

WORKING WOOD BY HAND

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Quercus

Anne of All Trades The Remarkable Life Story of Woodworking's Rising Star

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Ozan Demirtas shows how he prepares a chair for Andrea Rüeger's Urushi finish (p28)



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Quercus

Prepare yourself to find exactly what's said on the tin when you turn to the Anne of All Trades pages to meet Anne Briggs. She can forge tools, make furniture, play almost every musical instrument, speak Chinese fluently, wield most building gear and raise farm animals. She is indeed Anne of All Trades. Her talents would be annoying if she weren't also so charming, and never stops smiling. You'll soon discover her remarkable rise, job by job, business by business from poverty in Seattle to founding a Nashville woodwork school in little more than 10 years.

If tools are more your thing you'll be fascinated reading The Kilted Woodworker's review of the new Accu-Burr burnisher for card scrapers. And for a more vintage approach, Robin Gates reveals the old trammels he loves, then John Lloyd shows how he makes herringbone stringing for inlay, Sean Hellman builds a special shaving horse for spoon carvers, and the Swiss chairmaker, Ozan Demirtas has a Japanese Urushi finish applied to his latest beauty.

And there are reviews of Gary Rogowski's remarkable new book, *Handmade*, plus Tatiana Baldina's *Chip Carving* triumph and a celebration of Bill Carter's online inspiration.

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Anne of All Trades & Crafts

Nick Gibbs profiles woodworking's online sensation, and hears how & why she is dedicated to teaching

Anne of All Trades, whose close friends get to call her Anne, is fast becoming the Top Cat of woodworking social media. Born in Montana, and with her parents John and Donna having been missionaries all her life, Anne spent much of her childhood abroad, from Ukraine to Taiwan, through Austria, the Czech Republic, across Asia and to China. And it was at Beijing University that she took a Business and Chinese degree. Anne of All Trades has 285,000 followers on Instagram and a hugely successful YouTube channel. Actually, if you visit her Instagram page now you might be fooled that she's no more than an animal-loving homesteader. How far from the truth would you be.

Anne moved from Taipei, Taiwan to Seattle, Washington in 2011, joining an e-commerce tech company. Within a year she'd left that world, interested instead in spending less time in front of a computer screen and more time in the garden and woodshop. She set up her own website in 2012, and as she once told Amanda Bostick in *Evergreen Results*: "The rest is history."

And what a history it has been. She's been inspired by her grandfather, Al and by her mentor Frank, and by a realisation that she was better suited to practical crafts than conventional education. "There was too much math for my dyslexic brain. Too much tedium. Monotonous work that takes too long." "For Annie it really was just not a very good environment," says her mother, Donna. "It didn't stimulate learning for her because there were too many distractions, there was too much chaos."

As well as having dyslexia, Anne has openly said she has always suffered mental health issues. "It wasn't until I was 24 that I learnt how to process information," she adds in a blog, and in an interview with Amanda Bostick she said: "A lot of the things that were challenges in young life led me to the strengths I now have."

Scarcity and Essentialism

Growing up without much excess in her household, one of her favourite books now is *Scarcity* by Eldar Shafir and Sendhil Mullainathan, which she says everyone should read, and she also recommends *Essentialism* by Greg McKeown and *Four Thousand Weeks* by Oliver Burkeman.

At five years old, Anne of All Trades started her first of the many businesses to come – Yum Yum's Bakery – selling cinnamon rolls, which she made herself, around the college dormitories nearby on a red pull-along Radio Flyer wagon. Anne's mother Donna says, regarding her daughter's problems with learning difficulties: "It was actually very rare that she ever needed very much help with her homework. She was pretty creative in finding ways around the things she needed to get done." Anne had her first job at 13, having lied about her age, and is proud now to say she had no

debts when she left university, having been there primarily to learn Chinese and Business.

Techie farmer

Dig deeper than playful Instagram posts and you'll discover the most remarkable lady, whose seemingly boastful title is spot on and as honest as one might ever hope. Her videos and blogs are full of techniques and projects to impress, inspire and educate most woodworkers. Since leaving her tech job in Seattle and starting her online business, Anne branched out into the making of beautiful furniture, spoons and chairs, developing skills that she began documenting to share with others. Anne of All Trades was founded in 2012, well named even then as she can now forge her own tools, offer businesses marketing advice, raise cattle, play the mandolin and, of course, speak fluent Chinese. Anne is an advocate of hand skills, with a strong belief in the value of community, perhaps founded in her years growing up on the mission field, and she is in the final stages of setting up a school to promote heritage crafts, and to assist people of all types, including those like herself who have learning difficulties.

Her making, filming and farming is now done in Nashville, Tennessee. Anne and her husband Adam having moved from Seattle recently. The move was inspired in part by joining a course with Greg Pennington, the chairmaking guru who cut his teeth in the chair world with the likes of Curtis Buchanan and Peter Galbert. Anne had been running her own courses in Seattle when she joined one of Greg's, to make her first of many Windsor chairs.

She had herself been inspired by her grandfather, who was an inveterate DIYer, described by Anne as a "true child of the Great Depression." Her first car was a canary yellow 1965 Ford Mustang, which she restored in memory of her grandfather. When she bought an old tablesaw that didn't work at that time, she learnt how to fix it, then sold the saw for twice the original price. "It was a money-making venture," she has said. "A way to 'trade up' to the tools I needed, because I couldn't afford to buy them outright." Anne could now become a woodworker, and began by making a bed. A few months later, she built her first workbench and documented the process on her blog, also posting about the project on Instagram. Building a social media community took her to the Cincinnati Woodworking in America 2013 conference, and there she met Robin Lee, CEO of Lee Valley. Impressed by her journey into the world of fine woodworking, Rob mentioned her in a company newsletter, which Anne considers a significant leap.

"I'm quite honoured that she says that, that we helped cultivate her," Robin comments now. "It's her enthusiasm and her passion that has made her successful. We're fortunate to be in a position



where we can give people like Anne a bit of a platform and to help them get started. She was interested in doing all kinds of things. So we got her engaged with some of our social media people and had her do some videos. She is very keen to share her experiences. It's so important for people to have access to somebody like that, because she's aspirational in a very approachable way and not intimidating at all. Anne has a sort of wide-eyed enthusiasm for almost everything, and she wants to be part of the experience of learning. She walks the talk."

QM15 Q&A: Anne Briggs

NG I believe you learned to speak Chinese at Beijing University. Why did you do that?

AB I was majoring in Business and Chinese. I wanted to be able to work in something that I knew was going to be a financially viable career to be able to support my parents as they started to age. It seemed like a stepping stone. I had never felt that I had a special skill before and if I could speak fluent Chinese I could probably get into a job where I could then take care of my family.

I learned Chinese by talking to people. I had a special carrier thing attached to the back of my bicycle that carried 24 bottles of beer. Every day, I would fill the carrier with new beers and exchange yesterday's bottles for a small recycling reward. After university classes were over I would ride my bike with the beer to this place where there was a bunch of street barbecue vendors.

The first thing I learned how to say was: "Here's a beer, I'll give it to you, if you'll sit here and talk to me while you drink it." So then I would either drink beer and eat bbq by myself while I sat there, or, you know, 24 people would come and talk to me and we'd eat and drink together and talk. I stayed every day till the beer was gone, sometimes till 2 or 3am in the morning. (You are much less worried about making a fool of yourself after you've opened a beer with a new friend, and a cooler of cold beer is a great way to make new friends.) I was having basically the same conversation with different people over and over. They all had different accents and different ways of saying things, but then I started being able to have longer and deeper conversations with some regulars that kept coming back and became good friends. Six months later, I could speak Chinese pretty fluently, but I'd also gained 15kgs from all the bbq and beer.

In 2011 you moved from Taiwan and ended up working in Seattle for an e-commerce business. What were you doing?

It is hilarious because I'm not very technologically savvy, but I am very good at following instructions. I was resolving an issue on the back end of their website. People would order things and the order would stay open, and it never got fulfilled. I was in charge of that. It was soul crushing work, but I showed up and did the work as I needed the money and everyone has to start somewhere.

I've heard you always dreamed of having a farm. Why?

When I was a kid, my parents were missionaries, so we were constantly traveling and living abroad, and we couldn't have pets of any kind. I loved animals and always wanted some of my own. When we were in the States, our home base was in Montana, and there was a horse farm up the street. I used to muck stalls in exchange for horseback riding lessons. I always said: "If I ever live in America, I'm going to have a farm," which is very funny, because I never thought I was going to live in America. When I moved back to Seattle, I thought it was very temporary. I was planning to go back to Asia. But then my recently minted husband, Adam, got a really great job in Seattle, and that trapped us there indefinitely. I told him then: "Well, if we're staying in America, I'm gonna to have a farm."

When did you start making things?

Right before Adam and I got married. We were dead broke.

Adams's bed succumbed to a hilarious gymnastics incident, while leaping around the room singing 'Wrecking Ball' by Miley Cyrus, and we didn't have the money to buy a new one. After that it was garden beds, and it was downhill from there.

How did you afford to buy tools?

I couldn't at first. We were literally counting pennies to get gas or pay tolls to get to and from work. But we needed some furniture we couldn't afford to buy. I said to myself, "Okay, well, I'm gonna see if I can scrounge up some tools." I helped some neighbours, and in exchange for cleaning out their garages, they gave me a few tools which I then fixed up and I flipped on Craigslist [an international classifieds site]. I eventually built a working toolset by keeping the fourth or fifth thing that I had fixed and resold and I finally started building some stuff of my own.

You've mentioned having a woodworking mentor in Seattle.

His name is Frank, and he is 101 now. My Chinese tutor said that her friend at Starbucks was a woodworker, and she would love to introduce me. She took me over to his house, and he actually made these incredible vases and had built almost everything in his whole house. That day, I was like, "Hey, would you be willing to let me come and watch you work?"

And he said: "No." So I said: "No problem. I'm gonna leave my number so if you ever need any help with anything, if you want me to come, like help you clean your shop, or if you need help moving any heavy tools or anything, please call me." Then six months later, he called and he said, "You know, I just found your number. And I was thinking about it. I've been woodworking for 60 years. And when I die, everything that I've learned in the last 60 years is gonna die with me unless I show someone else. So are you available on Tuesday afternoon?" And then every Tuesday afternoon for the next four years, we got together and he taught me so much; about woodworking, about gardening, about life.

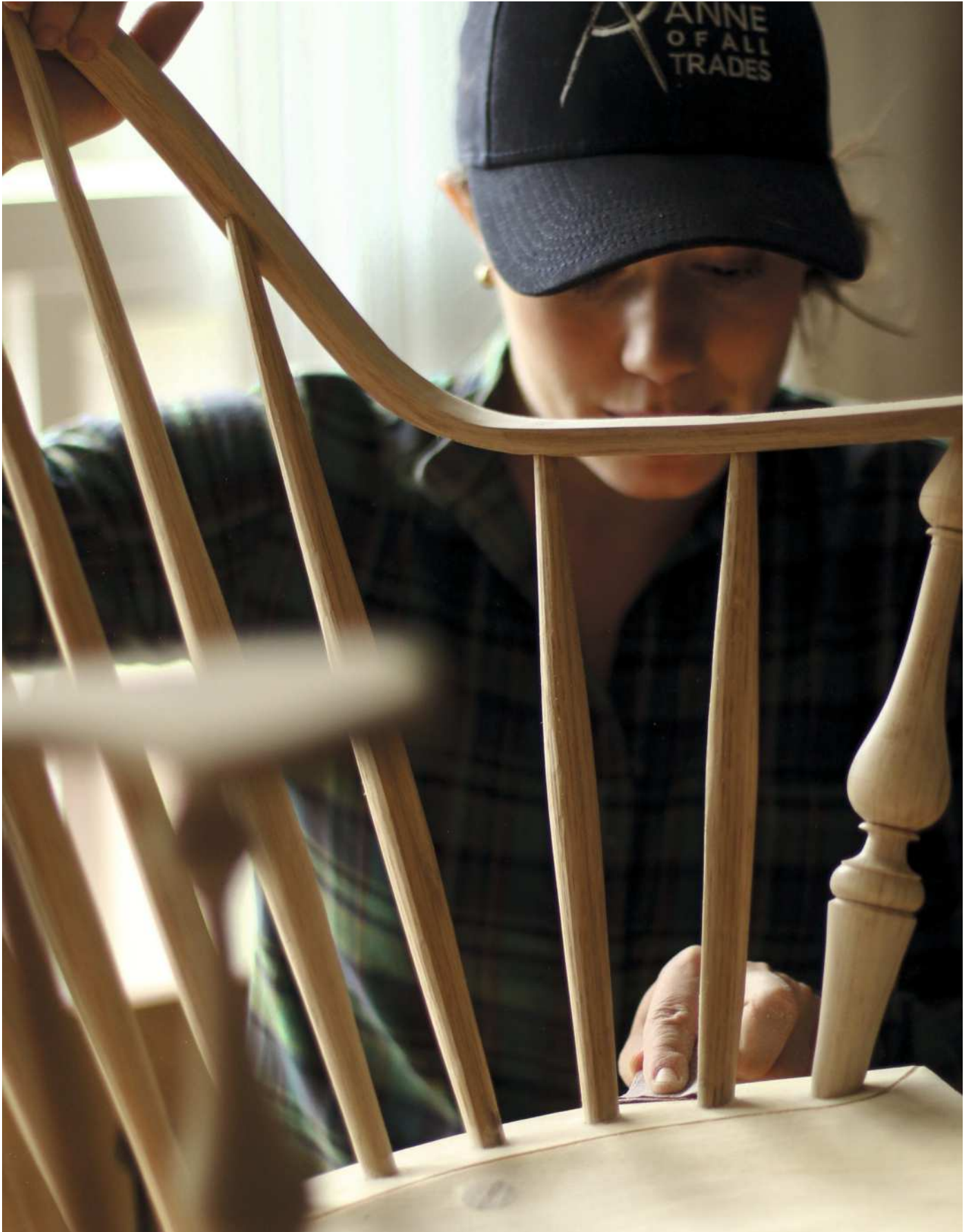
I read somewhere that you were woodworking in the laundry room.

When we were first married, we started in a proper city house, with just a small yard. And then we moved from there to our first farmhouse in 2015. To call it a farm was kind of a joke. It was significantly smaller. It didn't even have a garage, but it did have a useable acre of land and some broken down outbuildings I knew I could fix up over time. So I was working out of the laundry room in that house for two and a half or three years. I slowly rebuilt one of the buildings on the property and turned it into my shop.

How did you come to work for Pratt Fine Arts Center in Seattle?

In 2015 I was hired at Pratt to run their woodworking programme. They found me in a roundabout way through Instagram. They needed someone to fill the position as studio manager. They are a multimedia, multi-discipline education facility in Seattle, Washington. When I was first hired there, it was really struggling financially because they weren't able to fill their classes. And so I took the job, even though I had never even taken a woodworking class. (I'd wanted to, but I couldn't afford it.) I had been building custom furniture for clients, but that business had failed because I wasn't able to build things to the quality I wanted to build them at the pace I'd need to replace the income of being gainfully employed elsewhere.

I felt very unqualified for the job at Pratt because everyone else that worked there had a Master's in Fine Arts, and were accomplished artists. During my first team meeting there, they'd asked each of the studio managers to bring a slideshow of our favorite pieces, and they wanted us to talk about which museums we had been shown in. Everyone else was talking about all these famous museums. And not only was I 20 years younger or more than most everyone else in the room, I also was like, "So I have this piece, and it's in my Mom's living room. And this one's in my



Mom's bedroom. And this other one's in my Mom's kitchen." It turns out, though, that the reason that I got the job was because I realized that they had a marketing problem, not a knowledge gap problem. I was really excited to rise to the challenge and build the woodworking programme I wished I'd had when I was first getting started. When I started woodworking, I couldn't afford to take any classes. In fact, I was actually granted a scholarship to go to the Port Townsend School of Woodworking, but I couldn't afford to take the time off work to attend. I built the curriculum I wanted to take, hired the teachers I wanted to learn from, and eventually got to take all the classes, which was an awesome side benefit of the job. And I was introduced to two of my favourite woodworking teachers of all time, Tom Henscheid, and to Steve Dando, who also ended up becoming good friends. Steve now comes here [Nashville] for a month or two every year so we can build furniture together. He has taught me so much about woodworking and blacksmithing and how to get things done. Ironically, what we're doing together right now is finishing all of the projects that I've started over the last several years that have accumulated while I'm trying to build the school and run the business and run the farm, and it's just not, as you know, conducive to the same level of productivity I used to enjoy.

And it was at Pratt that you began making spoons?

I started carving spoons in my first garage workshop nine or 10 years ago, but I'd never got very good at it. When I was working at Pratt I met Tom Henscheid, who taught me to be a much better carver. Tom is actually a big member of the spoon carving community, and often participates in Rise Up and Carve. Tom taught a lot of spoon carving and hook knife forging at Pratt, and I would take every one of Tom's classes that I could, because he was just such a great teacher and such a joy and a pleasure to be around. In 2018 I started making a few videos about the different methods that worked well for me. And those did fairly well. But I didn't really get into spoon carving until the Pandemic. Spoon carving has a funny way of giving you the opportunity to teach everything you need to know about woodworking on a small scale. I love sneaking in hidden lessons; the kind of things no one actually ever wants to learn, but they actually need to learn topics they might actually enjoy. It's not exciting, you know, to learn about grain direction, or how to sharpen your tools. But you can sneak all of those important lessons into spoon carving. And because I was working alongside one of my friends who was a very, very good spoon carver, spoon carving just seemed like the very easy, natural way to help people have something to do at home with a limited toolkit during the Pandemic, which also helped keep my business afloat while we were continually facing rising costs and unexpected delays on the school that I'm building here [in Nashville].

One of the things you've said is that you started a business that failed miserably in 2014. Which one of your many, many businesses was that?

I wanted to build high end furniture for clients that was built with hand-tools only. I see you're already laughing, so I feel you understand why that business failed. I would say I had a beginner's level of over-confidence in my skills. I was building quite nice, beautiful furniture, it's just that my skills weren't advanced enough to be able to build it as fast as I would have needed to pay the bills, and I didn't yet have the chops to attract the kind of client that would pay the kind of prices I would have needed to charge to actually make that business work in the long run. I've always said that the reason I had to quit building furniture for clients and go back and get another 'real job' for a while, was my last consultation for this lady who was to have several pieces of furniture built. "I have very high-end taste," she said. "I want it to be mahogany, with dovetails only, etc..." I

dumbly had six meetings with her, did designs and everything and then found out at the end of it that she wanted to pay me \$40 for the completed project. Nice.

Did you have a name for your business?

I've called everything I've done since I started building things Anne of All Trades. It wasn't meant to be a boastful name, but rather a nod at the quote that had been used as an insult towards my varied interests in life. It was only as an adult that I found out the full quote was "a jack of all trades is a master of none, but oft times better still than a master of one," which was actually really empowering, and a message I wanted to use for whatever platform I started building, to share.

When I realised the custom furniture thing wasn't going to work out I immediately went and got another job working for another tech company that was doing fire and security. But ironically, I had a tonne of free time at the job. That's when I started getting really serious about growing my social media following. All my work would be done and I thought that's okay, I'm still sitting here and I'm gonna use my time well, so I did. It was while I was working there that I was offered the job at Pratt, where I stayed until I quit Pratt on January 1 2018. I've been full time with 'Anne of All Trades' ever since. But I would also say that I would attribute any of my success that I have to the fact that I've never been too good to do anything. I'm willing to take risks, like working for myself and changing my business structure when I feel it needs to change, or pivoting when I need to pivot, because I am a hard worker and if I need money I can always just get another job. I've worked on a fishing boat. I have cleaned bathrooms. I have waited tables. I've tended bars. I've had every job you can possibly imagine. If you need money, there's always a way to get it.

In 2017 my friend took me aside in a bathroom at a woodworking conference and told me about how she was using her blog and social media to market on her own behalf for several side businesses she was running on her own, and I realised for the first time that building custom furniture wasn't the only way I could make money as a woodworker. She told me how she'd just quit her job to do her thing full time and it was really working out. So six months later, I quit my job at Pratt to give it a go on my own way too, and I've never looked back.

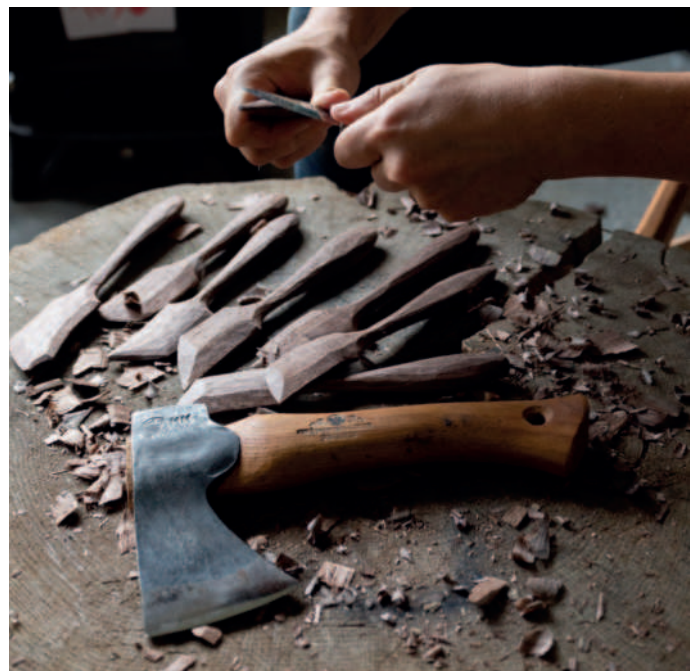


PHOTO JUSTIN MARIE



Flying Back to Showtime

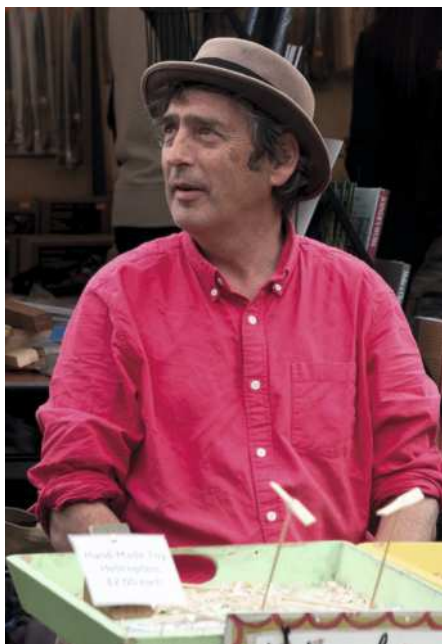
At last *Nick Gibbs* is back on the road to meet old friends; selling helicopters & sorting a timber cache

One of the reasons we launched *Quercus* was for me to catch up with more of my old woodworking friends, either by email around the world, or all the better at shows. Despite having personal friends, I felt lonely. The 2015 Festival of Wood at Westonbirt Arboretum, coincided with my failed attempt to keep *Living Woods* going, and my beloved magazine (still my favourite ever) had to be passed on thankfully to Woodlands for Sale, who still produce a digital version.

We had small stands for *Quercus* at the Oak Fair and the Wilderness Gathering in 2021, both enthusing, and both their first since Lockdown, but it was particularly special to be at *Weird & Wonderful* this year, and the Wood Fair at Bentley in Sussex in September.

These two mark the extremes of woodworking shows. The Wood Fair used to be applauded for representing woodland crafts, wood-based businesses and forestry for woodland owners. It was perhaps the most significant of all shows, with the broadest range of interests covered, held in an area of Britain full of woodland and woodworking activities. Sussex is noted for its plethora of small enterprises relying on the supply of materials from woods, in particular chestnut and hazel, with the county comprising a jigsaw of small farms and rented land.

Suffolk on the other hand is an arable part of England, with East Anglia best known for its flat land and large farms, producing anything from root vegetables to wheat. It is considered the bread basket of Britain. You see fewer trees, but as everywhere these days, there is still enthusiasm for heritage activities loved by *Quercus*. *Weird & Wonderful* was always one of our favourite of shows, so it was a thrill to be back, seven years after our last attendance. It was there that I started making small wooden helicopters for visitors to fly. Recalled by so many woodworkers as toys from a more austere era, these sycamore key replicas are



Selling helicopters at *Weird & Wonderful* Wood. Photo courtesy of John Waters

proving to be the sort of simple crafts the video games generation surprisingly loves.

For some reason the weather has always shone on that splendid show, and helicopter business has always outperformed subscriptions. This has been true of so many events, our diminutive tent and raised bench a regular feature. *Weird & Wonderful* 2022 was as joyful as Bentley's Wood Fair this year, turning out to be a reminder of times past. Highlights were having Gervaise Sawyer and Mitch Peacock opposite for a day, and finding Alan and Jo Waters in the woods, showing how they make bundles of kindling the traditional way. Along the tree path you can find stalls selling home-made pencils, producing hemp yarn for knitting and crochet, and cooking pizzas in a wood-fired oven. But it was meeting friends and joining the party of visitors that I found so enthralling, not to mention sales of

helicopters, which are smaller now so that I can sell them anywhere, even on the streets as I have a Pedlar's Certificate, which allows you to sell anything you make yourself in any public space.

More recently I was asked by Classic Hand Tools to nip down to the late David Charlesworth's workshop on the north Devon coast at Hartland. Though I'd never taken a course with David, in fact I'd never even visited Hartland before his funeral, I was fortunate to have seen his workshop as a time capsule. Since then Classic Hand Tools have taken the tools back to their Suffolk base, to be sold at the Harrogate Show, or online, sharing the proceeds with David's family. As part of the deal, Mike Hancock and the CHT team had kindly offered to clear the workshop of everything, including a mezzanine crammed with wood.

The plan is to have a timber sale in Devon, but in the meantime Mike had to sort the boards into a manageable display. It was quite a process, the stash finally being divided into English, American and exotic species. These included some baulks of 5in of perhaps bubinga that David bought ready for building benches with students on long courses, which ended some years ago. It was a long day's work, and who knows when a sale will be held, but it is always a joy to spend time again with CHT, especially as they bought supper.

Sadly, I wasn't able to attend the Vintage Tools Extravaganza at the marvellously named Carlton Scroop in September, where the Stanley Auctions crowd would have been meeting, viewing, buying, selling and hopefully eating (as ever) Sarah Carter's cakes.

And if the next show after the Harrogate Woodworking Show from 11-13th November is in January there is a chance *Quercus* may be away in Sri Lanka. Jane and I went there last year, ostensibly for a break from a British winter, but ultimately to explore the local crafts. Travelling from place to place is adventurous, especially

Nick Gibbs, England



Out and About

To prepare a timber sale at David Charlesworth's Devon workshop, I helped my old friend Mike Hancock of CHT (above right) arrange boards (above left). CHT are set to sell some of David's finest tools, like a Holtey plane (above), either online or alongside a display of numerous other items at the Harrogate Show in November. The Wood Fair at Bentley had old tools on the Old English Tools stand (left), Alan Waters making pimps with battery-powered shears (right) and the late Tony Murland's stock being sold by his daughter Harriet (below left). It was a joy to find Steve Woodley (below) at W&WW, where Richard Arnold picked up a rather special Windsor chair he is yet to identify (below) but sadly I wasn't able to reach Carlton Scroop for the Vintage Tools Show (below right)



these days when one can book a room at the last minute with Airbnb. My girlfriend Jane and I had hoped we'd be able to stay for a longer period in one place to experience life beneath the 365-day veneer of tourism in Sri Lanka. Not in my wildest dreams had I imagined I'd be making a dovetailed box in the carpenter's workshop of a fine furniture maker, watching him at the Sri Lankan alternative to a bandsaw. I'd seen similar giant fretsaws, made from wood, in other workshops without realising they're standard issue for woodworkers in that part of the world. By the end of our trip I'd made a small box for a Lie-Nielsen block plane, Jane had found a maker of lamp bases for her design enterprise and we'd made some life-long friends.

Trays and lamps

Jane has a business, Bloomsbury Revisited, celebrating the Charleston style of the 1920s and 1930s. Already an artist and potter, she began by making bespoke lamp shades, but sales have been so high that she and her business partner have them printed, and are now looking for other products. They started having lamps made, which have been hugely popular, and have been considering other products they might have produced, including in particular, painted trays. Having spent a sudden week at La Kurumba restaurant/bay on the West Coast of Sri Lanka, 50 miles south of Colombo, we got to know locals well enough to explore craftspeople and antique shops around Ambulagodda, where we were staying. Sampath, a dealer of reclaimed wood from properties destroyed by the 2001 tsunami, has numerous contacts around the town, and took us to workshops in his three-wheeled tuk-tuk. It is a fabulous vehicle, with hundreds of them, plus scooters, 100cc motorbikes and large Leyland buses contesting for space in the Banger Racing track that purports to be urban, suburban and rural roads everywhere in Sri Lanka.

In Sampath's Piaggio tuk-tuk, we found one company that specialises in painting the furniture and items they make. Amongst their other products, Jane came across a stack of trays, that were beautifully made and decorated. We were both impressed by the accuracy and neatness of the complex mitres in a splayed tray. Jane discussed the cost, and we left with an email address for further bargaining. But it was not enough for Sampath, and he was sure another friend could better the price. So we visited Raja, the 'wood man' Sampath was recommending. In the scruffy, ill-equipped workshop, one couldn't help wonder how this would turn out, but asked for three trays to be made as a trial run.

Meaning small coconut, La Kurumba



With Raja and the complete lamp prototype and my 'dovetailed' box

has rooms to rent, and we'd been offered an amazing one at a generous rate for a fortnight because the hotel part of the idyllic, coastal site is still being built. As a 'thank you', Jane took to decorating their beach bar, while I was left with nothing to do except writing and working for the next issue of *Quercus*. So I arranged a morning to spend with Raja, making a box that might inspire entrants to our Young Woodworker of the Year challenge, designed not only to display a Lie-Nielsen block plane, but also to hold small cigars, called beedis, in the bar. Though a committed non-smoker, I came to love these low-rent, holiday roll-ups, in a 'when in Rome' way.

Having nothing by way of clamps, dovetailing seemed the logical solution when it came to joints, but Raja has very few tools, nor a good bench, and yet makes beautiful furniture, which he has done around the world, most recently Dubai. I had to rely on a hacksaw and an engineer's vice. In keeping with a local look, the tails were laid out roughly for spacing and angles. From the tails the pins could be marked out, with nothing but a coarse pencil, and the whole thing banged together with no more style than my schooldays. I learnt how to hold dovetails with panel pins while the glue goes off. Two-part epoxy is used exclusively in Sri Lanka, which buys you plenty of assembly time, but takes an age to harden and is a nightmare to sand. But the making was fun and the results were acceptable, especially once any gaps had been filled. We found a piece of driftwood as a knob and buttons as feet to raise the box off the

bar, which Jane quickly decorated as a gift for our new friends at La Kurumba, where we hope to visit many more times.

In fact, the plan is to go that way again in January coming, to meet our friends again, to travel further around the island, to bring some money to the ailing economy (without putting pressure on their supplies), and recently I've offered to give a magazine editing session at the Sri Lanka College of Journalism in Colombo, obviously for no charge.

Nick of All Trades

Adding this to my career brings to mind the many jobs that have dropped off my CV, particularly as Anne Briggs and I debated on Zoom the other day who'd had the most jobs. So here, Anne of All Trades (and my children), is a list, in chronological order (not including those that have been repeated) of my vocations. Just as Anne did, I started aged 13, in my case as a farm hand, then went on to be a pub pot boy and professional woodturner before going to university. The journey has been uninterrupted since graduation: shop assistant; car park attendant; despatch rider; freelance journalist; barman; painter & decorator; door-to-door shirt salesman; carpenter; magazine editor; editorial consultant; public speaker; golf course replicator, and publisher, followed then since a cycle crash closed my publishing company as shutter fitter; pedlar; kitchen porter; warehouseman; groundsman; assistant tree surgeon; maintenance man; canal boat joiner; and Deliveroo rider. I think that's 25 jobs, though of course now I'm a re-conditioned editor if that counts.



Woodworking in Sri Lanka

It is very common to find these long-throat fretsaws (above left) as a substitute bandsaw. One was used (left) by Raja to make a prototype lamp base for Jane to order as an import to sell on her Bloomsbury Revisited show stands and online. The first batch of 10 arrived recently. Having done a short dovetail-cutting course with Bill Ratcliffe, I felt sure I could make a small box (below left) with nothing but a handsaw and a chisel in Raja's open workshop. With no cramps, Raja showed me how to glue up the dovetails with pins that were then punched below the surface (below) and filled.



The Crowning Technique

Challenged to restore an old cupboard, *Martin Sturfält* learns how to use moulding planes

Not so long ago we were given a run-down cupboard that had been modified to fit in a low cottage. My father-in-law remembers it from when he was little. It had been gnawed by rats and was in a ropey shape, but was originally a pretty cupboard, so I started doing it up. In reducing the height of the cupboard the original cornice had been damaged, but I noticed that some sections were still fine. So I carefully took them all off, taking care to preserve the hand-forged nails.

I sawed off a section of this cornice where it was at its best, and used that as a profile to guide me when I was making the new one. I marked it on the ends of my blank, and then I got to work with some moulding planes, but not complex ones for planing an ogee, just hollows and rounds and rebate planes from a box of 15 I had bought on an auction site. I have quite a number of hollows of various widths and dimensions now.

I used a marking gauge to run a line into which I could drop the corner of a rebate plane and created a V-shaped groove. All you need is something to guide your moulding planes for the first few strokes. Straight grain also helps, and you can use your fingers as a kind of fence to keep you on track. Finally I used a card scraper and sandpaper for the finishing touches. It was an interesting learning curve. I was surprised how smoothly it all went, and I like to think I managed to do a good job, replicating the old profile using those hollows and rounds.

Though they had fortunately not damaged the door, the rats had gnawed holes all along the bottom of the cupboard, around the base, and I somehow needed to disguise them. So I made a new base along the same principles as the cornice, which also added a nice bit of symmetry to the whole piece.

I stained the base and the cornice black, but the rest of the cupboard already had a dark brown finish, possibly milk paint. Our initial idea had been to scrape that down and re-finish it with an antique green linseed oil paint. Then I began to scrape the cupboard and discovered a flamey appearance. I said to my wife Karna that, you know, if we just slap some BLO on that, it might actually look really nice.

Butterfly doors

The door panels were cracked down the



centre. I didn't feel like taking the door apart, and as I was planning to paint the cupboard I added butterfly joints to join the cracked panels, not worrying they would be seen. Then we had second thoughts, preferring to see the character of the wood, and we decided against painting. This leaves the butterfly joints visible but they are a nice feature, adding something to the old cupboard's story.

The cupboard is all pine. This is Sweden, where everything is made from pine, unless it is extremely prestigious or needs to be very durable. Then it might be made out of oak, but pine is used 95% of the time, particularly for simpler furniture, as there has always been an abundance of high-quality pine that is easy to use. You do have to select your materials carefully



The renovated cupboard (left) in position in my new house. Gluing up the cracked door panel. Luckily the raised panel enabled me to add some clamps to aid the butterflies in re-joining the panel (above). Salvaged, hand-forged nails (below), de-rusted, oiled and ready to use to attach the new cornice



though, as you need straight-grained wood for the cornice, completely without knots, for working with moulding planes, unless you want break-out. I'm extremely fortunate because I have my own supply of timber, coming with the farm we bought. There is a lot of stacked wood that had been milled with a Logosol chainsaw mill. My wood must have come from a huge tree, with tightly grown grain. It had been stored outside, and I chose bits with spalted sapwood, which had turned blue because of a sort of fungal growth.

I made my winding sticks from the same piece of pine and they are super stable, so I thought the timber must be worth using for the cornice. That is exactly as it proved to be. You can find out how I made the winding sticks next issue.



Dry-fitting the newly assembled cornice (above), stained and oiled (right)



Moulding the cornice profile by hand

Having marked the profile onto the ends of the blank (left), use a saw and/or plane to remove as much waste material as possible. Pencil lines (above) along the various high points of the profile act as a visual guide while planing. Using a marking gauge to strike a line near the centre point of the hollow part of the profile (below left). Drop the corner of a rebate plane into the gauge line and deepen it into a V-shaped groove (below). By angling the round moulding plane (below right) in various ways, the entire hollow can be shaped. Any round part of the profile can be shaped with rebate & moulding planes in a similar way.



Reaching for the Stars

Testing his woodworking ambitions, *Justin Emrich* tries adding an inlaid star to a trivet project

What does woodworking mean to me? I've been pondering this question ever since I took up the hobby during Lockdown. From humble beginnings I wrote about in QM13 when I banged a few odd bits of wood together, to now where I revel in the tight fit of my dovetails, why do I do it?

I think the answer lies simply in the creativity of it all. I love turning nothing into something with just a few hand tools.

One of my projects started as a challenge – It was a tall, angled bookcase known as a Shoreditch, but it wasn't until I tackled the two drawers at the bottom which needed very careful fitting and dovetail joints that I started to enjoy it.

Yes, working out how to put it all together was an interesting challenge as I wasn't following a specific design (just a picture from a website), I had to work out the angles etc, but there wasn't much creativity in the project.

Contrast that with making the star inlay on my craft box, wow that was something fun to do. One slip of the chisel or hand router and I would have ruined the whole box.

The first time I attempted a star inlay, in fact any inlay at all, I naively thought that I could just draw out a five-pointed star, divide it into 10 pieces of paper, cut one piece out and use it as the template to cut 10 thin strips of wood to size. When I tried that, all went well until I got to piece number 10.

Not a chance would it fit into that tiny gap. It was then that it really dawned on me that accuracy to within 0.2 mm was needed. That's tough to achieve with 10 tiny thin strips of wood. I needed to start again with a much finer pencil and a more accurate template.

Attempt two was much



better. I used a really interesting wood called Panga Panga that I found at Surrey Timbers. Using my paper template, I used a knife to mark out the lines, and then using a small Japanese saw, cut out my 10 pieces. Thickness varied a bit, but nothing that a bit of chiselling couldn't sort out.

Once I had my 10 pieces, it was then a question of trimming tiny shavings until I got a snug fit for them all. Then time to glue them all together.

Once happy with the star, it was time to find a nice piece of wood to lay it into. I was aiming to make a table trivet so I used a piece approx. 10mm deep, 150mm square.



Preparing to route the star for inlaying, using a Cowryman router

I found a piece of walnut which is great for carving and routing as the grain is so close together, you can get really accurate shavings.

Time to mark out the star with my super-fine Pentel Graph Gear 1000 pencil, cut the lines, then chisel the edges, then rout out the inlay. Once I had the necessary depth, it was a question of more shavings to achieve a snug fit. The top tip is to mark one of the points so you quickly know the orientation every time.

It's then gluing and clamping. I clamped it once really tight, then took the clamps off and wiped away all the surplus glue before clamping again. I would never have got the clamps off otherwise.

The final touch was shaping the trivet with some nice edges, and then finishing with shellac and water-resistant varnish, and some felt feet.

My day job is IT transformation for a financial business. It's interesting, challenging, and stressful at times. Home life is rich and varied with lots of travel, sport and local community activities. But none of that was satisfying my craving to be creative. To make something from nothing.

Teaching myself woodworking and in particular the satisfaction of just using hand tools has scratched that itch. Friends ask me why I don't use power tools? That misses the point. That would be sensible if speed and the end was the purpose, but for me it's the journey that is the purpose. I guess that is what I also enjoy through my work. It's not all just about the end result, it's problem solving along the way.

I don't really relish repeat projects – well maybe one or two as I'll have worked out the kinks and corrected my errors by the second or third attempt, but when Mum asked me to



Getting ready to start routing out for the inlay

make her four dining chairs the other day, I politely declined. One would be fun, perhaps two, but four? No thanks Mum.

So where next? Honestly I'm not sure other than filling up the house with more wooden creations. But then again maybe there will be an opportunity to pass on to others some of the skills I've picked up. Maybe there will be restoration projects. I love watching Will Kirk on *The Repair Shop*. Maybe someone will teach me how to monetise social media and that will lead somewhere. Maybe I'll sell a piece or two, but I doubt it. What I do know is that working with wood has a strange addictive fascination. Fancy taking a flat piece of wood that wouldn't get a second glance and turning it into something special. I know I'm preaching to the converted or else you wouldn't be reading this in *Quercus Magazine*, but as retirement from full-time work is over the not-too-distant horizon, maybe I've found something mentally stimulating to fill the gap that work will leave one day.



Preparing the paper star template (above) and marking for the first cut (right). Cutting the 10 segments with a Japanese saw (below). Tools on a neat workbench (below right)



pic4



The finished star. The pencil is a Pentel Graph Gear 1000



The star inlaid into a trivet

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Spoon carving devices

Sean Hellman, the author of the bible of horses, shows how to make a device for spoon carving

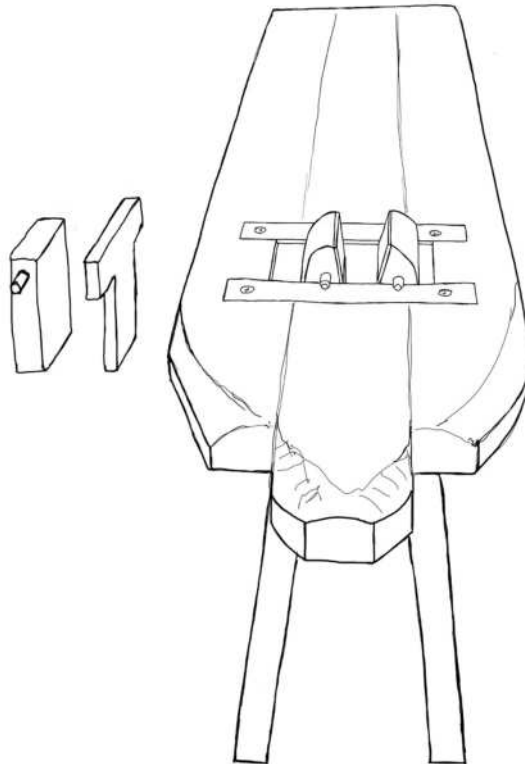
One of my favourite devices is the shaving horse, used with a well-designed drawknife. These devices have been in use for centuries. The shaving horse is a foot-operated vice on which the user usually sits to operate it. They are made from wood, either with branches found in the hedgerow or coppice, or from felled timber, or from bought 2x4in softwood from the timber merchant or sawmill. I love their simplicity and efficiency. A bench vice may sometimes have stronger holding and gripping abilities, but changing the position of the wood held within them can be slow, and awkward at certain angles.

I prefer to use a shaving horse or bench horse (a shaving horse that is attached to a workbench, rather than freestanding) to hold the wood when using sharp tools. There are several advantages. Both hands hold the tool so it is unlikely that you will cut yourself. There is less strain on the body: two hands, and arms, share the work. The shaving horse is faster. That's not an issue if you are making spoons or other small stuff for fun, or are working leisurely for yourself, but for making a living by selling your own wares, then time is money. It is necessary to produce as fast as is possible, and a drawknife and clamping devices enable wood to be removed faster and worked more easily with larger, thicker shavings removed. And you can make your own device to best suit your work and physical dimensions.

There are many different styles and designs of shaving horse, but this article is about the spoon horse which is a work-holding device often used, but not exclusively so, by spoon makers. I first came across them via Jarrod Stone Dahl who found one in a museum when visiting Sweden. It can be made in a similar way to a traditional shaving horse with a bench upon which the user sits, and a platform attached to the bench is raised above it. The spoon vice can also be designed to clamp onto a workbench, which is especially convenient if space is limited.

It is operated by sitting, facing the raised platform, which also has two long, thin lever posts attached. These are pivoted on or in the platform, with the bottom of the lever posts touching the outside of your shoe at the heel or lower leg. The billet being worked is then held onto the platform by clamping action between two

Fig.1 The spoon bench horse



jaw-like ends at the top of these lever posts, as the feet are pivoted or the heels are pushed outwards to tighten them.

Pros and cons

For small diameter work, this is one of the most versatile vices as wood can be worked at both ends, without turning the billet around in the jaws. A traditional shaving horse design covers one end of the workpiece, with the jaws. The lever advantage is probably the highest out of all shaving horse styles, sometimes of up to 30:1 ratio. The disadvantage of this design is that unless you want to make bigger platforms, the billets held in the jaws are usually no more than 1-3in wide, so using them for larger or round items can be challenging.

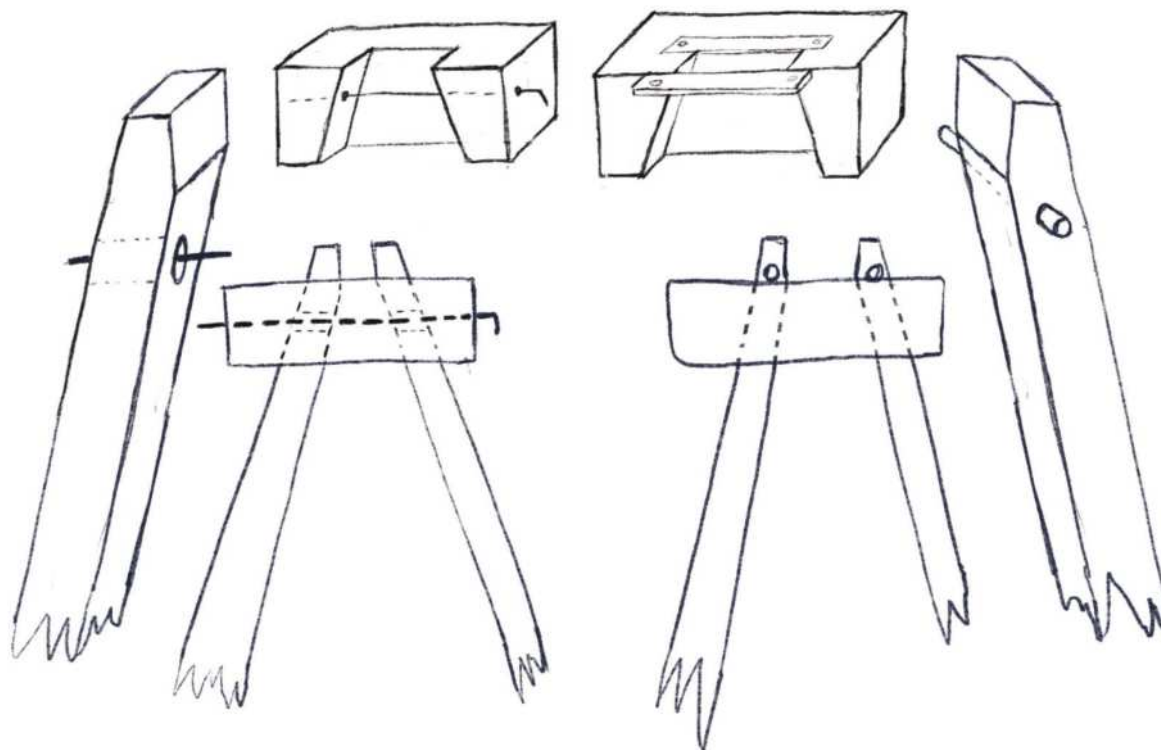
The most common way to hold the two-leg lever posts in place, I have seen, is by using a piece of wire inserted through a

hole made in the platform, near the top of the lever posts.

This works well until the posts are to be taken out and put back in again. The wire is easily bent and pliers are required. Re-threading can be awkward. I like to take the lever posts out for easy storage when not in use so I came up with a new solution of using 1/4in rod using 6in nails cut to length (Fig.2, Pic.5 & Pic.6). I can remove them from the platform just by lifting them out, and they can then be dropped back into place instantly. I used this method for my Easy Rider shaving horse, designed with a spoon vice built into the platform. The wire set-up proved problematic, and this solution makes swapping from spoon vice to shave horse within a few seconds, effective and convenient.

I made the bench spoon vice (Fig.2) from one 9ft10in length of 2x3in planed-all-round (PAR) softwood from a shop. You

Fig.2 How the leg lever posts are suspended in the platform, using wire (left) and 1/4in dowel (right)



can use a wide plank of wood instead, but cutting the hole for the lever posts is easier if you glue the three pieces for the platform together.

The spoon vice (Pic.2) is made from leftover wood from my workshop. The bench is 1in thick Douglas fir, reinforced at the legs by gluing and screwing small planks underneath the bench. Douglas 1in thick on its own, unreinforced, would probably not take the strain, and would in time crack.

Building the bench

Make the bench first. This is usually best at about 16-20in high and about 40in long. I then make the centre post of the spoon vice. Here, I used a short section of wood at 3x4in. The height should be just up to the elbows when sitting with a straight back. Make it higher rather than shorter, then if it's too high it can be cut down to size. This post is held in the bench by a through-tenon which is wedged. Using a 1in diameter drill bit, I drill a hole through the tenon, the centre of which is at least a couple of millimetres higher up the tenon than the thickness of the bench.

The second and lower hole is drilled at

an angle of about 20°. The small amount of wood between the holes is cut out with a chisel. Making a tapered mortise is quick and simple. Cut a wedge to fit the mortise, then round over the bottom edge of the wedge. This is far quicker than squaring the bottom of the mortise.

The platform that holds the lever posts is made around the top of the post. I used 3x3in timber, but you can use what you have to hand. The beauty of this three-part design is that no through-mortise needs to be cut in a solid plank of wood, but only a rebate into the insides of the two side pieces. These are then glued together and a 1in hole is drilled through the platform, and the post with an oak or similar dowel is then inserted to hold it together.

The leg lever-posts are made from ash of about 1¼-1½in, in square lengths of wood. The gap between the jaws is about 2⅓in. If the workpiece is only ⅝in wide, then the lever posts will need to be pushed so far out that any one would think you are a champion manspreader. It is not practical or comfortable. To overcome this, I make small inserts to move the top jaws together. Try one at ¾in thick and ⅝in thick, and if the gap between the jaws

is still too large then make additional or thicker inserts.

I used to make these inserts in T-shaped sections so the cross bar of the T would stop it from falling straight through the hole. I now cut them from wood that is the same width as the lever posts, and insert a ¼in round bar through them. I hang them on pegs on the post that the platform is attached to.

As I say in my book, *Shaving Horses, Lap Shaves and Other Woodland Vices*, it's a good idea to play with sizes and details. My designs can all be made better. So treat what you are constructing as a working prototype, and once you have used it, small or even sometimes large adjustments can be made to fit your body and working practices better. There is no shame in having to adapt or remake your spoon vice until you achieve what works best for your needs.

Sean Hellman is a toolmaker, greenwoodworker and author. *Shaving Horses, Lap Shaves and Other Woodland Vices* is published by Crafty Little Press, and can be bought from www.seanhellman.com for £16.95.



Making the spoon carving bench

The spoon vice for a workbench only consists of a platform and lever posts (Pic.1, above) and is quickly clamped on a table. The burr log in the left-hand corner is both a chopping block and a seat. The free-standing horse (Pic.2, above right), with the underside having reinforcements (Pic.3, right) for the legs and centre post. Spoon vice with the centre post, platform and leg lever posts before assembly (Pic.4, below). Details of the platform and the jaws of the leg lever posts (Pic.5, bottom, and Pic.6, bottom right).



Woodworking for Homes

An extract from a new book recounts the origins & aims of an innovative 1950s Japanese publication

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The KAK Design Group of Junnosuke Kawa, Yoshio Akioka and Itaru Kaneko in a photo taken by a staff member

In 1953, the industrial design group KAK was formed in Meguro, Tokyo. The three young members of KAK, Yoshio Akioka, Junnosuke Kawa and Itaru Kaneko, dreamed of new forms of post-war industrial design. Their optical instruments, like the Sekonic Colour Meter and Minolta Camera, went on to have huge success, but their first project was to produce the book entitled, *Making Use of Ingenious Ideas: Woodworking at Home*.

The book reflected the personality of the individual KAK members, each of whom believed in the benefits of manual work and relished the pursuit of true pleasure found in such labour. The KAK's first project aimed to create various items that project images of a joyful home using minimal high-quality tools.

As the title implies, *Woodworking at Home* was filled with desirable items for any household and just setting eyes upon them would thrill anyone. Chairs, tables, an umbrella stand, bookshelves, pen stands, dog houses, toy boxes, etc... These items were all presented with many photographs and interesting commentaries. Along with a variety of construction tips, the items were presented in such a manner as to consider both how the item would be seen when it was placed in a room and what sort of image the item would create in that space. The book treated the functionality of each item as part of its design.

The beginning of the book provided instructions for acquiring tools. You may think that purchasing the most economical tools would be sufficient for home woodworking tasks. However, as the book suggested, it is best to buy professional-grade tools because, once purchased, they would last for decades. There was also a guide to saws, chisels, awls, nails, whetstones and other tools, including hand planes, the most difficult tool to use for non-professionals.

The last half of the book presented drawings of

each item. The layout of those pages was graphically pleasing due to the combination of black line drawings on a yellow background. A love of tools and woodworking, plus a desire to not overthink things and simply take action were commonly shared feelings among the members of KAK. The energy generated by the union of these ideas led to *Woodworking at Home*.

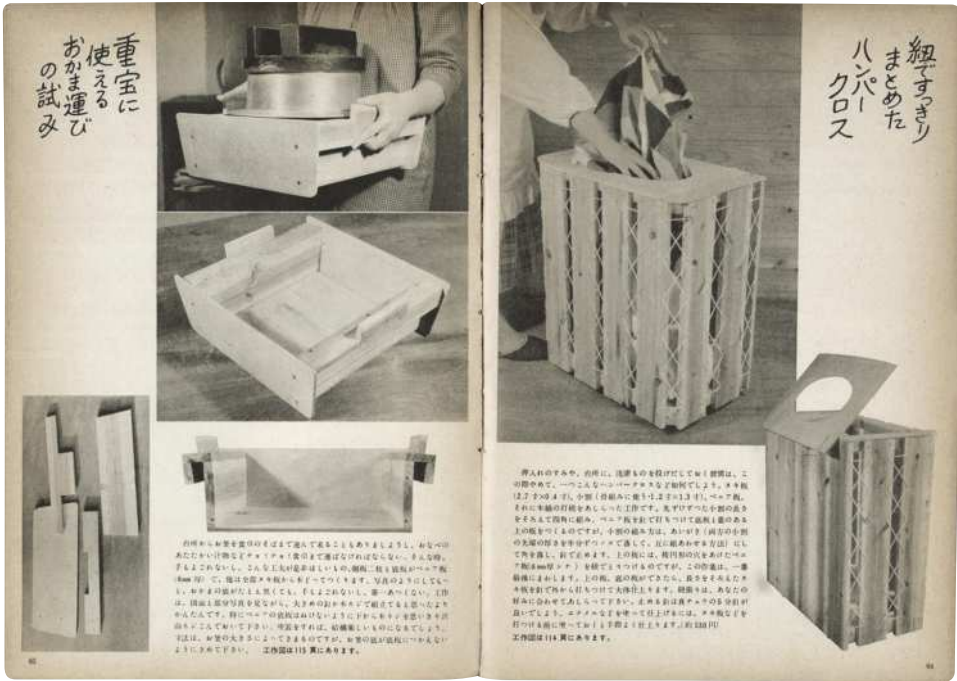
This book was different from other DIY books of the time because it wasn't just about making furniture, it also took into consideration a family's everyday life. It incorporated styles that genuinely helped the reader to spend everyday life as pleasantly and comfortably as possible.

Simple everyday items

Among the items presented were, 'A tray for safely carrying a beer bottle' and 'A dustpan that helps to neatly sweep the corners of a room' (see opposite page). The names were quite unique and often comical. The authors at KAK observed their everyday lives and then created items they felt would be useful. They made sure to use effective, simplified designs. They also created 'A cart for carrying a rice cooking pot'. This reflected the social conditions of the time as it was before electric rice-cookers were found in almost every Japanese household (Toshiba introduced the first electric rice-cooker in 1955).

One of the most practical and unique items was a hanging lamp that made use of a curtain rod. The lamp was attached to the narrow metal railing installed on a wall. The lamp shade hung upside-down (thus, appearing as an inverse trapezoid). The lamp slid on the rod, so you could move it wherever you wanted. Items created from such brilliant ideas provide timeless inspiration that would lead almost anyone to attempt to create them. The book also introduced another very convenient lamp that could be a wall hanging or a simple table lamp. This

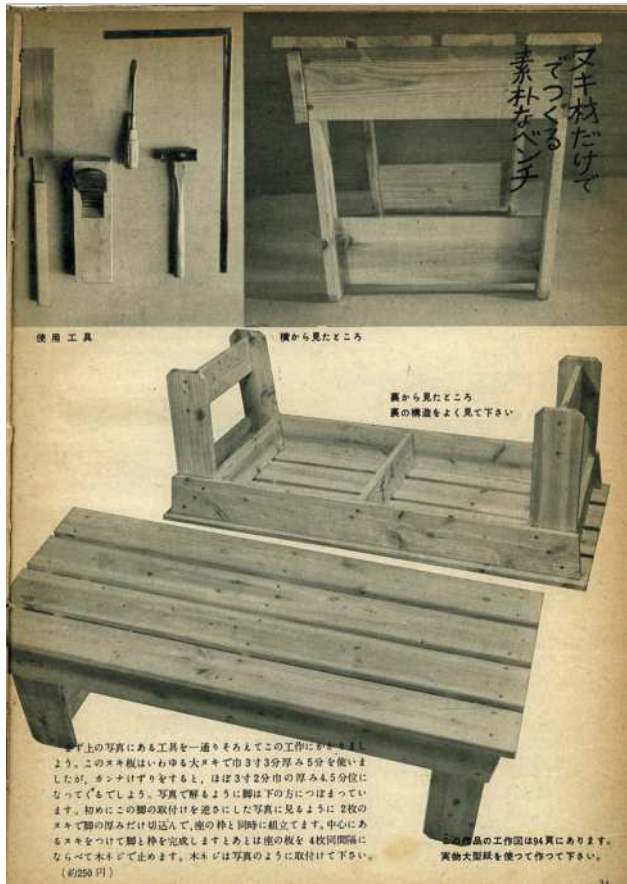


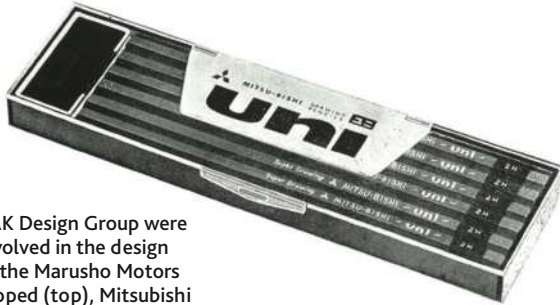
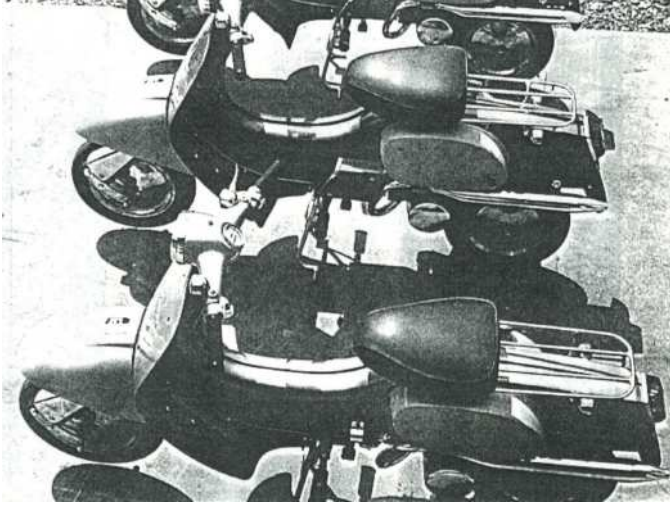


Making Use of Ingenious Ideas: Woodworking at Home was published by Ondori-sha in 1953

Simple Everyday Items

The 'Rice cooking pot cart' and 'Neat storage hamper' (above, left & right); 'A tray for safely carrying beer' (right); and the 'Easy-to-use dustpan made of celluloid underlay and plywood' (right). A rustic bench made from cedar from the original book (below)





KAK Design Group were involved in the design of the Marusho Motors Moped (top), Mitsubishi Uni pencils (above) and Minolta V2 camera



accomplishments as an industrial designer but also Akioka's achievements in other fields such as toys and folk art, I was drawn in by the timeless appeal of this book, even though it was not his most prominent.

Thoughtful design

The exhibition contained a collection of simple instructions and drawings that woodworking amateurs could use to produce an entire range of chairs, tables and storage units. In other words, the book was a DIY guidebook. However, it wasn't just a manual. It was a collection of products that responded to the demand for works that targeted the field of 'novice DIY'. The items presented were thoughtfully designed for ease of construction.

Using materials and tools that are readily available allows DIY amateurs to construct items economically and simply just as much now as it did when the book was first published. In fact, many of the materials used in *Woodworking at Home* are generally considered to be unsuitable for making furniture. For example, the rough-cut cedar boards. It would be easy to write this off as an excuse for low quality or bad design. But, for the KAK members, 'readily available materials' and the 'skill level of amateurs' were just the given conditions that determined their designs. They always considered the properties of the materials, how to combine them, cost and the dimensions of the components before integrating everything in a brilliant way.

What KAK achieved was the work of very high-level designers. They always had a thorough understanding of material characteristics and determined feasible structures based on the tools and woodworking skills of the target audience. They delivered designs while considering assembly methods and taking into consideration distribution of structural forces. Their goals have always been far from the trivial idea of 'making cool shapes'. Once Yoshio Akioka said, 'Cherish items you have, don't be a consumer (of mass-produced goods).' That's why I think that what *Woodworking at Home* presented wasn't just 'things' rather it was 'life' brought about by utilizing the items presented.

Italian connection

A similar book entitled *Autoprogettazione?*, published in 1974, was written by Italian designer Enzo Mari, 21 years after KAK's *Woodworking at Home*. This book also presents photos and drawings of easily constructed furniture using inexpensive, readily available materials. Enzo Mari was a designer who created products for high-end furniture manufacturers such as DANESE and DRIADE, and on the surface he seemed to be very far away from the DIY world (just like KAK who designed cameras and motorcycles). What drew both to DIY, even though they came from different times and countries?

When *Autoprogettazione?* was published, Italy was facing an economic crisis, meaning social conditions weren't favourable to selling high-end products. By contrast, Japan was in the midst of post-war reconstruction and rapid economic growth, fuelled by the special economic demands of the Korean War in 1953. Economic despair and economic hope, polar opposites experienced by Enzo and KAK. What both have in common is an awareness that under extreme economic conditions, economic logic runs out of control, thus stripping 'life' from the relationship between goods and society, and subsequently alienating people.

Both KAK and Enzo Mari sought something beyond designing mere goods. Rather, they attempted to capture, through their products, qualities of real life, as well as the time that flows through it. I think their DIY designs were a result of attempts to find a way to get people involved, especially when they sensed disruption between their work and people's lives.

Simple Japanese Furniture by Group Monomono is published by GMC Publications & RRP is £16.99.

particular lamp is still being used to this day at one of Akioka's relative's home.

Innovative materials

Finally, *Woodworking at Home* inventively selected and provided material commentaries. The book primarily used pieces of wood planking and plywood because they were so widely available. In addition, KAK had chosen to use celluloid sheeting as a relatively inexpensive alternative. The use of celluloid sheets is a typical KAK-like idea, which often accentuates the space in a house. The items in, 'A fun letter holder and bookends made of celluloid sheeting' and 'A novel mail box that effectively uses celluloid sheeting', were manufactured by warming celluloid sheets and then moulding them. This use of celluloid material can be said to be a precursor to the packaging for the Mitsubishi Uni pencils (1958), which KAK would later undertake. The package design used plastic, not in popular use at the time, and a transparent lid that was secured with aluminium hinges to a box, on which a bold gothic font 'Uni' was printed. The unusual design was thought to be revolutionary. Akioka's talent was conceiving of such brilliant ideas. From the original, *Woodworking at Home*, it is not hard to imagine the faces of KAK members – Akioka, Kawa and Kaneko – joyously coming up with such creations.

I first encountered KAK's *Woodworking at Home* in 2011 at the 'DOMA Yoshio Akioka Exhibition' held at the Meguro Museum of Art. At the exhibition, which included not only his

Stool with Pinched Legs

Project to make easily for convenience anywhere

Weighing just 1.2kg, this is a convenient stool that can easily be moved around the house. The seat height, at 480mm, is a little higher than normal. It is perfect for taking a break while cooking or working. If you combine this stool with the 'Pinched-Leg Dining Table' (elsewhere in *Simple Japanese Furniture*), you can create a useful space-saving table set. The legs are slender and look like they might be wobbly, but when you sit still it feels stable. That's because of the halved joint braces that support the legs. Pinching the bracing between two thin legs can produce strength comparable to that of much sturdier parts. A chisel is used to cut out the slots in the cross-halved joint that connects the legs, but it isn't as complicated as it looks.

The middle (cross-shaped) brace is sandwiched between two legs and fastened with screws. Although simple in construction, this method is very strong. Combining the brace pieces in a criss-cross pattern with a halved joint increases stability. Screwing down the ends of the legs applies extra pressure to the sandwiched parts and makes for a stronger connection.

Group Monomono, who wrote *Simple Japanese Furniture*, say that you will need a double-edged saw, a hammer, chisel, clamp, ruler and tape measure, a carpenter's square, combination square and an angle finder, plus an impact driver, 3.5x25mm screws, a hand plane, electric sander, sandpaper and glue.



The halved joint of the braces increases stability



Screwing down the ends of the legs add to the strength

That Urushi Chair Affair

From Switzerland, *Ozan Demirtas* recalls the days spent applying a Japanese finish with a neighbour

Are there not machines to do this faster?" asks my neighbour every time he sees me woodworking with hand-tools. He has been asking this for years. It doesn't bother me, but I've given up explaining. Colleagues, family and friends rarely understand either.

Our love of working wood and our choice of tools and methods seem out of place in a world where short-term, and short-sighted, efficiency is the only metric of the value of work. I am certain some other readers of this magazine are lone, basement (or shed) woodworkers like myself. If you are, I know this feeling is not alien to you. You too have given up trying for someone to "get it", have gone in your shop late at night to be alone with your tools, found yourself out of place in discussions about taking an airplane for a two day surf-trip on the other side of the planet. These daily instances make us feel reclusive.

This last year, I've been meeting other woodworkers and craftspeople in person. I felt, after a few years, that some of the chairs deserved to be let out of the basement. These meetings showed me that I wasn't a hermit at all, far from it. I felt innate satisfaction from working side by side and being surrounded by others who share the same outlook on life. I enjoyed doing my part and trusting others. In my city life, where the mandates are money, soul-crushing day jobs and cheap entertainment, I had simply never met these people before.

Except Andrea Rüeger, an Urushi artist and turner. I met

him in the middle of town. Walking down the street, I first saw him in front of his house (the second prettiest one in St.Gallen might I add), sharpening a Japanese plane blade. Rushing across the street, I asked him what he was doing. Andrea was restoring a second hand Japanese plane blade whose hard steel back had gone banana-shaped, an infuriating ordeal. Still, ever calm, he kindly explained to me that he was sharpening the blade of a plane, a tool for working wood. After introductions, we promised to visit each other's workshop and parted ways.

I visited him as soon as

I could. A stone's throw away from the abbey around which St.Gallen was founded, Andrea's Urushi studio is half workshop, where he turns wood and applies Urushi (a Japanese natural lacquer), and half show room, where his current work is exposed. After seeing each other's work, the idea of trying Urushi on a chair almost came by its own. Especially when he said that elm was his preferred wood for this finish. It was meant to be!

The chair

As Urushi is quite labour intensive we set our minds to make a test chair. This would allow us to make the first mistakes and adjustments without throwing too much work out the window.

A few things had to be done differently to accommodate the Urushi finish. First was the decision to lacquer only the comb and armrests. This would limit the amount of work while still letting us try the Urushi on some of the more complex pieces. We would see how the carved parts and changing grain direction would turn out. For the next chair, finishing the seat would be more of the same and the sticks no problem at all, being only straight long grain.

Andrea needed the surfaces to be as clean as possible. Any tear-out or deep scratch marks from a scraper would fill with the natural Urushi and leave a dark, almost black, mark. And once you start applying the first coat of lacquer there is practically no turning back. It had to be smooth and even. I did the best work I could with spokeshaves and scrapers, taking time to inspect the shape as I worked. An uneven curve, a bulge, a dip or a dent becomes very loud with this sort of finish.

When I felt I couldn't improve the shape any longer, I sat down, put on some music and started sanding. All the way to 800 grit, as Andrea suggested. For the last passes I wet the parts and sanded again until the grain didn't raise.

Usually, I use a cork block and a heavy hammer for fitting but Andrea found them too rough. So, I made sure the armrests and comb would fit without hammer blows. I sized each tenon so as to make them loose at entry and suddenly stop on a slight shoulder so as not to sink beyond the intended depth. This and the fact that all the sticks are at varying angles (also for the comb), added a lot of friction. Although the parts didn't require hammer blows they still took almost my entire body weight to get in place. Also of note, making an interrupted armrest was on purpose as a single piece armrest would have required some hammer hits.

The top of the short sticks I also rounded before the glue-up. Although a secondary surface, I didn't want the sharp edges of the tenons marring the underside of the armrests when being persuaded into their mortises.

When drilling the comb, I'll leave about $\frac{1}{8}$ in of wood between



Finished chair. Elm boards in the background





Andrea
inspecting for
dust

the mortise wall and the front face of the piece. I do this by eye. This makes for a small, pleasing transition that is comfortable on the shoulders when you lean back. However, that thin mortise wall can sometimes bulge out when the chair is all glued-up. Thinking the Urushi would be brittle, I was afraid it would crack there. I decided to make it double, about 1/4in. I should have asked Andrea before as it turns out the lacquer is flexible enough to support some movement. It wasn't wasted effort as I feel the comb looks better from certain angles without each mortise wall bulging out and it sits well enough. Still, it wasn't entirely necessary.

I gave the comb to Andrea with sharp edges. It would be his choice how much rounding, or bevelling, they would need. Interestingly, he left them sharp! The successive application of Urushi and polishing with 1200 to 3000 grit sandpaper softened them. However, it's a very curious softness. To the eye, the line still appears keen. Yet, to the fingers, the imperceptible rounding and the soft touch of Urushi remove any expected harshness. A good surprise.

Next, when I first showed the parts to Andrea, the 'ears' of the comb (cut-outs on the back) were shaped and then cleaned with a fine rasp but not yet sanded. He suggested I go back a step and leave rougher marks with the bigger rasp. Again, a surprise. I knew that carved and/or perfectly smooth surfaces worked well with Urushi. But the rough torn-out grain left from a Liogier No.9; I would have to trust him. When he was done, I feel even Andrea was surprised with the result. His instinct was right. An attractive mix of jagged smoothness and a colour almost completely black as each cut had filled with the natural dark lacquer. More of a sound than a note, but a pleasing one.

The Urushi

First, a short paragraph of history on this millennia old craft. Urushi is the sap of the poison oak tree, *Toxicodendron vernicifluum*. As both names imply, the sap is toxic. It contains the same allergenic compounds as poison ivy, for those who've had the pleasure. Thus, it requires great care when applying. After curing however, the toxic effects disappear, leaving a waterproof and anti-bacterial surface. On top of a delicate harvesting process, the Urushi can take months to years to refine into a usable form. One of the reasons for its high cost. Although the earliest evidence of an Urushi tree and of lacquer use comes from Japan (respectively 12,500 and 7,000 years old), this art is also traditionally practised in other Asian countries such as China and Korea, the entire chronology still being unclear. In the West, among novices at least, the term Urushi is used interchangeably for the resin, the different finishes possible and even the lacquerware it's most commonly associated with.

Now, I find pre-finishing useful for any method. Oil, wax, shellac, paint or lacquer. Once the parts are glued, a chair transforms.

Where before it was a bundle of kind, simple-shaped parts, it is now a thing very smart and full of nooks and crannies. It will outsmart you. Turn it 10 times over and you'll still miss a spot.

Pre-finishing is mandatory here. Urushi could be compared to French polishing in the amount of labour and attention to detail it requires. You simply must have good access to your work surface.

Urushi can be used as a base to add pigments, particles and much more. For a first chair however, Andrea decided on a Fuki-Urushi finish: simply applying the dark natural lacquer, curing and polishing it. No extras.

Here's a simple overview of the steps Andrea took for this particular result.

- 1 Raw processed Urushi (Ki Urushi) is applied with a brush, generously. For a deeper penetration, or bigger surfaces, it could be diluted with isopropyl alcohol.
- 2 Excess is wiped off with a lint free cloth.
- 3 The finish is left to cure for two days in a chamber with 70-80% humidity, 20-25°C.
- 4 Wet sanding with 1200 grit paper.
- 5 Repeat steps 1-4 twice.
- 6 Repeat steps 1-4 with 2000 grit sponge four times.
- 7 Repeat eight times steps 1-4 with 3000 grit sponge. This could be repeated more, or less, depending on the desired level of gloss.

Certainly, no two chair finishes would, or should, be alike. The steps change. We must follow a taste, not a recipe.

Final touches

After lacquering, the pinholes at the back of the comb had filled with Urushi. Not much, but enough that the oak pins wouldn't fit anymore. I carefully reamed the holes until they were clear. I had hesitated to drill these pin holes after the Urushi to avoid this problem. However, that would have required marking, clamping and drilling through the already lacquered comb.

Any number of things could have gone wrong. A wrong gauge line, a clamp slip or a dull drill and the day is over. Quietly reaming them by hand was safer. The last job was to trim the short sticks and pins after glue-up, leaving them proud. Cutting them flush would have been impossible without damaging the lacquer. For this I sharpened my hook knife as well as I could and only took light cuts to avoid having to lever on the armrest and dent it. As the Urushi is completely waterproof, any compressed grain would be there to stay.

At the start, we had been cautiously pessimistic, yet it turned out quite well. The only issues we had were two minor bruises and maybe some spots of fine sanding lines. Barely visible but still, something to improve.

Thinking again of the coarsely-rasped ears, roughness is generally not appreciated in fine woodworking. Textured surfaces are clean cut with the sharpest gouge or adze. And not without reason as there is a certain splinter-y-ness to rough wood that is unpleasant (without years of use and burnishing at least). Now, Urushi certainly seems like a way to explore those ideas further.

After we both finish some commissions, we will be making more lacquered chairs. We will first be looking to lacquer complete chairs, or stools, and try to assemble them with rice glue. Also, beyond Fuki-Urushi, there are also many other possible finishes done by adding in pigments, particles and the like.

Now, personally, I feel individual pursuits can be draining, as the possibilities are endless and the ego ever hungry. For me, meditation doesn't work. The silence only leaves more room for the noise. But working with others does. It demands that I let go of myself to become a part of something deeper and more promising. Decisions, burdens and successes are shared, goals achieved in common and unexpected destinations are reached.

Follow Ozan Demirtas on Instagram @swisschairmaker and Andrea Rueger @andrea_rueger.



Applying Urushi

Andrea inspecting for dust (far right) and reaming the pin holes of the comb by hand (inset). Cleaning the surfaces with isopropyl alcohol (below) and inspecting for dust (below right)





Spilling the way for starting lights

Robin transports light from the match to the candle with a spill. Balanced illumination from twin candles reduces shadowing while sawing (bottom left) and a spell of planing by candlelight (left). A conical self-supporting oak shaving emerges from the side escapement (above). The blade on the spill plane is bedded at 33° and skewed at 45° to eject the shaving (below). The plane dismantled to show its thick iron and percularly shaped wedge (bottom).



Kindly Lights

As the nights draw in, *Robin Gates* puts a spill to the candle and primes the paraffin light

It may be meteorological autumn in this neck of the Northern Hemisphere but the world at large feels wintry. I'm mulling over a more peaceful and contented past, remembering stories the grandparents told of how life was when they were young, living and working closer to the land, respecting the natural rhythms of the seasons, busy by daylight and resting in the dark. Although there's much about 'the old days' I'm glad we've left behind I sense that keeping to their diurnal hours of work and rest regulated by sunrise and sundown would be better than our modern habit of 24/7 alertness.

Working wood with hand-tools is a step in the right direction, a tonic for jaded senses. Inscrutable technology is side-lined in favour of the human touch, restoring an ages-old relationship with nature that's been progressively eroded since the Industrial Revolution began. As an occasional greenwoodworker I enjoy stirring porridge or serving up a fried egg with a spoon or spatula shaped from windfall wood, stirring the memory of an actual tree and the spot where it grew. Such recollections are at a greater distance for things made from local seasoned wood but still the personal connection with nature is there, albeit sawn, planed, joined and perhaps hidden by a coat of paint. When you've made a thing you know it well.

Daylight hours are shrinking

The only difficulty posed by working in the shed at this time of year is that daylight hours are shrinking fast. By the time I've got going – found the wood, sharpened tools, stirred muscles from their fireside hibernation – the light has already begun to fade. Still, even if it isn't always convenient it does help conjure the lost magic of pre-industrial ways to be downing tools when the sun goes down, and anyway this year I'm cheating the darkness a little using candlelight.

The candle throws a more kindly light on the scene than electric lighting, and it isn't really cheating. Dipped-wax candles were invented over 2000 years ago. Certainly biblical scenes of a candlelit carpenter's shop have been a favourite with artists down the centuries, although those candles were of tallow – rendered animal fat – rather than the paraffin wax commonly used today. Tallow or perhaps beeswax candles may be a more ethical choice than paraffin – a fossil fuel derivative – and deserve investigation.

On a practical level a candle is more manoeuvrable than most electric lighting, better even than an Anglepoise lamp as you can plonk one exactly where you need it, on the bench, on a shelf, hang it from a rafter or carry one around in a jam jar. True, the candelas emanating from humble candles are few but as daylight seeps away it's surprising how quickly the human eye adapts, and how beneficial candlelight is for the human spirit. Our reverence for the light, warmth and calm of the candle flickers somewhere deep. I suspect an atavistic response, the rekindling of fires that warmed, illuminated and cooked for our cave-dwelling forebears.

The scarce spill plane

There are technical drawbacks to working by candlelight, when the flame wobbles in a draught, for example, and a line lost in shadow results in a saw cut too long or too short, but that's all part of the game if, like me, you tell yourself it's the candlelit journey that's important, not the destination.

And it's a philosophy made more substantial since I discovered



Spills in maple (above) and oak and their parent woods prepared to thickness. Conveying fire with a smoking oak spill makes fingers smell like kippers (left)

a vintage spill plane, a scarce hand-tool which authenticates in the most practical of ways the centuries-old relationship between woodwork and the candle.

If we're acting the part of the pre-industrial woodworker properly we can't light a candle using a modern match or a butane lighter, we must somehow convey the flame to it from a candle already lit. And it was for this express purpose the spill plane was invented – a plane designed not for dimensioning or smoothing timber but for producing long, tapering, tightly-wound shavings known as spills.

The inventor of the spill plane is lost in the smoke of history, with the essential concept having been variously tweaked by individual makers over generations. This example is of fairly typical construction, with bed and mouth opening having been sawn from one side instead of mortised from above, and the stock subsequently completed by a side piece fastened on with screws. The iron is remarkably thick and nicely free of vibration; oblique lines show it to have been repurposed from a file. The bedding angle is a low 33° and the iron is also skewed at an unusually high 45°. It's this precise relationship of cutting edge to timber which is essential to ejecting such elegantly tapered shavings from the side escapement. Perfecting the plane's geometry would have required lengthy experimentation.

Looking at the sole, notice how the plane is guided by fences on

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both sides, enabling rapid shavings from narrow stock without fear of flying off sideways. In preparing wood for planing spills I aim to make the thickness just a tad less than the width of the sole's channel. Speed, firmness and steady downward pressure yield conical self-supporting shavings as tight as turret shells.

From its fine end a spill burns slowly at first but as it proceeds along the cone the flame grows larger and gathers speed, threatening to singe fingertips if I dally too long in transferring the light. Used spills are extinguished in a tin can half-filled with water – attempting to blow them out will only fan the flames. A modicum of research so far indicates that spills made from a diffuse-porous maple burn less smokily but faster than ring-porous oak, but there may be hidden variables at work – different moisture levels or thicknesses of shavings. One certainty is that burning oak leaves your fingers smelling like oak-smoked kippers.

As darkness gathers outside and windows turn to mirrors the working area of the bench draws in to a bright pool of candlelight falling away to a world of mystery. I see long arachnid legs feeling their way from a corner of the roof. There's a scratchy skittering coming from somewhere under my feet. I am not alone out here. But the wind is up and the forecast is for heavy rain sweeping in from the Welsh Marches. I'll snuff out these candles soon and head indoors.

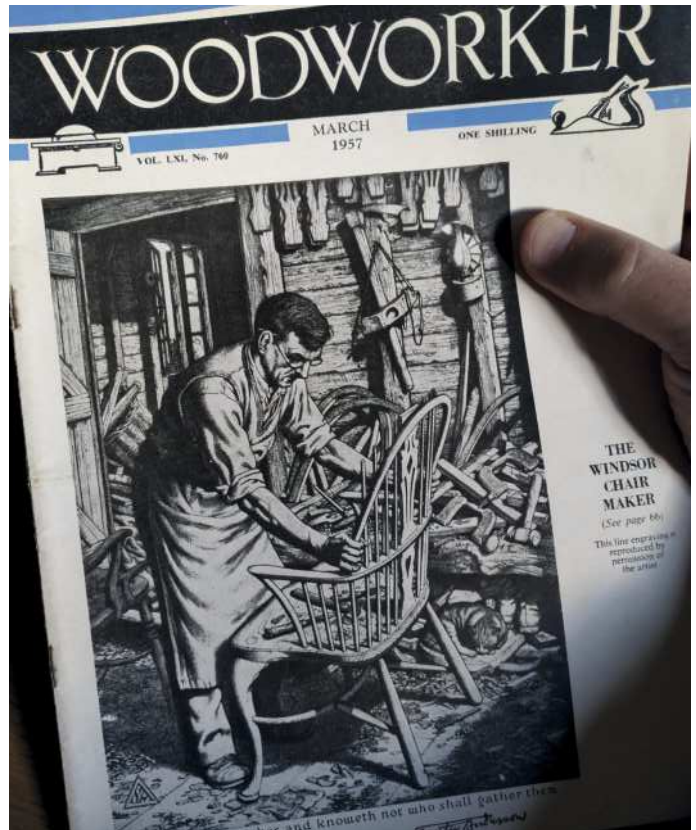
The oil lamp

The calorific output of a candle does little for warming the shed but much to warm the cockles of the heart, adding a quaintly contemporary quality to working with tools which have changed little since the ancients invented them. But even before candles there were oil lamps, variously fuelled by olive oil, whale oil and now paraffin or kerosene. Simple oil lamps have provided dependable workshop lighting well into present times. For example, at top right of Stanley Anderson's 1944 engraving of Windsor chairmaker Jack Goodchild, on the cover of a 1957 *Woodworker* magazine, you can see a paraffin lamp on the wall of his Naphill Common workshop (next to my thumb). Excepting its screw-driven wick adjustment, glass chimney and pleated tin reflector this sort of lamp works on essentially the same principle as in Roman times, drawing oil up the wick by capillary action there to be vaporized and burned.

Perhaps the most significant step in oil lamp development was taken by itinerant 'fancy glass blower' John Tilley when, in the 1800s, he invented a hydro-pneumatic blow-pipe. Tilley's device, described in *The Belfast Monthly Magazine* of 1814, used a pressurized column of water to direct a 'blast regular and continual' onto a lamp burning tallow, so as to 'raise a great heat in a small object' from a 'cone the most perfect and brilliant' of blue flame. The generic 'Tilley' pressure lamp arising out of Tilley's invention works by pressurizing the fuel reservoir or font, delivering paraffin under pressure to a vaporizer pre-heated by a temporary burn of methylated spirit. There, the highly-energised liquid fuel becomes a gas burning brightly at a white-hot mantle. For light, heat and not least the cosiness of its soothing whisper you just can't beat it.

That said, I have a modern Tilley-branded lamp and venture to suggest that my 1940s vintage Bialaddin 300X pressure lamp made by Willis & Bates of Halifax is of better quality. Willis & Bates progressed from making parts for other lamp manufacturers to making their own lamps which proved so successful they became standard issue for the British Army. The Bialaddin lamp is solidly engineered, utterly reliable, and highly serviceable with all essential spare parts still available.

A pressure lamp is a more complex beast than its ancestral wick dangling in a pot of oil, and the secret of successfully lighting the thing lies in preparation. First, check the mantle is in one piece. This is a delicate cotton net impregnated with metal nitrates which, once fitted to the vaporizer tube and 'burned in',



Stanley Anderson's engraving of Windsor chairmaker Jack Goodchild (above) shows a paraffin lamp on the wall of his Naphill Common workshop, next to Robin's thumb. A 1945 advertisement (right) for the 300 series Valalux lamp made by Willis & Bates



converts to a shell of oxides that will disintegrate like paper ashes if touched. Next, dip the font to check there's sufficient paraffin. The level can be difficult to read on a wooden dipstick so I use the clear barrel of a Bic ballpoint pen, placing a finger over one end to hold the column of liquid.

Now replace the filler cap and, with relief valve open, lift the Pyrex glass and pipette methylated spirit into the well beneath the wick – a drinking straw serves nicely for this.

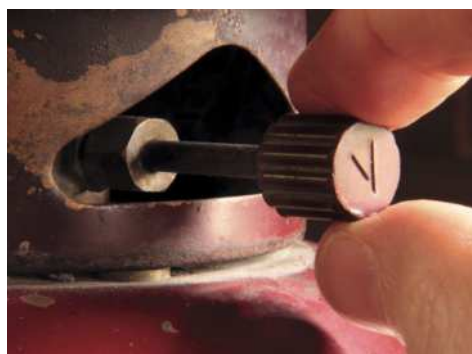
When the meths has soaked up the wick, light it with a fine splint or match; using a spill from a spill plane risks dropping ash in the well. The burning meths heats the vaporizer where paraffin will shortly be sprayed from a jet under pressure from the font to become gas, mixing with air and escaping to the mantle through fine holes in the burner.

As soon as the meths begins to dwindle, close the pressure relief valve in the filler cap and start pumping. Now the burning vapour will turn the mantle incandescent, spreading its joyous light and heat around the work place. An occasional twiddle on the pricker knob, marked with a V, clears soot from the vaporizer jet, and will be accompanied by a resounding 'pop' as the jet is momentarily extinguished and then re-lights.



Lamps lighting a workshop

A joyous way to light the workshop is with a 1940s Bialaddin 300X pressure lamp (above). A ballpoint pen barrel clearly indicates the level of paraffin in the font (above right). Use a drinking straw while pipetting meths into the well having lifted the glass (right). Burning meths heats up the vaporizer (below). Start pumping up the pressure when the meths begins to dwindle (below right). Turning the pricker knob clears the soot from the vaporizer jet (below centre). A leather washer (bottom, centre) has to make a good seal in the pump tube to generate the required pressure. You can buy new/old stock of these washers on eBay for about £6.





Using a false table on the bandsaw (above and right) to produce short lengths of 'rope', as on p.41. Take great care with this cut, perhaps using a much lower, false fence to keep fingers from the blade



Take the first slice with the 'face-side' against the fence. Make sure you keep your fingers behind the blade. There are various ways you can make sure this is safe, for instance by fitting a lower, false fence so the guides can be dropped further

Making Inlay Herringbone Fashion

John Lloyd explains how to make your own inlay, with a bandsaw and hand-tools

You might consider that just the very act of thinking about making your own inlay is confirmation of the onset of madness, but bear with me and you might even end up indulging in this lunacy yourself.

Line inlay or 'stringing' is most commonly available in boxwood (light) and ebony (black), although black line is actually more likely to be 'ebonised', or stained black, rather than real ebony. Not that real ebony isn't available, but it is very much more expensive than the rather unconvincing blue/black colour that is typical of stained line. In fact stained line can become something of a nightmare. Levelling with a cabinet scraper can make it lose some of its intensity, and occasionally the stain can bleed into the surrounding wood during finishing, so if I were you, I would give it a wide berth. Restricting the choice of colours for line inlay to the pale yellow of box or the black of ebony can make for a rather stark contrast between the line and the surrounding wood or veneer, so a greater choice of colours for inlay is really useful and can result in a much more subtle effect. Other woods/colours are available commercially but I will usually just keep box and ebony in a couple of standard thicknesses and if I want another colour, I'll just cut it myself. This gives me complete versatility as to colour and thickness, but this approach does rely on having access to a decent bandsaw.

The only modification the bandsaw needs for this sort of very fine work is a false table, perhaps 2mm thick MDF, which gives zero clearance around the blade and fills any gaps under the fence, and a sharp 6tpi (1/2in'ish) blade, which will give a nice fine cut. Just set the fence to a little over the required line thickness and run the 'false table' along the fence, cutting a little way beyond the blade. Prepare the selected wood for the stringing by hand planing a face-side and two face-edges, making the first cut on the bandsaw with the face-side (the wider face) against the fence. A further two cuts can be taken



The second cut (above) creates the square line. Keeping fingers a little behind the blade and a constant gentle pressure prevents bloodshed and reduces splinters

from each edge of this first slice, creating two lengths of square stringing, each with a pair of adjacent, smooth, planed edges. Plane two more face-edges on the initial slice and repeat to create two more lengths of stringing, and so on until the slice gets too small to easily handle. The fingertips of the right hand might look a little precarious during sawing. The secret to safety is to apply firm downward pressure onto the table with most of the hand and a much gentler lateral pressure to the workpiece with a finger or two, this

ensures that fingers can't migrate towards the blade.

Thickening by hand

When you first look at this method of thickening line, you may decide that the initial madness of making inlay has just gone up a level, at the very least this would, at first glance, seem to be a rather precarious operation, especially having just successfully come through the bandsawing operation unscathed. Surely sticking your thumb right on top of a sharp block plane blade is just asking for trouble, and I do have sympathy with this line of thought, but trust me, this really is a brilliant technique. Well, to qualify that last statement, it's a brilliant technique if your block plane's set up properly. By which I mean, the plane has a nice smooth, flat, slippery sole, the blade is razor sharp and set to take the very finest of shavings. The adjustable mouth must be set to such a small opening that it looks like even the most emaciated of shavings wouldn't stand the slightest chance of fighting their way through. Bear in mind that with so little blade hanging out, it's almost impossible to cut your thumb especially if it doesn't move against the blade, so keep your thumb stationary and don't apply too much pressure to the line as you pull it over the blade. Excessive pressure will only make it more difficult to pull the line, and increase the chance of snapping the line or inlaying your thumb with a splinter.

One of the benefits of this method over a thickening jig is that the line is being cut rather than scraped, and the razor sharp blade and wafer thin shaving all mean that negligible pressure should be required to make the cut, minimising the chance of line snapping.

The only real downside to this method is that there's no positive control over final thickness, so it's important to take even shavings from the whole length of the line, to avoid too much variation in thickness. 'Thickening' line might be necessary to clean up saw marks or to adjust line to a groove that's a little too skinny. Using

a block plane for this is usually much quicker than setting up a thicknessing jig, which is always a bit of a fiddle. Your block plane is likely to be to hand and should be pretty much ready to go or it might just need the blade winding back and the mouth closing before it's ready for action. This hand-thicknessing method is generally pretty fool-proof, but occasionally the cutting action will catch the grain and break the line. If this becomes a problem, or if a consistent thickness of very thin line is required, it might be time to look for the thicknessing jig.

Thicknessing jigs

The big benefit of a thicknessing jig is that its scraping action will not tear the grain of a problematic piece of inlay, and passing the inlay between a 'fence' and a blade, ensures a specific, consistent thickness. I have two jigs, one consisting of some components from an old Record spokeshave mounted on a few pieces of angle iron; something that could be knocked up by your local blacksmith if your remit doesn't stretch to welding. This jig is pretty easy to adjust and the blade is quick to remove for sharpening.

The other jig is the Lie-Nielsen 'Thicknessing Gauge', a much simpler affair, fitted with two blades. Sometimes this jig's a little sensitive, grabbing on the line a bit if it's asked to take off a bit too much in one pass.

To use either jig, taper an inch or so of one end of the inlay with a chisel to help feed the line onto the blade. The jig itself can be held in a vice and the only tricky bit is setting the blade to the right thickness. Trial and error is a wonderful thing, but I find that setting the blade at a slight angle to the 'fence', wider at the outside edge of the blade, can help. Use a constant, firm tension to pull the line through the jig.

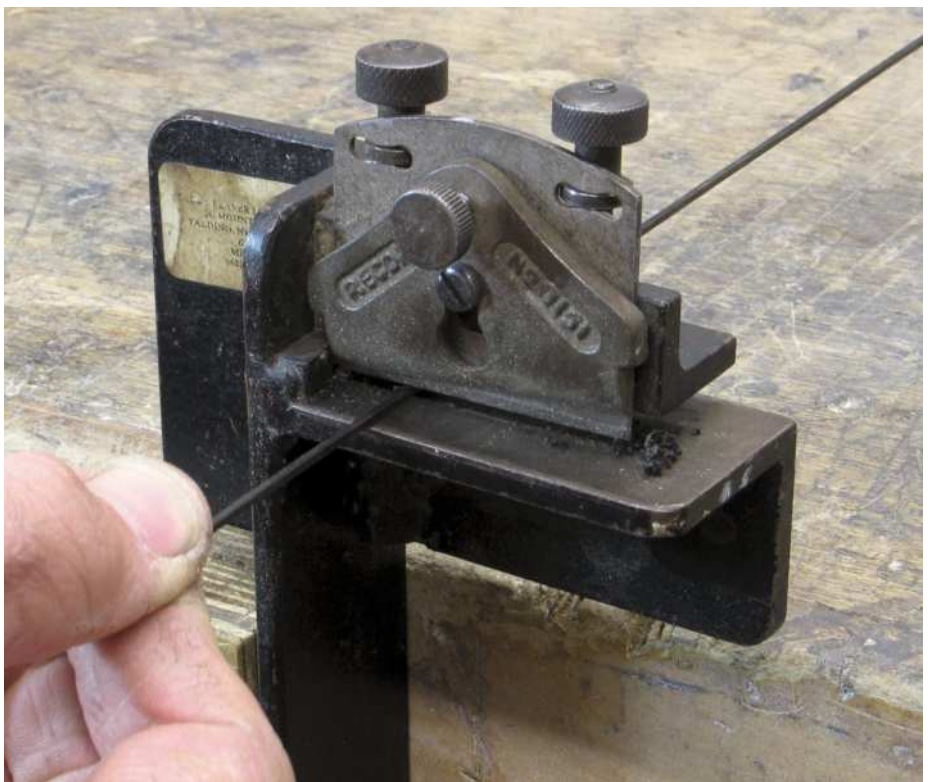
Herringbone banding

Making herringbone banding might look a bit of a fiddle, but if I can do it with my fat fingers, anyone can, and in fact it's great fun playing about with different colours and building different shapes and effects. I wouldn't want to make miles of the stuff using this method though, as it doesn't really lend itself to mass production.

Apart from pieces of line in different colours, an assembly jig is required for gluing all the various bits together. A chamfered batten is screwed to an MDF or ply baseboard and a sheet of non-stick 'Bakewell' baking parchment ensures that the glued inlay doesn't just become a permanent addition to



Using a block plane is a really quick way of making fine adjustments to the thickness of stringing (above). The simple Lie-Nielsen 'Thicknessing Gauge' (left) has two adjustable blades. With the blade adjusted at a slight angle to the fence creeping down to the final required thickness is achieved with several passes through the Record jig (below), working from the outside of the blade, inwards



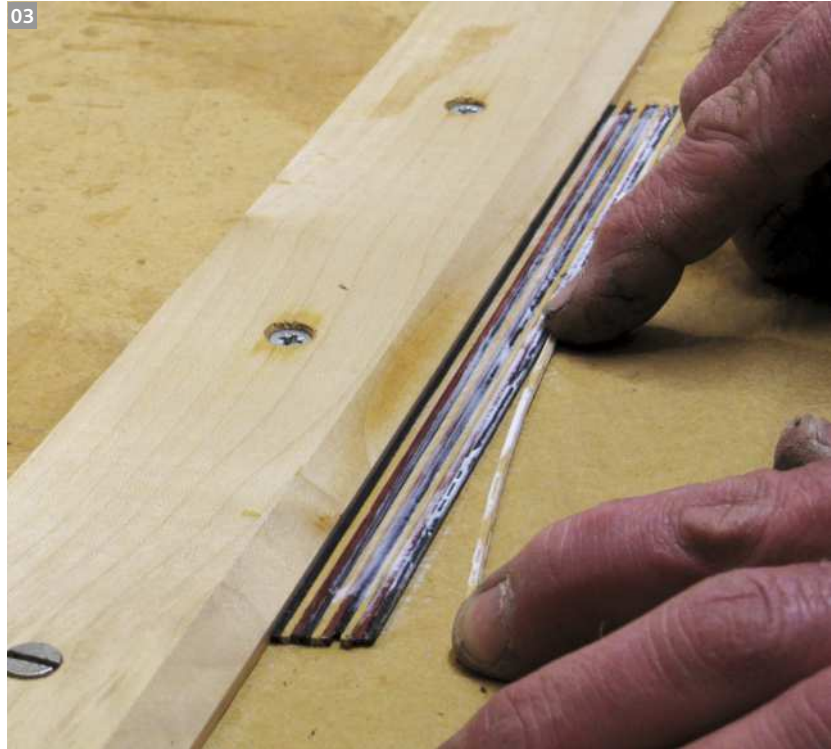


01

Six steps to making inlay

The assembly jig (an offcut of MDF), chamfered battens and some non-stick paper; and a selection of different coloured lines, some bought, some home-made, but all the same thickness (above, Pic.01). Using a small foam roller can be a quick, efficient way of gluing the edges of each individual line (below, Pic.02). Assemble as many lines as possible (right, Pic.03), alternating the colours in a regular order, before the glue starts to set. Push the edges of the glued lines together with the second batten, pinning the batten in place to maintain the pressure (bottom, Pic.04). Apply downward pressure along the surface of the glued lines to ensure that they are all in register (below right, Pic.05). Weights on top of a piece of MDF (bottom right, Pic.06) stop the assembled lines buckling. Parcel tape on the MDF stops it becoming a permanent fixture.

03



02



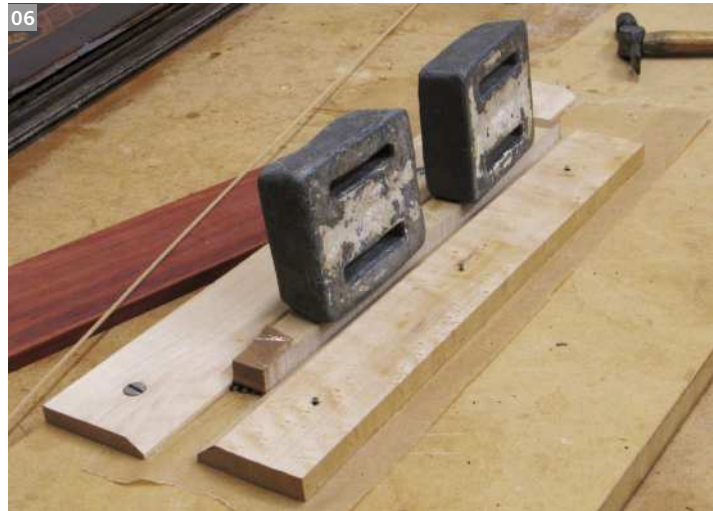
05



04



06



the jig. Having decided on the colours that will create the herringbone effect, ensure that all the line is exactly the same thickness (thickening jig!). If the lines aren't consistent there will ultimately be 'creep' in the herringbone effect, which will just end up creating a rather haphazard mess.

A long, thin assembly of glued lines will end up with very short sections of 'rope' or 'herringbone', so it's a good plan to halve the length of the glued lines with a saw and glue the two halves together. Doubling the width of the assembled lines will double each length of the 'rope' or 'herringbone' cut at the next stage.

To create the 'rope' effect (or half a herringbone) the glued lines are marked, sawn and planed at 45°, then it's back to the bandsaw. Make cuts taking great care to keep the 45° edge snugly against the fence for the whole length of the cut to ensure a consistent width. Plane the now sawn edge again, with a block plane, before cutting another length of 'rope', and keep repeating until there is enough 'rope' for the required length of 'herringbone'.

How many sections of 'rope' are assembled into a herringbone and whether stringing is added either side all in one go depends on how your nerves are doing. I tend to opt for the low adrenaline option and go for fairly easy stages these days. All the various components are a bit small and fiddly, and probably sticky, and it would be a shame to mess it up at this stage, after all quite a lot of time and effort has been invested to get to this point. How intricate the banding becomes is entirely up to you; different sized/coloured 'rope' can be added either side of a 'herringbone', combined with different colours and thickness of stringing. The only thing to limit this will be your imagination, and perhaps your sense of style, which might demand at least a modicum of restraint. Remember Mies van der Rohe, 'Less is more'!

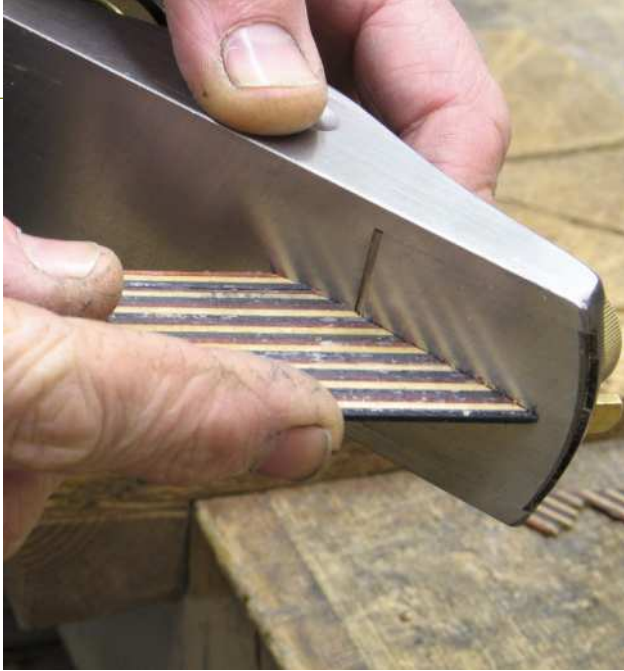
John Lloyd runs various courses in West Sussex, England. Follow him on Instagram @john_lloyd_fine_furniture, or visit johnlloydfinefurniture.co.uk.



Mark up the stringing with a mitre square at 45° as the first step in making herringbone band (above). Cut at 45° with a fine saw (below)

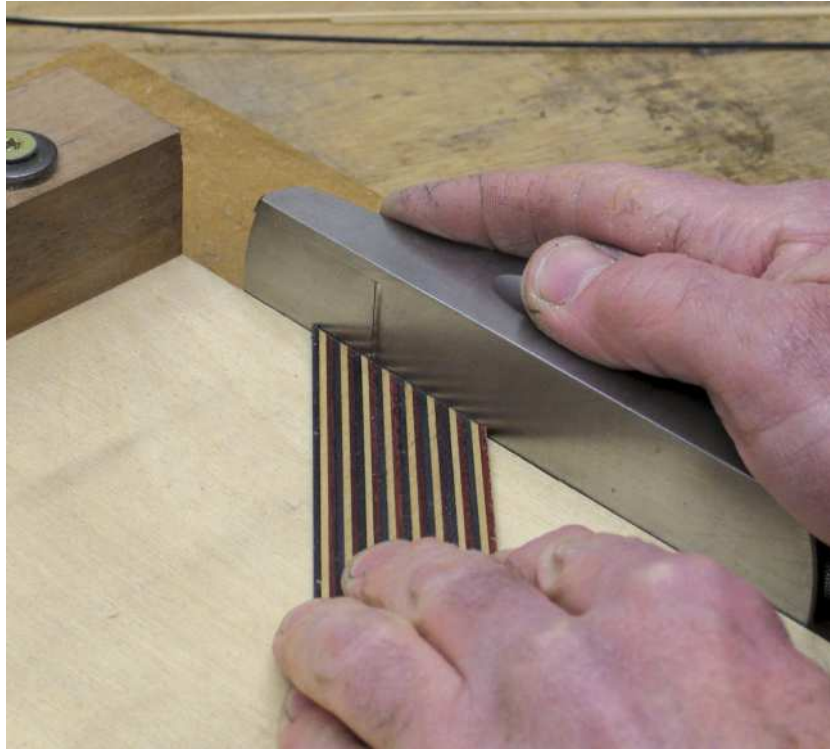


Herringbone inlay



Gluing up herringbone stringing

Shoot the mitred edge with a block plane (above) or by using a shooting board (right). Careful bandsawing (see p.36), using the false table, results in short lengths of 'rope' inlay. Use a syringe (below right) for controlled gluing of each length which is then assembled into a longer piece of inlay in the jig (bottom). The addition of ebony and box lines either side of the herringbone, completes the banding (bottom right)



Reviews

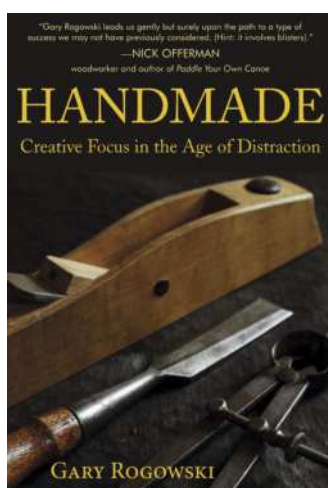
OLD & NEW MEDIA

Handmade Good Work

Unimpressed by woodworking memoirs, Nick Gibbs is called to action by Gary Rogowski's new book

There is a simple measure of word-value on the page, and that's to look for names, and numbers and dates and places. That's where you find the facts. That's where you find the revelations that prompt a Call to Action, whether that's buying a book, visiting a website, checking out a new tool or researching a date in the annals of history. And all too often that's what memoirs lack, unlike Gary Rogowski's *Handmade*, which in the space of two pages (p88 & p89), enthused me to download *The Bridge*, the 1962 album by jazz saxophonist Sonny Rollins, who reportedly quit all his gigs in 1959 to practise for months on the Williamsburg Bridge in New York; to buy the dancer Twyla Tharp's book, *The Creative Habit*, to scan her ideas on the importance of ritual for artists; and to work out why Alvar Aalto's dining chairs failed in the mysterious Mount Angel Abbey. The Abbey, it turns out after a quick Google, can be found in Oregon, and was founded in 1882 by monks from the Abbey of Engelberg in Switzerland.

On and on that goes, the facts fuelling feelings, which are also multitude. For instance, as we approach the presses this issue, it's revealing and reassuring to learn from the Portland furniture maker and designer that timing helps him focus on discipline. "I used deadlines as a motivating tool. Here's the job and here's when it needs to be done." There's no shortcut to Quality he adds, reminding



me that I must open once again the book of that name by Robert Persig, kindly sent to me by Tom Lie-Nielsen after we discussed it during last issue's Q&A. It is in fact *An Inquiry into Excellence*, a compendium of writings by the author of *Zen and The Art of Motorcycle Maintenance*.

Gary Rogowski has been a maker and teacher on the USA's West Coast since the 1970s, since he travelled to Portland, Oregon to study Literature at the small Reed College. One 'Badass' tutor had an eccentric approach to his classes on the Victorians like Blade, Rosetti and Ruskin. At one particular tutorial, Jim Webb asked his students to bring wood lathes to his porch. "He lauded the things Morris and Ruskin might have done." Many years later Gary met Webb again at a college reunion, introducing himself as one of the students he told to start turning bowls. He told his

ex-tutor that he considered that order to be the most 'fxxxed-up idea' he had ever heard. "He was quiet. He looked up at me. 'I'm a woodworker now,' I said. "He jumped up into the air off his blanket and held up his arms and yelled: 'Education works!' Nice moment."

Gary's book, *Handmade*, is a celebration of a craftsman's experiences and memories; the man who came to open the Northwest School for Woodworkers, and the Northwest Woodworking Studio, both located in Portland. And it was in Portland that he came to be a maker. Looking for any job, he began working for Harvey, pouring concrete into sidewalks, driveways and even basements. "Harvey was a man of many talents it turned out. He also built furniture." Harvey would peruse a Sears catalogue, find a piece of furniture he liked and say: "I'm gonna build that." Gary was encouraged by Harvey's mantra, and built himself a bench in a metalworking friend's workshop. "I thought I would work wood. It smelled better. My choice to teach myself furniture making was infused by my desire to create things. I wanted to make things of beauty."

As we all know, or can recognise, building a career making furniture takes time. At one point he offers new recruits advice when it comes to searching for inspiration, remembering a time he was searching for Georgian ideas in an affluent Portland area,

sketching columns and rooflines. Gary fears a lonely tour when a resident in a garden offers to show him around his house. "I thought to myself he's one of those lonely old fellows who's dying to talk with someone because he feels so alone. I fell into the trap that it would take up the rest of the afternoon." At the end of the vista of Georgian furniture, the owner opens a door to reveal a library he'd bought from a castle in France. Gary was stunned by the furniture. "I was rewarded for I know not what purpose." In thanking patience for the discovery of that remarkable, inspiring library, and how he was given a gift that sunny day, he quotes the sculptor Auguste Rodin: 'Patience is also a form of action.'

Buying *Handmade* calls for patience. I've rarely been impressed by a woodworker's memoirs, and wasn't expecting much when it arrived for review. Now, as well as checking out Rollins, Tharp and Mount Angel Abbey, I will read Anne Lamott's book *Bird by Hand* about the struggles of being a writer, and Henry Petroski's *Evolution of Useful Things*, and I'll pick David Pye's *Nature and Aesthetics of Design* from my bookshelves. But more than anything I want to follow Gary Rogowski's final phrase, one that *Quercus* founder, John Brown also used to end his essay on self-sufficient woodwork: "Do good work."

Handmade by Gary Rogowski is published by Linden Publishing.

Geometric Chip Carving

Professional chip carver *Molly Sjöström* finds valuable advice in Tatiana Baldina's new book

As a chip carver myself it's been a great opportunity to read Tatiana Baldina's new book, *Chip Carving*. I think it's a great book for both beginners and for those who have been chip carving before. I think it's very pedagogical with both pictures and text step-by-step which I personally think are easy to follow.

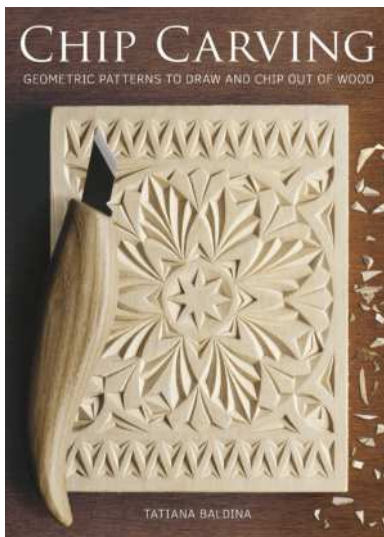
Normally I carve organic patterns, like leaves and flowers which I first draw free-hand before I start. But it happens quite often that I carve geometric patterns, which I also draw free-hand, so for me it was interesting to see how Tatiana draws her patterns. I have now tried to use a compass and it's a great tool.

I have a quite similar knife to one of those Tatiana uses but I think we have a slightly different technique when we are cutting. She uses some grips that I don't, so they were interesting to see and to try. I have been bringing the book as an inspiration on all of my chip carving courses that I have held this year. Many of my participants have liked it too, especially the 'Practice Board Sampler' on pp.18-25.

I also appreciate that the book contains some safety instructions, and that she recommends not sitting and being super-focused for too long, because it is quite exhausting for both your eyes and your body. I set a timer. You only have two eyes and one body, so be kind to yourself.

Overall, this is a really great and informative book that I will use both for myself, but also bring with me on my upcoming chip carving courses as inspiration. I want to thank Tatiana for sharing her knowledge and for inspiring me and many more people. Thank you!

Chip Carving by Tatiana Baldina is published by GMC Publications; paperback; RRP £14.99. Follow Molly @slojdarmolly & Tatiana @tatbalcarvings



Tatiana Baldina (above left) author of *Chip Carving* (left), reviewed by Molly Sjöström, who carved the flowers (above) from alder with two tools. The 'gnocchi board' (below) is birch and carved with a little chip carving knife. Molly carved it as an example for the course she ran at Kalthoff Axes (below left)



Learning at Bill School

Shrenik Savla-Shah thanks planemaker Bill Carter for his online inspiration and teaching

I came across Bill Carter several years ago. At the time, I had no idea what an English mitre plane was, and Bill explained it brilliantly throughout his YouTube channel. His planes are magnificent in both looks and performance. They carry the same manner of beauty as those made by London planemakers in years gone by.

Having seen these beautiful planes (made by Bill and others too), I put myself on the market for purchasing one. I was a student at the time with a budget, and I never managed to find one that was affordable. Of course, cast mitre planes come up once in a while. I wasn't interested in those. The truth is that these planes command a high price for a good reason. I was off the market by this point.

I asked if Bill would make me a 7in English mitre plane. Unfortunately, he doesn't make many of these (nor does he do commissions), and politely declined. And being realistic, if he had said "Yes," it would likely have been unaffordable for me at the time. Ultimately I decided I would have to make one myself if I really wanted it. It did take me a while to build the confidence to say that maybe I could turn my hand to it, and then along comes Bill's YouTube channel. Ensuring the craft lives on for many years to come, the knowledge has been documented for the future.

Directed, produced and filmed by his wife Sarah, Bill captures almost every stage of the planemaking process, from explaining the "Basic design of an English mitre plane," through to taking shavings with the plane. Teaching the most important element of joining parts of the plane together, Bill explains the formation of the double dovetail, a joint that can be formed in metal through peening, but not in wood.

Bill was a time-served cabinetmaker, not a metalworker before he became a planemaker. This in itself is a benefit to the average person, as he shows that you can make a plane with a limited tool set. From his videos, I identified that only a few files of different shapes, a scribe, an anvil and a bench vice were the tools I needed to get. I already had a hacksaw, plane, saws and some rasps. If you think about it, the number of tools required really is minimal, and Bill shows that in using a limited number of tools in making his own planes.

Having studiously watched Bill's videos, I now felt ready to make a plane... and so I did. I made one, then another. I was hooked. I have now made 4, and I am working on my 5th. The first one is far from finished properly, but it works incredibly well and I have set it aside to finish later. The second is somewhere in America, the third over in Ireland, and the fourth will live somewhere up north in England. I use my own plane almost every time I go in the workshop!

Follow Shrenik on Instagram at @s.savla.shah, and Bill & Sarah Carter @bill.sarah.planemaker.



Bill (above) is filmed and photographed by his wife Sarah so that novice planemakers like Shrenik Savla-Shah can make their own



Wycombe's New Making

In the 1860s High Wycombe's chairmaking methods moved on, as *John Mayes* recalls in his book

The opening of new markets and the availability of an adequate labour force made manufacturers think seriously about the current methods of chairmaking. Already some parts of common chairs, the legs and other turned stuff, were bought ready made by the chairmasters as a matter of economy and convenience, since such parts could be produced much more cheaply in the woods than in the factories, and it was almost certainly this early example of sub-contracting that led to the remarkable development of the system. Every variation was practised and the larger firms frequently retained their own craftsmen in each subtrade and bought in extra ready-made stuff when they had big orders in hand. Such firms would buy materials, raw or partly finished, and 'give it out' to one-man concerns to be 'worked up'.

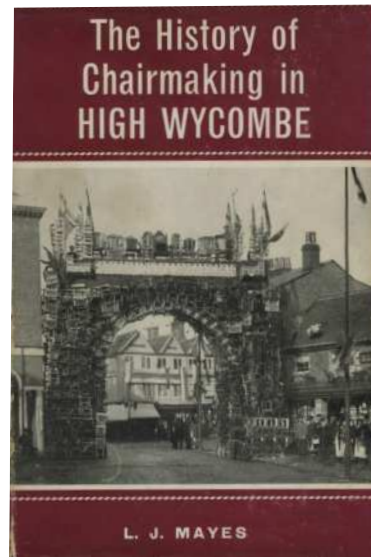
Then in the 1860s the greatest turning-point in the whole history of the furniture industry was the introduction of steam power.

The machinery was almost certainly limited to mechanical saws, a big circular saw for the converting of round timber into plank and a smaller one for cutting the plank into dimensioned parts. He [Mr James Smith of Frogmoor] may have had a small bandsaw for this purpose and possibly a simple power fret saw, all driven from the overhead shafting which in turn received its motion from a steam engine. The coming of steam power passed almost unnoticed in the town, for unlike other traders, where the new power almost instantaneously ousted hard work, in the case of furniture-making the application of power to timber conversion merely removed the long-standing bottleneck caused by the inevitably low output of the pit sawyers and meant that more people, including the pit sawyers so displaced, could be absorbed into the remainder of the trade where machinery was scarcely envisaged.

It was possible to give an estimate of the town's production [in an 1874 directory], and a figure quoted was upwards of a million and a half chairs a year, while details were also given of some of the big orders taken and executed, such as that for 19,000 chairs, which was completed in a few weeks. To an increasing extent this output was being achieved with the aid of the new machines which were being brought into service.

All machinery had to be driven by one prime mover, usually a steam engine, via overhead shafting and belts, and it would be uneconomic for any small firm to install such expensive equipment; hence the number of sawmills where individual manufacturers could either buy ready-dimensioned chair parts or send in their own timber for cutting by contract.

The most important of all power processes was the conversion of round timber into plank, and the first machine used for this was the circular saw, but in its simple form it was limited in application and expensive to use, by reason of its high proportion of cut width to plank width, even in the days of cheap timber. The limitation was imposed by the fact that a circular saw can only cut timber up to a thickness of half the saw diameter, less an amount consisting of the thickness of the saw table and half the diameter of the saw spindle. A circular saw of any considerable size had



to be very thick in order to get adequate strength and freedom from whip. Add this to the wide set of the rip teeth necessary to counteract the strong tendency of binding inherent in this type of saw. The upshot is a very wide kerf producing plenty of sawdust and correspondingly less usable plank. Various attempts were made to overcome these disadvantages. One reported was the use of two circular saws, one immediately above the other, which would certainly give depth of cut but would still produce a wide kerf.

Bandsawyers were also mentioned in the directory [of 1874], and these too were almost certainly doing re-sawing with comparatively small machines, cutting dimensioned and shaped stock from plank, especially curved parts such as back legs; work outside the scope of the circular saw. The art of bandsaw making had not progressed sufficiently to make possible

the big band-mills which do most of the conversion work today [c.1960], and between circular saw and band-mill there came the logical successor to the pit saw, the 'jigger', or frame saw, consisting essentially of a number of narrow saw blades adjustably mounted in a heavy frame, which could, by the application of steam power, be made to move up and down much as the top and bottom sawyers moved their single blade.

Seat making machines for boring and cutting

The 'machinists' were most probably operating seat-making machines in which the component parts of a cane seat, for example, were clamped into place on a table mounted on slides which enable them to be trimmed off dead to length on a small circular saw that formed part of the machine. The table was then slid along to a position, located by an adjustable stop, immediately opposite a pair of double-boring heads, which would be fed into the seat rail by means of a hand lever. Thus the trimming and the dowel boring were carried out quickly, and above all accurately, and a man could be trained to use it in a week or two, whereas years of experience were needed to bore dowel holes by eye with an accuracy to ensure that when the dowels were inserted and the seat glued and cramped up there would be very little cleaning up to do to make it smooth and even at the joints. Saw and boring heads were all belt driven, but fortunately the design of the machine kept the operator reasonably clear of the danger zone.

The task of boring seats for caning, nearly 70 holes for a simple seat, was an obvious case for mechanisation. The machine used was simplicity itself and has stood the test of time, for examples are in use today scarcely changed at all since those of 1870.

The History of Chairmaking in High Wycombe, by John Mayer, is no longer published and we can find no owner of the copyright. You can buy copies on eBay. You can also learn more about High Wycombe from the High Wycombe Society (highwycombesociety.org.uk) and of course visit the Chair Museum.

Bamboozled by Power

Making a survival nest for schoolchildren, *Doug Stowe* reveals the value of bamboo

If you are planning to survive alone in the woods, you might make a nest for yourself out of leaves and curl up for the night. But a survival structure for an entire outdoors study/science class of 20 students would take some additional planning and a lot more materials than one might gather in an evening stroll.

Survival structures come in all kinds of shapes and sizes. What they all have in common is that they must be made from materials readily available in the natural environment that are close at hand, and that can be safely harvested without lasting damage to the environment. When students in Ms. Juanita's class at the Clear Spring School inquired about building a survival structure in which they (the whole class) might camp out, an on-campus stand of bamboo seemed to call out. Most of the tallest stalks of bamboo had been left standing naked and dead by severe cold in the winter before last and a fresh stand of great abundance was growing up to take its place.

Equipped with Japanese pullsaws and shears, one group of students went to work harvesting the materials, while another

began planning and building as they went. As a class they'd begun the design process by doing drawings, but when it came to actual construction the students soon learned that it was best to simply begin work and let the bamboo become whatever it might become.

Using an existing tree as a centre pole, the branches going out laterally from the trunk gave it shape and size enough to serve the whole group. To serve both boys and girls, two separate structures were built, one on one side of the tree and one supported by branches on the other.

The process was largely student led with the teachers stepping back to give students greater responsibility and autonomy. It provided an important experiment and experience in group work. Some students preferred working in the woods. Some preferred working in the field cutting the harvested bamboo into useful parts, while others hashed out the design while also building it.

In 1965 sociologist Bruce Tuckman proposed a model illustrating four stages in the process through which effective groups are formed. The four stages are called, Forming, Storming, Norming and Performing. Tuckman's would be a useful model in politics when we really need our elected representatives to serve us rather than feathering their own nests. You can survive alone in the woods under a pile of leaves but serving the needs of a larger group demands that you work with others to solve common problems.

In the 'forming' stage, as a group first comes together to address an issue, there may be general agreement about goals. In the 'storming' stage, disagreements often arise as, quoted from Wikipedia: "...participants form opinions about the character and integrity of the other participants and feel compelled to voice these opinions if they find someone shirking responsibility or attempting to dominate. Sometimes participants question the actions or decision of the leader as the expedition grows harder..."

Having only a few hours each week to work on the structure, the group arrived at stage two early the second week, as students became distrustful of each other some began to just hang out in the bamboo. The 'storming' led to an almost complete shut-down of the building process. At this point frustration led to a

teacher-led team meeting, a come-together with-each-other moment and one in which the forming/storming/norming model was introduced for discussion and for consideration.

At the 'norming' stage (again from Wikipedia, and according to Rob Chatfield): "Resolved disagreements and personality clashes result in greater intimacy, and a spirit of co-operation emerges." This happens when the team is aware of competition and remind each other that they share a common goal. In this stage, all team members take responsibility and have the ambition to work for the success of the team's goals. They start tolerating the whims and fancies of the other team members. They accept others as they are and try to move on toward fulfilling the goal that brought them together at first.

After arriving at the Norming stage, student attitudes toward each other were brought in hand, and work began with renewed vigour and a heightened level of cooperation. That's the important goal of group forming, that: "With group norms and roles established, group members focus on achieving common goals, often reaching an unexpectedly high level of success." This was named by Tuckman, the 'performing' stage, and perform, our students did, accomplishing more in an hour than they had in the preceding day.

Developing skills in working with groups should be one of the primary goals of modern education. Sadly, and as so many things have gotten out of whack, this is not the case in most schools.

Shattering safely

A note about bamboo. Working with it is not exactly like working with wood. While amazingly strong, it can shatter when pushed to its breaking point. Our Japanese pullsaws were perfect for cutting cleanly through, but breaking off that last little bit of the cut may cause it to splinter. As in working with wood, safety glasses are recommended.

There is one species of bamboo native to North America most often called River Cane as it thrives along waterways in the South. There are also about 100 other imported species of cane that have habituated themselves into the native landscape. So, it is difficult to determine which of these many species our students harvested on our campus. Nevertheless,



The students (above) used a variety of cutting tools, shears for smaller shoots and pull saws for thicker stalks

cane or bamboo is a fabulously useful resource. Its ability to spread and take over, however, gives pause to gardeners. It grows at an enormous rate and is spread by rhizomes travelling underground, emerging in new spots, and then travelling further along.

Once introduced, it can be the gardener's nightmare to remove. Fortunately, however, it is eminently useful in crafts and in construction. Some propose it as a source for renewable energy and suggest using it for carbon sequestration. It is well known for erosion control and in the future may serve as at least a partial remedy for global warming.

And don't worry about our students having diminished our supply on the Clear Spring School campus. Once word got out about our student building project, gardeners from all over town were offering their latest crop hoping that industrious students would help them reclaim areas of their gardens for other things.

In the Americas cane found many uses. It has been traditionally used for basketry and cane chairs. When I was a kid in Mississippi, I fished with a cane pole and bobber. Fine fly rods are made of cane. In Asia its amazing strength and light weight make it perfect for building scaffolding in the construction trades, and some have even used it in building bamboo bicycles. It is indeed a wonder material, and if more people would use it for more things, perhaps our forests' timbers would be allowed to grow toward even better use.

You can follow Doug Stowe on Instagram at @dougstowe or visit dougstowe.com.



Students divided into teams (above) based on interest, some students building while others harvested stock. The structure (left) grew organically, using the tree and its limbs to define the shape. Bamboo (below left) is a fascinating natural material and when cut it will surely grow back. It can be used for building, and overleaf James Wolf (below) shows what bamboo products can be produced



Bamboo in Design

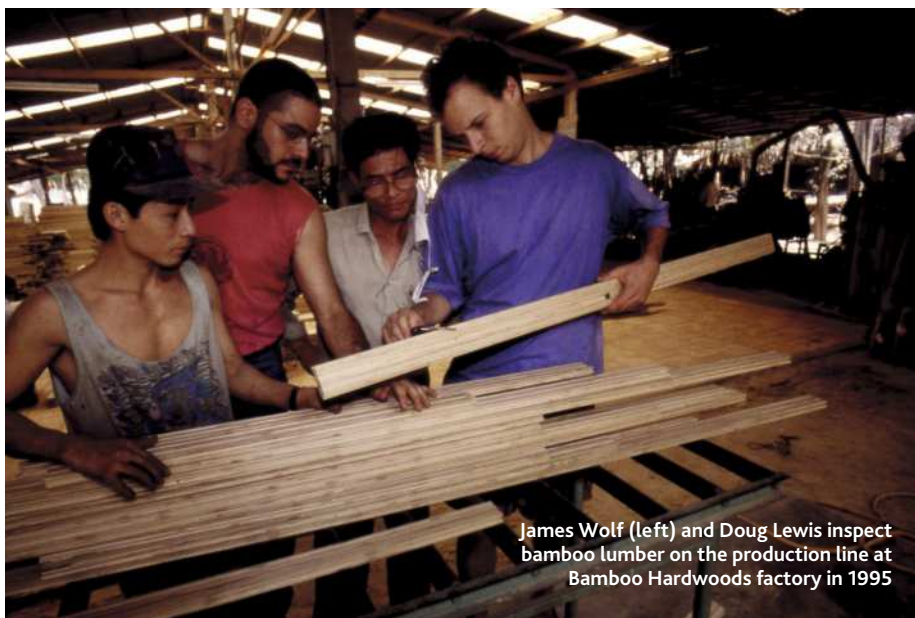
The pioneering designer *James Wolf* tells *Quercus* the value of bamboo in building and products

After studying Industrial Design at Rhode Island School of Design (RISD), James Wolf moved to Japan to apprentice under a master woodworker. He was particularly interested in traditional Japanese wood joinery, which uses no screws or nails. “I loved working with wood,” he says, “but I quickly realised it was not a sustainable route forward, as it typically takes 40+ years to grow a tree.”

In 1995, he attended the 4th World Bamboo Congress in Bali, Indonesia and became deeply fascinated with bamboo as a sustainable alternative to wood. Shortly thereafter, he moved to Vietnam to set up a factory to produce bamboo hardwoods.

“Although the material is beautiful and is made from a regenerative source, there was still a lot about processing the material that isn’t green. Engineered bamboo uses a tremendous amount of energy to run the motors that power the many cutter heads, as well as energy used for dust extraction. There’s a lot of wasted material, and just as much glue is used as bamboo, so although the end product is really impressive, the process itself, I found, is not as sustainable as I had hoped. I went to a factory recently producing bamboo laminate. There was a tremendous amount of energy being used, with kilns and extraction and huge conveyor belts, and so much sawdust.”

James accepts there is a place for laminate bamboo panels, and prefers to see bamboo as an alternative to other materials when it is better suited, for



James Wolf (left) and Doug Lewis inspect bamboo lumber on the production line at Bamboo Hardwoods factory in 1995

furniture construction, for architecture and for other products. You can flatten bamboo poles by splitting them along their length. “You score the surface to allow it to open up for flattening it.” Poles can also be straightened over a fire, a bit like steaming, with the bamboo staying straight as soon as it leaves the heat. “You mustn’t overheat it. When it gets to the right temperature it becomes elastic, and then when you advance it away from the flame it cools and is stiff again. When you have hundreds of straight poles you

can handle them, stack them, move them, transport them and put them in a soaking tank or a treatment tank.”

Over the years James has used the knowledge gleaned from his travels, along with a passion for bamboo, to design and construct a wide variety of unique bamboo homes and resorts, as well as bamboo bicycles, furniture and other products.

“There are 1500-2000 different species of bamboo. All grasses. Some are like ground cover, some are like a huge tree. There are just about five known species out of thousands that are just exceptional, and they are prevalent in Vietnam. They are very solid with thick walls, and are resistant. And they’re all quick growing. It’s just they have good DNA. They grow to their full height in a few months, then they harden and mature within three years. Every year you are harvesting.”

James is perhaps best known for the cycles he designs and makes. The pandemic has affected demand and the supply of parts and raw materials. “The ones I make are great. They were winning professional races, in national championships and even the World Championships.”

Follow on Instagram @jwolfdesign and @bamboomastercompany. Visit bamboomaster.co; boobicycles.com; boohugger.com.

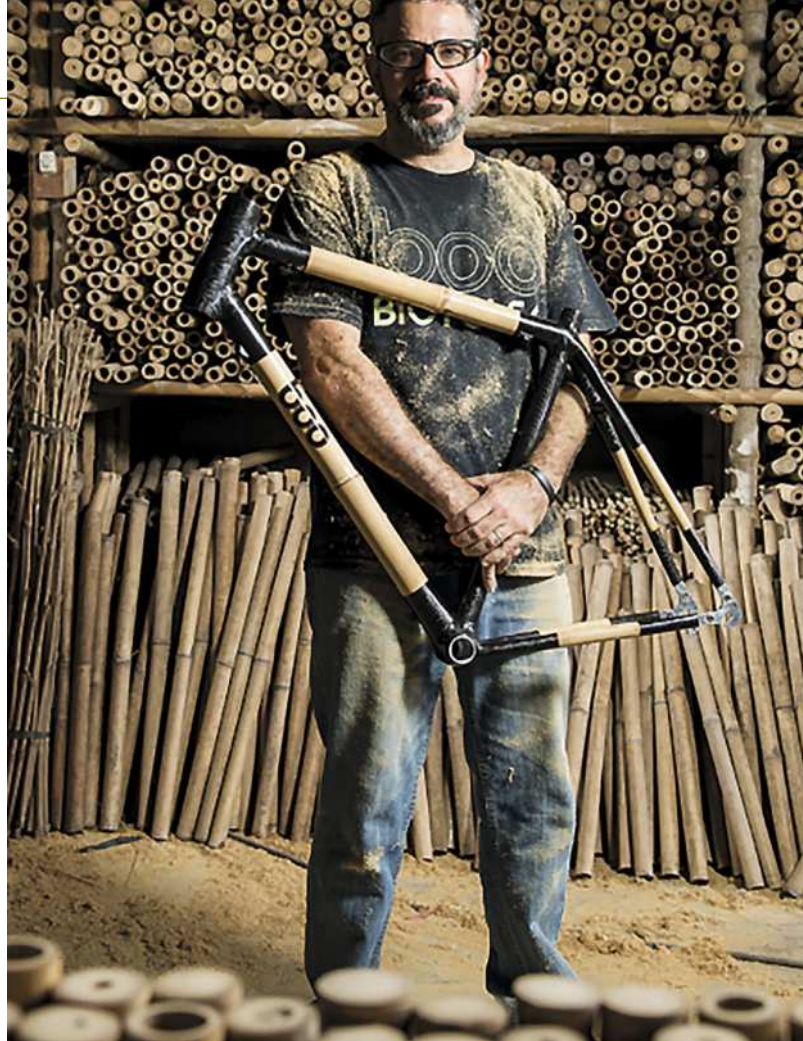


Processed and woven bamboo 4x8ft sheet materials ready for export (left). Some of the bamboo species found in Vietnam are amongst the most solid and thick-walled bamboos on our planet (above)



Working with bamboo

A worker performs final sanding on a bamboo armchair at Bamboo Master Co. (above). James Wolf in his bike-building workshop in Saigon (right). A carpenter assembles bamboo furniture at Bamboo Master Co. (below left). Fresh poles are unloaded at the Bamboo Master Farm in southern Vietnam (below right). The Arc (bottom left and right) at the Green School Bali by IBUKU



PHOTOS OF ARC BY TOMMASO RIVA

Sliding Lids for a Small Workshop

Searching for a purpose for recycled boards, *Henrie van Rooij* makes small boxes for bench tools

My father, when I was still a young boy, would sometimes reach to the back of a shelf in a cupboard, to retrieve a small wooden box. On Sunday mornings that would mean that it was time for his Sunday cigar. At other times, one of those boxes would be solemnly opened, and with a serious face my father then looked at some of the papers within. Sometimes there would then follow an earnest conversation with my mother. And even if I was too young to understand what it all meant, I realised that words like “insurance policy”, or “birth certificate”, meant serious and weighty business. We lived very simply then, and an empty cigar box, still smelling deliciously of cedar wood and fine tobacco, was good enough to keep the most important papers in the house. In my mind was established a mystique, connected with small and simple wooden boxes.

Many years later, I ran a woodwork shop in the Camphill Community where I still live today. From time to time, some old furniture, quite beyond redemption, came our way. After careful dismantling, much of the wood could be re-purposed. Not for any of the modern reasons of recycling, but simply because nice pieces of wood are valuable, and it really saved money to use this wood. I also saved many bottoms of those old drawers. They were thin boards, of various kinds of timber, often rough underneath, and nicely smooth for the inside of the drawer. Sometimes there were old stains from ink bottles, and goodness knows what else. They were often of uneven thickness, with some cracks and large knots. There was not really any good reason for me to keep that stuff. But neatly stacked together they did not take up a lot of space. “One day this could be useful for something.” This is a way of thinking most woodworkers will recognise!

After retiring, and now in my own much



Sliding lid boxes for a small workshop

smaller workshop, I started tinkering with those old boards. As I described above, I have always liked small boxes. It started with the need to store my new spoon carving tools, (from wood-tools.co.uk, as first noticed in QM07) with very sharp cutting edges, in a safe and practical way. This gave me a very satisfactory result.

A time of playful experimentation followed. Does the box get painted after construction? Do I paint the material first? In a variety of colours? What about a bit of chip carving on the lid, or apply calligraphy?

Preparing the parts

After choosing one of those boards, I used a hand plane to produce a straight edge to one side. With a marking or cutting gauge a strip can be marked. Avoid large knots, splits, woodworm, or any bits which look a

bit suspicious with strange looking stains. On the edge of your sawing stool, (a lá Robin Gates, QM02), I use a smallish, fine-toothed rip saw to cut off the strip, cutting slightly outside the mark, so that you can plane down to that later.

The material tends to be a bit brittle, so a light touch is essential. Re-straighten the edge of your board, and then make another strip like the first one. Depending on the size of box one wants to make, one strip might be enough. If the box is for a specific purpose, you need to make sure the strip is wide enough for the needed usable space of the box, plus the extra wood you need for the grooves housing the bottom and the sliding lid. I am reluctant to give exact measurements, because this whole process is also about making discoveries for oneself. Keep the rest of the board for the bottom and sliding lid.

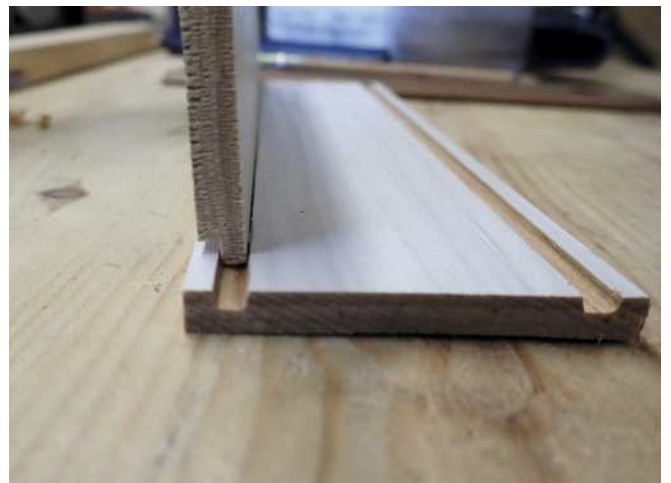
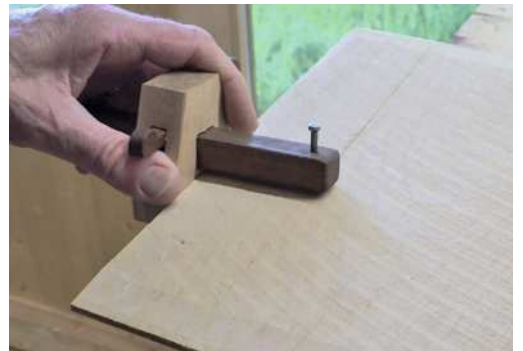
Although it seems less efficient at first, I think it is best to then carefully cut all the box sides to length, after marking them off square first. Use your favourite small crosscut saw to free those parts from the boards. I used a hand-powered mitre saw first, but those blades have a habit of snagging all the time. In the end a small bench hook and a light touch with a tenon saw tends to give best results. It is best to provide some support underneath the cut, to stop the fibres breaking away too much.

It's best to cut all the parts a smidgeon over-long, so that the ends can be made perfectly square using a shooting board, and a finely-set plane, which is as sharp as you can get it. The shooting board and plane in the pictures, were made by me. After I had made that shooting board, I asked myself why on earth I made it double-sided. I discovered some benefits in this eccentricity. I can use both the left and the right side of the blade, which halves the time spent sharpening! If the shooting board is made accurately, you can



Recycled boards

A varied collection of boxes, with varied decoration. Recycled drawer bottoms (left) are an ideal raw material, saved over the years. Marking off a strip (right). Some readers may have noticed Henrie is left-handed. The boxes can be assembled with kebab-stick nails (below left). A section through a disassembled box (below right).



shoot both ends with the board referenced against the fence from the same long edge. When both sides of the plane blade are past their best, I can raise the work with a piece of ply, and so avoid sharpening once more! You will have your own favourite method of squaring those ends.

Work carefully, and you will have two end panels of equal length, and two side panels ditto. Making the grooves for the bottoms and lids is done, in my case with a relatively modern, Stanley combination plane, used as a plough plane in this case. The blade which I use is $\frac{1}{8}$ in wide, or 3mm if you insist on metric. Making those grooves before cutting the sides to length would save you a lot of time, but you are then faced with the sides of those small grooves collapsing when squaring up on the shooting board.

Once you have found a way to secure those small pieces close to the edge of the bench the grooves can be made. Make sure that this edge is still supported by the bench edge, otherwise it is only too easy to snap it off altogether. This wood is old, and low density, and needs to be treated with a lot of tact! You will need to experiment a bit before you are happy with all the settings. The groove should not be deeper than half the wood thickness, or you start losing too much strength. You will find that you need to make light steady strokes with the plane. Because the sole is so narrow, there is always a danger it digs in with the wood being so soft. At this point remember to remove the top of one of the end panels down to the bottom edge of the groove. A block plane will make short work of this. This is needed so that the lid can slide in and out.

Assembling the sides

When assembling the parts, I make good use of some antique (RAF 1940) V-blocks. They hold everything square while the sides are initially just butt-glued in place. A thin stripe of PVA glue is all that is needed here. I am sure some wooden blocks and making use of a small plane for weight would work just as well. I really like the sometimes very rough surface, as it gives a nice texture to the outside of the box, and this leaves the interior of the box with a clean and smooth surface. After two short sides have been added to one long side, it is time to slide the bottom part into place. The inside measurements of the box with 4mm added to both length and width, is a good starting point for the size. This depends a bit on the depth of the grooves.

Both the bottom and the sliding lid can be made out of one strip of the correct width. Create a small rebate on the long sides and the short sides of the bottom and the far end of the lid. I use an old all-metal Record 078 for this. For rebating



A box for Wood Tools
spoon carving knives

the short sides, do not rely on the cross grain spur your plane might have. It works much better when a sharp knife is used to sever those fibres before removing the waste. Your combination plane can also be set up for making rebates. Both bottom and lid need careful fettling for a good fit. Remember to wait with adding the last side panel until the bottom is in place. Sometimes one needs to learn the hard way! Once all four sides of the box are together, the lid can be tried for a nice sliding fit. Because I am not always patient enough, I often end up with lids which are really too loose.

Instead of rebating the lid and bottom to fit into the grooves, one can also simply use a small plane to feather the edges until

they fit snugly. For myself I cannot decide which way I prefer. Once a good sliding fit is achieved, slide the over-long lid all the way in, and only then mark it off for length. Even if the box should be slightly out of square, marking the lid while in the box, should help you achieve a perfect fit with the end panel.

Because this is very much a non-uniform material, there is a certain amount of tweaking involved. A bit of trimming here, a bit of subtle adjusting with sandpaper there. Also, because each box is made to optimise the available material, there is no standard size. The nice outcome is that each box is truly unique. The unavoidable consequence is that the process is not very efficient. In my case



Notice how the bottom fits inside the grooves. The end panel is planed down to the bottom of the groove



A new pair of Wood Tools spoon carving knives deserve a special sliding lid box in Henrie's small workshop

Planing, ploughing and assembly

Straightening up the edges (above), planing down to the marked line. A box part securely clamped down (right), ready for ploughing a groove. Venerable WW2 RAF V-blocks holding parts in position while the glue sets (below).



Handed

The double-sided shooting board being used. The heavy plane body helps to complete the cuts





So many ways to identify the contents

this is fine. I enjoy using and fiddling with my various tools, with some Radio 4 or some beautiful African Kora music playing in the background. But if you depend on sales, you will need to develop much more efficient ways of working.

Wooden nails

The corners are reinforced with small 'nails', made out of bamboo cocktail sticks. Cut the sticks into 30mm lengths before the next bit is snipped off, using a pencil sharpener to create a new point first. This way you can use the full length of the sticks. You need to experiment a bit to find which size drill bit works best for the sticks you have. An eggbeater drill is best for drilling gently and eyeballing the direction of drilling accurately, so that the drill bit does not break out of the sides. About 20mm deep is enough. Dip the point of your wooden 'nail' into some PVA glue, so that there is nearly a small match head's worth of glue there. Then use a small hammer to gently drive it down.

The glue will spread itself along the length of the stick. Do not drive the wooden nail down too hard below the depth of drilling, because it will start splitting the wood! While hammering, well, tapping, rather, you learn to hear when you have reached that point. Use pincers or a small sharp snipping tool to cut the nail stubs off as low as possible. With a sharp chisel the rest can be pared back down to the surface. If you did not use too much glue, you will end up with nice, neat looking box corners. Because of the combination of glue and wooden nails, the corners become quite strong enough. When your material is less than 5mm thick, drilling pilot holes for wooden nails becomes almost impossible, and I had many mishaps. In that case it is better to use small 15mm



Leaning the drill over a bit, so that the wooden nail can enter deeper into wood without splitting the top edge (above)

brass pins. Drilling a very small pilot hole still helps. And seeping a small drop of thin superglue into that hole will help a lot with the gripping strength of that little pin. They can look nice in their own way, especially when they are still new!

To open or close the lid, your finger



The texture of a recycled board on a box

needs something to grip. After a bit of experimentation, I started to simply drill a small hole. This is fine for most purposes. You can also glue a small strip to the end of the lid, which gives enough grip to pull the lid open. Or invent something more creative. For the drilling I use a Goodell-Pratt Company hand powered drilling machine, with a 15mm Forstner type bit from a cheap set bought at Lidl. The great thing is, that this machine has an adjustable feed rate. When dialled down to almost no feed, the drilling takes an age. The payoff is that there is also almost no breakout of fibres when the bit comes through the other side. When someone gave it to me, it looked like a rusty piece of junk. After a bit of gentle cleaning, removing surface rust with some wet&dry sandpaper, and some oil on all the bearing surfaces, it is great fun to use it for a purpose like this. Otherwise, it is not a very efficient contraption!

These boxes are also ideal projects to use up all those scraps of colour paints you have sitting around. Almost any kind or colour of paint will do! Or you can leave them bare, or use oil, or whatever suits you best. Before applying the finish, I like to soften all the sharp edges with some fine sandpaper, so that the box feels more friendly in the hand.

For me this box-making project was an exercise to discover what can be done with some old 'rubbish'. Several of those boxes are now in constant use in my workshop. And I was able to make presents of them. I might be able to sell some eventually!

Now my mind is starting to eye up all those corresponding drawer sides. I have a hunch they will provide me with lots of dovetail practice! And, since you wondered: I keep my official paperwork in proper folders.

The Edge

TOOLS & TOOLMAKING

Hooked on Accu-Burr

To finally conquer scraper sharpening, *Ethan Sincox* turns to an innovative burnisher

Throughout 15 years of hand-tool woodworking, some skills have come to me quite easily, while others were (or still are) a struggle. It did not take me long, for example, to get my first bench plane to make a *swiish* and produce paper-thin shavings. From that moment on, I've had a consistent record of getting bench planes tuned up and working. Spokeshaves, on the other hand, took me a bit longer to figure out and some wooden ones still give me fits. The one exception, funnily enough, is the Millers Falls No.1 cigar shave, which causes problems for a lot of woodworkers but felt like a favourite pair of jeans in my hands.

One tool that has always given me trouble is card scrapers. I'm almost embarrassed to say how much I've struggled with getting one to work using traditional methods of setting up a scraper, even when using jigs or devices to control the angle turning the hook. That sounds a little harsh, doesn't it? Maybe it's more accurate to say I could never get consistent results. I have successfully turned a hook (also called a burr) and used a scraper to produce shavings, but I've had just as many (or more) edges crumble on me and produce nothing but dust. This is especially true with scrapers that have curves, like the gooseneck scraper.

There are a number of variations on the traditional method, but most of them include filing the edge with a fine mill file, polishing the edge and the corresponding faces with stones, burnishing the corresponding faces with a burnisher, and then turning the hook on the edge, again with the burnisher.

Traditional techniques

While there is always some discussion as to what the best method is for filing the edge, most agree on using a commercial or home-made jig to present the file perpendicular to the scraper. My take from this is that it's difficult to hold a long, narrow object (a file) perfectly square to a shorter, much thinner object (the scraper). So I don't do that. Instead, I place the mill file on my bench with the tang pointing into my wooden planing stop. Then I run the scraper down the file, also going towards the planing stop. I find it much easier to keep the scraper square to the file this way without using any jigs.

As far as stoning the edge and face goes, I've simplified this step as much as possible over the years. I used to take the scraper through three or four grits on my waterstones, all the while worrying about the scraper wearing little grooves into the softer stones. Nowadays, I grab two double-sided diamond stones I've had for 15 years. One is Coarse/Extra-Coarse, and the other is Fine/Extra-Fine. But the truth is I've had them for so long the C/EC is more like a Fine and the F/EF is an Extra-Fine or better. At this point, I don't know what grit any of them is, and this isn't rocket science, so I run the edge and just a small part of the two faces on the rougher diamond stone first, then run them on the



Success! Finally making shavings with a scraper

finer stone. Again, I place the stone on a flat surface and present the card to it because this is much more comfortable than trying to balance the stone on a very thin surface.

Before turning the hook, the next step most techniques include is burnishing the faces of the scraper. To burnish the face, lay the card down flat on the bench, about an inch from the edge, then present the burnisher to the face of the card and the edge of the bench and draw it across both a number of times. I use medium-ish pressure and quickly go back and forth across the card about five times. Then I flip the card over and do the other side, as well. Burnishing does two things: it compresses the softer steel and it draws out the edge. Compressing the steel makes it harder and thus more durable, which makes the edge hold the hook longer. Drawing out the edge creates a small point where the face meets the edge and this makes it easier to turn the hook.

The final step is turning the hook. Some people do this by eye, setting the burnisher at the desired angle and dragging it along the edge until they can feel the hook or burr form. Others use a



The first Blackburn Tools carbide burnishers (above) with spalted handles. The three grooves that make up the Accu-Burr (right), for a finest hook on the left and coarsest on the right



tool or jig that can be set at a specific angle. Forming the hook has always been the step I seem to not get right; either the angle is too steep, or the hook isn't big enough, or it doesn't hold up to much more than a few passes before breaking down.

No more struggling

Last week, I stopped struggling to sharpen a scraper. What changed? I took delivery of my Accu-Burr, a tool designed to take the guesswork out of turning the hook. The Accu-Burr is an incredibly simple tool in design, a carbide rod with three grooves. These precision-ground grooves let you choose between making a coarse, medium, or fine hook. The coarse groove sets the hook at 15°, the medium groove at 10°, and the fine hook at 5°.

When using this new tool, all the steps are the same except the last one. For the last step, all you need to do is hold the rod perpendicular to the scraper, place the desired groove on the edge, and draw it smoothly and easily across with medium downward pressure. I use the same pressure as if trying to cut a piece of barbecued pork steak (that might be a Saint Louis thing). I found about three strokes created the right amount of hook for me, but your results may vary, depending on how difficult it is for you to cut a pork steak! If you add a drop of oil to the Accu-Burr before use, it's a little easier even still.

But that's it! Stick your card scraper in the vise (I tend to leave just about an inch or so sticking up from the jaws to reduce any possibility of the card flexing under pressure), add a drop of oil (I use camellia oil) to the burnisher. One, two, and three passes and you're done! I've never been able to make so many proper shavings easily with a card scraper until this tool came around. Speaking of that, where exactly DID this tool come from? Well, have a sit and I'll tell you.

The Accu-Burr is the brainchild of Isaac Smith, proprietor of Blackburn Tools. I've purchased a number of things from Isaac over the years, including a saw kit and a saw sharpening gauge you put on the tip of your saw file to help you maintain proper horizontal and vertical angles in relation to the hand saw you are sharpening. He produces very high-quality tools. I was hoping he would continue with this latest one. I contacted Isaac to find out more about his invention and where the idea came from.

"This all started because I've long sold the offcuts from cutting out my saw blades as scraper stock at woodworking shows," he began. "A lot of people were hesitant to buy and use them because they had never learned how to turn a hook on a scraper." But after demonstrating how to put a hook on them, a large number of people ended up as customers. He demonstrated a carbide burnisher often and soon became quite adept at scraper sharpening. He also realised there was a market opportunity for a

dedicated carbide burnisher, so he began researching burnishers to see where he might start.

He soon came across Phil Lowe's reproduction of the Stanley 185 burnisher, which was unique in having a 30° pointed tip. Isaac duplicated that burnisher with one modification, a bronze ferrule with a face angled at 10° for a reference guide when turning the hook. He made a half dozen of them with spalted beech handles and sold them on Instagram. He met Mark Maleski when demonstrating this new burnisher at a show. During their discussion of the burnisher, Mark showed him how he stuck the point into his bench and laid a curved scraper on the bench, drawing it across the point to turn the hook.

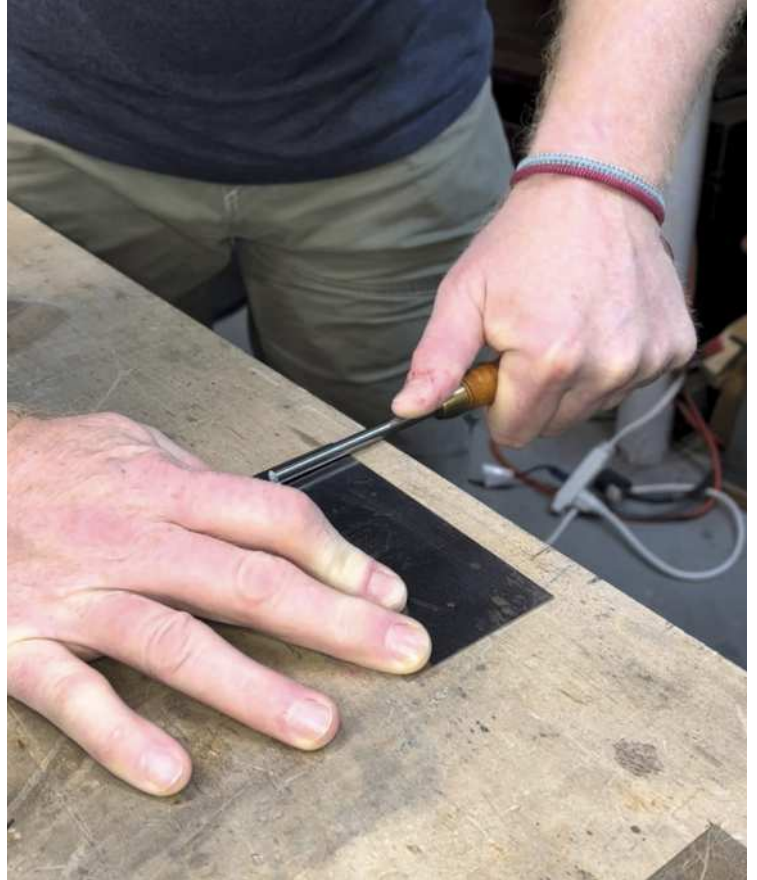
That meeting stuck with Isaac and he thought about it often. He eventually came to the realisation that you could put a v-groove around a rod to turn the hook on both sides of the edge at the same time. Lacking the proper milling tools, he couldn't act on this idea until Robert Porter, President of Union Mfg Co., stopped by his shop for a visit. They discussed the idea, and once Isaac explained it sufficiently, Robert offered to run it by one of his end mill suppliers, Lakeshore Carbide. Prototypes were made and tested and that design is pretty much how the Accu-Burr look today, with only a few minor changes.

Currently, Heartwood Tools (heartwoodtools.com) and Tools for Working Wood (toolsforworkingwood.com) are the two US companies carrying the Accu-Burr, while Workshop Heaven in the UK (workshopheaven.com) and HNT Gordon in Australia (www.hntgordon.com.au) are going to be the first international suppliers to carry them. Talks are currently under way with other retailers, as well. I'm sure Isaac will have updates on his own website, blackburntools.com.

When I purchased my Accu-Burr (at full price; this is not a paid advertisement for Blackburn Tools), all I bought was the rod. I had a London-pattern handle made of Fenland bog oak that was perfect for this tool, so I didn't even think about ordering one that came with a ferrule for making your own or waiting for a completed version coming out later this year. There is a brass-handled version coming out soon, and once that is out Isaac will begin producing wooden-handled options using walnut and cherry. He said he might also have limited runs of more exotic woods.

If you can't tell, I really love the Accu-Burr. It's not every day a new tool comes out that challenges the tried-and-true methods (well... for some people) and comes out ahead. It has certainly been a game changer for my finish prep.

Ethan Sincox: thekiltedwoodworker.com; @thekiltedwoodworker or thekiltedwoodworker@gmail.com. Ethan paid \$39.99 plus \$10.50 shipping for his Accu-Burr.



Pushing a scraper over a mill file (above). Burnishing the face of a scraper (above right). Turning the hook with the Accu-Burr (below) and one fitted with a London pattern bog oak handle (right)



Good Points

Robin Gates commends the simplicity and clarity of vintage dividers and trammels



Sturdy wing dividers can be used for scribing decorative arcs (left), and following up with the coping saw (above) for an ornamental ending. Three modes of articulation and adjustment shown by Lancashire spring dividers (below, on left), riveted wing dividers (below, centre) and M&W dividers with 'Quick Nut' adjustment



Reaching beneath the bench for a mallet, my hand met the needle-sharp points of long-lost Lancashire spring dividers. How long had they lain buried among the clutter, I wondered, and what else might be lurking there? As it turned out, nothing but screws, nails and a few old pencils, but finding these venerable dividers stirred my fascination for this most handy of point-to-point measuring tools. In a world where the ordinary grows ever more complex, reliant on layers of inscrutable technology, I find the simplicity of hand-tools increasingly attractive. Tools entirely lacking in moving parts

are my favourites – scribes, knives, scrapers, chisels, hammers – but among those dependent on just a modicum of movement dividers (formerly known as 'compasses') and their near relatives trammels are not far behind.

Entirely devoid of numbers and scales, these tools are more readily understood even than a ruler which, to ageing eyes, is as likely to register the wrong measurement as the right one while I squint to make sense of its blizzard of tiny graduations. Preoccupation with numbers and scales can make us forget what we're trying to achieve. At its simplest – and therefore

best – making a measurement only requires the extent of anything be established, and the more straightforwardly we can achieve that, so much the better. Undoubtedly the great strength of these ancient and most articulate of measuring tools is that the distance locked between their points is the extent of what we're looking at, and no messing – it's as clear and infallible as a plumb bob declaring a vertical. No wonder they've been around for thousands of years, and barely changed in all that time.

Springs and wings

These Lancashire spring dividers excavated from the

burial mounds of sawdust beneath my bench date from around 1900 and are among the simplest of their species, essentially forged from a single piece of steel all the way from one point to the other. But that isn't to say the making of them was lacking in artistry. The legs are of a sturdily square yet shapely section, flaring outwards at the point where the adjusting screw is fitted and tapering to conical points. At their mid-point the steel has been flattened, hardened and tempered to work as a spring; much like old-fashioned sheep shears. Turning the wing nut on the threaded adjustment bar anti-clockwise allows the spring



Contemplating the good points of Best Lancashire spring dividers (left). The locking mechanism (above) of M&W dividers loosened to show the split 'Quick Nut'. Spacing dovetails (below) using M&W toolmakers' Sheffield spring dividers



to open the legs to the desired distance, but the further apart the legs the weaker the spring's effect in maintaining the legs' rigidity. At the $4\frac{1}{2}$ in (115mm) maximum opening of these 6in (150mm) dividers the screw adjuster hangs loose and the tool is unreliable. Incidentally, the threaded bar is very cleverly mounted, being anchored by an almost invisible pin in a recess that's slightly elliptical so as to allow pivoting as the legs open and the bar swings upwards. Where the screw passes through the second leg the aperture is larger to accommodate the greater movement.

For more substantial

carpentry and scribing in rough surfaces, where the spring-dependent legs of Lancashire dividers are prone to flex, the more solid choice is lockable wing dividers where the two legs pivot around a riveted joint. The arcing quadrant of the 'wing' is riveted to one leg and passes through a slot in the second leg where it's locked by a thumb screw.

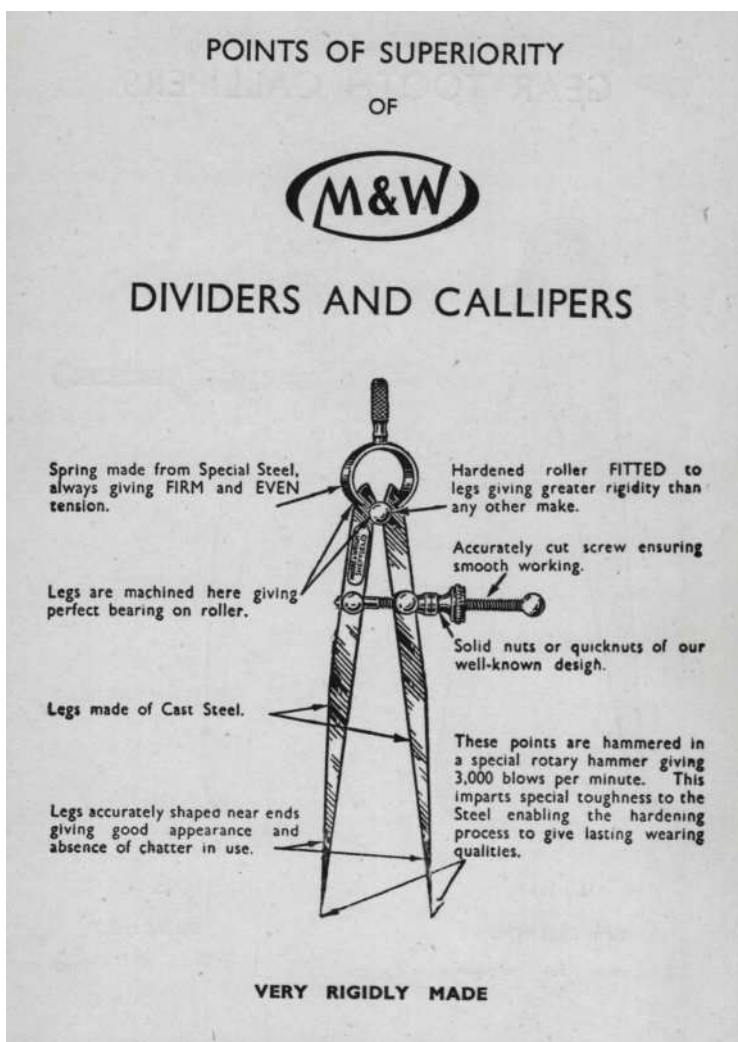
Dad bought these dividers from an ex-government store sometime in the 1960s, and they bear the government 'crow's foot' and date 1952, although to look at them you might think they were much older especially as the riveted wing joint bears the imprint

of the blacksmith's hammer. The basic design of riveted dividers has altered little since Roman times but the advent of the wing was an important step. Riveted dividers relying on friction are almost invariably either too tight or too slack.

Spanning the work with these pointed legs of steel and tightening the thumb screw on its elegant quadrant locks the dimension in space and time. No need to write or remember numbers here; this is measurement in its purest form. With reference to the engraved graduations of an engineers' steel rule, where the points locate accurately in the rule's indentations,

dividers offer a precise means of marking a measurement without risking errors introduced by a pencil or knife; the tool is its own scribe. Besides their functionality these heavy old wing dividers are a delight to use, finding more uses than straightforward linear measurement or scribing arcs: 'spiling' a skirting board to fit an uneven floor, for example, constructing perpendiculars, 45° and other angles, bisecting work, marking out for decorative carving or sawing, and not least the very satisfying exploration of proportion that is a foundation of pleasing design.

Before leaving the subject



TEF Swindale's 1885 brass trammel heads (above left) on the original mahogany beam. Old tools marked with an owner's name and date establish a personal connection (left). M&W's 'Points of Superiority' illustrated in the company's 1952 catalogue (above)

of dividers, a use that's gained traction in recent years is the stepping out of marks for the tails of dovetail joints. Instead of faffing with a ruler to establish tails with equal spacing you can step across the end of the tails board with dividers using the time-proven technique of trial-and-error, opening or closing the points by degrees until you achieve the spacing you want.

Old iron wing dividers are a tad heavy for this more delicate work, and where accuracy is paramount that tendency of Lancashire spring dividers to twist might prove a dovetail perfectionist's undoing, but the more sophisticated spring

dividers favoured by toolmakers are just the ticket, like these made by Moore & Wright. Each leg is a separate component pivoting about a hardened steel roller, maintaining its position through the opposing forces of the powerful spring and the adjuster. Addressed 'To the tool buyer' the first page of a 1930s M&W catalogue offers a fascinating insight to the company's modus operandi. There's evident pride in the company's tools being made in a 'healthy factory in Sheffield, England' under 'good conditions of work and wages' with 'no garret labour or merchant (or middleman)' exploiting work 'or having entered tool production'

and that 'Every worker, both male and female, on reaching 18 years of age has one week's holiday paid for.' Now, 90 years on, I understand the majority of M&W-branded tools are made in the Far East while an ASDA supermarket occupies the company's old Sheffield site.

Helpfully, a 1950s catalogue provides a diagram illustrating significant 'points of superiority' in the company's dividers, drawing attention to the 'firm and even tension' of the spring, the hardened roller 'giving greater rigidity than any other make' and points 'hammered in a special rotary hammer giving 3000 blows per minute' ensuring 'absence of

chatter' in the legs. And thank goodness for that. Is there anything more irksome than the legs of your dividers breaking out in idle conversation? What may need further explanation is M&W's refinement of the adjusting mechanism using the 'Quick Nut.' This is a captive spring-operated split nut which mates with a tapered washer so as to automatically engage and disengage with the screw thread for faster adjustment between large and small openings, to save twiddling.

Swindale's trammels

Beyond a certain size of dividers the setting and manoeuvring of the legs



Scribing concentric circles (above). Note the brass 'keepers' preventing marking of the beam. When scribing a large radius on small work (above right) one point may be planted on the bench. Both points are on the work (right) while scribing an arc on this longer piece



becomes unwieldy and that's when your need trammel points; essentially a beam compass. And whereas the span of even the biggest dividers is limited by the length of its legs, trammels are limited only by the length of the beam which may be cut to suit the job. Hence trammels are well suited to scribing the arcs of larger circles; perhaps the crest rail of a chair or the concentric tiers of corner shelving.

As an amateur in the old-fashioned sense of one who works wood for the love of it, I'm too often lured by the aesthetics or mysteries of a thing and so it was with these brass trammel heads on their

chamfered beam of mahogany. For what little amount of trammels-type work I do I could just as easily get by with two nails hammered through a batten, and that might even be the best thing for repeated use over a set distance, but how sadly lacking in style that would be. When I spotted the name and date so nicely stamped upon them – one TEF Swindale of Newcastle, 1885 – my curiosity was piqued and I just had to buy them.

Historically the making of trammels was often tasked to an apprentice as a test piece, and although this pair are very similar they're not identical. I'm sure I can

sense the touch of the hand that made them, evidently to last a working lifetime and beyond. If maker and owner were the same, that hand belonged to Thomas Emmerson Swindale who worked at Sir William Armstrong's vast shipbuilding yard at Elswick, near Newcastle, and he would have been 18 when he carefully placed his letter and number punches for striking smartly with the hammer.

Trammel heads made in the 19th Century were often more decorated than these, with fancy cut-out patterns and engraving, but although shapely these heads are solidly functional and I suspect the

brass bodies were cast in the shipyard's own foundry, thence to be tapped with screw threads, fitted with hardened steel points and hand finished.

As they fall out of use and become separated, odd trammel heads turn up singly more often than in pairs, and even those remaining as a couple may be missing their 'keepers', the tiny pressure plates which prevent the locking screws from damaging the beam. Luckily both keepers are present on Mr Swindale's trammels and also the original beam, likewise imprinted with his initials, and I'd guess the tool works today much as it did when new 137 years ago.

Inclined to Check a Square

Charles Mak shows how relative angles are a job for a digital inclinometer

In my shop, the digital inclinometer, also known by other names such as the digital angle finder, tilt indicator or tilt gauge, is used to aid some of my hand-tool work. Let me share three examples of how to utilise the digital device to its full potential in a traditional woodshop (Pic.1).

To check a combination square, many woodworkers draw a line on a board, flip the square, and draw a second line next to the first one. If the lines are parallel, the square is true. But it is easier to verify a square with a digital inclinometer. First, place the inclinometer on the head, and calibrate it to zero (Pic.2). Then attach the device to the blade, and, if the square is true, look for a read-out that says 90° (Pic.3).

Often, I use the digital angle device to set other tools to the desired angle, such as the mitre gauge, and sliding bevel. To set a sliding bevel to an angle, calibrate the inclinometer to zero on the stem of the sliding bevel (Pic.4). Next, stick the device to the blade on the sliding bevel, and move the blade until the desired angle is shown (Pic.5).

In the final example, I will use a digital tilt gauge to set up a honing jig at any desired angle with no estimation. To hone a back bevel of 15° on a plane blade, calibrate the tilt gauge to zero on the bench. Then mount the blade in the sharpening guide of choice, and place the tilt gauge on the blade. Lastly, position and lock the blade when 15° is displayed on the inclinometer (Pics.6&7). The digital inclinometer has earned its keep in my toolbox, side by side with my other protractors. The days when I would strain to read an angle in poor lighting are a thing of the past!



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