not as straightforward as you might think but Benchcrafted have come up with a design for a bench top vice that ticks all the boxes. At the heart of the Hi-Vise is a scaled-down version of their criss-cross system which counters the tendency for the jaws to rack and stick every time you open them. I'll let you know if it's overkill in a couple of hundred years when it's worn out but in the meantime you can follow my build on page 33.

Derek Jones

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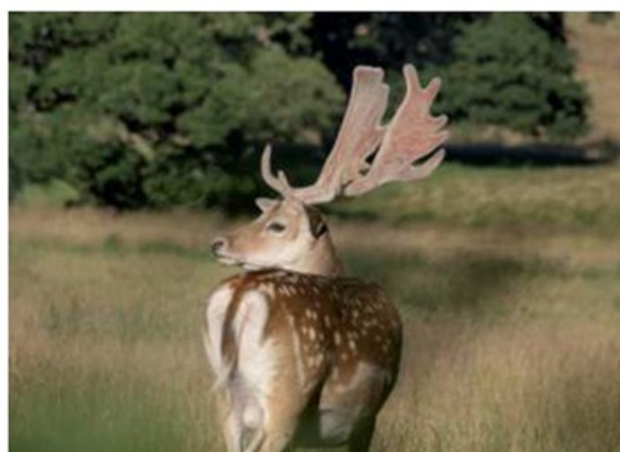


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Don't forget there are plenty more articles and discussions to be found on the Woodworkers Institute & Forums
www.woodworkersinstitute.com



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





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Meet the contributors

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Kieran's passion for woodwork started when, at the end of law school, he enrolled at the Totnes School of Guitar Making. His focus has since expanded to include furniture making as well as lutherie. Kieran has contributed researching and interviews for The Life & Work of John Brown (Lost Art Press), and is currently researching and co-writing with Christopher Schwarz a book about the history of the bookcase. He writes a regular blog at www.overthewireless.com.



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Mark Dunning

Mark was a tree surgeon and landscape designer before beginning a career as a telecoms engineer. Last year, he decided to reacquaint himself with his love of woodworking and undertook a fine furniture making course at Waters & Acland Furniture School. While on the course he designed his own piece of fine furniture, the Corona Cabinet.



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Rupert Senior

Rupert is one of the UK's foremost bespoke furniture designers and makers with over 35 years' experience and 16 Guild Marks awarded by The Furniture Makers' Company. Based out of his design studio in the Surrey Hills, Rupert creates unique furniture driven by a strong artistic idea using outstanding British craftsmanship and materials. To achieve this he teams his own acknowledged area of expertise in wood with that of other artist-craftsmen with a similar vision and drive for excellence in disciplines as wide ranging as precision engineering, stone masonry, glass and upholstery.



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Jögge Sundqvist

Jögge's world is handicraft. He is a fourth generation craftsman and was brought up as part of the Swedish handicraft movement. When he describes his work, he talks about the four corner stones, his most important assets, that form the basis of his daily work: the material, tools, tradition and folk art.



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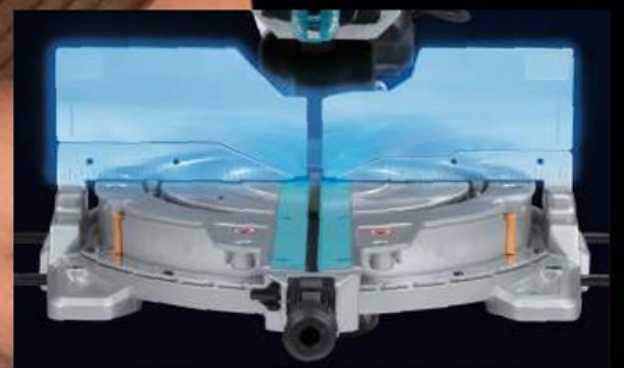
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Carpenter's workbench

Mark Dunning makes the ideal bench for his workshop with twin screw vices and multiple workholding capability

The day finally came when I could commit to building my ideal bench to meet my needs for today and in the future. The start of the process was to write down what I wanted the bench to do for me and how it would help facilitate my continued woodworking skill development. I made a list outlining exactly what I needed from the bench, including a description of the clamping/supporting accessories it needed to be compatible with.

The main design considerations

The first question to consider was, does size matter and is bigger better? I decided on a 2-metre bench, which will be adequate for all my current and future needs. This size will also be to deal with more than one job at a time. If you want to build your own bench, my suggestion is to build the bench as big as your work area will allow, as it is the central tool in the workshop. Its height will depend on your own size. My aim was to ensure I could work from an upright position and avoid having to stoop.

The next consideration was what materials to use. There are many hardwoods to choose from. I took best practice from the old familiar benches we worked with at school and the modern elite benches, all of which are made from beech. Beech is very durable and dense and lower in price than many other hardwoods. I had some leftover pre-made beech block worktops so it made sense to use them, otherwise I would have considered full-length boards. The centre components are encased within a dovetailed apron. I had to incorporate seasonal movement into the design, so I left two 3mm shadow gaps down the centre.

After researching ideas in magazines and on the internet, I ended up with a design that I was happy with. I decided on Twin Veritas End Vices for the end and front face as they resist racking and generate good clamping power along a wide jaw. They are also quite easy to install if you follow the instructions. I planned to incorporate Sjöberg 1in bench dogs and hold-downs. I really like the design and layout of the dog holes on the Sjöberg bench that I used at the Waters & Acland furniture school, although I didn't like the vices that came with the benches.

For the base, I really wanted to keep my options open. Initially I planned to install a base shelf and one adjustable shelf only. In the future, I would consider adding a tool chest or housing for workbench accessories such as shooting boards, etc. Before making that decision, I wanted to start to work with the bench. That way I can evaluate how the workshop operates and whether I want to develop the bench functions further.

The build

The Veritas vice somewhat dictated the worktop dimensions and this was the starting point. I cut down and prepared the centre slabs of the beech block worktop. Due to these being 35mm thick, I glued two boards together to make 70mm. I used a 6mm groove cutter and ran two channels around all four sides of the centre slabs. I used full-length plywood slips in the grooves to achieve a strong joint for the apron of the benchtop.

I repeated this process around the apron of the workbench, stopping 30mm from either edge, to prevent it encroaching onto the dovetails.

The centre support strip is designed to support the two slabs in the midpoint,



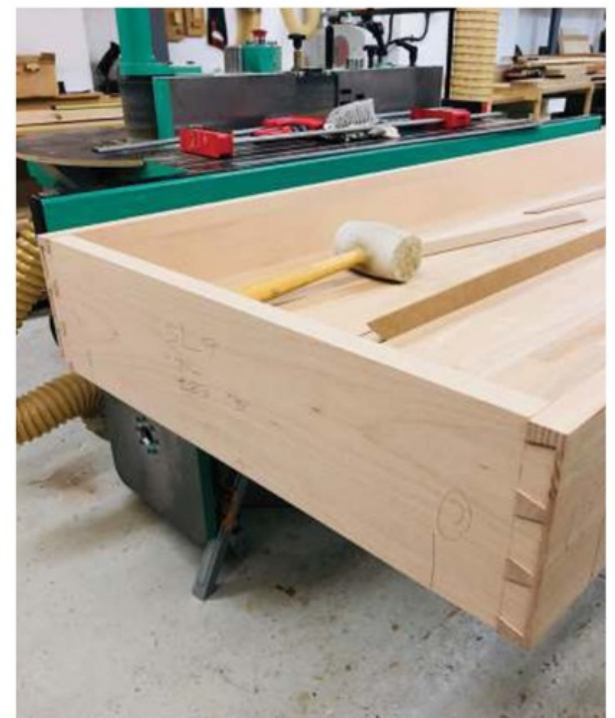
The two sheets of worktop have been laminated together and machined with grooves around the perimeter edges before separating to create the centre fillet



The tail and pin boards were alternated for their respective positions on the apron to avoid end grain exposure. This apron becomes the back jaw of the end

allowing the movement to happen. To ensure maximum strength, I ran one 6mm slip groove on either side (top groove on one side, bottom groove on the other). To achieve the 3mm shadow gap in the centre, I've used 3mm offcuts and placed them in between the centre strip and slabs. When it is time to glue it together they can be removed leaving a 3mm shadow/expansion gap.

Once the centre components were cut to length and all the grooves were cut, work



This is the side apron adjacent to the front vice

could begin on the apron. The dovetail size and arrangements is a personal choice. I chose an equally divided and strong looking joint, as it has heritage in the Arts & Crafts movement. You may have noticed that the dovetail joints are different orientations on each end to keep the vice face flat and unobstructed. This is essential as a flat apron surface is needed. If any joints protrude onto the surface, seasonal movement would impact the integrity of the vice face.

Glue-up

Once all of this had been completed, it was time for the dry glue-up. In dry cramp, any tweaks can be identified and rectified. For example, I had to hand plane the apron to get it sitting perfectly square.

If you choose to build a bench of this length you will need an additional pair of hands. They say you can never have too many cramps, and this was certainly apparent in this build.

I glued the top in two stages and used PVA glue rather than Titebond. PVA glue is a thinner solution and easier to work with. Titebond is less malleable and cures faster, which can cause problems towards the end of the clamping session. Even with PVA, at the latter cramps, I needed to work harder to get the joint to knit together.

The dovetail ends were glued opposite to the tail vice and once that was dry, the next stage could begin.

The centre components and the remaining apron piece could be glued together. This was the tricky bit. You must ensure you have 3mm spacers ready to create the shadow gap. They must be installed before you nip all the cramps up.

When applying the glue, all areas of the long apron with the corresponding surface can be glued fully in the grooves, on the slips and over all faces.

The middle of the apron and the centre strip should be totally glue free to allow for movement. If you glue these areas, the design will be compromised, therefore only glue the very edges.

When clamping, work from the outer edges into the middle, turning a little at a time. Repeat this process a few times. If you try to cramp fully in one go it is hard to keep everything square.

Have a bowl of hot water, toothbrushes and cloths ready to wipe off as much excess glue as possible.

After 24 hours, remove all the cramps, run over everything with an orbital sander, working through from 150 to 280 grit.



There was no way of avoiding a mammoth glue-up session



The underside of the bench top



Bench top in position with the aprons flush with the front of the legs



Cut-outs at the top of the base frame provide support



Liberon's Wood Dye does a good job of ebonising beech

Building the base

The base is very simple. If you make all the components perfectly square you will not have any problems. For the joinery, I used the Festool Domino machine. My intention was to stain the base, so there was no need for any complex joinery. If you wanted to add more detailed joinery to the base for the Arts & Crafts connection you could do so, for example by adding through mortises and tenons with a contrasting wedge.

The operating of the Domino machines doesn't need explaining, but I will mention that I used four 10 x 50mm Domino dowels on the bottom components of the base.

The top components were simply screwed and glued together.

You will notice that the top of the legs have been notched out to receive the apron of the bench top. The bottom of the apron is supported as well as the underside of

the bench top. This also makes the apron flush with the legs, which is one of the main design features I wanted. The flush design concept is an important feature, as I wanted to make sure that any large pieces can be totally supported and clamped across the whole face of the bench.

On the inside of the base, I have simply battened it out ready to house a plywood shelf, which protrudes by 3mm.

On the inside of the legs, I have drilled and inserted shelf pin housings, which keeps it flexible for future adaptations to the bench such as the addition of shelves.

Once this was all glued, I added two coats of ebony stain, making sure I wiped off the excess between each coat. After 24 hours this was fully cured and I applied two coats of Danish oil.



Two coats of Danish oil and the base was finished and ready for dog holes



Clean straight holes are crucial for a good fit of the jaw

Fitting the vice

My advice is to read the instructions that come with the vice, rather than searching online for the best approach. I found the internet provided many different methods and this was confusing.

I made a template of the vice mouth while following the step-by-step instructions, which made the whole process very simple. I strongly recommend this approach:

1. Make the template to the exact width of the bench and a fraction over the height. This can be planed off afterwards. Once it is all constructed and the mouth of the vice is closed for the first time, you may find a small discrepancy, so you need that contingency.

2. Include the position of the benchtop on the template, and the holes to receive the vice nuts, which are on 38mm centres beneath the bench top. Also, the holes to receive the pins that keep the workpiece off the oily threads of the vice.

3. Once the markings are complete, use a drill press to accurately drill out the holes needed.

The benchtop is glued and sanded, ready to receive the template, which should be clamped in place. I also used a little bit of extra fine double-sided tape for additional security. With the template in place, I cut out the holes using a large drill bit for the initial pilot hole and then the router, using a flush bearing-guided cutter to complete the holes exactly as per the template.

Once both parts of the aprons were finished I took the template onto the other part of the vice and followed the exact same procedure.

Adding the blocks onto the rear of the apron was next. Due to the apron being 30mm thick, the nut would protrude onto the surface so I added a 25mm spacer block at the rear of the apron. This was more than enough. I glued it in place, which added strength and stability for the integrity of the vice mouth. Remember not to get glue onto the benchtop as it would impact the seasonal movement.

Assemble the vice hardware

The hardware could now be fitted and you can get it up and running. The vice was installed, the face plates screwed in and the nuts fitted to receive the screws.

The chain can be adjusted at this point if needed, but I made things simpler by incorporating it as part of the design, so the chain that came with it fitted perfectly without further adjustment being required. This also meant I didn't have to cut the cover plate down, which you would have to do if the chain was adjusted. The instructions look quite simple if you do have to make modifications.

When the vice is in full cramp position it is easy to use the adjustment nuts to make them parallel. This is important, because it

would irritate me if they were not aligned.

Next I removed the protection barrier from the threads and then reapplied them with GT48 lubricating solution.

At this point I had the vices working properly so I could plane the vice mouth flush with the worktop. I added the vice screw thread spacer block to the underneath of the workbench to stop the vice dipping at full extension.

I removed the vice mouth so that I could add the decorative 40mm roundover which I did on the router table. The last step, while the vice was off was to drill the dog holes on the drill press, before reassembling it for the last time.

Entering the last stages...

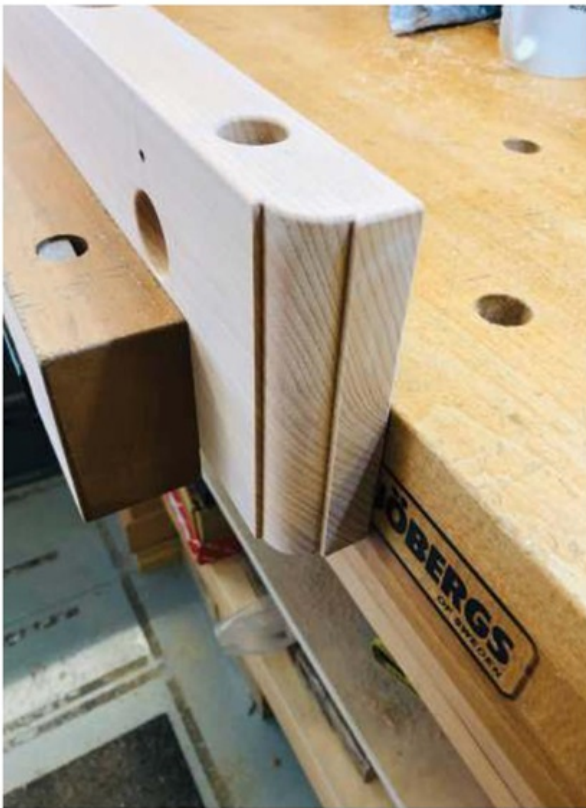
As mentioned above, I used the 1in Sjöberg bench dogs. Mark out the orientation for how you would like your holes to be. Use mine as a guide if you think that suits your needs. I simply used a mobile drill press, which I screwed to a scrap of timber and clamped it down to the bench top as I made my way

around completing all the holes.

I used a 25.4mm Forstner bit from Axminster Tools, which gave a lovely clearance for the bench dogs to operate smoothly. While drilling the holes in the vice mouths I had to approach the hole from both sides and then finish off with an extension



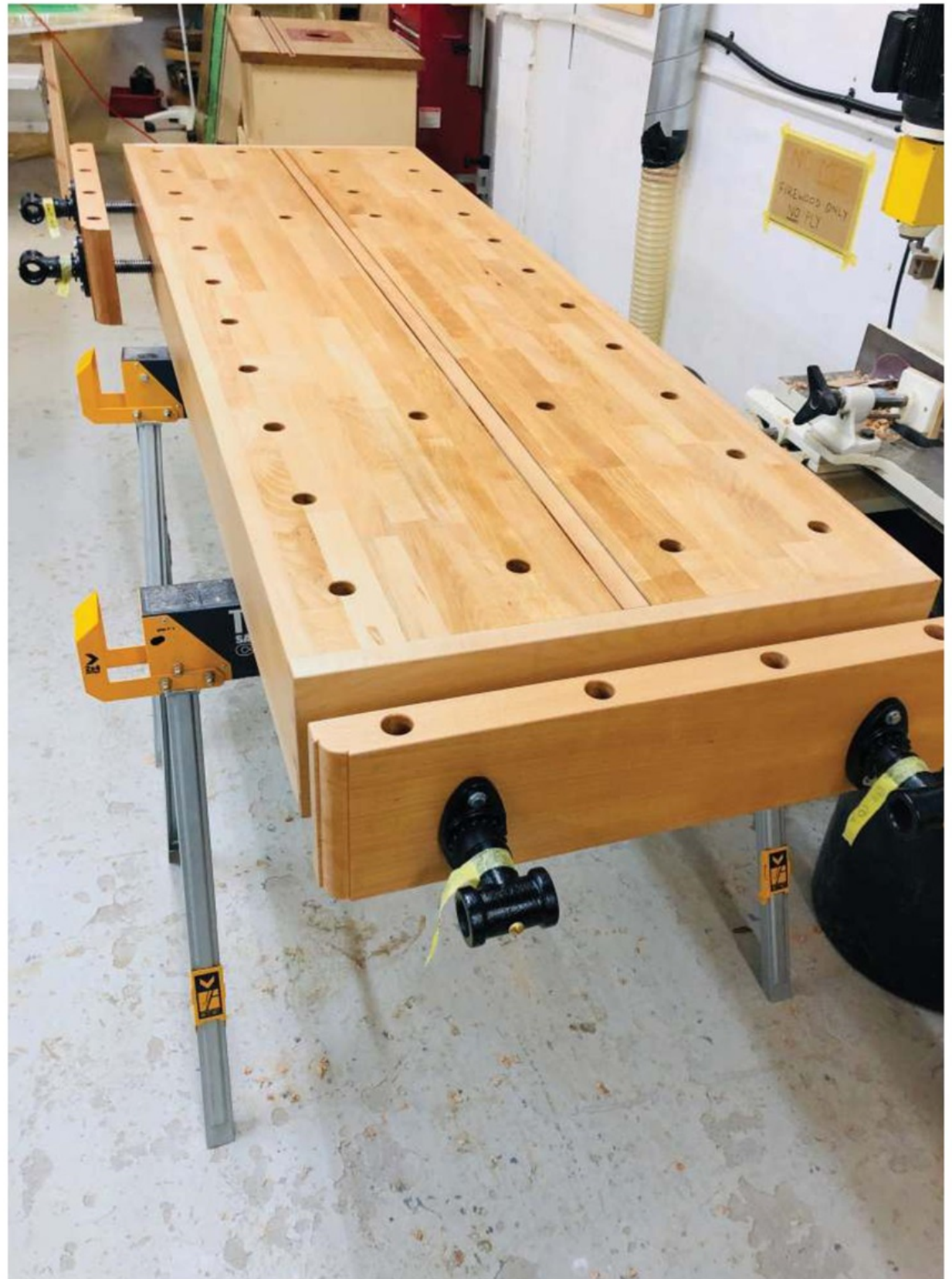
Extra dog holes in the vise jaw means greater versatility later



A moulded profile softens the edge of the jaw



A mobile drill press with some extra ballast was used to drill the dog holes in the benchtop



Sanded and finished with two coats of Danish Oil



16. A 3.5mm rubber gasket was pushed into the 3mm shadow gap

piece on the Forstner bit to complete the hole in the middle.

When it came to drilling the holes in the front legs, I had to take extra care due to it being already stained.

Once all the holes had been drilled I lightly sanded any rough areas away that had been left by the drill bit.

To clean up the surfaces, I used a trim router with a 3mm roundover bit and went around all edges of the frame, bench top, vice mouths and dog holes. Then I ran over all the edges with a 280-grit sandpaper to give it a smooth feel.

Next I installed the rubber string down the centre shadow gaps. These gaps are 3mm wide and I purchased 3.5mm rubber string. They fit well and provide a tailored finish, while stopping dust and debris falling in.

The benchtop and the inside of the dog holes were all given two coats of Danish oil, which completed the final step.

Bringing it home...

It was a great feeling to see the bench in place in my workshop. It sits underneath the window, which looks out onto a woodland landscape, and I know I will enjoy many hours standing at this bench. I enjoyed the project and if you're considering buy or build, I would highly recommend the latter. *F&C*

Key learnings

- Rather than overthinking the design, I learned that the satisfaction is in the simplicity and the functionality. This is a bench that will outlast my career.
- Having put time and devotion into building my bench, I now know this will make me a better craftsman as I will want to care for the bench just as much as the pieces that I create.

News & Events

Contribute to these pages by telling us about matters of interest to furniture makers.

Call Derek Jones on 01273 402 843 or email derekj@thegmcgroup.com

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

Mixology awards 2019

The winners of the Mixology Awards were announced at a ceremony in London in June. The awards celebrate the best of the UK's corporate interior design.

The Young Designer of the Year award, sponsored by KI and in association with The Furniture Makers' Company was presented to Andrew Hamilton, a graduate from Manchester School of Art. Andrew was voted in an online poll as the winner for his Sointula range, which consists of a chair, desk and lamp, and is aimed at both the home and commercial markets.

The award for Loose Furniture went to Norwegian brand Eikund for the Kryssset lounge chair. Carl Hansen & Son won the Task Furniture award for the Preludia series designed by Brad Ascalon.

Contact: The Mixology Awards
Web: www.mixology-awards.com

Eikund's Kryssset lounge chair won the Loose Furniture category



PHOTOGRAPH BY TOM HAGA/EIKUND



PHOTOGRAPH COURTESY OF CARL HANSEN & SON

Carl Hansen & Son's Preludia won the Task Furniture Award



PHOTOGRAPH COURTESY OF MIX INTERIORS

Andrew Hamilton (right) won the Young Designer of the Year award

NEJ Stevenson celebrates 35 years in furniture making

Bespoke furniture maker and architectural joinery company, NEJ Stevenson, is celebrating 35 years of being in business this year. Based in rural Warwickshire, NEJ Stevenson has grown from being a sole trader business in a single garage to a limited company with a purpose-built workshop and 40 staff members. This has been by no means a small feat for owner and managing director, Neil Stevenson, who has successfully weathered two recessions and near collapse due to bad debt from a large client.

As cabinetmaker to Her Royal Majesty The Queen, and Royal Warrant Holder, the company has developed a reputation for crafting some of the finest contemporary and heritage furniture available.

The business prides itself on supporting numerous charities, the local community and providing apprenticeship opportunities for young people. To mark the company's 35th anniversary, it seemed a fitting tribute to plant 35 trees at St Gabriel's Church of England Academy in Houlton, Rugby.

Andrew Taylor, Headteacher of St Gabriel's said: 'As a school, we are committed to providing the best education (academic, spiritual, emotional and physical) for our children, when NEJ Stevenson contacted us about the tree planting event I was delighted as we have been exploring various options for trees for our wild wood area.'



PHOTOGRAPH COURTESY OF NEJ STEVENSON

Neil Stevenson and NEJ Staff with Andrew Taylor and Shelley Reed from St Gabriel's School

Contact: NEJ Stevenson
Web: nejstevenson.co.uk

Events

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

EVENT
OF THE
MONTH

The London International Woodworking Festival

Held in a brand new purpose-built technical college (London Design & Engineering UTC), the London International Woodworking Festival will deliver a range of demonstrations and seminars from some of the world's most influential craftspeople across a range of disciplines. Over the weekend you'll be able to mingle with the crowds and enjoy a drink and a bite with like-minded folk and take part in one of the drop-in classes. For something a little more in depth and hands-on, you can enrol in one

of the premium three- and five-day short classes taught by Chris Schwarz or David Barron in the weeks before and after the festival.

The event is supported by Classic Hand Tools and Axminster Tools & Machinery, and will feature demonstrations from Lie-Nielsen Toolworks, Tormek and Veritas. Yannick Chastang, Israel Martin, Shane Skelton, Vic Tesolin and many more will also be demonstrating their woodworking skills at the event.

When: 26–27 October
Where: London Design & Engineering UTC, 15 University Way, Royal Docks, London E16 2RD
Web: londoniwf.co.uk



Autumn Fair

Made up of 11 carefully edited show sectors, including the brand new hall for manufacturers, Sourcing Autumn Fair, this show offers the best products, launches and inspiration from over 1300 UK and international exhibitors.

When: 1–4 September
Where: NEC, North Avenue, Marston Green, Birmingham B40 1NT
Web: www.autumnfair.com

Yandles Woodworking Show

Yandles' usual working site will be transformed with marquees hosting a vast array of leading craftspeople. There will be live woodworking demonstrations with new techniques to learn, useful advice on tools and handy tips. The sawmill itself will be converted for use by international manufacturers, traders and publishers displaying new product lines as well as the usual show sale and discounted timber.

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

London Design Festival

This annual festival celebrates and promotes London as the design capital of the world. Events include 100% design, designjunction and the London Design Fair.

When: 14–22 September
Where: Various venues in London
Web: www.londondesignfestival.com

Autumn Long Point

Organised by the Long Eaton Guild, the Autumn Long Point event will feature 20 showrooms displaying the Guild members' latest collections.

When: 23–25 September
Where: Various locations in Long Eaton, Derbyshire
Web: www.longeatonguild.co.uk

Decorex International

Decorex features international brands and designers, presenting their newest collections of furniture and accessories.

When: 6–9 October
Where: Olympia London, Hammersmith Road, Hammersmith, London W14 8UX
Web: www.decorex.com

THE VORTEX TABLE

– the Christopher Claxton Stevens Prize 2019 winner

We take a look at Marc Fish's award-winning table design

The Furniture Makers' Company has awarded bespoke furniture maker Marc Fish the prestigious Christopher Claxton Stevens Prize – the ultimate accolade for designer-makers – for his striking Vortex dining table.

The Claxton Stevens Prize is presented annually to the most outstanding design awarded a Bespoke Guild Mark by the Company, which recognises excellence in design, materials, craftsmanship and function for exquisite pieces of furniture. This year four extraordinary pieces were considered for the Claxton Stevens Prize, but Marc's whirlpool-inspired table was chosen by the judging panel.



The resin top appears to be rippled but is actually flat



Marc Fish

Marc began making furniture 20 years ago. After mastering the skills used for centuries by craftsmen, Marc explored new materials and ways to produce fluid, sculptural pieces inspired by the curvilinear forms of Art Nouveau. His process pushes the limits of 21st-century furniture design and transcends the barriers of art, design, sculpture and furniture.

Web: marcfish.co.uk

The table design

The table was crafted using Marc's signature technique of combining laminated veneers with resin, which was then hand-carved and polished. The base was made with 2000 individual veneers, hand placed and dyed with squid ink, and reinforced carbon fibre, while the top utilised 130kg of resin.

When the table is viewed from above, the resin distorts the veneers underneath, and resembles an image of sand dunes. The top of the table is similar to an optical illusion as it looks as if it dips in the middle, but is actually flat.

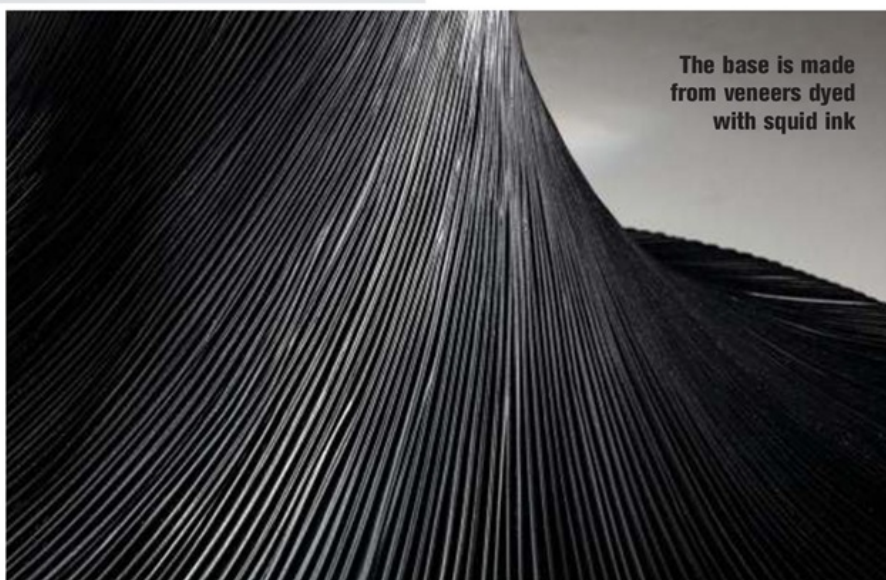
Marc was presented the prize by the Lord Mayor of London Alderman Peter Estlin at the Installation Dinner of The Furniture Makers' Company's new Master, Dids Macdonald OBE, on 14 May at Mansion House in London.

Dids Macdonald OBE, Master of The Furniture Makers' Company, said: 'Through his ground-breaking challenges to traditionalism, Marc produces pieces that are not only remarkable in their originality but push boundaries of expression. He fuses fine craftsmanship into unique and

elegantly produced furniture that makes him stand out from the rest. The Vortex table is one of the finest pieces he has produced and a more than worthy recipient of the coveted Claxton Stevens Prize.'

Commenting on the award, Marc Fish said: 'I am honoured to be the recipient of this year's Claxton Stevens Prize for the best Bespoke Guild Mark of 2019. The Vortex table was an exciting piece to work on as it allowed us to push boundaries and experiment with techniques, and it's great to see that kind of work being recognised. There are so many new techniques to discover and a lot we can learn as we keep making and designing.'

Christopher Claxton Stevens, sponsor of the prize, said: 'The judging panel all agreed that Mark's sheer bravado and inventiveness in design and execution made his table stand out from the other entries. It was attractive in form and proportion, the top appearing to "pour" inwards towards the centre when in fact it was actually flat and functional. Marc boldly experimented with new materials which worked out really successfully.'



The base is made from veneers dyed with squid ink



When viewed from above, the table top resembles sand dunes

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THE MOON CABINET

**Exploring the blurred boundary between art and science,
Rupert Senior reveals the story behind his Moon Cabinet**



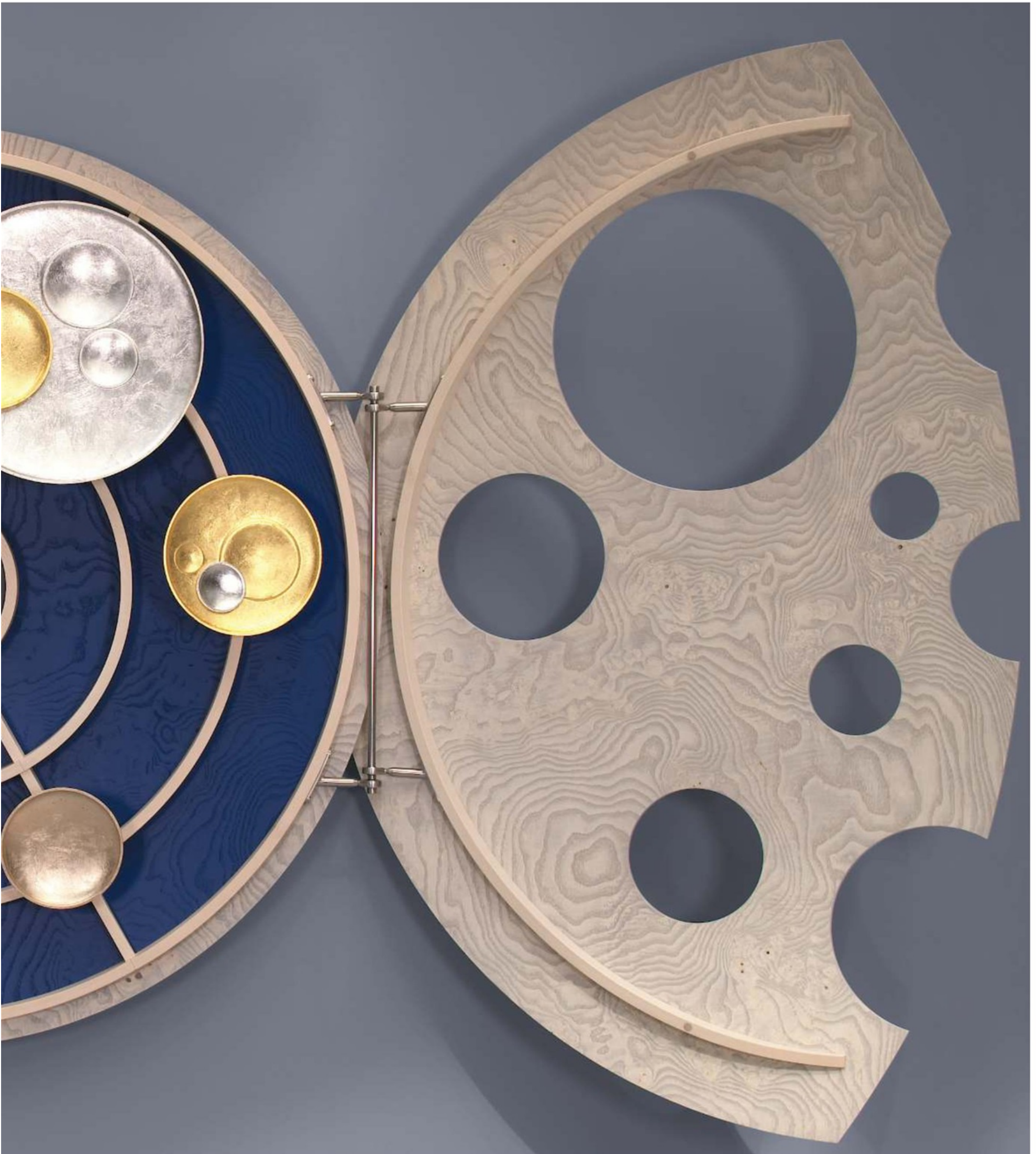
PHOTOGRAPHS COURTESY OF RUPERT SENIOR

As one of the UK's foremost bespoke furniture designers and makers, Rupert Senior is used to making extraordinary, unique pieces. In 2018, he was awarded The Furniture Makers' Company's Christopher Claxton Stevens Prize for the Logmore Table, which was a private commission.

Other recent commissions include the award-winning Knole Table made for the Palace at Knole, Sevenoaks – an extending 3–6 metre dining table in 5000 year old bog oak, English marbles and bronze;

and the sculptural Tree Table seating 12-14 people and made of abstracted and condensed tree shapes in solid oak with a glass top.

Here, he tells us about the design and manufacture of the Moon Cabinet, a private commission for a wall-mounted key cabinet. The cabinet was first displayed to the public at last year's Evolution of Tradition exhibition at the Design Centre, Chelsea Harbour. This remarkable piece has been described as 'a tour de force of craftsmanship'.





‘For me, in making a piece of furniture, proportion, elegance and outstanding craftsmanship have to be a given, but the realisation of an artistic idea is what I strive for.’



The burr ash veneer is not dissimilar in appearance to the surface of the moon



Testing the veneer's capacity for compound curves



The satellite framework inside the cabinet

that process is important to a successful artistic outcome, whether it be the work of an experienced painter with their deft control of brush and paint; or, in this case, the bringing to bear of years of experience of traditional and cutting-edge methods and materials. In this work, meticulousness of process – from the careful selection of the swirly burr ash timber and the almost impossible lamination of it to part of a sphere, to the development and making of unique handmade hinges and crater mounts and the constructional precision required to align the craters between their background and the holes in the doors – is all integral to the success of the idea.

Furthermore, the piece's functionality as a key cabinet does not diminish its form or the strength of the overall concept. The polished steel key hangers hidden behind the craters suggest mini satellites spinning off from the planets, and as such contribute to the overall composition.

Design and development

I began with preliminary sketches to get my initial thoughts onto paper before developing the idea further with CAD. I thought it would be interesting that when it started to open it revealed that the craters went on to form part of a secondary composition, the solar system, where the craters have now become if you like, planets within a solar system. For practicality and elegance I wanted the cabinet to be of light construction and thin against a wall.

Materials and construction

My choice of veneer for the front and back faces of the cabinet doors was burr ash swirl, which has an uncanny likeness to images of the surface of the moon. Reliance Veneers in north-east London were able to supply leaves large enough to cover the doors in a single section. But the question still remained, could I form it over a compound curve? Imagine for a moment wrapping a piece of paper around a ball without leaving creases and you'll appreciate the dilemma. We began our experiments with veneer and veneer softener using a saucepan



Craters within craters with contrasting gilding



The former after milling on the CNC machine



Satellite craters before gilding



lid as a former and were relieved to find that after curing there were no cracks. Convinced we were on the right track, full size formers were produced in high-density foam on a CNC machine. The doors were constructed from carbon fibre composite using a vacuum bag. The result is incredibly light weight but more importantly, forms a strong and stable substrate for the veneer.

The bullseye frame was made from thin sycamore veneers laminated into curved sections then jointed at the straight intersection radiating from the Black Hole in the centre.

Bespoke hardware

The chances of finding 'off the shelf' hardware to support a structure of this kind are remote, which led us to developing a bespoke solution. The design incorporated multiple points for adjustment that were crucial in achieving perfect alignment of the craters within the doors later. The craters were machined from sika modelling board, a very dense inert material, which required a lot of hand finishing afterwards to prepare them for gilding. The door hinges weren't the only custom pieces of hardware to be made. Stainless steel crater mounts were developed with built-in adjustment to align them perfectly with the compound curved doors, a process that took all day to achieve.

Contact

You can see more of Rupert Senior's work on Instagram @rupertseniorfurniture and at www.rupertsenior.co.uk
Tel: 0781 7855670

The cabinetwork was carried out by Tim Smith of Roseneath Workshops.

Wood finishing was by Alchemy Finishes.

Inside the doors with custom hinges



Custom hinges mounted on sample doors for testing



Each crater required adjusting to mirror the compound curve of the doors



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Living the Hi-life

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Everybody knows that having a good bench is crucial to being able to work efficiently at anything whether you're a jeweller, cabinetmaker, carver or regular chippy. Observe the working practices of all these trades and you'll see plenty of similarities in the way they configure their workspace; a sturdy framework supporting a flat worktop and some kind of mechanism for holding material or components. Generally speaking that's where the similarity ends and to the casual observer that's all that's required, surely? Not quite. Time spent at a bench not designed for the specialisms of a particular trade is often time you wish you'd spent doing something else. I try to avoid superlatives when I'm writing 'how to' articles. The best, the sharpest, the ultimate blah blah blah are rarely that, and even if they were they wouldn't remain that way for long. Instead the answer is often a combination of things that lead to an efficient progression through a range of varied tasks that have one thing in common. It's not the 'best' tool, the hardest steel, the sharpest edge

or the most versatile contraption on the market that gives you the advantage but something far more basic. It's true that hard steel will stay sharp longer but it has a downside – it takes longer to sharpen. A sharp edge certainly cuts cleaner and requires less effort to do so but unless the object being cut stays put while you're doing it, you might as well be using a rusty spoon. The secret to all that we do in the workshop centres around the means we have to hold things in place while we complete a range of tasks. Workholding then, you could say, is the single most important factor to get right in order to work efficiently. Effective workholding comes in all shapes and sizes from a simple bench hook for sawing to a pattern maker's vice and way beyond. Clever workholding solutions solve the issue of anchoring material firmly in a position that makes working it more efficient. This may include holding the material at a height that makes the work comfortable, safe and in some instances quick and easy to secure or release. Really clever solutions do this and more.

Basic kit or optional extras?

In this article I'm going to be looking at one solution, the bench top vice, and in particular the Hi-Vise kit made by the American firm Benchcrafted. The company are based in Iowa and were established in 2005 with the launch of a magnetic tool holder called the Mag-Blok. Two years later they were well on the way to becoming a leading manufacturer of premium workshop devices and now have about 15 separate products related to workholding on offer. Benchcrafted are perhaps best known for their Glide Vise system designed primarily for single leg bench vices. My own experience of using their equipment extends to building half a dozen Moxon vices using their kits for my own use and tutoring a dozen or more classes to do much the same. As is the case with most metalwork designed for use in a woodworking workshop, the hardware is nearly always over-engineered for what you need and capable of exerting a terrific amount of pressure, too much if you're not careful. The advantage of course is that they last for years, often longer than the benches they're attached to. The Hi-Vise is not a 21st-century invention and Benchcrafted do not seek to claim it as such, in fact it is based on an idea recorded in historical documents such as those written by André Jacob Roubo in the 18th century. In his book *L'art du Menuisier*, Roubo refers to an *etau* (*etaux* – the French word for vice) for a device that is shown mounted to the top of an existing workbench. Mimicking the form and function of a standard leg vice the attachment is smaller and designed to be de-mountable and therefore to some extent portable. The Hi-Vise benefits from Benchcrafted's tried and tested scissor mechanism that keeps the opening jaw parallel to the fixed jaw when opening and closing the vice thus alleviating the tendency for jamming the screw in either direction.

The kit comprises all the metal



Allow plenty of clearance below the worktop to accommodate the clamping screw

components required to build a Hi-Vise and not any of the timber components. Because no two woodworkers are the same, there are several ways in which you can customise your vice to suit your working environment. An additional mounting screw kit is available, making it possible to attach the vice to practically any surface of sufficient thickness providing there's space below to accommodate the clamping screw. Benchcrafted produce a range of excellent instruction information for all their products and those relating to the Hi-Vise are no different. The free download material extends to 16 pages of step-by-step instructions that guide you through three mounting options: using a tail vice cleat, a bench top batten or the mounting screw kit. The latter requires a

Bench top holding devices

Holdfasts, bench hooks, bench dogs, cam-lock bench dogs and a doe's foot are all bench top workholding devices.



Workholding devices come in all shapes and sizes

separate purchase. The drawings are clear and precise and totally reliable as long as you follow them as instructed and don't stray from the path, especially when drilling the concentric holes for the front jaw and support block on the screw thread kit. The dimensions are all in imperial measurements but none as far as I can see are critical in as much as I was able to source perfectly suitable metric equivalents. Apart from calculating the range of thicknesses you're likely to want to clamp to using the screw mounting kit, the timber components are largely at the maker's discretion. All this is covered in the instructions.

Tools for the job

Ideally you'll want to have at your disposal a pillar drill capable of running a 50mm dia Forstner bit. The maximum amount of depth required relates to the thickness of your front jaw and 50mm of travel should be fine. Alignment holes for the anchor pins securing the scissor mechanism need to be accurate so you might want to consider investing in a new bit (6.5mm) for this purpose to mitigate any drift. You'll need to be able to fit and remove them a few times before you're finished so a tight fit could prove problematic. For anything else the largest hole you'll have to bore is 26mm dia unless you're using the screw clamp in which case it's 30mm. The choice of timber is up to you, as long as it ends up at around 50mm thick for the jaws and 18mm for the side pieces. Hardwood is obviously your best option for a longer lasting unit but a good quality soft wood could also work. Just be mindful that heavy use could result in the hardware



Some deep drilling is required

eventually destroying the host material. If you can harvest the components from a single board that would be the best scenario but given the relatively short lengths a mixture of offcuts might well be the most convenient approach.



Start with the widest bore on a series of concentric holes

Bulking up

I chose to laminate three blocks of elm to form the large block that contains the clamping screw thread. For alignment I used dowels to make gluing up easier. They might even add strength to the part in the long term. If the fit is too tight you can reduce the diameter of the dowel with a scraper.



Three blocks marked up and planed to produce the clamp screw block



Dowels make alignment and gluing up much easier



Reduce the size of the dowels with a scraper if they're tight



You can plane the block flush with its surrounding after assembly before fitting the screw



You may have to make two passes to complete the mortise with a hollow chisel mortise

Man or machine mortises

The scissor mechanism requires you to create two identical shallow but long (235mm) slot mortises in each of the jaws. Of course there's no right or wrong way to do this, let alone a best option, just lots of ways to achieve the same result. At 15mm wide and 26mm deep, you could drill the waste out with a Forstner and clean the rest up with a chisel. Drill slightly shy of the full depth and clean the bottom out with a router plane if you have one. It's viable if hand tools are your only option but it's the long way round if there are other tools in your arsenal, like an electric router. Using a guide bush and template means you'll have to make a template first of all, which is fine but it does feel like extra work and for little gain unless you're making a batch run of vices. Instead set the router up with a parallel fence and run the machine from the same faces on each jaw in multiple passes. Spiral cutters will give you a cleaner cut than a straight two flute cutter. If you have a second fence and the bars of your router are long enough, you can sandwich the jaws between two fences to help avoid running out. If you're fortunate to have a hollow chisel mortiser at your disposal this kind of operation is a breeze. For the best results set the machine to stop short of the full depth required and bottom out the mortises with a router plane.



Clean the bottom of the mortise with a router plane

Support blocks

If you follow the Benchcrafted plans to build your Hi-Vise the other bit of joinery you'll need to tackle are four cutouts, or dadoes as they are called in the plans, to accept support blocks at the side of the rear jaw. If you're cutting these out by hand a router plane will come in handy to flush the bottom after you've sawn and chopped the bulk of the waste away, even if you've used an appropriately guarded tablesaw. There are a number of ways you can tackle these by hand depending on your skill and the tools you have available. If cutting to a line with a saw is more miss than hit, you may want to cut the dadoes before making the blocks as it will be easier to plane the blocks to fit the dadoes afterwards. You'll still have to make sure all four are identical but planing to fit with the grain is much easier than sawing or paring end grain. For a belt and braces approach you could also shoulder the blocks. For a fancy look you could add dovetails. I chose to add dowels for no other reason than I like the look of pegged joints. They may also add strength to the construction but I'm hoping I never have to find out. The blocks and the joints that hold them will come under a lot of strain so select your timber wisely and aim for a perfect fit. If you decide to use the clamping kit you'll also need to make sure the block that contains the screw clamp device is a good fit between the blocks. Get the bottom of your dadoes flat first and then scribe the finished thickness from them.



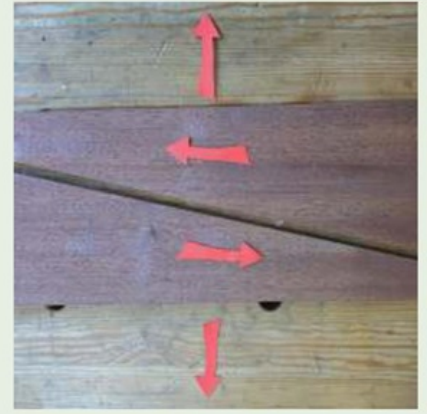
It's crucial to get the dadoes flat and square in all directions



Scribe the thickness of the block directly from the back jaw when the dados are cut

A quick fix

The side blocks need to be a tight fit as they make the structure rigid. If by accident you end up with a cutout that's too wide for the block, try this technique to fix it. Cut the block approximately 100mm longer than it needs to be. Split the block diagonally from corner to corner with a saw. Plane the cut surfaces so they come together neatly as if you were jointing boards to make a panel. Put the two pieces into the cutout with an equal overhang at both ends. Tap the end of each part gently towards one another to close the gap and make a tight fit. Now repeat with glue and trim up the overhang when it's dry.



Tweaks and alterations

It's worth considering the type of work you'll be using your vice for before settling on a final shape for the jaws. Maybe you'll want to use it for holding round stock such as chair components for example, like Brendan Gaffney (@bernheartmade) or just something that allows you to raise work to a height that's more convenient. Either way, you can customise your jaws to cope with these needs quite simply by either making jaw inserts or creating cutouts to hold specific shapes. These require a little extra work but can be done at a later date when you've got a feel for what the vice can do. One option could be that which is used on the Coates Ad-Vise made by Douglas Coates in the UK. A small rebate is cut across the entire width of the inside face of both jaws to allow for various profiled drop-in jaw plates. The plates and jaws are fitted with rare earth magnets and brass dowel pins respectively to make swapping them out quick and easy.



Make sure the block is flush



Dowels will add strength but also make gluing up easier



Brendan Gaffney's portable Hi-Vise complete with V channels and lined with rubber for holding round parts while conducting chairmaking demonstrations



Consider removable inserts for greater versatility



Magnets and dowel pins make it easier to swap inserts around



The Benchcrafted Hi-Vise kit incorporated into a design suggested by the manufacturer

Finishing up

Crisp, square edges on workshop holding devices quickly disappear through use – it's an occupational hazard and can't be avoided. They're not really that friendly to work with either so consider shaping the edges of the vice before they get mashed up. Some chamfering might be necessary along the top of the front jaw so that you have good access to the workpiece perhaps, but other areas are worth considering for both practical and aesthetic reasons. The front jaw does not need to be a consistent width along its entire length. Adding a taper from just below the hub hole will make it lighter in weight and appearance. I chose this detail to match the leg vise on my bench. I'll consider further alterations later, one of which might be a saw sharpening capability.

A protective finish is also good idea. A wipe-on oil like Osmo or Treatex will suffice or even a brush coat of shellac followed by wax. The Benchcrafted kit comes with a piece of non-slip material called crubber to line the jaws with, but nubuck leather can be used on any additional attachments you make. As kits go, the Hi-Vise is a well engineered set of parts made from good quality materials chosen to last several lifetimes. A couple of nice touches that make for a very user-friendly experience are the leather washers that prevent the bar ends from clanking as they drop to the main screw hub. There's also the option to fasten the bar in a central position making it possible to spin the jaws open and closed with one finger. The plans are well thought out and easy to follow, probably because they've been written by a woodworker, and allow you to make an excellent and infinitely versatile workholding device in a relatively short time. *F&C*



Leather washers deaden the blow

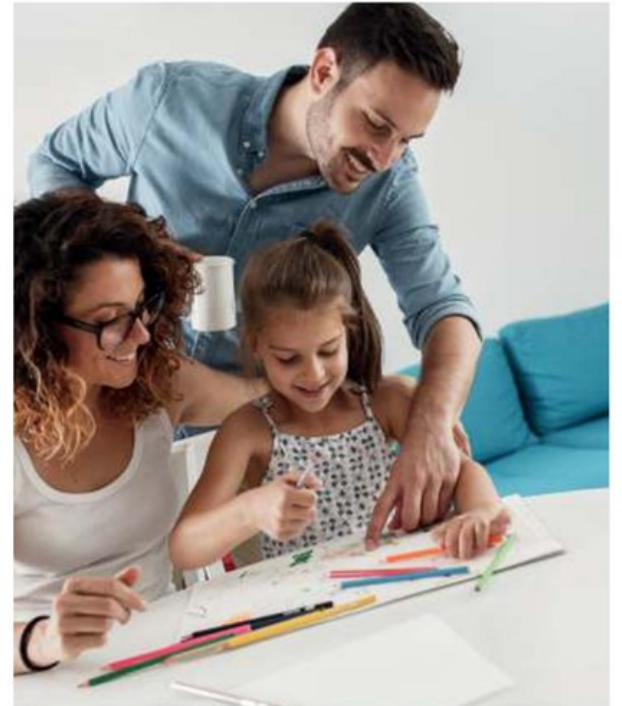
Where to buy

From:
www.classichandtools.com

Price: Benchcrafted Hi-Vise -
£210

Benchcrafted Hi-Vise with
mounting screw - £285





www.hesse-lignal.de > Mustershop

FANTASTIC-CLEAR ULTRAMATT



The trend towards ultra matt surfaces on furniture and interior fittings continues unabated and gloss is therefore being used less and less frequently. Those who prefer the cool, trendy look are choosing matt fronts. Modern formulations now enable matt coatings with the same performance characteristics as conventional gloss levels.

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Versatile application options on all usual types of wood and its uncomplicated processing make FANTASTIC-CLEAR ULTRAMATT outstandingly suitable as a finishing coat on polyurethane basecoats, or for application via the classic build-up of layers.

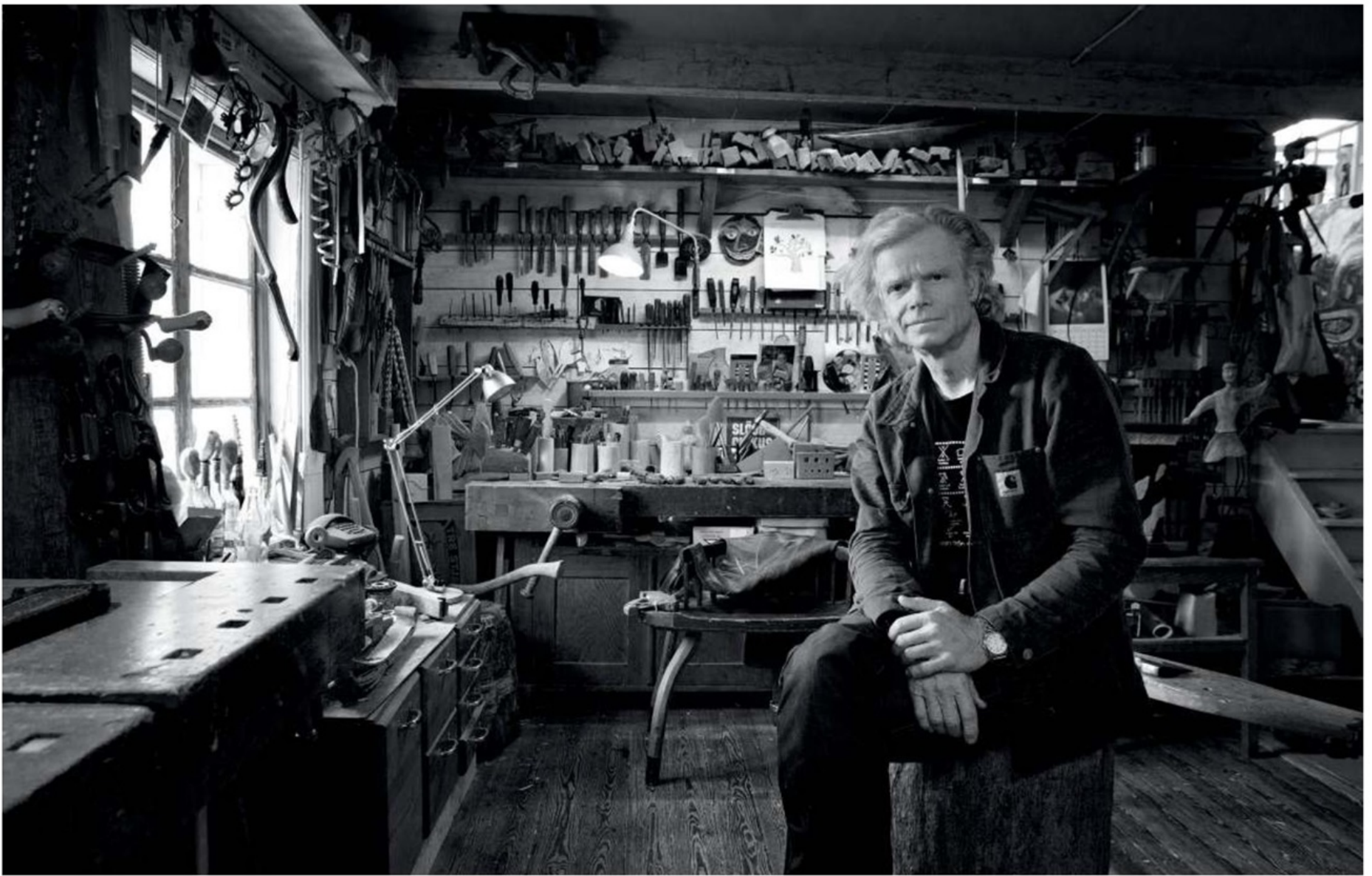
It is an ideally matched combination product as an ultra matt finishing lacquer on FANTASTIC-COLOR and gives a notable velvet-soft feel to the surface. It also meets the chemical and mechanical strength as per DIN 68861-1B.

To form your own opinion, FANTASTIC-CLEAR ULTRAMATT is also available to order as a free original sample via the Hesse samples shop at www.hesse-lignal.de > Mustershop. This is how users and end customers can be persuaded by its velvety-matt surface.



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What does slöjd mean?

In an extract from *Slöjd in Wood*, Jögge Sundqvist introduces us to Swedish-style hand woodworking

There are many different ways of working and joining wood. In this book I will tell you how to work wood using hand tools. I'm dedicated to slöjd because of the tool marks and carved bevels, the worn colors, the idiosyncratic design and the self-confidence of the unschooled folk art expression.

Slöjd is part of the self-sufficient household, how people survived before industrialization. Slöjd is the work method farmers used when they made tools for house building, farming and fishing, and objects for their household needs. For thousands of years, the knowledge of the material has deepened, and the use of the tools has evolved along with the understanding of how function, composition and form combine to make objects strong and useful.

The word slöjd derives from the word stem slög, which dates to the 9th century. Slög means ingenious, clever and artful. It reflects the farmers' struggle for survival and how it made them skilled in using the natural materials surrounding the farm: wood, flax, hide, fur, horn and metal. I have picked up a dialect expression from my home county, Västerbotten, that has become a personal

motto. We say Int' oslög, "not uncrafty," about a person who is handy and practical.

In slöjd, choice of material and work methods are deeply connected to quality and expression. To get strong, durable objects, the material must be carefully chosen so the fiber direction follows the form. This traditional knowledge makes it easy to split and work the wood with edge tools. Slöjd also gives you the satisfaction of making functional objects with simple tools. When a wooden spoon you made yourself feels smooth in your mouth, you have completed the circle of being both producer and consumer.

My intention with this book is to give an inspiring and instructive introduction to working with wood the slöjd way: using a simple set of tools without electricity. There are many advantages to this. You can make the most wonderful slöjd in the kitchen, on the train or in your summer cottage. Simple hand tools make you flexible, free and versatile. And the financial investment compared to power tools is very low.

Traditional slöjd knowledge is vast, and requires many years of experience

before you can easily make your ideas come to life. It also takes time to master the knife grips, the essentials of sharpening and the specific working knowledge of individual wood species.

As you work with slöjd, the learning enters your body. Through repetition, you will gain muscle memory for different tool grips. The ergonomic relationship between your body and the power needed for efficient use emerges over time. "Making is thinking," said Richard Sennet, professor of sociology. In slöjd, the process never ends.

Because slöjd is inherently sustainable, it feels genuine and authentic. In an increasingly complex and global society, it is important for an individual to experience an integrated work process from raw material to finished product.

People from all walks of life benefit from the interaction between mind and hand. Slöjd affects us by satisfying the body and in turn, the soul. There is a kind of practical contemplation where there is time for thought – a certain focused calm, which is an antidote to today's media-centered society.

I think we can use the knowledge of slöjd to find that brilliant combination of a small-scale approach to a sustainable society that doesn't exclude the necessities of modern technology. Traditional slöjd is a survival kit for the future.

Each chapter in this book describes one or more projects that guide your entry with a gentle hand into the world of slöjd. The projects are designed so that you will learn, step by step, more advanced slöjd methods with each successive chapter. Gradually, you will develop the slöjd methods that are right for you. Any tradition is made up of many voices, all of them unique.

It is also possible that you will find new ways of doing things that no one has thought of before. All tradition is change.

It is difficult to describe handwork in writing. How should the body interact with the tools and the wood for maximum strength and control? What should the tools look like and how should they be positioned during use? How do you know what material is good to work with? The final result and design choices are the sum of many years of experience. Decisions evolve from very deliberate choices into more intuitive ones that your body executes automatically. The best way to learn is to work with an experienced woodworker while he or she makes an object, and let him or her talk about the process as it unfolds.

If you are looking for deep knowledge of the qualities of different wood species and more advanced joinery, I recommend other publications or Internet resources. For those who are experienced woodworkers,

WHY SLÖJD? 6 GOOD REASONS	6 PRINCIPLES OF SLÖJD
Creates lasting, functional and deeply personal objects.	Practice with patience; repetition is the mother of knowledge. Slöjd means taking small risks, which increases your working knowledge and produces more opportunities for creativity and problem solving.
Gives you a strong back with little expense.	
It's a sustainable use of resources.	Avoid big mistakes by following good advice.
Restricting oneself to hand tools grants you more creative freedom – a beneficial paradox.	Work in peace and quiet, focused and mindful of how you are working. Have fun!
Green wood is easy to work.	Be sharp. This applies to your tools as well as to your brain.
Making and using your own objects means taking part in the entire process.	Dispose of oily rags properly.
	Ask permission from the property owner before you take material.

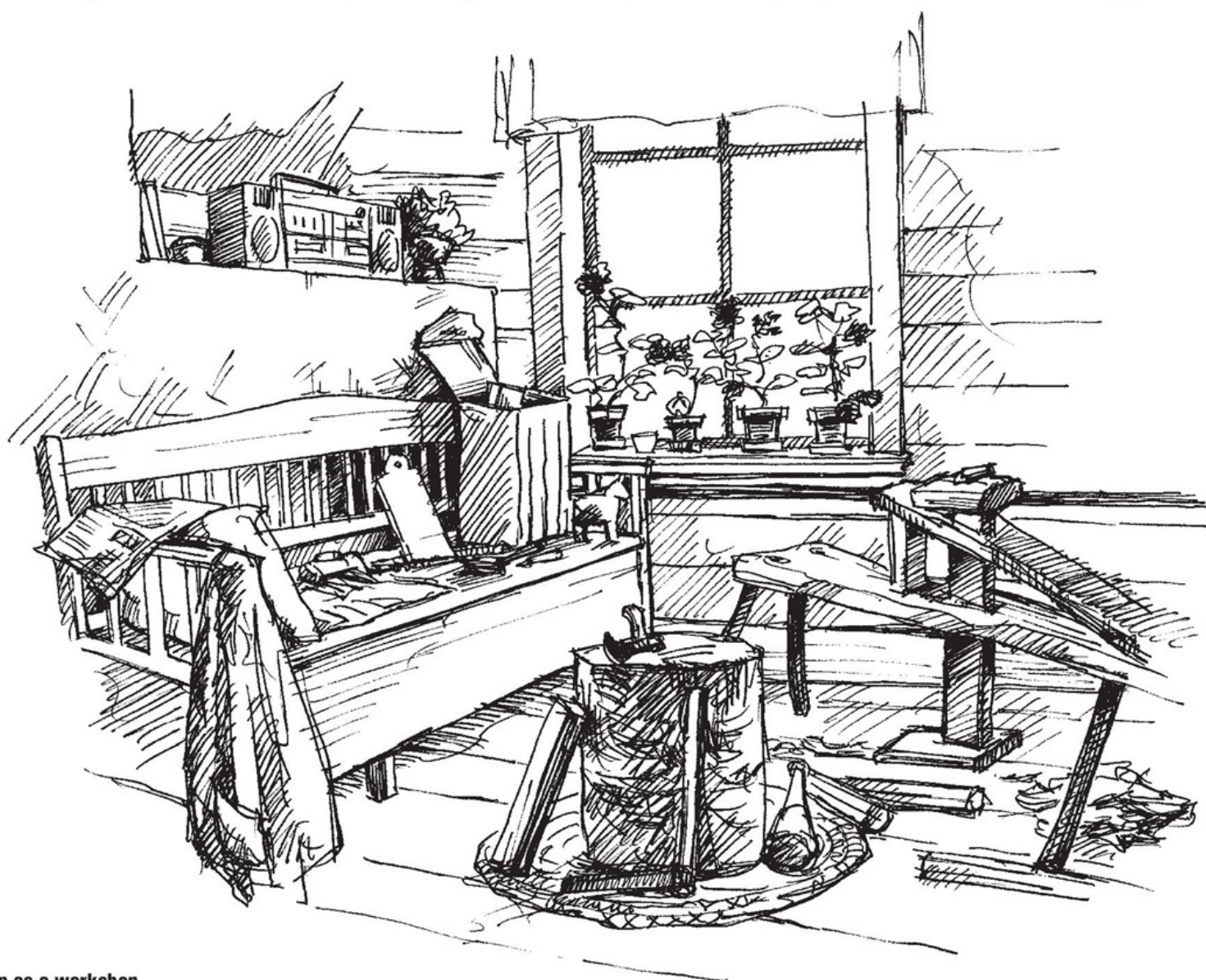
I am sure you will find in this book helpful work methods or design ideas that I have developed during my 30+ years of working in the slöjd tradition.

But this book is primarily meant as a primer on woodworking with hand tools; it is not for those of you who want to work with machines. Machines generally speed up production, but they often limit design choices. Woodworking using modern machines is not slöjd.

I have been making objects in the slöjd tradition since I was a child. In 1985, I started producing and selling my work. When I switched to a full-time basis, in 1998, I began an inventory of all the slöjd objects

I make. The inventory contains more than 4,000 objects, from butter knives to large public sculptures. The more experienced I become, the more respect I gain for other woodworkers who have inspired me over the years. I extend a special thank you to my father, Wille Sundqvist, who taught me to carve and who has passed on his passion for woodworking traditions. And to my mother, Margareta "Maxan" Sundqvist, who has given me a desire to express form and color. Wille has written the book "Tälja med kniv och yxa" ("Swedish Carving Techniques") that deals with tools and fundamental techniques in an extensive way.

Jögge Sundqvist, August 2017



The kitchen as a workshop

Stool

The formula for a durable stool is simple: Moist wood for the seat plus really dry legs and precise fitting. The mortises are drilled by hand with a T-auger. Aligning with your eye during drilling is half the pleasure. The sitting is the other half.



Birch stools, "Bowling" and "Button"

Tools

Saw, splitting axe, wedges, axe, scrub plane, gouge, drill, drawknife, spokeshave, sliding bevel, gouge, sledgehammer, chip carving knife, T-auger, or brace and auger bit.

Material

For the seat, use a large, straight-grain and knot-free hardwood log. In Västerbotten where I live, we normally use birch, aspen, pine or spruce and make the seat thicker, because these woods are not as hard as oak, ash, elm or maple.

For the leg blanks, I use hardwood from deciduous trees for indoor use, 35mm to 45mm ($1\frac{3}{8}$ in to $1\frac{3}{4}$ in) in diameter and 60cm to 65cm ($23\frac{5}{8}$ to $25\frac{9}{16}$ in) long. When I'm using the shrink and swell technique, I can look for small trees with a form that integrates with the design, so form can follow fibers. This is risky because with intact pith, the legs can shrink a lot and get loose in their mortises. But if I'm careful about the moisture content, the legs will swell in the mortises to make a tight fit to the seat. A safer alternative is to use split wood from a larger tree, to reduce the length of the tangential growth rings in the leg.

For outdoor use, choose dense, slow-growing spruce for rot-resistant legs. Birch rots easily outdoors.

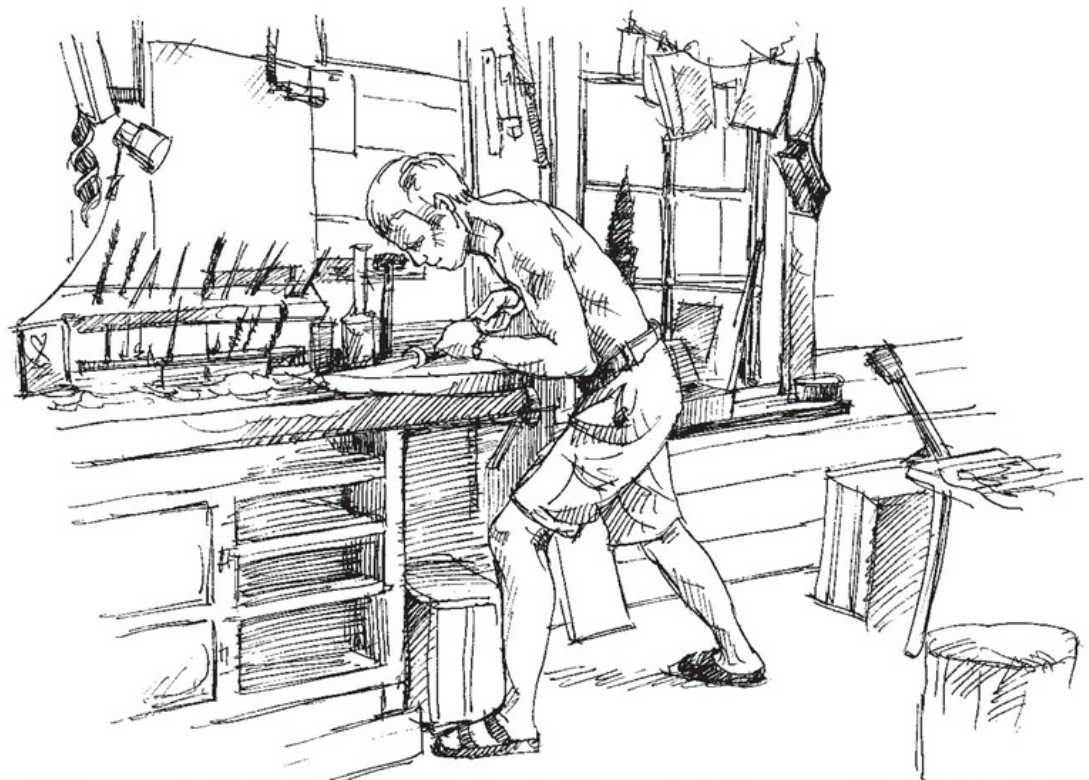
After you have chosen the blanks, you should immediately remove the bark. The seat is cut from a green, straight-grained blank with a diameter of 30cm to 45cm ($11\frac{13}{16}$ in to $17\frac{3}{4}$ in) depending on the seat's depth. Cut the log at least 20cm ($7\frac{7}{8}$ in) longer than the planned width of the stool, to be able to saw off checks. I recommend 65cm to 70cm ($23\frac{9}{16}$ in to $27\frac{9}{16}$ in) for the length.

Seat

Roughly shape the surfaces with an axe. To slow drying and avoid cracking, glue end-grain wood and put a sheet of newspaper all over it to further seal it. Plane the seat area with a scrub plane or carve it with a gouge until it has the desired rough shape. The most efficient stance for using a gouge is to use your palm behind the handle and your chest to push.

Save some extra material – 5mm ($\frac{3}{16}$ in)

where the holes for the legs are drilled because the bit has a tendency to cause tear-out. The thickness of the seat where the legs are fitted should be at least 4cm ($1\frac{9}{16}$ in). The seat's moisture content should be around 18 percent. This means that it must have been dried outdoors or in a cool basement for at least six months before the legs are fitted. If the seat's moisture content is too high, the dry tenon can swell so much that the wood gets compressed. When the seat and legs stabilize, the over-compressed tenons will become loose.



To get full power, stand with your feet apart and push with your chest. Use your wrist against the blank for support and to slow down the gouge. Now you have control and can work with full strength without the gouge slipping



Gouge. No. 5, 30mm is the right size for a good gouge for smooth carving; "5" indicates the sweep radius and "30" the blade width

Legs

As mentioned earlier, it is ideal to split out four legs from a larger trunk so the length of the annual rings doesn't allow too much shrinking and swelling in the tenon. But for aesthetic reasons I use crooked legs made from small trees to immediately get the dimension right. Here, I must be extremely careful with the fitting of the tenon in the mortise, and make sure the legs are dried to 4 percent moisture content before joining.

Tenons

To be sure the wood used for the legs is at 4 percent moisture content, you have to dry them in an oven at 110° F for about 24 hours. Keep them in a plastic bag when you are not working with them to ensure they don't absorb moisture from the air.

Make the legs octagonal, which makes it easier to see the lines. Drill a test hole in a dry piece of scrap wood with a bit or the T-auger you are planning to use for the mortises. A bit with a diameter of 26mm to 32mm (1in to 1¼in) is a good size.

Make the tenons at least 4mm ($\frac{3}{16}$ in) smaller than the thickness of the leg. Carve the tenons with a drawknife and a spokeshave evenly thick into a square or octagonal profile. Each side should have a total diameter measuring 1mm thicker than the hole.

The tenons should be 1cm to 2cm ($\frac{3}{8}$ in to $\frac{13}{16}$ in) longer than the thickness of the seat. Make them evenly octagonal. Round the end of the tenons and chamfer the ends. Drive the tenons in the test hole. They should fit into the test hole to half of the tenon length. Then you can clearly see the compressed wood that indicates the exact thickness of the tenon. It is very important that the sides of the tenons are parallel and not conical. If they are, they will act as a wedge, which can cause the seat to split.

Drilling the holes

To avoid the seat cracking when driving the tenons in, the holes shouldn't be drilled too closely to the end-grain surface. A safe distance is 7cm to 8cm ($2\frac{3}{4}$ in to $3\frac{1}{8}$ in) from the final seat ends. Don't forget that you will later cut off about 5cm to 10cm (2in to 4in) of the seat to remove cracks that might appear.

Use a sliding bevel for drilling the holes at the correct angles for the legs. You will need to set angles from both a side view and a front view.

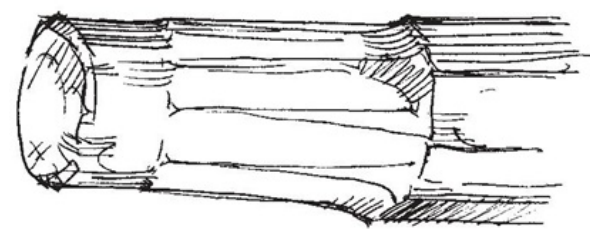
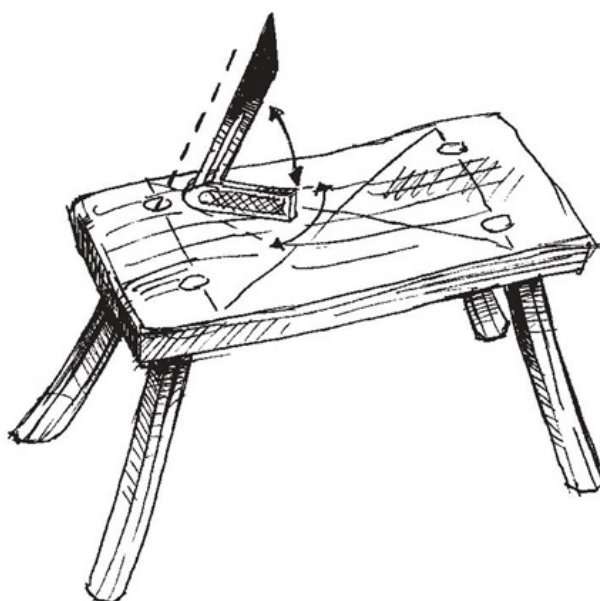
If you make straight legs you can lay out guidelines for the sliding bevel on the seat to repeat the same angle on all legs.

Finding the angles takes courage and concentration. Drill the holes with the same T-auger that you used for the test hole. If the T-auger wants to split the wood at the beginning of the hole, first cut off the fibers



Detail of grooves on the seat and finger holes for lifting

with a straight gouge. Stop drilling when the screw goes through on the seat so it doesn't tear out too much material. Chamfer the hole with a knife from the back, adjusting the bevels to match the shoulder of the leg. You can also use a large auger bit in a brace.



Use the compressed wood as a guide to carve the final diameter of the tenon.

Adjust the sliding bevel by looking for the same angles as the tenon from the front view and from the side view of the leg. I recommend clamping the sliding bevel to the top of the seat while you are drilling. Because I'm using crooked legs, each angle can be different because the legs bend differently. Place the seat at the right height so there is room for your legs underneath it. Align the legs until the angles look right to you; somewhere between 60° to 70° works well. To make the task easier, drive in a small nail in the center of the tenon, remove the head, then nail the leg on the underside of the seat. You can now easily adjust the angle of the leg and shim the leg against the floor. The leg is stable enough for you to record the angle using the sliding bevel.

Adjust the shoulder

Drive the leg into the seat with a sledgehammer. But first, bevel the end faces of the tenon and the underside of the legs to avoid splitting the ends. The tenon should be seated tightly and very precisely. It should be impossible to move it with your hands.

Number the legs so you know where they go. Also mark the position of the tenons in the seat and the angle for the shoulders. Now knock them out with a wooden rod of a slightly smaller dimension to do final adjustments.

Adjust and bevel the shoulders so they fit tightly all around each leg to be at least 2mm ($\frac{1}{16}$ in) wider in diameter.

Cut out the wedge material from deciduous hardwood.

Glue the tenon and drive it into the seat. Saw the tenon flush with the seat surface. Make a scoring mark with a knife or chisel at a 90° angle to the fiber direction of the seat.

Place the leg vertical on a hard, stable, flat surface. Put a small dab of wood glue halfway up the wedge then drive it into the

scored mark until it is firmly seated. Make a cut on each side of the wedge next to the seat and break it off. Clean-carve the tenon ends flush and smooth with a gouge. Dry the stool for two months, preferably in a space that is cool and has good air circulation. Saw off the excess wood on the seat when it is dry and clean-carve all surfaces carefully.

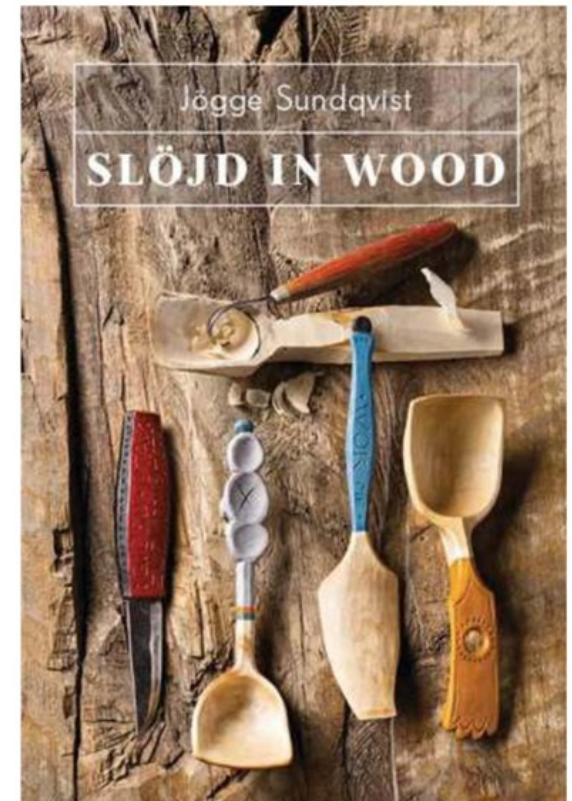
Now it's time for the finishing touches. Bevel the seat edges and corners. Make your stool unique by adding a carved decoration or a name with a year.

Height adjustment

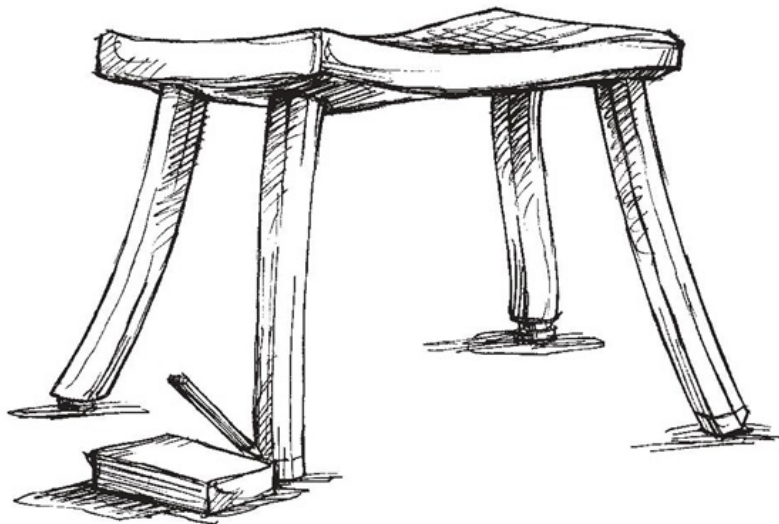
To make the stool level, measure the height from a flat surface to each seat corner. Put coins under the legs until you get the same measurement at all corners.

For the final finish, apply a thin coat of artist's oil paint thinned with boiled linseed oil. After a couple of days of drying, the stool is ready for sitting!

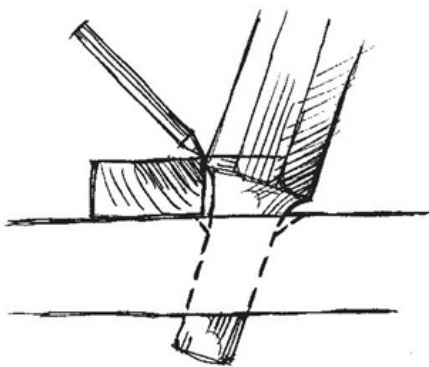
Slöjd in Wood



By Jörgge Sundqvist, published by Lost Art Press. Available from www.classichandtools.com for £32.95 or from lostartpress.com for \$37

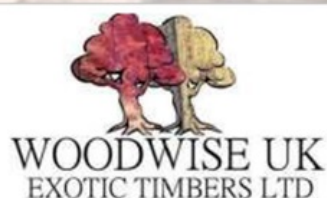


To determine where to saw the legs, note which leg has the most coins under it. Measure the distance from the flat surface to the bottom of that leg. Now use a level piece of wood of the same thickness as that distance to draw saw lines around the other legs



Transfer the angle from the underside of the seat to adjust the shoulder





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UNDER THE HAMMER: Modern Design & Art

We look at some of the best 20th-century furniture sold at the Bonhams auction

The Modern Design & Art auction was held at Bonhams' Los Angeles saleroom in April. The sale of 20th- and 21st-century decorative objects included paintings, sculpture, ceramics, glassware and lighting. Here, we focus on some of the 20th-century furniture that went under the hammer.



\$26,325 (£20,789)

Judas Extension Dining Table designed in 1953 by Finn Juhl. The two-leaf table is made from teak with silver details. Finn Juhl (1912–89) was a leading Danish designer and architect who helped to popularise the 'Danish Modern' style.



\$23,825 (£18,815)

Bedstead designed by Emile Jacques Ruhlmann ca. 1925. It is made from amboyna and gilt bronze; the footboard and headboard are branded with the word 'Ruhlmann'. Emile Jacques Ruhlmann (1869–1933) was a French furniture and interiors designer known for his work in the Art Deco style.



\$4075 (£3218)

Set of eight dining chairs designed by Harvey Ellis ca. 1905 for Gustav Stickley. The chairs are made from oak and still have the original rush seats. Harvey Ellis (1852–1904) was an American architect, painter and furniture designer. Like Gustav Stickley (1858–1942), Ellis was a leading proponent of the American Craftsman style, a development of the British Arts & Crafts movement.



\$4075 (£3218)

Even Arm Settle (model 208) made by Gustav Stickley ca. 1900. It is made from oak and leather. Gustav Stickley (1858–1942) was an American furniture designer and publisher; he produced the influential *Craftsman* magazine, which promoted the American Craftsman style and the philosophy behind Arts & Crafts.

\$3315 (£2617)

Companion secretaire and vitrine made in France ca. 1940.
Both pieces are made from carved mahogany.



\$3187 (£2517)

Cabinet made by Charles Dudouyt ca. 1940. It is made from carved, cerused oak with bronze details. Charles Dudouyt (1903–69) was a French designer who played a leading role in shifting France's design aesthetic from elaborate classicism to a simpler, modern style.



\$5325 (£4205)

Pair of rosewood side tables made by Jean Pascaud ca. 1925. Jean Pascaud (1903–96) was a French furniture and interior designer, known for his simple, traditional style and technical excellence.



\$6325 (£4995)

Valet Chair designed by Hans J Wegner in the 1950s. The chair is made from oak and teak. Hans J Wegner (1914–2007) was a leading Danish furniture designer and the creator of many iconic chair designs. A prolific artist, he designed over 500 different chairs during his lifetime.



\$3570 (£2819)

670 Lounge Chair and 671 Ottoman designed in 1956 by Charles and Ray Eames for the Herman Miller company. The pieces are made from laminated plywood, leather and aluminium.



\$4450 (£3514)

Eames Storage Unit 270C designed by Charles and Ray Eames for the Herman Miller company ca. 1950. The unit is made from zinc-coated steel and plywood. Charles (1907–78) and Ray Eames (1912–88) are two of the most famous names in 20th-century design. As well as furniture, the husband and wife team worked in industrial and graphic design, fine art and film.



\$1912 (£1510)

N12 Dining Table designed by George Nakashima for Knoll Associates in 1948. The table is made from walnut. George Nakashima (1905–90) was an American furniture maker and architect; he is regarded as a leading figure in the 20th-century American craft movement.

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PER ISSUE



A grand workbench journey – part 3

In the next stage of his workbench build, Kieran Binnie turns to the joinery



Laying out the location of the mortises

In the previous part of this series we prepared stock for the legs and stretchers by hand. Now it is time to reward ourselves for all of that planing with cutting some joinery, and connecting the stretchers to the legs.

Design

The stretchers on the Roubo bench are flush to the edge of the legs and the bench top, and fulfil several important functions. First, Roubo says they are between 4 and 5 pouce above the floor, which is low enough to hook your lead foot underneath while planing, which allows your legs to generate more power. Second, the stretchers provide a useful shelf for storing tools or workbench appliances such as shooting

boards or bench hooks. Finally, because the long stretchers are flush to the edge of the benchtop, they can be used to clamp large workpieces.

Despite giving a detailed description of many aspects of the workbench, Roubo does not say anything about the joinery attaching the stretchers to the legs. Roubo's original illustration shows a mortise in the leg cross section, and drawbore pins on the face of the legs, so it is safe to assume that mortise and tenon joinery was used for this purpose. You could use a traditional tenon one-third the thickness of your stretcher, and with a shoulder on each side, but I decided to use a barefaced tenon. There are several advantages to this variation. First, you get a much thicker

tenon (half the thickness of the stretcher instead of one-third the thickness), which will give a greater strength. Second, this is a faster joint to cut as you only need to cut one tenon cheek and one shoulder. Generally speaking, the disadvantage of the barefaced tenon is that with no shoulder hiding the rear edge of the mortise (as would be the case for a standard tenon), that side of the mortise can look a little ragged depending on how neatly you kept to your baseline when chopping the mortise. While you wouldn't necessarily want to use a barefaced tenon for fine furniture where both sides of the tenon are visible, I think it is a good choice for the workbench build, and the shelf will obscure part of that rear edge of the mortise.

Layout

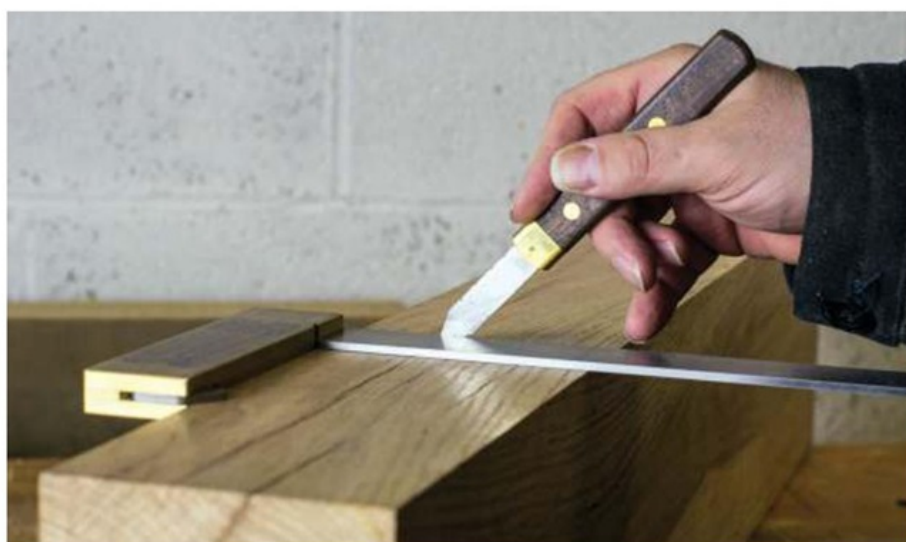
The order in which you cut the two halves of the joint comes down to personal preference, but laying out all of the joinery is best done in a single session. I use a mortise gauge for this work, which I set using one of the stretchers. Set the gauge so that one cutter is at exactly half the thickness of the stretcher – you can test it by placing the gauge on each face of the stretcher and seeing if the cutter marks the same point. The second cutter should land on the opposite edge of the stretcher. Lock the gauge in place until all of the joinery is marked out.

Lay out the tenons first, by running the gauge down both sides, and the end grain, of the stretchers. Mark the shoulders of the tenon using a sharp marking knife and square. I used a 3 pouce long tenon (remember, a pouce is equivalent to 1.066 modern inches), and a mortise the same depth.

There are two mortises on each leg – one on the rear and one on the inner-facing side. Both of these are placed so that the face of

the stretcher is flush to the outer-facing surfaces of the leg. I started by laying out all of the mortises on the rear of the legs (for the short stretchers), and placed the bottom edge of each mortise 5 pouce from the bottom of the leg. First lay out the two ends of the mortises, and strike layout lines across the full width of the legs – these will help to locate the next set of mortises without having to measure from the bottom of the legs again. Next, lay out the sides of the mortises using the same marking gauge as you used for the tenons, running the gauge down the side of the leg to which the stretcher will be flush.

To lay out the mortises for the long stretchers, don't measure anything, just drop your marking knife into the end of the lines you struck across the width of the leg, and trace these round the side of the leg using a square. Use the mortise gauge to lay out the sides of these mortises, and finally mark the waste of all eight mortises in pencil. Now you are ready to cut some joinery.



Marking the ends of the mortise with a square and marking knife



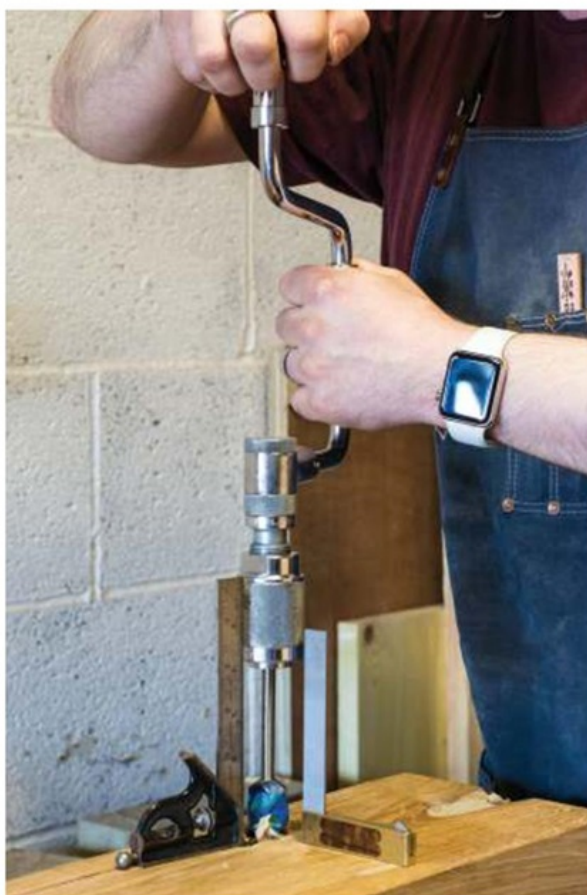
A mortise gauge is essential for laying out the tenons and mortises

Chop, chop, chopping

While ordinarily there are several perfectly good ways to cut mortises, I'm going to suggest that the last thing you want to do on a hardwood Roubo bench build is chop them with a mortise chisel. There are no medals for chopping these mortises by hand, only many blisters. Despite some research online, I cannot find any manufacturers making mortise chisels in widths greater than 1/2in, which means that if you were intent on chopping the mortises the old-fashioned way, you would have to cut two narrower mortises and then remove the webbing between them to get to full width.

That sounds an awful lot like work, and so I chose to remove the bulk of the waste with a 1in auger bit in my brace. Because the pouce is slightly larger than the modern inch, this approach hogged out the waste to a consistent depth and then left me a small amount of material to remove with a chisel. Drill out the waste using a small square to ensure you are on target. Drill as many holes as you can, as this reduces the amount of chisel work you will need to do, and try to get as close to the ends of the mortise with your auger bit as possible.

Selecting a chisel for paring the mortise walls is a matter of compromise. A narrow chisel will cut with less effort as the force is concentrated, but can leave a slightly ragged edge if not placed in the baseline with care. A wider chisel gives a clean line at the top of the mortise, but requires more effort to drive it. I prefer a 1 1/2in chisel for paring the walls, and a 3/4in for cutting the end grain. A 1/2in



Drilling out the waste with a brace and bit

chisel can also be useful for removing waste from the bottom of the mortise, working bevel down. Start with the sides of the mortise, and leave a little waste at each end while you pare the sides, as this will prevent the ends being bruised when cleaning up the bottom of the mortise. Remove the waste in small stages – this will stop the chisel undercutting



Paring the mortise walls

the sidewalls. Divide the thickness of the waste in half and pare that away, then shuffle your chisel back towards the baseline and divide the waste in half again. Keep going until there is too little waste to balance your chisel on, then place your chisel in the baseline and make the final paring cut. I wrap the fingers of my right hand around the

handle, with my right thumb looping over the top of the chisel handle to provide the downward force. The fingers of my left hand then wrap around the chisel blade and pull it tight into the cut, to prevent drift and keep the chisel vertical.

Once the sides are pared, check the bottom of the mortise for any bumps or waste that might prevent a good fit for the tenon, particularly in the corners. A small combination square can be very helpful for checking that the walls are plumb to the surface of the leg, and that the mortise is clean to the full depth.

The final stage is to pare the end grain back to the layout lines. Use the same process as for the side walls, but take even smaller bites with the chisel and sharpen your chisels after every mortise.



Checking that the mortise is plumb and to depth

Tenons

After cutting the mortises, the tenons will seem like easy work. Barefaced tenons require just two saw cuts – one to cut the cheek of the tenon, and one for the shoulder. Both cuts should be made against the waste side of the layout line, but not on the layout line. Start by cutting the cheek – this cut has three stages. First, set the stretcher in your vice at a 45° angle pointing away from you. For the long stretchers this may mean that the opposite end is resting on the floor. To give a clear starting point for the saw I like to pare a small notch on the near corner of the tenon, using a chisel to cut from the waste into the side of the knife line. Start the saw in this notch and cut down the layout lines on the side and end of the tenon simultaneously, until you reach the far corner on the tenon end as well as the shoulder line facing you. Now the second stage: flip the stretcher over 180° so that the uncut side is facing up. Set your saw at the near corner, and allow it to

track down the kerf established when cutting the other side of the cheek, making sure that you stay on the waste side of the layout line for this side, and that your cut is snugged up against the line. The third stage: there is now a triangle of waste at the base of the tenon that needs to be cut. If you are working the short stretchers, set them upright in the vice and cut parallel to the shoulder line until you have hit the full depth of the tenon. For the long stretchers, leave the workpiece at an angle, and angle your saw so that you are cutting parallel to the shoulder line.

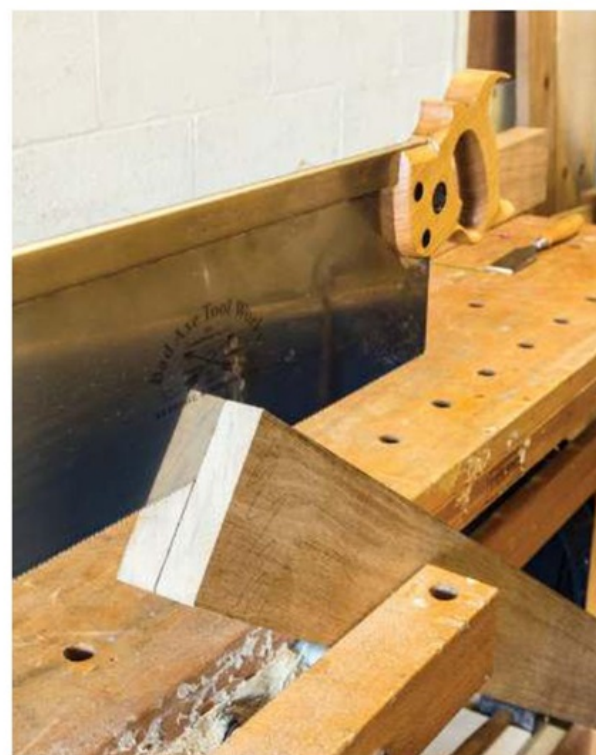
Now to cut the shoulder. The shoulder will be visible when the joint is assembled, and we want to leave a crisp edge to this half of the joint. This calls for a 'first class cut'. Deepen the knife line with a wide chisel and a sharp rap from a mallet. Next, pare a notch into the waste side of the knife line with a chisel. Using a fine crosscut saw, cut the shoulder using the notch to guide the cut. Placing the fingers of your off-hand lightly on the toe of the saw back will keep it from jumping out of the cut. Put the waste material cut from the tenon cheeks to one side – we will need that for next month's installment.



Laying out the tenon shoulders



A notch provides a starting point for the saw



Cutting the tenons



Paring a trench for a first class cut



Cutting the tenon shoulder

Test fit and tuning the joint

Now it's time to test fit the joints. The fit should be tight enough to need a gentle tap from a mallet, but not so stiff that it needs a lot of effort to knock it home. Don't worry if the joint is a little loose – we will be drawboring these instead of relying on glue, so they will still be solid enough. If the tenon is too tight in the mortise, first check the walls of the mortise to ensure they are plumb. If the mortise is in

good shape, pare the tenon cheek until you get a good fit – this can either be done with a wide chisel, or a large router plane to ensure a consistent thickness across the tenon. Test again, and pare some more if needed.

We now have a fully assembled workbench undercarriage, which is a big milestone in this build.



MAIN IMAGE: Checking the joint is square

INSET: The assembled undercarriage!



NEXT MONTH We will look at drawboring the undercarriage joinery, for a mechanical joint that will last hundreds of years.

A Cabinet for Hand Tools

In an extract from *Workshops* from Taunton Press, Michael Pekovich shares his solution for storing a myriad of hand tools in a single convenient location



PHOTOGRAPHS BY MARK SCHOFFELO UNLESS OTHERWISE STATED

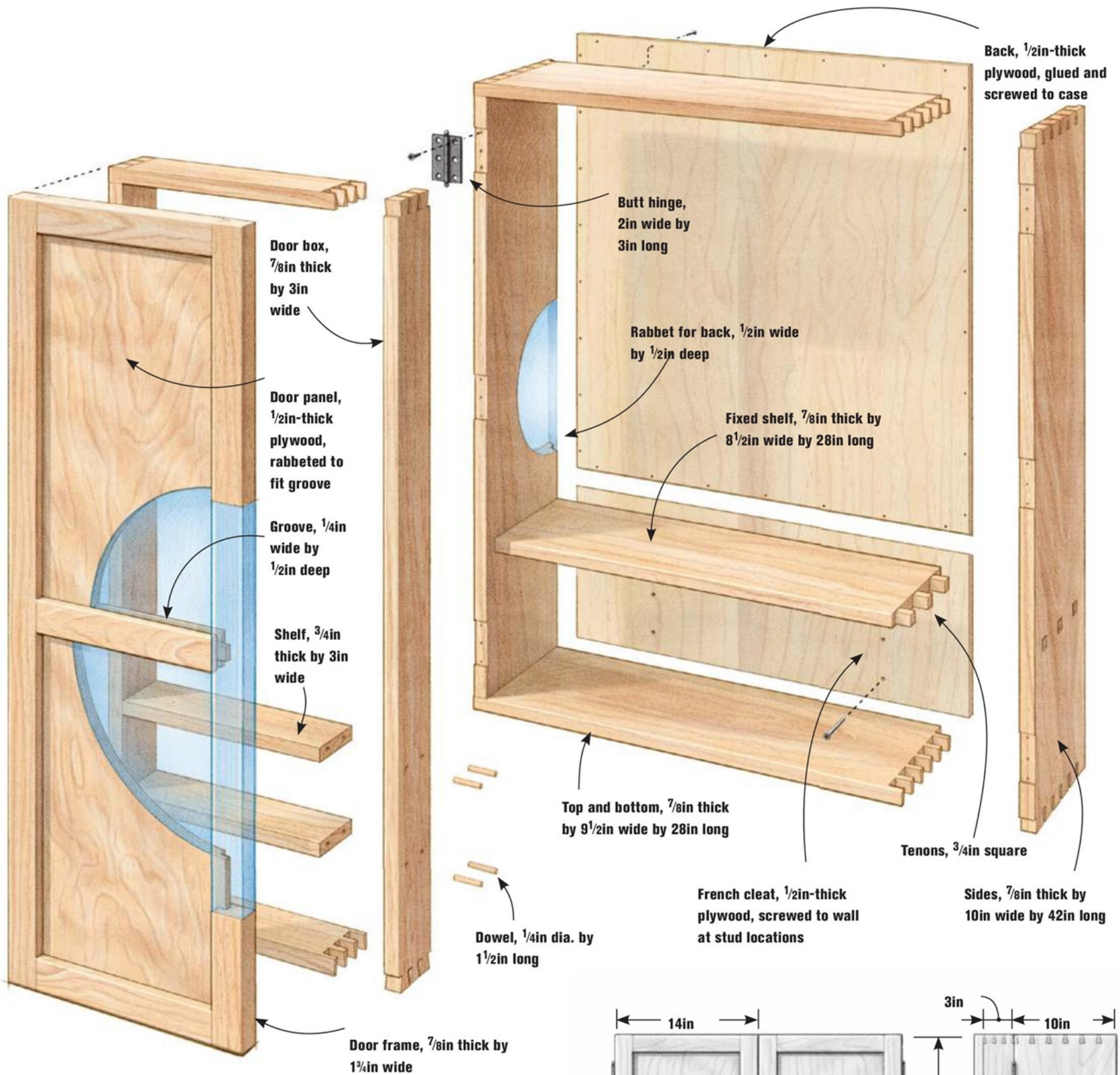
When I stop to think about it, I probably spend as much time in my shop with power tools as I do with hand tools. But when the dust and noise from milling parts finally settles and I head to my bench, that's when the fun begins—when I feel like I'm really woodworking. And that's why my cobbled together hand-tool cabinet was always the heart of my shop. Over the years, though, as my tool collection grew, I finally had to admit that I had outgrown my old friend and it was time to build a new one.

Space is limited in my shop, so I needed a way to pack more storage into the new cabinet without taking up more wall space than the old one. I solved the problem in two ways. First, I made the case deeper, giving me more room for handplane storage in the lower portion and enough depth for swing-out panels above.

Big storage in a small space. Swing-out panels in the doors and upper case let you pack in more tools without taking up any more wall space

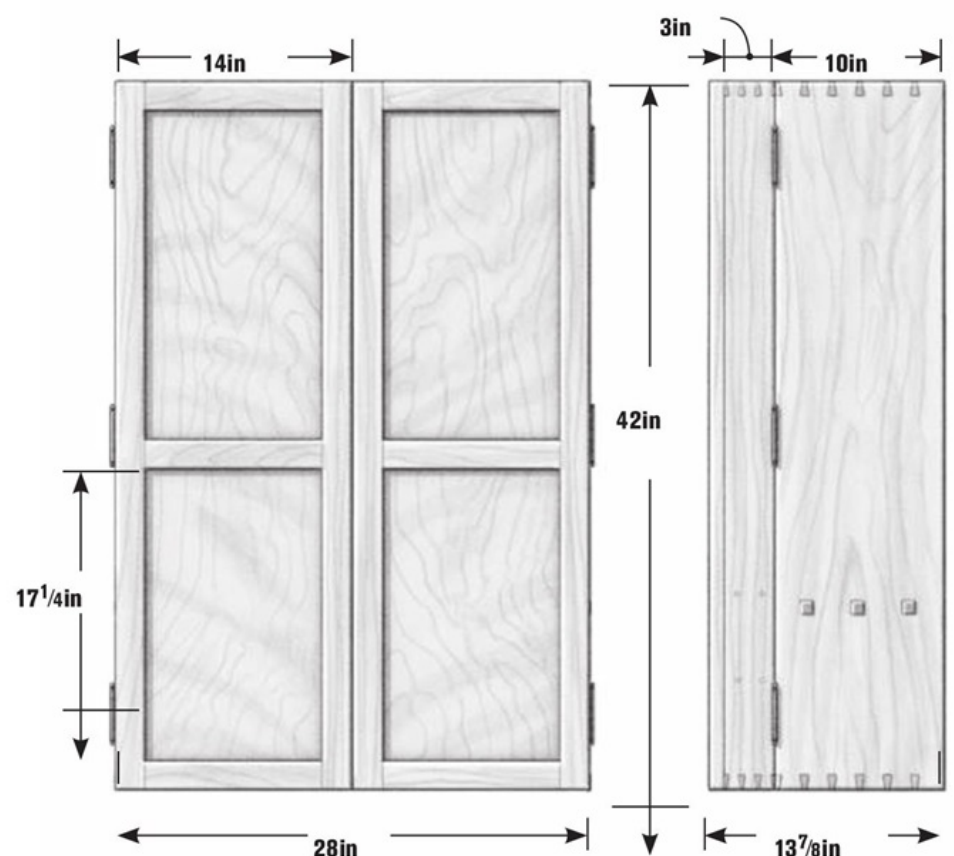


PHOTOGRAPH BY MICHAEL PEKOVICH

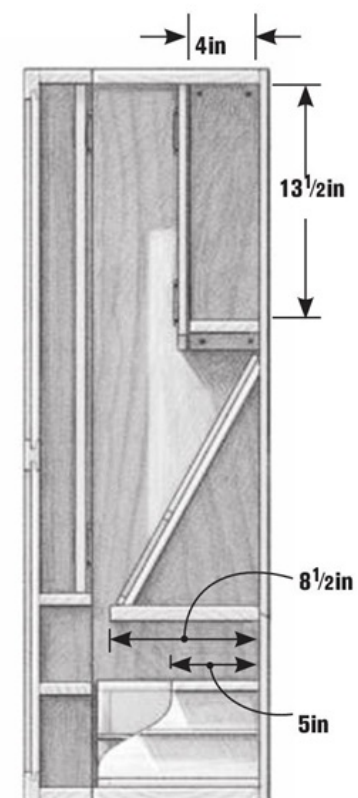
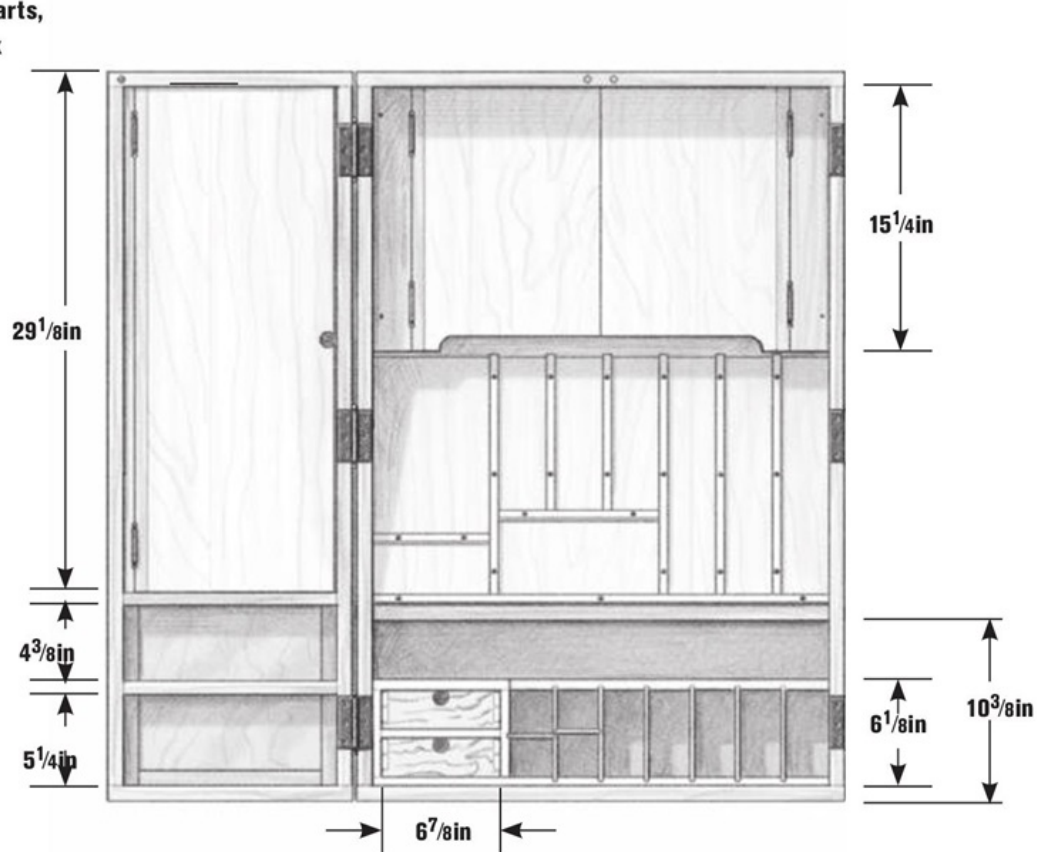
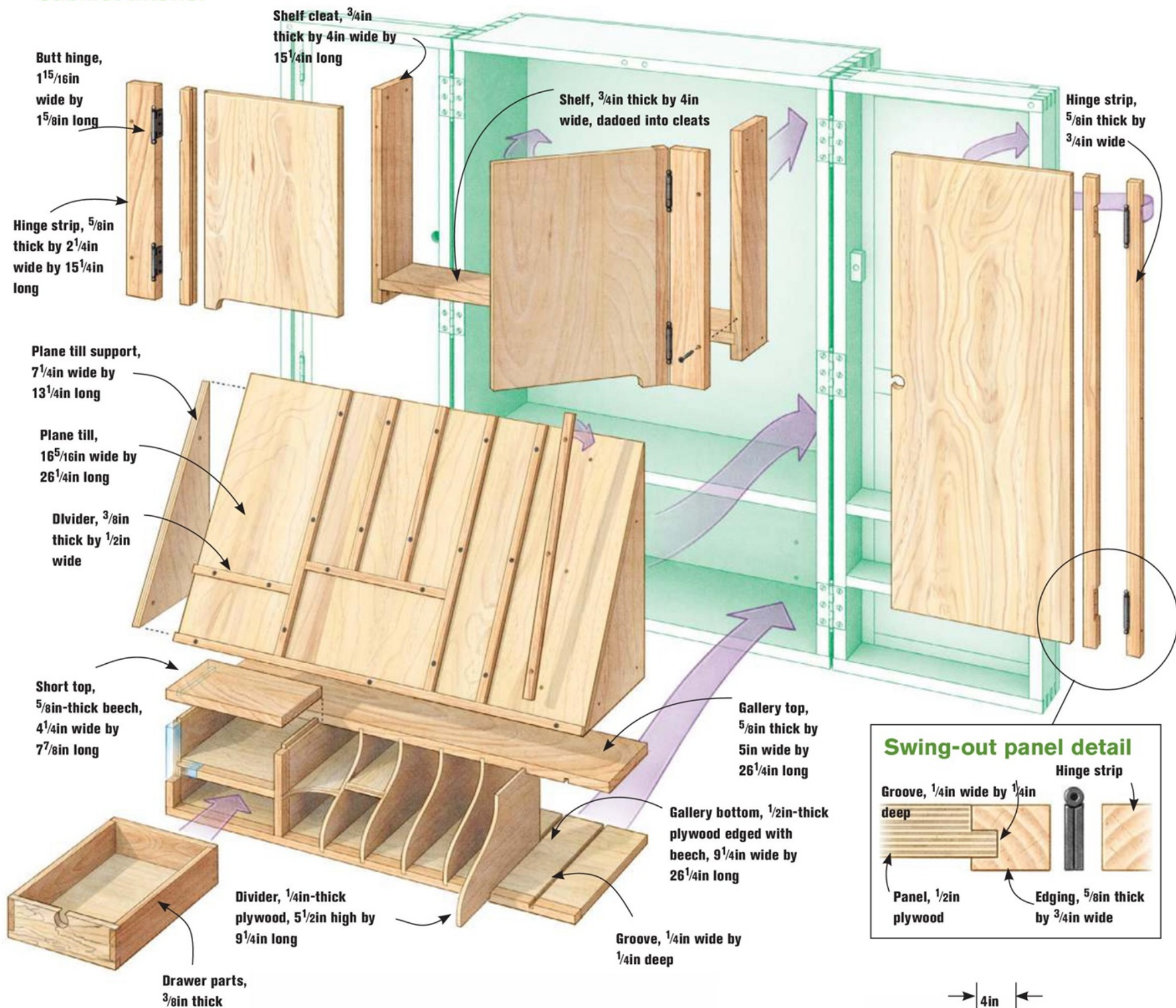


Serious tool storage

The spacious cabinet doesn't devour a lot of wall space, yet holds a wealth of hand tools. The case and door boxes are made from solid beech. Baltic-birch plywood is used for the door panels, swing-out panels, and plane till.



Cabinet Interior



Sources of Supply

Butt hinges

House of Antique Hardware;
houseofantiquehardware.com

Part numbers:

R-08BM-1822-0B;

R-08IH-83020-10B

First, I made the case deeper, giving me more room for handplane storage in the lower portion and enough depth for swing-out panels above. Also, I built the doors as shallow boxes instead of flat panels, an idea I borrowed from *Fine Woodworking* contributing editor Chris Becksvoort. These deeper doors combine shelf space for smaller planes and swing-out panels for extra space to hang tools. After some careful design and layout, I now have all my hand tools in one easy-to-reach place—and the cabinet looks great, too.

Tools drive the design

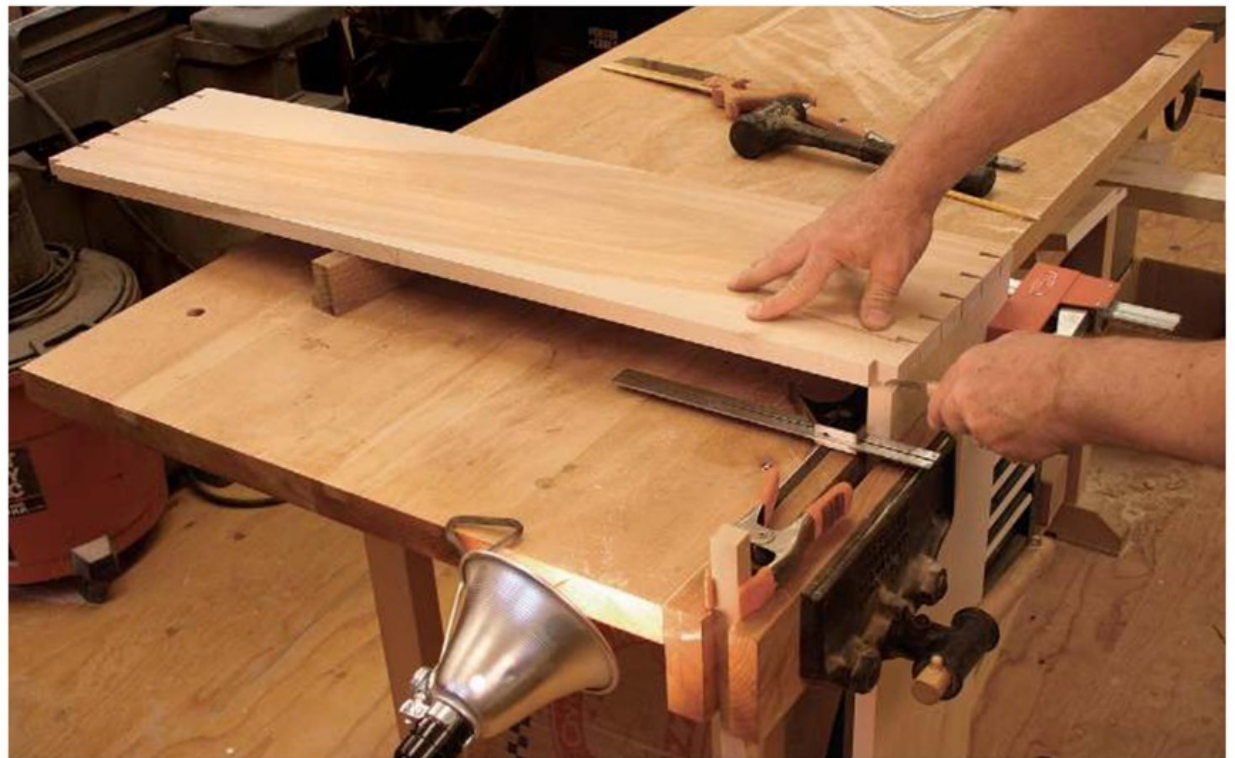
Designing a tool cabinet can be a challenge. It's not just the number of tools. You have to figure out ways to store tools of varied sizes and shapes. Even a bigger cabinet would not have room for every tool I own, so I took a hard look at my collection to determine which tools I use regularly, which ones I use only occasionally, and which ones simply gather dust. I wanted to make sure that the tools I use most are always within easy reach; that the tools I use once in a while, like carving gouges, are stored in less accessible parts of the cabinet; and that the dust gatherers find a home somewhere else. By the way, I also built in a little extra space for new tools I have my eye on. To help with the design, I made a full-size mock-up out of plywood scraps. This gave me a better idea of the space I had and how to use it to its fullest. To customize the cabinet for your tools, I'd recommend you do the same.

Exposed joinery is beautiful and strong

I'm not big on dressing up most shop cabinets, but I think a tool cabinet deserves some extra attention. For me, that means a solid-wood case with dovetails at the corners, and frame-and-panel doors mounted with mortised butt hinges. Still, I made good use of Baltic-birch plywood in the back and door panels as well as in the interior of the case. It provides a solid surface for mounting tool holders and its thin, void-free plies mean that the exposed edges look nice. You could certainly build the whole cabinet from plywood or go to the other extreme by adding veneer or marquetry. It's a great place to show some flair and dress up your shop, or you can keep it simple.

I cut the dovetails on the tablesaw. Then I cut the pins with a handsaw, hogging out the waste between pins with a router and paring to the line with chisels.

To give the case more rigidity, I joined the fixed shelf to the sides with through-tenons. Normally I start by cutting the



The pins are next. Start by scribing the pins from the tails board (above). After sawing to the scribe lines with a backsaw (right), remove the waste in between the pins with a router equipped with a spiral straight bit. Pekovich uses a simple box (far right) to bring the workpiece to a comfortable height for routing

mortises, but in this case it was easier to transfer the tenon layout to the mortises rather than vice-versa.

First I cut the tenon shoulders using the tablesaw. I formed the cheeks by cutting a shallow rabbet, with the blade buried in a sacrificial fence. The rabbet has three benefits. First, it provides a consistent shoulder line to pare to when removing waste between the tenons. Second, it obscures any gap at the mortise. And finally, I can give a shelf a final handplaning without affecting the thickness of the tenons.

For the mortises, I started by marking the shelf location on the back edges of the sides and then carried those lines across the faces. Next, I stood the shelf on each case side to mark the mortises on the inside and outside faces. I roughed out the mortises on the drill press and squared them up with a chisel.

Once the joinery was completed, I dry-fitted the case, making sure the assembly was square. I also lightly chamfered the ends of the dovetails and through-tenons with a block plane because I planned to leave them proud instead of trimming them flush after glue-up. After gluing up the case, I made and installed the plywood back panel. I cut it and the lower French cleat from the same piece,



beveling their mating edges at 45°. The bevel cut is hidden by the fixed shelf and centered in its thickness. Then I assembled the doors and the door boxes.

Inside, planes get priority

With the case complete, it was time to work on the storage components. I started at the heart of the cabinet with the plane till and the gallery, designed to hold my collection of handplanes. The till not only displays the larger planes nicely but it also makes them easily accessible because it tilts back at 30°. Triangular cleats screwed to the case sides support the till.

The planes are separated by a series of dividers screwed to the till. I used the actual planes and a 1/4-in.-wide spacer strip to locate the dividers.

At the bottom of the cabinet I created a gallery that also includes a couple of drawers, useful for everything from drill bits to tape measures. The whole section slides in and out as a unit and is screwed to the base of the cabinet at the back.

The gallery is narrower at the top than at the bottom, and the dividers are curved. This allows easier access to the handplanes. The 1/4-in-thick plywood dividers slide into dadoes in the 1/2-in-thick top and bottom. I added horizontal dividers to two of the partitions to double up block plane storage, gluing in stops to keep the smaller planes from sliding in too far.

Doors within doors double the storage area

At the top of the cabinet, just above the plane till, I added cleats to the cabinet sides.

These not only support a small shelf but also act as a place to attach a pair of swing-out plywood panels made from 1/2-in-thick Baltic-birch plywood. I relieved the bottoms of each panel so they wouldn't block access to the planes below. I also added swing-out panels to the inside of each cabinet door. The panels give me another strong surface to attach tool holders and help the cabinet pack in even more storage in a shallow space.

Neat tricks for customized tool storage

The final step of the construction was to create a safe, secure home for each tool in the cabinet. Some solutions, like chisel racks, fit a variety of tools. Others, such as holders for marking gauges and saws, are customized for each tool. Finding the right

solution for each tool is half the fun.

My chisels hang on a holder with concentric-size holes that accommodate a variety of handle diameters. I have several spokeshaves of various shapes and sizes, but a pair of racks with upward-angled arms handles all of them. Squares can be secured with a simple slotted block of wood. Handsaws require a custom-fit holder. I started by making a block to fit the opening in the handle, then screwed on a pivoting tab to hold the saw in place. Rare-earth magnets set into blocks help keep long tools from swinging. For the finish, I kept it simple. I just wiped on a few coats of shellac to give the case a little protection and make it easier to clean.



Clean up the waste. Bandsaw most of the waste and then chisel to the baseline. To ensure a tight fit, chop halfway down, undercutting the joint slightly, and then flip and work from the other side in the same way



Scribe the mortise locations. Stand the shelf in place, using a square to align it flush with the back edge. Knife around each tenon and repeat on the opposite face of the case side



Drill and chop. Remove most of the waste on the drill press. Then use a chisel to chop out the rest, working back to the scribe lines gradually. Chop halfway down, undercutting slightly, then flip to complete the cut



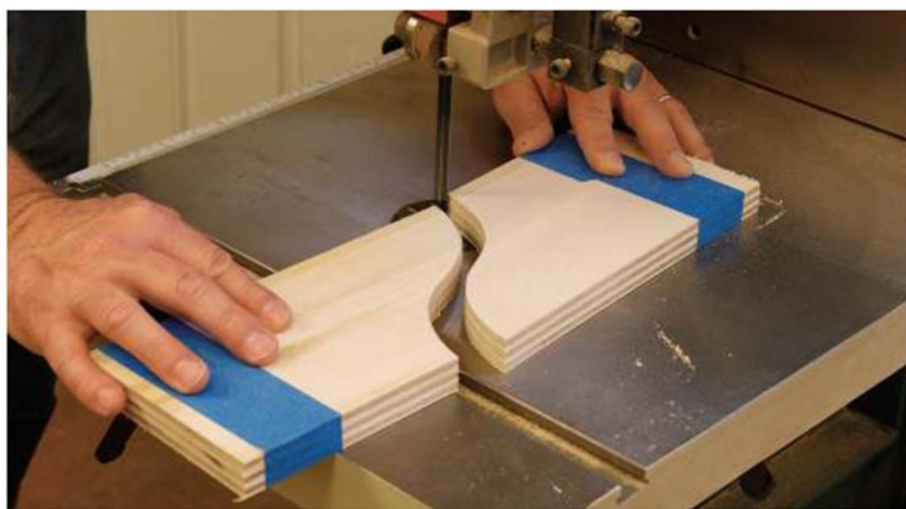
Big glue-up made easier. To provide clearance for the proud dovetails and the through-tenons, Pekovich elevates one side using wood strips (left). Then he assembles the main carcase, checking it for square. Once the case is dry, he attaches the back with glue and nails (above). Screws add a little extra security



Add a frame-and-panel front to the doors. The plywood panels are glued into a stub-tenon frame (above). This creates a handsome yet rigid assembly that helps keep the door from sagging while providing a solid, flat surface for attaching tool holders. The frame-and-panels attach to the door boxes (top right) with a simple glue joint



Build the plane till. The plane till is simply a plywood panel screwed to triangular cleats mounted to the case sides. It's easier to add the plane dividers before installation. Set each plane in place and slide a 1/4-in-thick shim against it to create some wiggle room. Screw down the dividers without glue to make future alterations easier



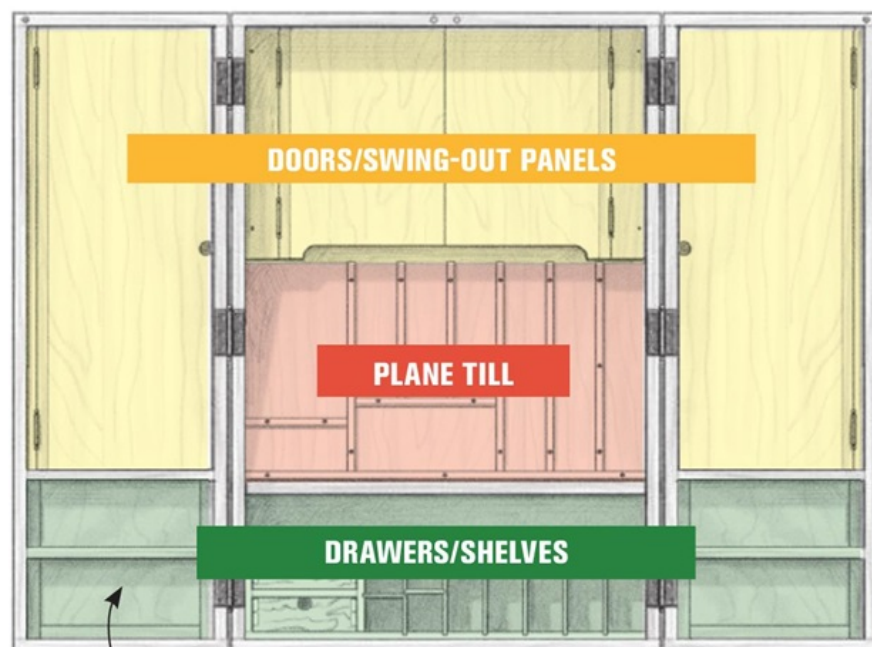
Six dividers, one cut. Tape the dividers into a single stack and cut all the profiles at once. A symmetrical curve creates offcuts with the same profile



Glue up the gallery and slide it in as a unit. The left side of the gallery is outfitted with a pair of drawers for odds and ends. The shelves are for block planes

Make it your own

The interior is divided into three basic zones that can be customized to fit anyone's tool collection. The vertical surfaces are great for saws, spokeshaves, chisels, screwdrivers, and layout tools. The angled till keeps handplanes within easy reach. The shelves at the bottom can be outfitted with dividers for even more plane storage or filled with drawers for screws, hardware, router bits, and small tools.



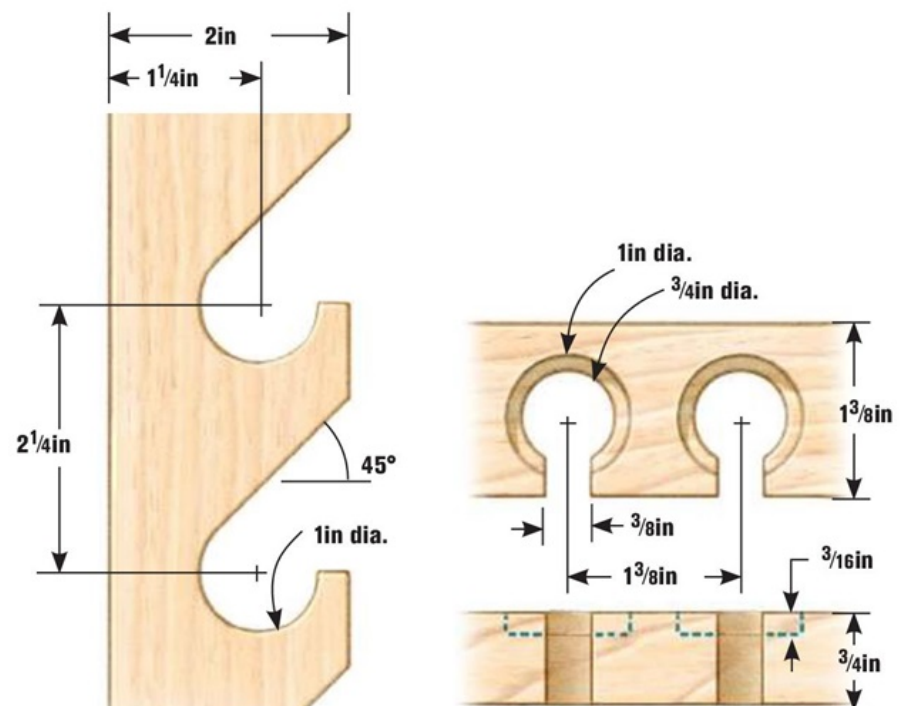
Leave out the shelves in the doors and extend the swing-out panels for even more vertical storage space



Add the door shelves. Use spacer blocks to locate each shelf while you drill and pin them in place. You can change the location of the shelves later by drilling out the pins



A swing-out panel increases storage. The $\frac{1}{2}$ in plywood panel is edged with a thicker hardwood strip on one side to allow for hinge mortises. The panel is attached to a cleat that is mounted to the drawer box



Simple spokeshave rack. A pair of uprights hold the shaves securely. Start by drilling holes, then finish the profile at the bandsaw

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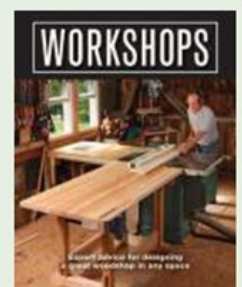
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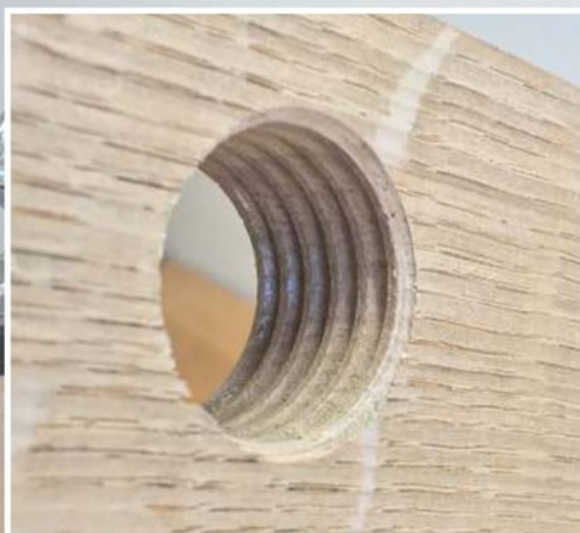
KIT & TOOLS

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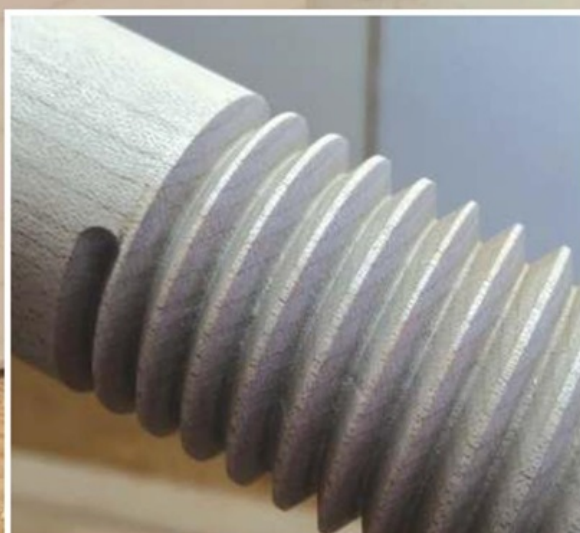
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Feed the dowel into the Delrin sleeve at a constant rate and pressure



Note the flats on the tips of the thread



Flat top threads resist fracturing



Be prepared to sacrifice the first 20mm of thread when starting a cut

The Beall Wood Threader

For a few years now I've been churning out projects that incorporate the use of wooden threads with varying degrees of success. Part of the problem it seems is identifying a consistent approach that works across numerous sizes and different timbers. The largest thread I think I've cut was around 70mm dia for the main bench screw on my Roubo bench and for that I borrowed some tooling from F&C contributor David Barron. These specialist tools don't come cheap however – something in the region of £900 for a two-piece set as I recall, which has put me off investing in a range of this spec to cover my needs.

Instead I've been making do with an entry level solution made in the Far East which is available from Axminster Tools in the UK and Dictum in Germany. I say 'entry level' mainly because they are relatively inexpensive, which as you might expect is inevitably linked to their performance. Part of the problem lies with the way these tools sever the wood fibres in order to cut a thread, both internal and external. With a box cutter style of threading tool a V-groove cutter literally gouges a thread in a single pass around the perimeter of your chosen piece of timber for the male component. A separate tool is then used to scrape away material from the walls of an appropriate sized hole for the corresponding part. In both cases grain structure and timber quality pay a huge part in the tools performing to their best. A 50% failure rate is not uncommon in difficult timbers like oak.

The Beall Wood Threader, however, allows you to mitigate some of the risk by using a V-shaped cutter mounted in a router to effectively machine the outer thread with a much greater success rate than the traditional box cutter method. The jig is comprised of a maple block to which is mounted a metal plate designed to take a small router or trimmer. A series of Delrin inserts, depending on the size of thread you're cutting, are fitted into the block and aligned with the router cutter using the centring tool supplied. The initial set-up is a bit fiddly at first as you'll need to make a few test pieces to establish the right depth of cut. Creeping up to the right setting is much easier than backing off to achieve and once done you're set to run out mile after mile of perfect thread. If you think that's an exaggeration just try and stop yourself when you've got it running smoothly. The secret to creating a smooth thread is adjusting the router to leave tiny flats on the top of the thread that match closely with those created by the tapping tool. Read and follow the instructions that come with the kit for best results. I used the 1½in kit which is the largest in the series, other sizes are available. OK, I know what you're thinking, is there a downside? If there is I haven't found it.

From: www.toolpost.co.uk
Price: £83.73 1½in Threader Kit



Veritas Pocket Plane

The new Veritas Pocket Plane is a small plane that fits neatly in the palm of your hand. In the past similar planes have been created, but this is the first of its type to feature a fully functional Norris-type adjuster. The bevel-up configuration, combined feed and lateral adjustment mechanism result in a tool just right for delicate trimming and model or instrument making. The plane is perfect for applications where a larger plane would be too unwieldy. The arched lever cap rests in the palm of your hand, giving both comfort and control, and extends over the knurled control knob. The mouth is narrow for fine shavings. The cast steel body is 115mm long and 32mm wide overall. Weighing just 256g, this plane is small and light enough to carry in an apron pocket all day. The 2.7mm thick PM-V11 blade is 21mm wide. It has a 20° bevel angle, which, when combined with the bed angle of 15°, gives it an effective cutting angle of 35°.

From: www.brimarc.com

Fisch Multifunctional Wave Cutters

The new Wave Cutter Forstner bits from Fisch are truly multifunctional and can be used in a variety of applications. Instead of a solid centre point, these bits feature a replaceable 4mm pilot drill (an exchangeable centring tip is available). The purpose of the pilot drill is to enable precise drilling of inclined holes. These bits also offer precise drilling at extreme angles. The pilot drill helps first position and then guides the bit. These Forstner bits cut particularly easily and produce exact, tear-free holes with smooth walls in softwood and hardwood. Fisch forge their multifunctional bits from a single billet, before being CNC ground and then hardened. Accuracy and sharpness are of the highest level. The unique serrated wave edge produces extremely clean entry holes, allows faster cutting speeds and requires less effort to bore each hole. The shank has three flats for secure chucking in a three-jaw chuck. Spare drill bits are available as are centre tips for drilling blind or straight through holes. These bits are 90mm long overall excluding the pilot drill. They come in four sizes: 20mm, 25mm, 30mm and 35mm.

From: www.axminster.co.uk



Sharpening stones

It's a fact that at some time in our woodworking career most of us will have gone through a phase of spending more time at the bench sharpening our tools than using them. It's such an easy trap to fall into and nobody is immune to the pull of either a new and improved or better sharpening system than the one they currently have. This month we've gathered together a selection of stones – oil, water and ceramic – that perform well across the board whether you're sharpening O1, A2, PMV-11 steel, etc., or even something a little more exotic from Japan. Before we start looking though we need to get one thing straight – there is no advantage to using one kind of stone over another. There are some practical issues you might like to consider beforehand though such as 'do I have access to running water in my workshop?' or 'do I need to establish a dedicated area for the purpose of sharpening?' but that's about it, everything else is a matter of preference, convenience and one's capacity for sharpening. What follows is by no means an exhaustive list and we haven't included all the grit and grades in each range but it's enough to whet your appetite.

Deluxe Waterstone Sharpening Kit



The complete King Japanese waterstone sharpening kit includes a coarse 220-grit waterstone that removes material quickly – ideal for restoring primary cutting bevels and initial back flattening. The 1000 grit waterstone produces a finely misted finish that forms the basis of the polish. The surface is then refined by polishing through the previous finish, first on the 4000 grit waterstone, then the 6000 grit waterstone and finally the 10,000 grit waterstone for the ultimate finish. The kit also includes a Nagura dressing stone to rejuvenate the surface of the 10,000 waterstone and the 6000-grit waterstone, a drywall screen for flattening, a thin washable rubber mat to provide grip and 250ml Shield Technology HoneRite Gold (sufficient to make 6L of water non-corrosive).

From: www.workshopheaven.com

Bester Imanishi Combination Waterstone 1000/6000g

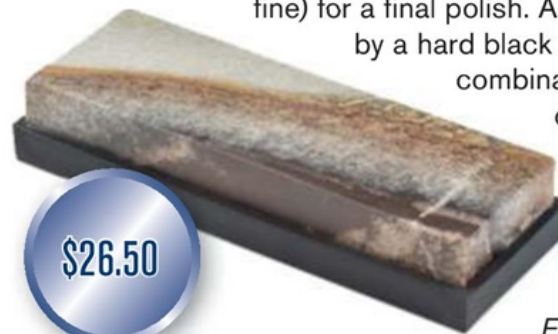


This combination stone offers both sharpening and honing options in one stone. Simply soak in water for 10 to 15 minutes before use. It offers a good balance of speed and wear-resistance.

From: www.axminster.co.uk

Arkansas Oil Stones

With durable abrasive particles linked with high-strength bonds, these traditional Arkansas oil stones cut at moderate speed. They also wear slowly, requiring only periodic lapping to expose fresh abrasive particles as much as to restore flatness. Cut from flawless natural novaculite in Arkansas, the stones are described in 'grades' rather than grits, since the size of the particles ranges consistently from about 3µ to 5µ. The difference between grades is a matter of particle density; the more tightly packed they are, the finer the abrasive action. The grades progress from soft (medium), for initially working the bevel, to hard (fine) as an intermediate grade, and then to either a hard black or a translucent stone (both extra-fine) for a final polish.



A soft stone followed by a hard black stone is an effective combination. For all, a light mineral oil works best to keep metal particles from glazing the stone. Each stone comes in a fitted wooden box.

From: www.leevalley.com

Pride Abrasive Ceramic Water Stones



These stones quickly abrade even tough alloys such as A2 steel. In the 220x to 6000x stones, the abrasive particles are held together by moderately weak bonds, releasing fresh abrasive at a regular, rapid rate to yield a highly consistent scratch pattern. The 8000x and 10000x stones use somewhat stronger bonds, so they wear and cut more slowly, producing a fine polishing effect. The 220x is for removing nicks or significantly changing the bevel angle, the 600x stones grind a primary bevel and the 1000x stone establishes a basic edge. The 3000x can be used to refine the edge or produce a micro-bevel; the 6000x is an intermediate stone for use prior to honing with the 8000x and/or 10000x, which polish to a mirror finish.

From: www.leevalley.com

Soft Arkansas Bench Stones



From
£19.20

All of these Bench Stones are 100% natural Novaculite, the only known substance that can sharpen a blade and polish it as well. Soft Arkansas is considered the coarsest of the Arkansas sharpening stones. This stone will provide the initial edge and first level of polishing and is primarily used for sharpening.

From: www.classichandtools.com

Ice Bear Waterstone Sharpening Kit

There is no better kit for someone sharpening with waterstones for the first time. The kit contains a 800-grit stone for initial grinding, a 6000-grit fine finishing stone, a non-skid waterstone holder and a Nagura stone for cleaning off the glazed surface of the fine stone.



£64.96

From: www.axminster.co.uk

BESTER Imanishi Waterstone 1000g

This is a medium 1000 grit sharpening stone. It should be soaked for 10 to 15 minutes before use. BESTER waterstones, manufactured by Imanishi in Kyoto, Japan, feature a moderately strong bond that allows abrasive particles to release quickly, maintaining a fast cutting rate, yet resist wear better. These stones behave similarly to a natural stone, the feedback tells you how fast it is cutting.



£45.55

From: www.axminster.co.uk

Norton IM83 Waterstone Sharpening System

The Norton IM83 portable waterstone sharpening system is equipped with three waterstones (1000, 4000 and 8000 grit). The kit keeps your stones clean, safe, and ready to use. The carrying case allows you to sharpen tools whenever needed. The sharpening compartment includes a watertight reservoir that can keep stones continually submerged. The kit also includes a flattening plate and DVD on sharpening.



£289

From: www.classichandtools.com

Translucent Arkansas

The rarest of Arkansas sharpening stones, translucent stones in their purest form are white. Translucent stones may also contain shades of pink, yellow and grey. The Translucent sharpening stone produces the highest polished, razor-sharp edge. All of these Bench Stones are supplied in handsome protective wooden boxes. A non-slip silicone base is also included.

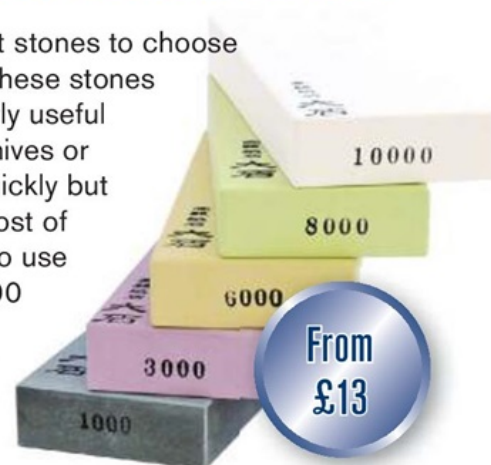


From
£66

From: www.classichandtools.com

Toishi-Ohishi Japanese Waterstones

Toishi-Ohishi offer seven single grit stones to choose from and six combination stones. These stones are 75mm wide, which is particularly useful when honing wide plane blades, knives or cutthroat razors. The stones cut quickly but are dense and hard enough that most of them do not require soaking prior to use (the exceptions are the 220 and 600 grits). A sprinkle of water is all you need to get to work for the 1000+ grit stones. The 1000 grit will establish your secondary bevel and the 10,000 grit yields a beautiful final polish.



From
£13

From: www.classichandtools.com

Ice Bear Japanese Waterstone Combination 1000/6000 Grit



£27.62

These stones are used to bring metal to an absolute mirror finish and an ultra sharp edge. Whereas the coarser stones can be stored in water, these fine stones are harder and not so porous, so only need to be sprinkled with water just before use, and left dry at all other times. They are mounted on bases and the very finest are supplied with a Nagura stone; used to de-glaze, true and build up slurry on the surface of the stone, which helps the polishing process. The 6000 grit is a good choice for everyday work and the 1000 grit is used for refining, finishing and polishing.

From: woodworkersworkshop.co.uk

Shapton Ceramic Glass Stone

The Shapton Glass Stones sharpen quickly and evenly. Each stone is made up of a tempered glass plate on which the stone is confirmed. It prevents the stones from bending, making sure you can use them until the very end, even when they thin out after years of use. In addition, you can start sharpening immediately. A splash of water on the stone and let the sharpening begin! You do not need to soak the stones.



From
£38.50

From: www.classichandtools.com



Out & about: The Bowes Museum

This month we head to County Durham to see an outstanding collection of decorative art

One of England's finest public galleries, the Bowes Museum in Barnard Castle, County Durham, houses a nationally renowned collection of fine and decorative art. As well as its famed Silver Swan automaton, the museum includes works by El Greco, Francisco Goya, Canaletto, Émile Gallé, André-Charles Boulle and Martin Carlin.

History

The Bowes Museum was purpose-built as a public gallery by John and Joséphine Bowes in the late 19th century. John was the son of the 10th Earl of Strathmore and his wife Joséphine was a French actress and



The Bowes Museum occupies three floors of a grand, French-style building



amateur painter; they both had a passion for the arts and between them they built up a collection of around 15,000 paintings, ceramics, furniture and textiles. Their vision was to open a public gallery to display their collection and construction began on the museum in 1869. The French-style design of the building was the result of the collaboration between two architects, the French architect Jules Pellechet and John Edward Watson of Newcastle. Sadly neither Joséphine or John lived to see the project completed as they died in 1874 and 1885 respectively. Work continued under the control of a board of Trustees and the museum finally opened to the public in 1892.

What to see

The collection continued to expand after John and Joséphine died and today it is spread over three floors. A major redevelopment over the last 10 years has enabled better access, lighting and facilities.

The picture galleries span European art history from the 15th to the 19th centuries, covering a variety of schools and styles. Highlights include paintings by El Greco, Canaletto, Goya and Turner. There are also galleries dedicated to ceramics, silver and metals, fashion and textiles.



Joséphine's bed is displayed in the John and Joséphine galleries. It is carved out of gilt wood with a separate canopy, and is known as 'lit à la duchesse'. It is upholstered in silk brocade woven with red and white flowers on a blue ground, in wide strips separated by a twisted ribbon motif. It is an exemplary example of French Second Empire style.



Lady's writing table made by Martin Carlin ca. 1785. It is veneered in tulipwood on oak and mounted with Sèvres porcelain plaques and gilt bronze.



Marquetry panel, attributed to André-Charles Boulle and made ca. 1690. This panel, made from ebony and exotic woods on an oak carcass, is of exceptional quality. It was acquired by the 1st Earl of Warwick who brought it to England and had it made into a cabinet; this work is attributed to Mayhew and Ince, London cabinet makers



The Silver Swan can be seen in action every day

The Silver Swan

The Silver Swan is the museum's best loved object and can be seen in action every day. It is a life-size mechanical automaton, made in about 1773 in the workshop of James Cox of London, a silversmith and dealer. The automaton was recorded as being displayed in Cox's Mechanical Museum in 1774. In a performance accompanied by music, lasting about 30 seconds, the Swan appears to preen itself, then bends its neck to take a fish out of the water. The automaton comprises three clockwork mechanisms,

all working simultaneously to produce the remarkable movement. So lifelike is the result produced by the head and neck mechanism, that it is thought that the celebrated 18th-century inventor, John Joseph Merlin, was responsible for this part, while apprentices and ordinary craftsmen worked on the rest of the automaton. The Swan was exhibited at the Paris International Exhibition in 1867 and was bought by John Bowes in 1872 for the museum.



The Bowes Museum holds a fine collection of French decorative art

The John and Joséphine galleries present the couple's life in France and provide a setting for their furniture that they had sent over from their houses in Paris. They spent vast amounts decorating their French homes and favoured lavish, gilded furniture.

The Decorative Arts artefacts are arranged in three galleries: Neo-Classical; Baroque, Rococo and Chinoiserie; and English Interiors. The English Interiors Gallery, opened in May 2010, offers an impressionistic interpretation of four centuries of the English domestic interior. Original panelling, mostly saved from historic

houses, some of which are no longer standing, form the basis of the interpretation. These are displayed alongside ceramics, paintings and some of the finest pieces from the English furniture collection to explain the changing styles from the Tudor to the Victorian period.

As well as the permanent collections, the museum regularly hosts temporary exhibitions of art and design, including the recent LEGO exhibition which saw 15 of the museum's objects re-created in plastic bricks. Acres of gardens, parkland and woodland are also open to visitors.

Information for visiting

Address: Newgate, Barnard Castle, County Durham DL12 8NP

Website: www.thebowesmuseum.org.uk

Opening times: Open daily 10am–5pm; closed 25 & 26 December & 1 January

Charges: Adult £14; Over 60 £12; Family Pass from £16; Student £6; Under 18 £5; Under 5 free

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

Where else to see ... Museums in County Durham

1. Beamish – the Living Museum of the North

Near Stanley
www.beamish.org.uk

2. Open Treasure at Durham Cathedral

Durham
www.durhamcathedral.co.uk

3. The Witham Arts Centre

Barnard Castle
thewitham.org.uk

Cabinet for botanical specimens, made in England ca. 1780. Mary Eleanor Bowes, Countess of Strathmore and grandmother of John Bowes, was a keen collector of plants; this cabinet was made to house her collection. When the front side cover is lowered, the interior reveals drawers to store plant specimens, with a tilting panel on which to inspect the specimens or use as a writing stand. A drainage system allowed the plants to be kept watered. It is veneered in burr elm and kingwood on oak, with decoration in boxwood. The decoration is Neo-classical in style, with typical swags and bows along with cameos featuring heads thought to be of Roman Emperors and literary figures.



Social media dashboard

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

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



YouTube: Jögge Sundqvist at TEDxUmea

If you enjoyed our extract from Jögge Sundqvist's *Slöjd in Wood* on page 40, then you should check out his TED talk on YouTube. In the 15-minute talk, Jögge discusses the tools, the materials, the folk art and the traditions that influence his work. He also demonstrates some of his axe-carving skills!

Address: www.youtube.com/watch?v=_8U7dSNar68



Jögge Sundqvist
I'm not uncrafty
- A craftsman definition of art



Instagram: Vic Tesolin

Canadian woodworker Vic Tesolin is the author of *The Minimalist Woodworker*, a stress-free guide to woodworking, and he is also a regular contributor to *F&C*. You can follow all of his latest making and writing projects on his Instagram account.

Vic will also be demonstrating his skills at the London International Woodworking Festival in October (see page 19 for details).

Address: [@vic_tesolin_woodworks](https://www.instagram.com/vic_tesolin_woodworks)



Projects we love

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



Chippendale School graduates

Several pieces by recent graduates of The Chippendale International School of Furniture caught our eye this month.

Stephen Barr's Strong and Stable Brexit Cabinet, in walnut and Japanese ash, depicts the Union Jack on one door and the EU's stars on the other. Stephen, who comes from Northern Ireland, created the piece as a parody on the Brexit debate and a pointed reminder that we are living in uncertain political times.

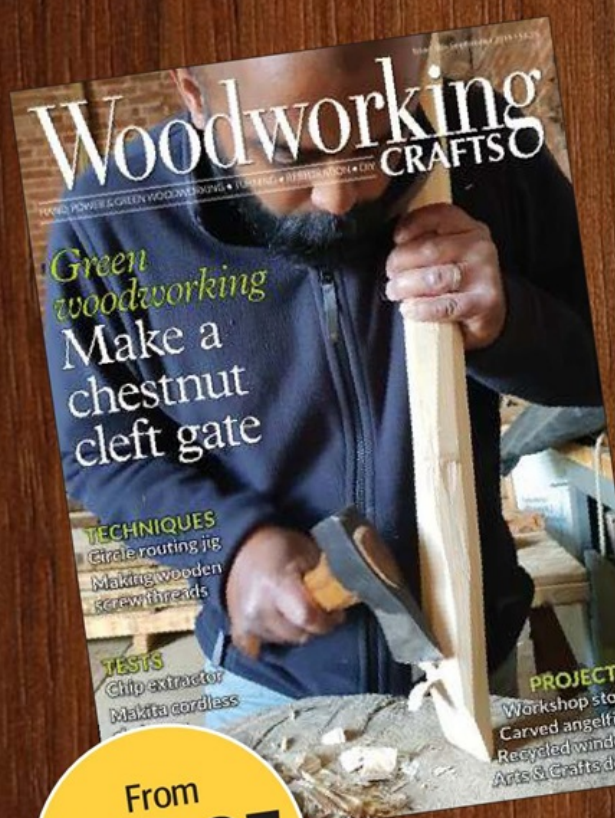
Ross Cunnison from Aberdeenshire originally took a one-week introductory course before signing up for a professional course. His projects included this sideboard made from olive ash, which incorporates a waterfall edge with the grain of the wood perfectly falling from the cabinet's top and down its sides.

Matthew McGlone, originally from Manchester, incorporated sinuous and dramatic gaps in his elm and stained oak side table. It's a design flourish that gives the piece originality and heaps of character.

www.chippendaleschool.com



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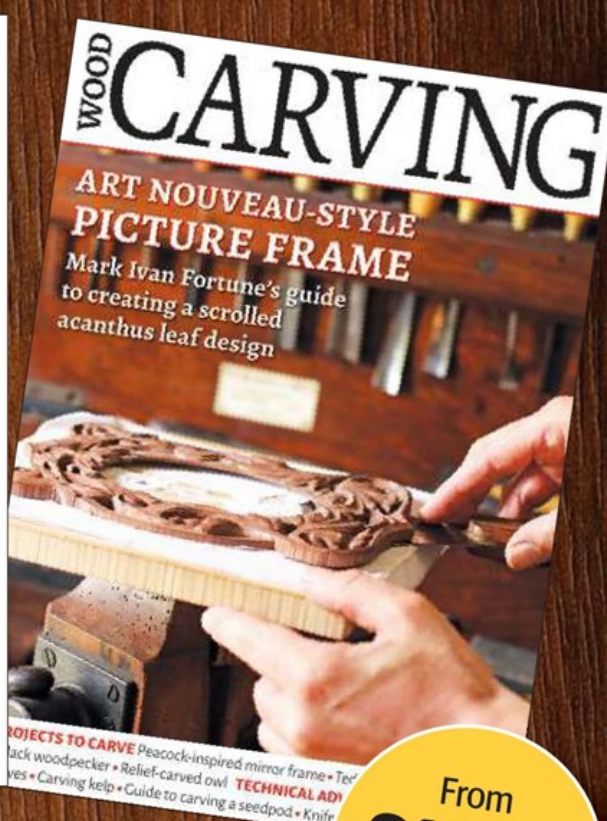
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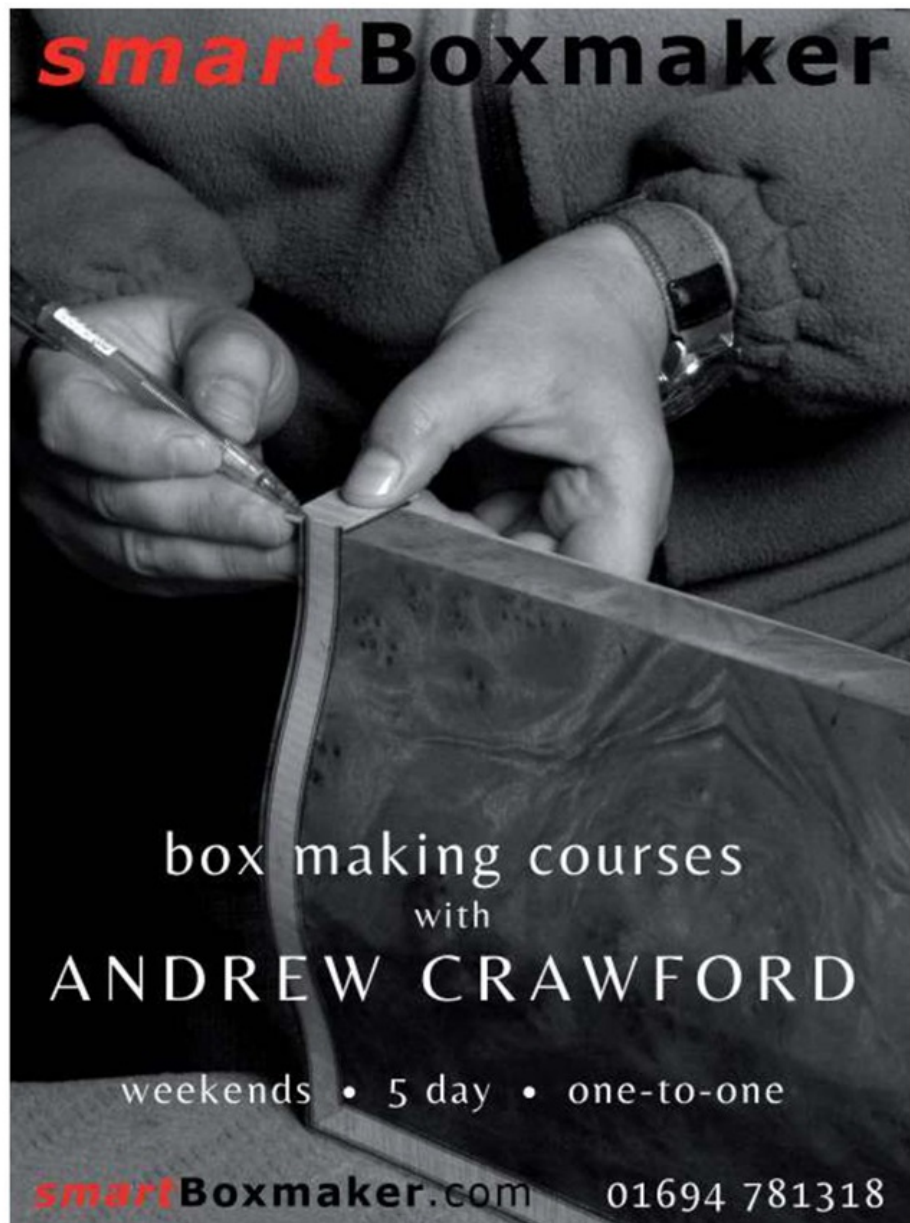
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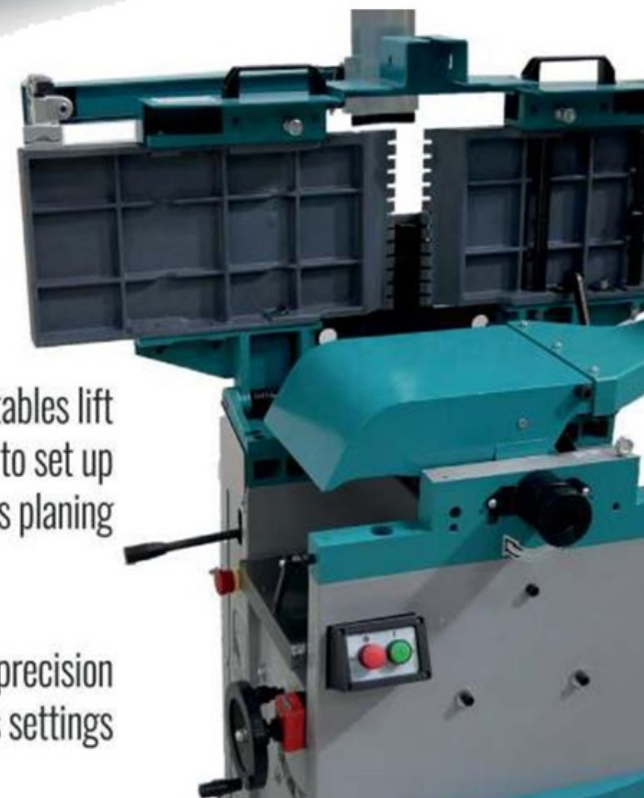


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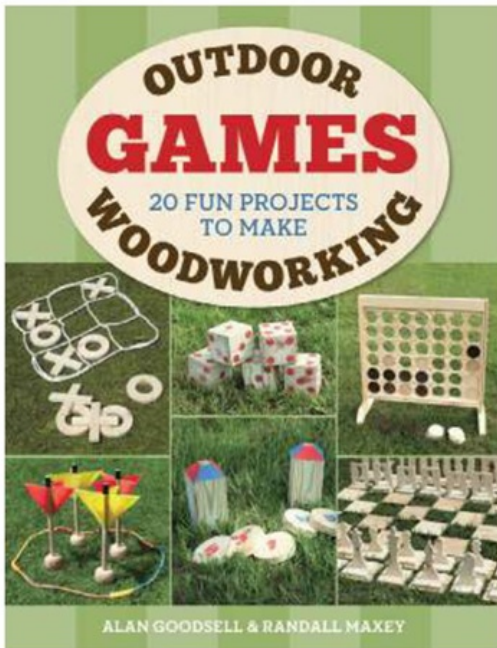
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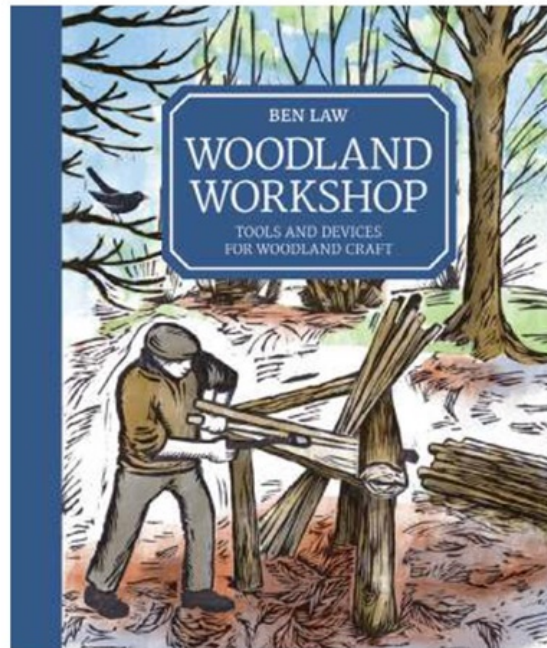
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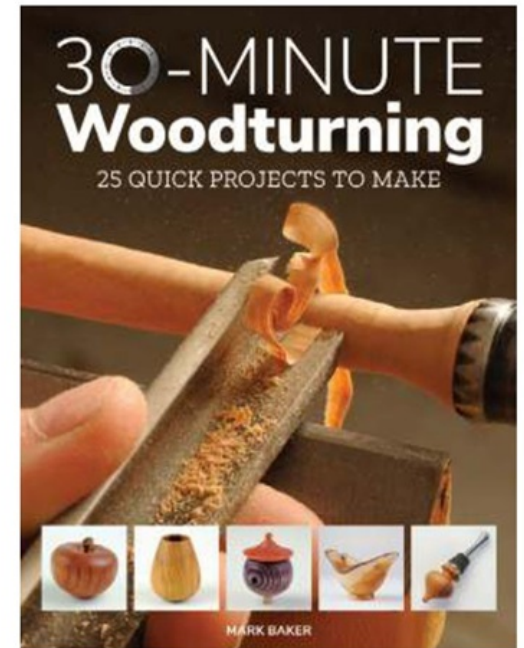
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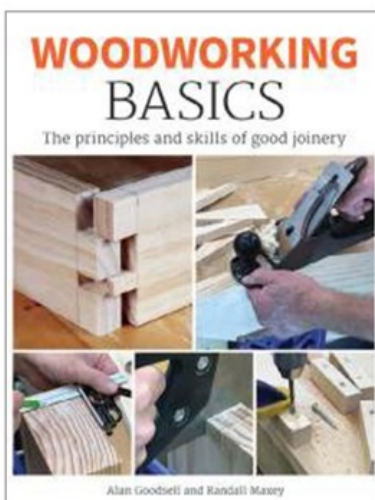
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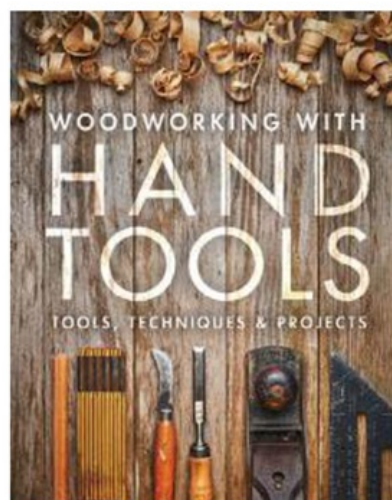
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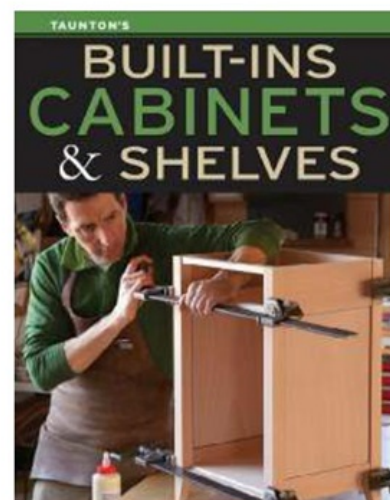
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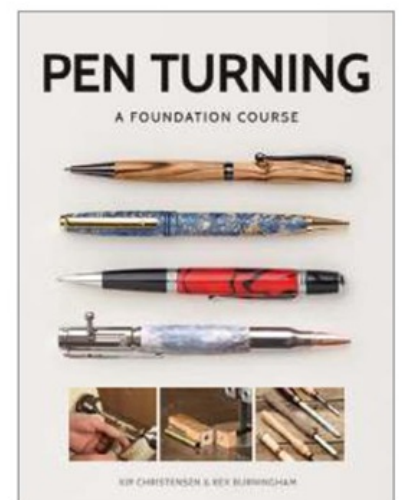
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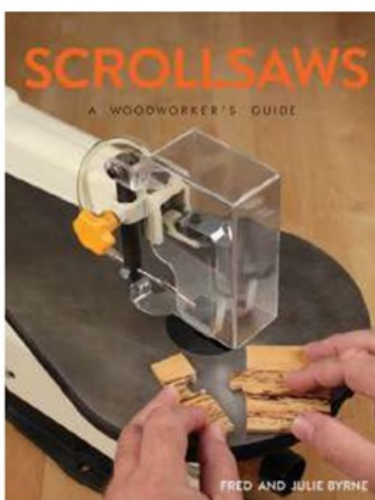
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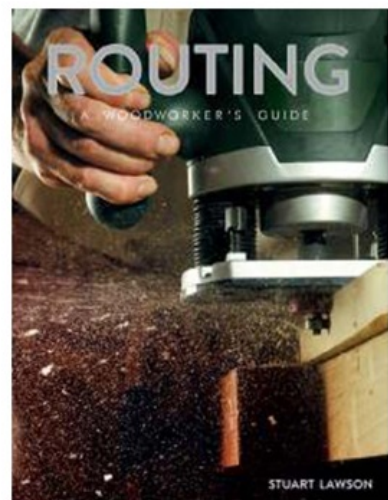
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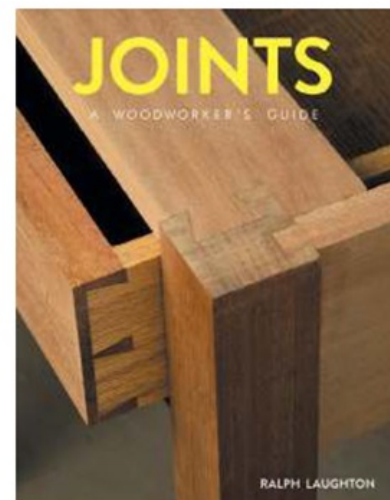
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