

# Woodworking

## CRAFTS

HAND, POWER & GREEN WOODWORKING • TURNING • RESTORATION • DIY

## Chairmaking secrets

*How to produce consistent round tenons*

**BISCUIT BITES**  
Jointer tips & tricks to get your teeth into

Simple steps to turn a natural-edge vase

**PROJECTS**  
BBQ fire box  
Garden arbour seat  
Making a steam bending box

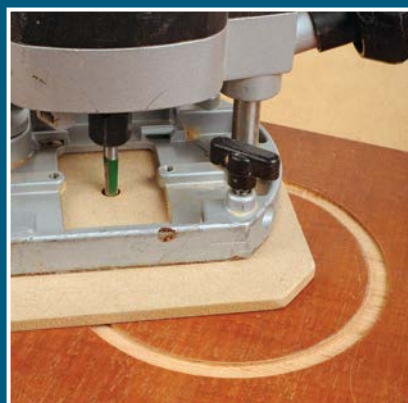
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# Welcome

to the May issue of  
*Woodworking Crafts*

## Bite-size chunks

Hello everyone and welcome to the May issue of *Woodworking Crafts*. Recently I have been demonstrating routing techniques to some enthusiastic woodworkers. Trying to cram in enough information in a relatively short time is really difficult, as I know from past experience at woodworking shows. In fact the best you can really hope for is that it is interesting enough to excite people's interest so they want to have a go themselves later on and that some of the information you have given them 'sticks'. Apparently we only retain a limited amount of information which we have been given, I tend to think we learn more but simply can't retrieve it again!

Anyway that is where magazines come in, a reliable source of information, which you can come back to and reread any time you want. That and books are the ultimate 'catch-up' service, always on the shelf waiting to be read. When a new issue of *Woodworking Crafts* comes through your door, it looks glossy, it has a smell and feel that only printed paper can have and it's yours.

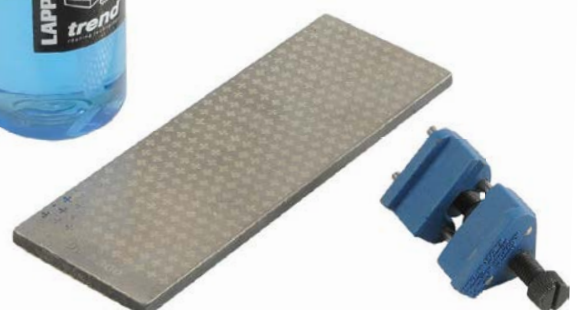
Sources of information on the internet can be unreliable and even misleading and may be transitory – you don't own them the way you own your copy of the magazine. In this uncertain world we can bring you certainty and the chance to learn and discover useful information about the world of woodworking – in bite-size chunks.

*Anthony Bailey*

Anthony Bailey, Editor  
Email: [anthonyb@thegmcgroup.com](mailto:anthonyb@thegmcgroup.com)



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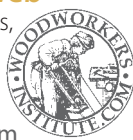
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# Walnut bureau

In an extract taken from *Furniture Workshop: A Woodworker's Guide*, **Kevin Ley** makes an attractive walnut bureau with 12 secret compartments

**D**uring the UK recession of the early 1990s work was a little thin-on-the-ground, so I decided to use some of the time 'resting' between commissions to make an unusual piece; to get noticed and hopefully drum up a bit of trade. I thought long and hard about who I was trying to impress. While, of course, I would make anything for anyone, a study of my client base revealed it was mainly middle-class, well-off couples and traditionally oriented. Also, most of my clients' contributions to design, comment, criticism and appreciation tended to come from the female side.

## Timber preparation

The boule I selected contained boards of suitable dimensions and such quality there should be little wastage. The components were marked out and cut over size, stuck and left for some weeks to settle in my timber store, which has a dehumidifier. I started with the large pieces for the main carcass and drawer fronts, working down to the smaller pieces. After the wood had settled for a couple of weeks it was faced and thickened, and the thin stuff for the drawer carcasses and secret compartments was deep sawn, stuck and weighted to hold it flat while it settled. This thin stuff was needed last, so it had plenty of time in the timber store while I made the main carcass. Final conditioning of the timber takes place during the making in the workshop, which I keep warm ➤



## Design

Something with visual impact, without being too far-out, which demonstrated my craftsmanship, design ability and ingenuity was required. My lady's writing desk had been very successful – as had the various multi-drawer chests. A bit of market research – 'Come and look at my furniture designs, my dear' – and it seemed that plenty of drawers and storage compartments, in a smaller, daintier piece was the way to go. Secret compartments fascinated and intrigued me... As well as trying to impress potential clients, I wanted a challenge to stretch me and improve my skills. An RAF colleague had retired into the antique business, where I saw a nice drop-front bureau, with a secret compartment. I hadn't made a bureau and this gave me lots of scope for drawers, storage, and secret compartments, so I decided to go down that route. The result of my efforts is this 22 drawer, bijou bureau, with 12 secret compartments.



with a stove and dry with another dehumidifier. The importance of correct conditions for timber storage and furniture making cannot be over emphasized. The closer temperature and humidity in the workshop are to the end use destination, the better. For a piece such as this, the mechanics of the multiple drawers and secret compartments meant it was particularly important to keep any post construction movement to a minimum.

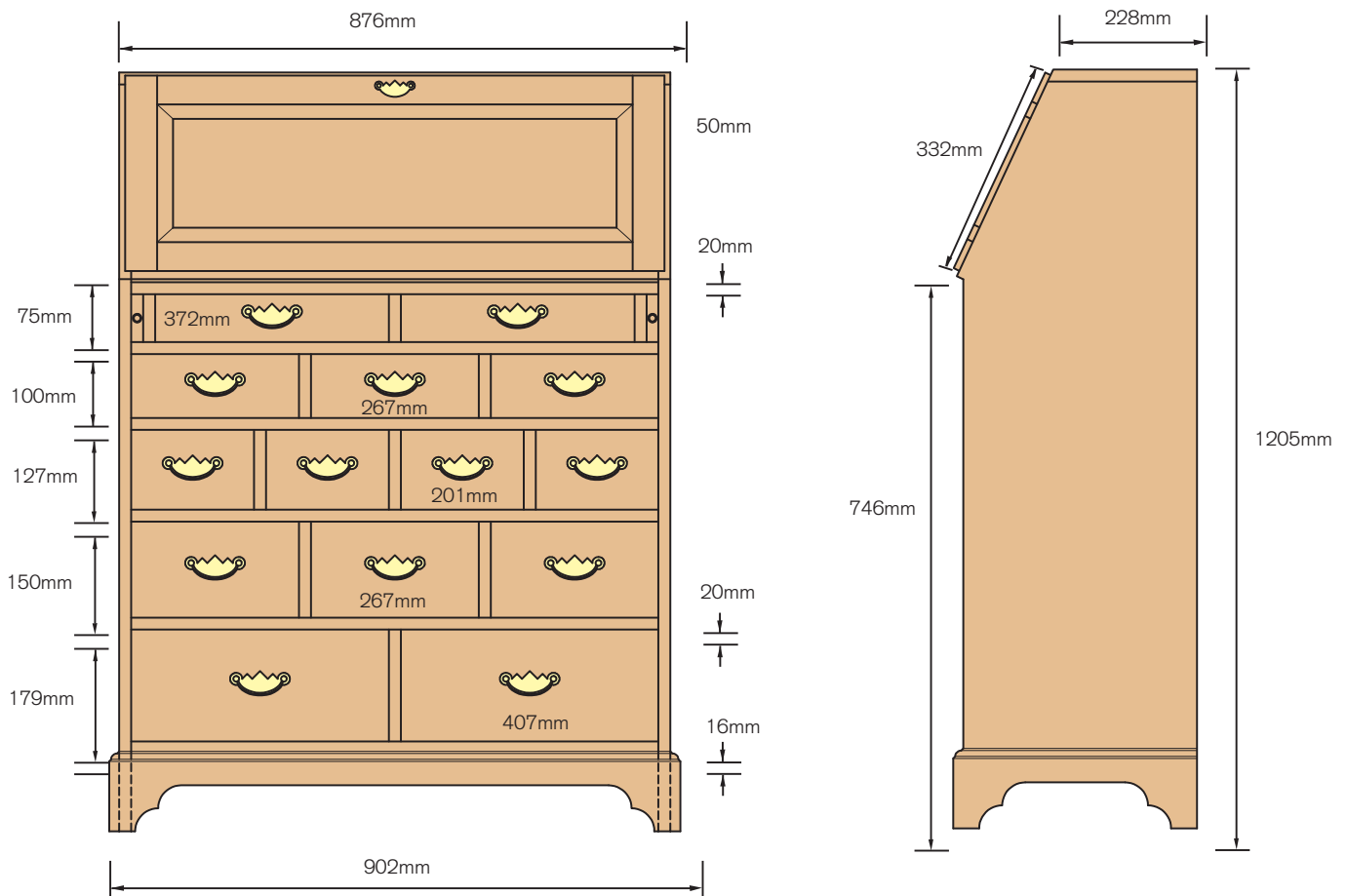
## CONSTRUCTION

### Sides

The sides are made up first, each from two widths of walnut. The figure is matched carefully and the joint strengthened with biscuits. The edges are planed on the surfacer and finished by hand to remove the ripples. The join is made slightly hollow in the middle, so the ends are under pressure; this allows for the extra shrinkage as the end grain loses water more quickly. The slots for the back, and stopped housings for the shelf and drawer frames, are cut in the sides with a router.



Kevin's apothecary's chest has also proved a success – it too has lots of drawers!





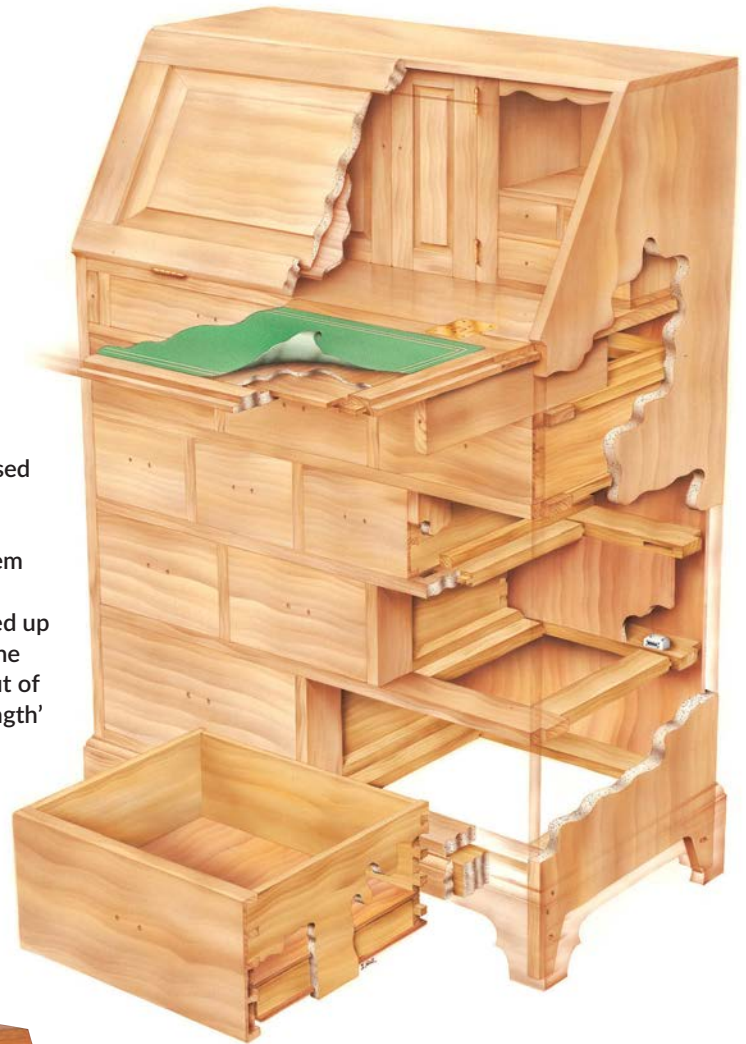
## Cutting the slope

The top of the side is drawn to full size on a piece of hardboard, to establish the position of the drop flap, hinges, and the angle of the slope. A template is made, transferred to the side, and the slope cut. The offcuts from the sides are kept to make the horns at the bottom of the slope. An off-set shouldered tenon is then cut on each top edge to accept the top.

## Drawer frames

The drawer frame fronts are made from 2 by ¾in (50 by 19mm) walnut, and the sides and backs from 50 by 19mm oak to save walnut. The backs of the frames are ¾in (1mm) longer than the fronts to make the frames – and therefore the assembled carcass – ¾in (1mm) wider at the back. This gives a little clearance as the drawers are pushed home, for easy movement. The drawer spacers are tapered front to back, by a tiny bit each side, for the same reason. Mortices were cut in the frame fronts and backs and tenons formed on the sides. The frames are assembled with the front joints glued, but the back joints left dry, with an expansion gap, to allow for movement in the carcass sides.

'Biscuits are used in the mitres – very useful in preventing them slipping when they're clamped up – apart from the obvious benefit of the extra strength'



Walnut is a delight to work, and the favourite of many a cabinetmaker

The diagonals are measured, adjustments made to square up the frames, and they are left to set. The diagonals are shouldered front and back to go into the stopped housings in the sides. The front uprights, between the drawers, are cut to size and a ¼in (6mm) shouldered tenon cut on each end. Corresponding mortices are cut in the frames, and the drawer spacers fitted. The lopers are treated as drawers with uprights and spacers fitted to locate them.

## Carcass assembly

The initial carcass assembly required careful preparation because of the large number of joints to be glued and clamped at the same time. All the pieces are finished as far as possible, and then check fitted dry. The clamps and equipment were all ready with plenty of time allowed – this was not a 'Friday afternoon' job. The drawer frames are glued into the sides, and the uprights glued between the rails. Only the front and back rail ends of the frames should be glued into the ➤





Doors open revealing yet more drawers

side slots, so the dry joint at the back can run smoothly. The back and front diagonals of the carcass are checked to ensure all is square and the carcass is then left to set.

### Plinth

A support bar for the plinth front is fitted between the sides, screwed through the sides and biscuited to the base above it. The plinth pieces are given an ogee moulding on the top edge with a router, cut to length, and mitred on the radial arm saw. I use a negative rake cross-cut blade for finish and prevention of 'climbing' over the work; adjustments are made

by hand on a shooting board. Biscuits are used in the mitres – very useful in preventing them slipping when they're clamped up – apart from the obvious benefit of the extra strength. The sides of the plinth are offered up to the ends of the carcass sides and the cut-out shape marked with a pencil. The ends of the carcass sides are then cut out with a jigsaw to correspond with the cut-out in the plinth. The plinth front is fitted by screwing and gluing, from the back, on to the support bar. Aliphatic resin glue is applied to the mitres, for a really strong joint with no 'creep'. The first 2in (50mm) of the plinth sides are also glued to the sides,

this time with PVA, which allows a little movement, and clamped into position. The remainder of the plinth sides are left dry; they're fixed at the back, from the inside, through an oversize hole, with a screw and washer. This allows for any movement in the sides, across the grain. The mitres are tapped over, where necessary, and sanded when dry.

### Standard drawers

All the pieces for the drawers are cut to size, fitted and marked. The fronts from  $\frac{7}{8}$ in (22mm) walnut, the carcasses from  $\frac{1}{4}$ in (6mm) oak, and the bases from  $\frac{3}{16}$ in (5mm) oak-



Drawer divisions, runners, stops and kickers



The top of the loper is felt covered to protect the front flap



## Timber selection

English and French, Italian or Turkish, and so on, are all European walnut (*Juglans regia*) and are named according to region. The various regional types vary in colour, figure and texture but all have typical characteristics. An excellent resource on wood and all its properties is *Wood: Identification and Use* by Terry Porter (also published by GMC Publications). English walnut – the king of timbers – was my choice for this piece. It works easily, is stable, polishes to a high finish, and smells lovely when cut. Unfortunately, it was also very difficult to find in sufficient quantity and quality. English walnut trees tend to be older and larger than European, with good figure and some ripple, making them highly prized – and priced – for veneer production. In the end I had to settle for steamed French walnut. This timber is very similar to English walnut but generally in smaller boards. It is steamed to reduce the colour contrast between the dark heartwood and the light sapwood, enabling the sapwood to be used in construction. The steaming process makes the wood even easier to work and the sawn logs are treated with an insecticide to reduce the sapwood vulnerability to insect attack. At my timber yard it was sold in complete boules, with the boards bound together sequentially. Once I had chosen a likely looking parcel – of about the right total volume and dimensions – I opened it up to have a good look at all the faces of all the boards. This timber was expensive and so I didn't want any unpleasant surprises!

faced MDF. The thin drawer carcasses give a lightness and look of quality. The sides are slotted for the bases, taped together in double pairs, with the top one marked out, and the pins cut on the bandsaw. Holes are drilled in the fronts for the handles. Then the fronts and backs are marked one at a time from the pins, and the majority of the waste removed with a router. Each joint is then individually finished with a sharp chisel; the drawer assembled, with the MDF base glued in all round, and pinned at the back, checked for square and wind, then left to set. The open back of the carcass made the final fitting of the drawers relatively

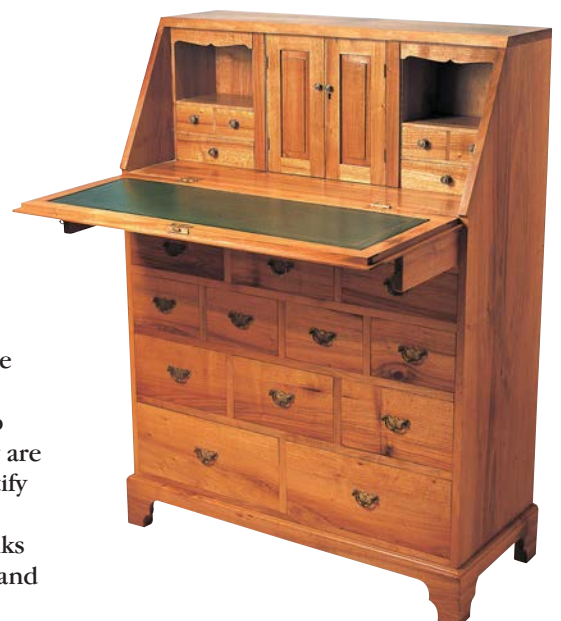
Traditionally dovetailed, of course



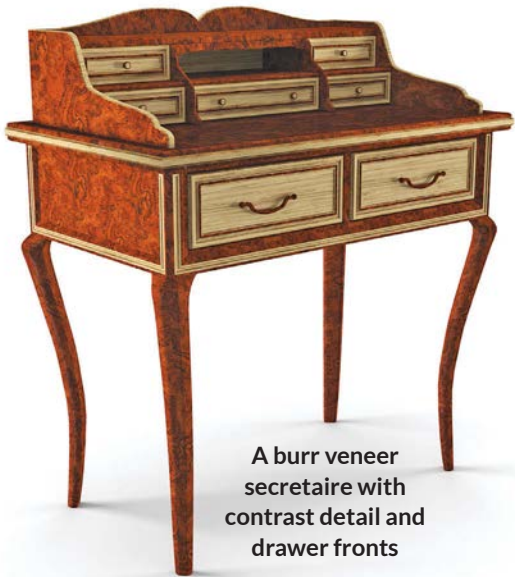
Engraved escutcheons and handles



easy. The extra  $\frac{3}{64}$ in (1mm) of space at the back, created by the taper on the drawer frames and spacers, also helped and they all ran freely. They are clearly marked on the back to identify their position. In the next section, Kevin completes the project and talks you through the false components and those tantalizing secret drawers. ■







A burr veneer secretaire with contrast detail and drawer fronts



An oriental piece shown both closed with its carved panels and open to reveal the letter and paper pigeonholes



# INSPIRATION

A bureau is a writing desk of course, but it can come in various shapes and styles – some have drawers and some have legs when they are usually termed ‘secretaire’



A bureau with writing flap down and one of the supports known as a ‘loper’ extended underneath



A rolltop secretaire with a kneehole design and brass fittings



Plenty of curved detail on gallery, ends, legs and skirt typify this design



This is the most complex of all - French marquetry tutor Bruno Rovro at Lycee Jacques Brel, Paris, kneeling next to his own version of the famous Bureau Du Roi which original belonged to Louis XV





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# The New Forest pony

PHOTOGRAPH BY TABITHA MCGRATH



**Peter Clothier** carves and paints a British breed in the folk-art style of Frank Whittington

**A**fter the First World War, woodcarver Frank Whittington started a business making wooden toys. He combined the traditional flat plane wood carving techniques from Scandinavia, with the laminating techniques used by Black Forest toy-makers which cut the toys out from thin section boards rather than solid wood.

This laminating technique has the advantage of allowing the maker to run the grain on at right angles, allowing elements that instead of being easily broken because of short grain, have the grain running along them. His designs had bold outlines and combined with vigorous carving techniques, resulting in simply made toys with a strong

folk-art element that appealed to children and adults alike.

This is my original design, but it uses the Whittington techniques to acknowledge his New Forest background. To make this project, enlarge a copy of the printed templates to create the working templates.

The pony is made from three sections of 18mm planed softwood e.g. pine (*Pinus* spp.) – available from DIY stores and most builders' merchants who should have boards up to 230mm wide in stock. If boards as wide as this are not available, glue two or more narrow boards to give enough width to work with. It is important to make sure that the faces of the boards are flush and level so that no gaps emerge when gluing the elements together later.



## Frank Whittington

Frank Whittington began making wooden toys after the First World War and opened the Forest Toys factory in 1922. He produced Noah's arks, farm animals, zoo and circus animals, various dog breeds and fox-hunting sets. At one stage he was employing 16 people, but sadly the factory closed at the outbreak of the Second World War. Materials were rationed and employees became involved in the war effort. The factory never reopened. Examples of the toys produced by the Forest Toys factory can be seen at several museums in Hampshire: The New Forest Centre, The Alton Museum and The Russell Cotes Museum.

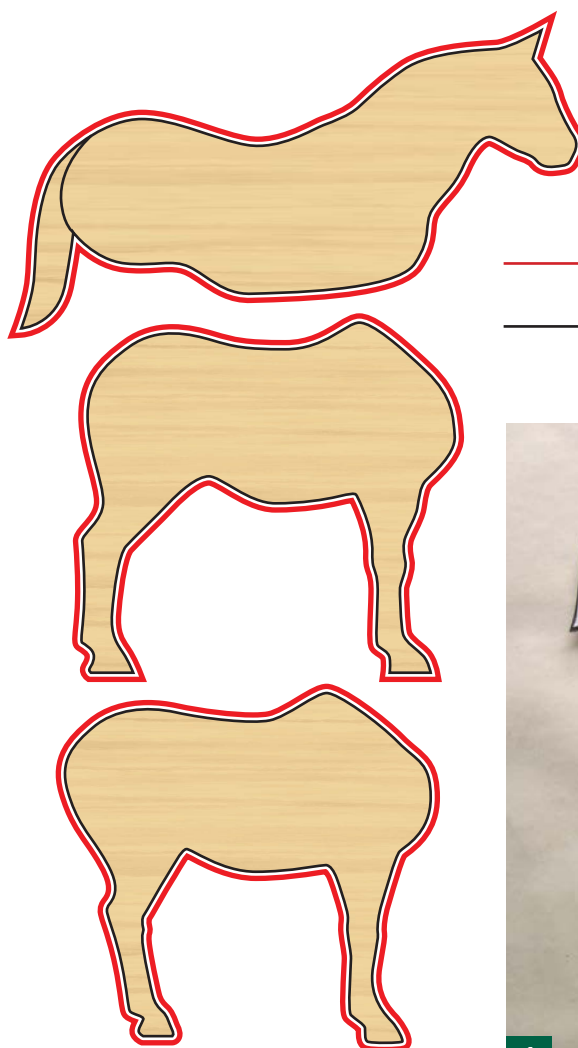


## Things you will need

- 12mm flat carpenter's chisel
- 6mm gouge
- Cut 3, 16mm gouge
- A knife with a narrow blade
- Small saw
- G-clamp

## Wood

- 3 pieces of 18mm pine
  - 2 side and leg sections
  - 1 head and body section
- The pony measures 200mm to the top of his ears – 225mm from nose to tail and is approximately 54mm thick



— BANDSAW CUT  
— CARVING OUTLINE

**1** Glue the printout of the templates onto thin card. This way they are easier to work with and will also last longer if you keep them to make further models. Notice that the head is only on the middle section, saving both carving time and materials.

**2** The templates are stacked to show the back legs are in different positions. This method of construction allows various possibilities of leg positions, including exchanging left and right side leg positions. As you mark out the shapes onto the wood make sure that the grain runs along the length of the legs and tail.

**3** Cut out the outline using a bandsaw with a 6-skiptooth, 10mm-wide blade. Or you can cut the shapes out with a jigsaw or heavy duty power fret saw. You will need two leg/side sections and one head/middle body section for each toy.

**4** Temporarily hold the bandsawn shapes together with rubber bands to indicate the final assembly method. The lines show where the 45° chisel cuts will be made during carving. Mark out your bandsawn shapes in the same way as before.

**5** With a G-clamp, secure one leg and body section firmly to the workstation and begin to shape the legs. Use the 12mm chisel, set in at right angles along the fetlock line at 90° at the horizontal face and at 45° on the two outer edges of the leg shape. Make the cuts gently, as it is better to make a second deeper cut later, rather than pressing too hard and splintering the wood. ➤



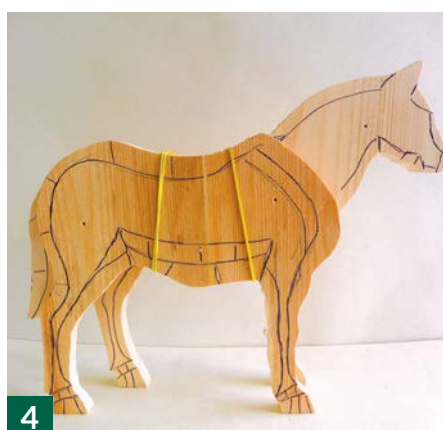
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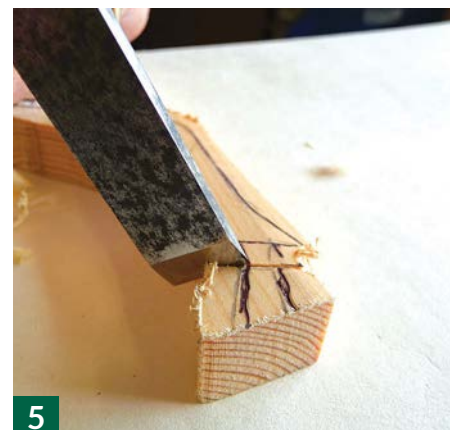
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3



4



5



**6** Continue using the 12mm chisel, bevel side up, and pare down so that you create a 45° cut down to meet the set-in cut and a chip of wood should pop out.

**7** In order to shape the facets or chamfers on the legs it is best to hold the chisel at 45° to the face of the wood, bevel up, and make a series of delicate cuts from opposite directions, until the shape is achieved. The final cut should follow the marked out shape on the surface and be at about 45° to it. After carving both sides of the side sections the legs should have a variable eight-sided section.

**8** On the inside of the leg, shaping should only extend up as far as the point where the centre body section is glued to it, i.e. not above the belly line.

**9** Carve the outside of the leg and body section. Here you can see where the position of the cuts, not only for the legs, but also for the rest of the body can be made.

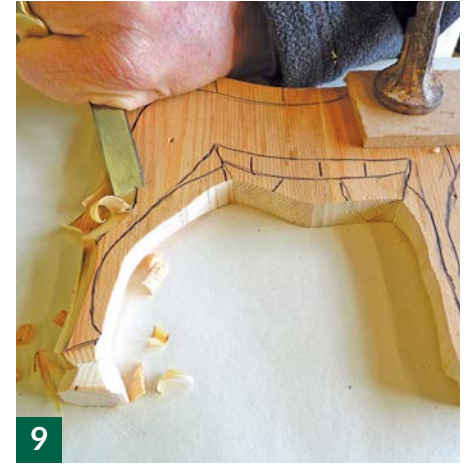
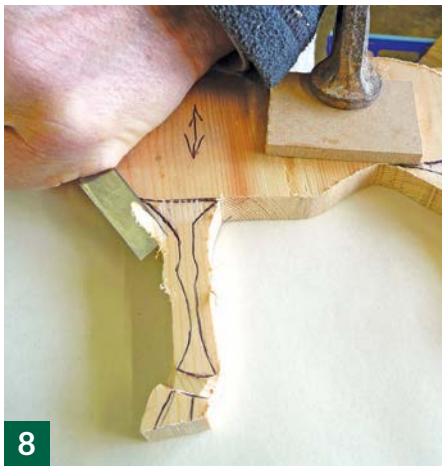
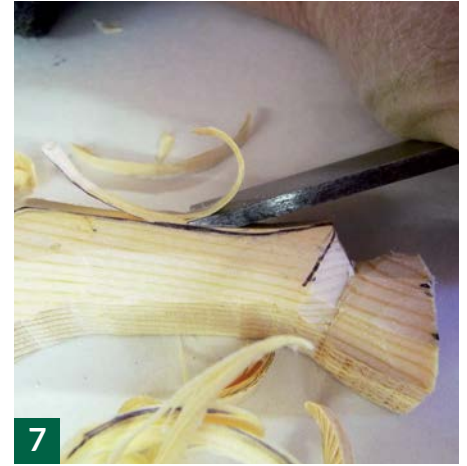
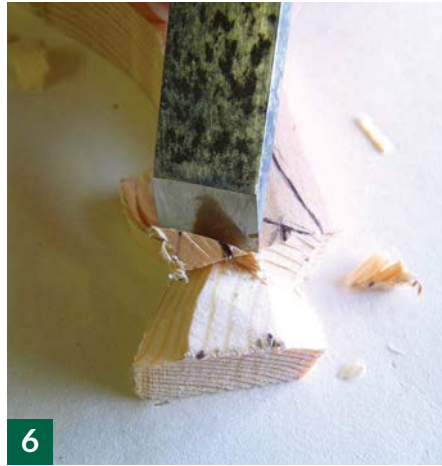
**10** Having completed the legs the side of the body can be shaped with a 12mm chisel making cuts at about 45° down as far as the marked stop line in the photo. Try to make the cuts of a faceted nature in keeping with the legs.

**11** Having completed the preliminary carving stage, there will be places where the initial bandsaw cutting has left a rough surface on the original outline. This can be pared off with a small narrow bladed knife of your choice. Pay particular attention to the shape with reference to the original templates.

**12** Carve the head using a similar technique used on the legs by setting in the deep cuts and then taking out the appropriate chip of wood.

**13** Pare away the wood in thin slices to gradually achieve the required shape of the head.

**14** Using the 6mm gouge, run a groove around the pony's hindquarters just by the top of the tail and then use the 12mm flat chisel to shape the tail using 45° cuts to create a faceted finish.





## Assembly and gluing up

**15** Ensure that the gluing surfaces are clean and flat and, if necessary, sand them on a sheet of abrasive paper stuck face-up onto a piece of MDF board. Assembly is a two-stage process. In the first stage insert two panel pins about 5mm deep into one of the gluing faces – that will not be anywhere near any future carving processes – and with pincers, nip them off close to the surface. This leaves a tiny point which will afford enough grip to prevent the two pieces from slipping out of alignment when cramping pressure is applied. Spread white PVA glue thinly over both surfaces, paying particular attention to the edges. Assemble one side and the head and body section, making sure that the two are in correct alignment. Clamp the two elements together being careful to avoid any gaps between the edges, protecting the wood surfaces with scrap wood under the clamp jaws. Allow glue to set.

**16** For stage two, you use panel pins as before and glue both faces, again paying particular attention to the edges. Using protective scraps of MDF and G-clamps, assemble the pony, taking particular care that all four feet are in contact with a flat surface; this is essential otherwise the pony will not stand evenly. Leave overnight for the glue to set.

**17** Clamp the assembled body onto the bench top and using the 12mm carpenter's chisel and the cut 3, 16mm gouge, shape the body aiming for a faceted surface.

**18** Mark out the 'V' between the ears then use a fine-bladed saw to cut out the piece of waste wood. After carefully shaping the ears with a knife or flat chisel, the carving stage of the project is now complete.

**19** Lightly sand the pony with 150 grit abrasive to remove any small tears or uneven areas on the surface of the wood. It is important that you do not lose the faceted shapes by over-sanding. By wrapping the abrasive around a piece of dowel or scrap wood the facet cuts can be preserved and improved. Now, you can either leave the surface plain, allowing the grain to show and varnish it with a satin interior varnish, or give it a traditional painted finish.



## Painting the pony

**20** The ponies were painted with acrylic artist's colours in burnt umber and black and white and given an antique finish. Apply two coats of your chosen body colour and paint the mane, tail and any other details using photographs of real horses for reference. When the paint is thoroughly dry, use 500 grit wet or dry paper and gently break back through the edges and facets of the carving, replicating wear patterns. Finally, coat the pony with either tinted antique wax polish or make your own 'dirty' polish



as used by conservators by mixing a little burnt/raw sienna oil colour with clear wax polish, apply it with a cloth and polish off after half an hour. ■



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£286.80 INC.VAT

### Clarke DUST EXTRACTOR/ CHIP COLLECTORS

FROM ONLY £139.98 EXC.VAT  
£167.98 INC.VAT

METABO ALSO AVAILABLE

Powerful 750W motor

- 56 litre bag capacity
- Flow rate of 850M3/h

### Clarke CWVE1 DUST EXTRACTOR

- Portable vacuum extractor for keeping work areas clean & free from dust particles, shavings, etc.
- Quick release lid
- Air flow 183m³/hr
- 1100W input power
- Inc. filter cartridge, 4x inlet hose reducer adaptors & 4 dust bags

50 LITRE CAPACITY

NEW

FROM ONLY £109.98 EXC.VAT  
£131.98 INC.VAT

### Clarke STAPLE/ NAIL GUNS

CONSN18LB

FROM ONLY £22.99 EXC.VAT  
£27.59 INC.VAT

SPARE NAILS / STAPLES IN STOCK

ELECTRIC AND CORDLESS MODELS IN STOCK

| MODEL     | TYPE     | STAPLE/ NAIL GAUGE | EXC. VAT | INC. VAT |
|-----------|----------|--------------------|----------|----------|
| CESN1G1   | Electric | 22/18              | £22.99   | £27.59   |
| CON18B    | Cordless | 22/18              | £29.98   | £35.98   |
| CESN1G2   | Electric | 18/18              | £39.98   | £47.98   |
| CONSN18LB | Cordless | 18/18              | £119.98  | £143.98  |

### Clarke MULTI FUNCTION TOOL WITH ACCESSORY KIT

CMFT250

- Great for sawing, cutting, sanding, polishing, chiselling & much more
- 250W motor
- Variable speed

FROM ONLY £39.98 EXC.VAT  
£47.98 INC.VAT

### Clarke 1" BELT/ 5" DISC SANDER

- Includes 2 tables that tilt & lock
- Quality induction 300W motor
- CS1-5

FROM ONLY £69.98 EXC.VAT  
£83.98 INC.VAT

### Clarke POWER PLANERS

CEP1

BLACK & DECKER

- 82mm cutting width

FROM ONLY £28.99 EXC.VAT  
£34.79 INC.VAT

| MODEL            | MOTOR | DEPTH OF CUT | EXC.VAT | INC.VAT |
|------------------|-------|--------------|---------|---------|
| Clarke CEP1      | 650W  | 2mm          | £28.99  | £34.79  |
| Einhell TE-PL850 | 850W  | 3mm          | £52.99  | £63.99  |
| B&D KW750K       | 750W  | 2mm          | £57.99  | £69.99  |

### Clarke CROS3 450W RANDOM ORBITAL SANDER

NEW

- Adjustable front handle improves control
- 7000-14000rpm

INC DUST BAG AND SELECTION OF 125MM DIAMETER SANDING DISCS

FROM ONLY £29.98 EXC.VAT  
£35.98 INC.VAT

### Clarke BELT SANDERS

BS1

- Ideal for surface removal, sanding and finishing

ABRASIVE SANDING BELTS IN STOCK

FROM ONLY £36.99 EXC.VAT  
£44.39 INC.VAT

### Clarke TURBO AIR COMPRESSORS

airmaster

FROM ONLY £89.98 EXC.VAT  
£107.98 INC.VAT

Superb range ideal for DIY, hobby & semi-professional use

\* V Twin Pump

| MODEL    | MOTOR | CFM  | TANK   | EXC.VAT | INC.VAT |
|----------|-------|------|--------|---------|---------|
| 8/250    | 2HP   | 7.5  | 24ltr  | £99.98  | £107.98 |
| 7/250    | 2 HP  | 7    | 24ltr  | £94.99  | £113.99 |
| 11/250   | 2.5HP | 9.5  | 24ltr  | £109.98 | £131.98 |
| 8/510    | 2HP   | 7.5  | 50ltr  | £119.98 | £143.98 |
| 11/510   | 2.5HP | 9.5  | 50ltr  | £139.98 | £167.98 |
| 16/510*  | 3 HP  | 14.5 | 50ltr  | £209.00 | £250.80 |
| 16/1010* | 3 HP  | 14.5 | 100ltr | £259.98 | £311.98 |

### Clarke DISC SANDER (305MM)

CDS300B

- Powerful, bench mounted
- 900W
- Dust extraction port

FROM ONLY £129.98 EXC.VAT  
£155.98 INC.VAT

### Clarke STATIC PHASE CONVERTERS

- Run big 3 phase woodworking machines from 1 phase supply
- Variable output power to match HP of motor to be run

ROTARY PHASE CONVERTERS ALSO IN STOCK

PC60

FROM ONLY £229.00 EXC.VAT  
£274.80 INC.VAT

CONVERT 230V 1PH TO 400V 3PH

| MODEL | MAX. MOTOR HP | FUSE   | EXC.VAT | INC.VAT |
|-------|---------------|--------|---------|---------|
| PC20  | 2HP           | 10Amps | £229.00 | £274.80 |
| PC40  | 3.5HP         | 20Amps | £269.00 | £322.80 |
| PC60  | 5.5HP         | 32Amps | £319.00 | £382.80 |

### Clarke CORDLESS DRILL/ DRIVERS

CON18LB

FROM ONLY £39.98 EXC.VAT  
£47.98 INC.VAT

powered by Li-Ion

| MODEL  | MOTOR     | BELT SIZE (mm) | EXC.VAT | INC.VAT |
|--------|-----------|----------------|---------|---------|
| CPF13  | 400W/230V | 13x457         | £49.98  | £59.98  |
| KA900E | 350W/230V | 13x455         | £59.98  | £71.98  |

### Clarke CIRCULAR SAWS

CON185

FROM ONLY £41.99 EXC.VAT  
£50.39 INC.VAT

Great range of DIY and professional saws

- Ideal for bevel cutting (0-45°)

CON185

FROM ONLY £41.99 EXC.VAT  
£50.39 INC.VAT

| MODEL       | MOTOR | M/MIN  | EXC.VAT | INC.VAT |
|-------------|-------|--------|---------|---------|
| Clarke BS1  | 900W  | 380    | £36.99  | £44.39  |
| Clarke CBS2 | 1200W | 480    | £79.98  | £95.98  |
| Makita 9911 | 650W  | 75-270 | £94.99  | £113.99 |

### Clarke HARDWOOD WORKBENCH

CHB1500

- Includes bench dogs and guide holes for variable work positioning
- 2 Heavy Duty Vices
- Large storage drawer
- Sunken top trough
- LxWxH 1520x620x855mm

FROM ONLY £144.99 EXC.VAT  
£173.99 INC.VAT

### Clarke SHEET SANDERS

CON300

FROM ONLY £16.99 EXC.VAT  
£20.39 INC.VAT

Ergonomic design for optimum comfort

| MODEL  | SHEET SIZE | MOTOR | EXC.VAT | INC.VAT |
|--------|------------|-------|---------|---------|
| CON200 | 190x90mm   | 150W  | £16.99  | £20.39  |
| CON300 | 230x115mm  | 330W  | £34.99  | £41.99  |

### Clarke BOLTLESS SHELVING/BENCHES

150 PER SHELF

350 PER SHELF

CHOICE OF 5 COLOURS  
RED, BLUE, GREY, SILVER & GALVANISED STEEL

MODEL DIMS WxDxH(mm) EXC.VAT INC.VAT

|       |              |        |        |
|-------|--------------|--------|--------|
| 150kg | 800x300x1500 | £29.98 | £35.98 |
| 350kg | 900x400x1800 | £49.98 | £59.98 |

### Clarke WHETSTONE SHARPENER (200MM)

NEW

- Produces razor sharp cutting edges on chisels, planes, etc.
- Inc. 3 tool holding jigs, workpiece clamp & support frame, polishing paste & water trough

ONLY £119.98 EXC.VAT  
£143.98 INC.VAT

### Clarke VAC KING WET & DRY VACUUM CLEANERS

CON185

FROM ONLY £41.99 EXC.VAT  
£50.39 INC.VAT

Compact, high performance wet & dry vacuum cleaners for use around the home, workshop, garage etc.

MODEL MOTOR CAPACITY EXC. DRYWAT VAT INC. VAT

|           |       |          |        |         |
|-----------|-------|----------|--------|---------|
| GVAC20P   | 1250W | 16/12ltr | £49.98 | £59.98  |
| GVAC20SS* | 1400W | 16/12ltr | £59.98 | £71.98  |
| GVAC20PR2 | 1400W | 16/12ltr | £64.99 | £77.99  |
| GVAC23SS* | 1400W | 19/17ltr | £67.99 | £81.99  |
| GVAC30SSR | 1400W | 24/21ltr | £99.98 | £119.98 |

### Clarke PLANERS & THICKENERS

CPT800

FROM ONLY £184.99 EXC.VAT  
£221.99 INC.VAT

Ideal for DIY & Hobby use

Dual purpose, for both finishing & sizing of timber

| MODEL   | PLANING WIDTH | MAX THICK. CAPACITY | EXC. VAT | INC. VAT |
|---------|---------------|---------------------|----------|----------|
| CPT600  | 6"            | 120mm               | £184.99  | £221.99  |
| CPT800  | 8"            | 120mm               | £209.98  | £251.98  |
| CPT1000 | 10"           | 120mm               | £289.00  | £346.80  |

### Clarke OSCILLATING BOBBIN SANDER

COBS1

FROM ONLY £139.98 EXC.VAT  
£167.98 INC.VAT

Provides exceptional finishes for deep & wide work pieces, front edges & narrow inner curves

- Dust collection port
- Inc. 6 sanding sleeves/ bobbins

### Clarke OSCILLATING BELT & BOBBIN SANDER

COEBS1

FROM ONLY £179.98 EXC.VAT  
£215.98 INC.VAT

Can sand concave, convex, straight or multi-curved work pieces

- Dust collection port
- Inc. sleeves, drum & belt

NEW

### Clarke PORTABLE THICKENER

CPT250

FROM ONLY £219.00 EXC.VAT  
£262.80 INC.VAT

Max thickness cap. 125mm and 250mm wide

- Planing depths adjustable from 0-2.5mm
- Powerful 1250W motor

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- Inc. sleeves, drum & belt

NEW



**FAST, EASY FINANCE  
ONLINE/INSTORE**

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BUY NOW  
SPREAD  
THE COST**

- Over 12, 18 or 24 Months
- Purchases over £300
- 12.9% APR, 10% Deposit\*

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[machinemart.co.uk](http://machinemart.co.uk)

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CATALOGUE**

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PRICE CUTS &  
NEW PRODUCTS**



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- ONLINE
- PHONE

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**Clarke SLIDING COMPOUND MITRE SAW**

• For fast, accurate cross, bevel & mitre cutting in most hard & soft woods  
• 1800W motor  
• Laser guide

**BEST SELLER**

FROM ONLY **£139.98** EX.VAT  
**£167.98** INC.VAT

CMS10S2

| MODEL   | BLADE DIA/BORE DEPTH (mm) | CROSS CUT | EXC. VAT | INC. VAT |
|---------|---------------------------|-----------|----------|----------|
| CMS210  | 210/30                    | 60/120    | £59.98   | £71.98   |
| CMS10S2 | 254/30                    | 78/340    | £139.98  | £167.98  |

**Clarke ELECTRIC HEATERS**

DEVIL 6003

FROM ONLY **£49.98** EX.VAT  
**£59.98** INC.VAT

DEVIL 7003

was £382.80 inc.VAT # was £430.80 inc.VAT

| MODEL      | VOLTAGE | HEAT OUTPUT KW | EXC. VAT | INC. VAT |
|------------|---------|----------------|----------|----------|
| DEVIL 6003 | 230V    | 1.5-3          | £49.98   | £59.98   |
| DEVIL 7003 | 230V    | 3              | £59.98   | £71.98   |
| DEVIL 6005 | 400V    | 2.5-5          | £74.99   | £89.99   |
| DEVIL 7005 | 400V    | 5              | £84.99   | £101.99  |
| DEVIL 6009 | 400V    | 4.5-9          | £119.00  | £142.80  |
| DEVIL 7009 | 400V    | 9              | £139.98  | £167.98  |
| DEVIL 6015 | 400V    | 5-10-15        | £179.00  | £214.80  |
| DEVIL 7015 | 400V    | 15             | £199.98  | £239.98  |
| DEVIL 7025 | 400V    | 22             | £299.00  | £358.80  |
| DEVIL 7030 | 400V    | 30             | £349.00  | £418.80  |

**Clarke TURBO FAN GAS HEATERS**

Offering low cost, efficient heating

FROM ONLY **£79.98** EX.VAT  
**£95.98** INC.VAT

PROpane GAS FIRED

| MODEL            | MAX OUTPUT KW | EXC. VAT | INC. VAT |
|------------------|---------------|----------|----------|
| Little Devil II  | 10            | £79.98   | £95.98   |
| Little Devil SSI | 10.3          | £84.99   | £101.99  |
| Devil 700        | 15            | £99.98   | £119.98  |
| Devil 900        | 24.9          | £139.98  | £167.98  |
| Devil 1600       | 36.6          | £169.98  | £203.98  |
| Devil 2100       | 49.8          | £259.00  | £310.80  |

**Clarke MAGNIFIED MITRE GUIDE**

QUICK RELEASE FENCE

DRIVE-BELT TENSIONING

CBS300

FROM ONLY **£399.98** EX.VAT  
**£478.80** INC.VAT

**Clarke PROFESSIONAL BANDSAWS**

Top Quality Bandsaws - ideal for professional workshop use. Strong steel body with solid cast iron table

- Table tilts 45°
- Adjustable blade guide
- Supplied with stand, 4TPI wood cutting blade, rip fence, mitre guide, mitre gauge and push stick
- Induction motors
- Includes stand

**MODELS ALSO FEATURE:**

- MULTI-STEP DUST EXTRACTION OUTLET
- FLEXIBLE LED WORKLIGHT
- REMOVABLE DUST TRAY
- BLADE TENSIONING CONTROL

| MODEL  | THROAT DEPTH | MAX CUT 90° | MAX CUT 45° | EXC. VAT | INC. VAT |
|--------|--------------|-------------|-------------|----------|----------|
| CBS300 | 305mm/12"    | 165mm       | 115mm       | £399.00  | £478.80  |
| CBS350 | 340mm/14"    | 225mm       | 160mm       | £498.00  | £597.60  |

**Clarke MITRE SAWS**

TC-SM2131

FROM ONLY **£59.98** EX.VAT  
**£71.98** INC.VAT

# Laser Guide  
# Sliding Compound

• Quality Range of Mitre saws and blades in stock

| MODEL              | BLADE DIA/BORE (mm) | MAX CUT DEPTH/CROSS | EXC. VAT | INC. VAT |
|--------------------|---------------------|---------------------|----------|----------|
| Einhell TC-MS 2112 | 210/30              | 55/120mm            | £59.98   | £71.98   |
| Einhell TC-SM2131# | 210/30              | 62/310mm            | £129.98  | £155.98  |
| Einhell SM2534     | 250/30              | 75/340mm            | £159.98  | £191.98  |

**Clarke MORTISING MACHINE**

CBM1B

FROM ONLY **£174.98** EX.VAT  
**£209.98** INC.VAT

- Accurately creates deep square recesses
- Table size 150 x 340mm
- Max. chisel stroke 76mm
- Robust cast iron base & column ensures stability & accuracy
- 95mm depth of cut

CHISELS AVAILABLE FROM **£8.39** INC VAT

"Just as accurate with a good solid feel...Excellent value for money!"  
See [www.machinemart.co.uk](http://www.machinemart.co.uk)

**Clarke QUARTZ HALOGEN INFRA-RED HEATER**

DEVIL 370SP

FROM ONLY **£129.98** EX.VAT  
**£155.98** INC.VAT

• 3KW instant, clean odour free heat.

**Clarke ROUTER TABLE**

CRT-1

Router not included

FROM ONLY **£69.98** EX.VAT  
**£83.98** INC.VAT

- Converts your router into a stationary router table
- Suitable for most routers (up to 155mm dia. Base plate)

**Clarke GRINDERS & STANDS**

• Stands come complete with bolt mountings and feet anchor holes

6" & 8" AVAILABLE WITH LIGHT

STANDS FROM ONLY **£47.98** INC. VAT

POLISHING KITS 4" to 8" FROM ONLY **£27.59** INC VAT

# With Sanding belt 8" whetstone & 6" drystone

| MODEL   | DUTY  | WHEEL DIA.   | EXC. VAT | INC. VAT |
|---------|-------|--------------|----------|----------|
| CBG6RP  | PRO   | 150mm        | £32.99   | £39.99   |
| CBG6RZ  | DIO   | 150mm        | £42.99   | £51.99   |
| CBG6RSC | HD    | 150mm        | £54.99   | £65.99   |
| CBG6SB  | PRO   | 150mm        | £54.99   | £65.99   |
| CBG6RWC | HD    | 150mm        | £59.98   | £71.98   |
| CBG6W   | (wet) | HD 150/200mm | £56.99   | £68.99   |

**Clarke FOLDING MITRESAW STAND**

CFMSS1

ONLY **£66.98** EX.VAT  
**£80.39** INC.VAT

- Suitable for most sizes/makes of saw
- Inc. outriggers & rollers

IN STOCK - COMMY ONLY **£131.98** INC VAT

**Clarke 13" MINI WOOD LATHE**

CWL325V

FROM ONLY **£149.98** EX.VAT  
**£179.98** INC.VAT

- Ideal for enthusiasts/hobbyists with small workshops
- 325mm distance between centres
- 200mm max. turning capacity (dia)
- 0.2HP motor

**Clarke JIGSAWS**

CON750

FROM ONLY **£15.99** EX.VAT  
**£19.19** INC.VAT

\*DIY #Professional

| MODEL          | POWER (W) | DEPTH OF CUT (WOOD/STEEL) | EXC. VAT | INC. VAT |
|----------------|-----------|---------------------------|----------|----------|
| Clarke CJS380* | 420W      | 55/6mm                    | £15.99   | £19.19   |
| Clarke CON750# | 750W      | 80/10mm                   | £28.99   | £34.79   |
| Bosch PS1700E* | 500W      | 70/4mm                    | £44.99   | £53.99   |

**Clarke ROUTERS**

CRT-1

FROM ONLY **£46.39** EX.VAT  
**£56.39** INC.VAT

• Powerful heavy duty machines ideal for trade and DIY use

CR2 INCLUDES 15 PIECE KIT WORTH OVER £20

**Machine Mart Xtra**

Professional woodworking tools and machinery from Record, Sheppach, SIP and more!

Visit [www.machinemart.co.uk](http://www.machinemart.co.uk) for more information

**Clarke DRILL PRESSES**

CDP152B

FROM ONLY **£66.98** EX.VAT  
**£80.39** INC.VAT

• Range of precision bench & floor presses for enthusiast, engineering & industrial applications

B = Bench mounted  
F = Floor standing

| MODEL       | MOTOR (W) | SPEEDS | EXC. VAT | INC. VAT |
|-------------|-----------|--------|----------|----------|
| CDP5EB      | 350 / 5   | 5      | £66.99   | £80.39   |
| CDP102B     | 350 / 5   | 5      | £79.98   | £95.98   |
| CDP152B     | 450 / 12  | 12     | £139.98  | £167.98  |
| CDP202B     | 450 / 16  | 16     | £185.00  | £222.00  |
| CDP10B      | 370 / 12  | 12     | £198.99  | £238.79  |
| CDP352F     | 550 / 16  | 16     | £229.00  | £274.80  |
| CDP502F1100 | 1200 / 12 | 12     | £499.00  | £598.80  |

**Clarke SCROLL SAWS**

CSS400C

FROM ONLY **£82.98** EX.VAT  
**£99.98** INC.VAT

• 50mm max cut thickness

• Air-blower removes dust from cutting area

• Table tilts 0-45°

| MODEL   | MOTOR | SPEED RPM | EXC. VAT | INC. VAT |
|---------|-------|-----------|----------|----------|
| CSS400B | 85W   | 1450      | £82.98   | £99.98   |
| CSS16VB | 90W   | 550-1600  | £94.99   | £113.99  |
| CSS400C | 90W   | 550-1600  | £114.99  | £137.99  |

**Clarke DETAIL SANDERS**

CDS-1V

FROM ONLY **£19.98** EX.VAT  
**£23.98** INC.VAT

• Perfect for smooth and fine finishing along with hard to reach areas or curved surfaces

| MODEL   | WATTS | EXC. VAT | INC. VAT |
|---------|-------|----------|----------|
| PS105   | 105W  | £19.98   | £23.98   |
| RT-OS13 | 130W  | £24.99   | £29.99   |
| CDS-1V  | 280W  | £28.99   | £34.79   |

ALL MODELS INC. SANDING SHEETS

**Clarke 12" DOVETAIL JIG**

CDTJ12

FROM ONLY **£57.98** EX.VAT  
**£69.98** INC.VAT

• Simple, easy to set up & use for producing a variety of joints

• Cuts work pieces with a thickness of 8-32mm

• Includes a 1/2" comb template guide & holes for bench mounting

**VISIT YOUR LOCAL SUPERSTORE** OPEN MON-FRI 8.30-6.00, SAT 8.30-5.30, SUN 10.00-4.00

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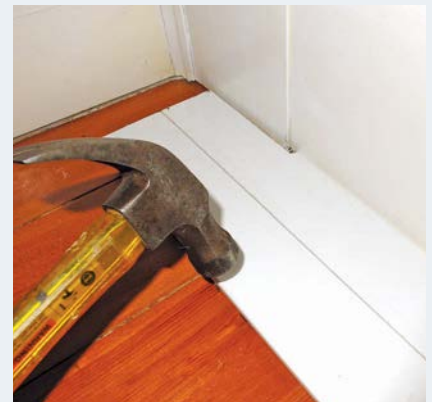


# Door trimming

When the **Editor** says he truly believes in being a cut below the rest, this is what he means...

**S**ome tasks are best done out of situ, while others are best done in place with minimum disturbance. A while ago, in issue 19, I installed a set of lightweight bi-fold doors. It's funny how jobs come back to haunt me, i.e. they are never quite over. In this case, the antique pine (*Pinus* spp.) colour varnished modern floor looked great and easy to keep clean, but there was an acoustic issue; too much noise created by the hard floor resonating. Cue carpet and thick foam underlay. However, this was not possible until these bi-fold doors and equally lightweight wardrobes doors had been 'cut up to size', so to speak. All the doors were working well and didn't need removal, and a desk and tall room light right next to one bi-fold section made removal access awkward. So, enter the biscuit jointer and its mini sawblade, ideal for trimming tasks!

**1** The new carpet and underlay would stop under the bi-fold doors, which would open over the carpet and there would be a metal edge to finish the carpet at this point. The wardrobe doors would open over the carpet, which would be laid right inside the run of wardrobes completely, as the floor was actually the base of the wardrobes. Therefore my cuts needed to allow for the combined thickness of carpet and underlay. My chosen jointer was an older Flex Porter Cable model, but any jointer that could cut at least 19mm deep would do. Biscuit jointers as a rule cannot set their blades high enough for this job and therefore need to sit on a thick enough board to raise blade height. I found two



offcut strips of uPVC which I taped together, giving a lift of about 9mm and enough depth for the jointer to sit on. I cut thin strips away at each end of the uPVC so the centre part would hold the doors flat and shut, for maximum blade penetration.





**2** Extraction was a must and in any indoor domestic setting regard for safety and cleanliness is paramount to avoid upset with the client. Attaching the biscuit jointer to an auto-extractor also gave extra lead-from-socket distance to reach the work site. Most jointers have retractable spikes or rubbers which need to be withdrawn or removed in order to 'pull saw' across in the direction of blade rotation, i.e. left to right. Gauging by eye I was able to work out where the start and stop position should be without cutting through the wardrobe stiles either side of each door.



**3** In the case of the bi-fold doors, low down door hinges prevented the jointer going too far towards the outer frame on the wall. I already had planned to use a fine-tooth Japanese pullsaw to complete all cuts. Holding it carefully level, I could cut through the last sections where the curve of the jointer blade could not reach.



**4** On the front, i.e. jointer side, there was slight ragging of the grain as the Far Eastern ply was a bit flaky, while on the reverse the edge was undamaged. Coarse abrasive paper was used to take off sharp edges, ready for touching up the paint. A bit of artful paint run along the bottom edges before the carpet went down would ensure the doors looked neat and finished. Originally there were door magnets on the floor, but these were removed before trimming. Now they would be relocated to the top of the door. Hopefully the doors would just be a 'brushing fit' with the new carpet when laid.

**5** A test fit with a sample of carpet and underlay confirmed the clearance was okay, in fact the actual underlay would be thicker still so the doors should all be a light 'brush fit' and the job will finally be done with no more changes!



### Biscuit bites

On page 55 we look at using a biscuit jointer. Some machines can be hundreds of pounds or more, but a version similar to the one in this article retails for around £50. It's a very low cost way to start using a machine far more versatile than you can imagine. It is a workshop tool, it is a site tool, a creative way to put carcasses together and a great way to do slotting and sawing. The cost of a box of 1000, size 20 biscuits works out at 4p each, incredibly cheap and joint making is both fast and accurate – what's not to like? ■



# Tree for life

## The wild cherry

Our continuing series looking at trees, timber and their uses.

Say 'cherry' and the first thing you think of is a lush sweet fruit on a stalk, and secondly as beautiful spring blossom, but it is also a valuable timber too

**P***runus avium* is the Latin name for the wild cherry. In our minds the cherry tree is one type of flowering, fruiting tree, but of course it just isn't that simple. There are a number of different genus of the cherry such as *Prunus serotina*, the wild cherry in North America. Add to that the variety of cultivars, here in the UK, 14 have been given an Award of Garden Merit by the Royal Horticultural Society and the picture starts getting complicated.

It is a deciduous tree growing anywhere between 15–32 metres tall and a trunk up to 1.5 metres diameter. Young trees have a straight trunk, becoming irregular on older trees. The bark is smooth purple-brown in colour, blackening with age. It has ovoid leaves with small red glands just below the leaves. Flowers make a tremendous pink or white 'show' in the spring, falling quite quickly to leave a carpet of petals. The fruit typically grows in pairs and can vary between sweet to eat or astringent (sharp) to taste. All parts of a cherry tree are slightly toxic apart from the fruit, which contains a stone containing a seed.



Ripe fruit on a cherry tree growing in Northumberland



Cherry shoot with flower buds

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

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Shippon Chair made  
by Andrew Green

The cherry tree  
has inspired  
artists down  
the ages



### History

Cherry stones have been found in Early Bronze Age remains carbon dated to 2077 BCE, indicating they have been eaten as fruit for a very long time. Although the cherry derives from the plum family, the author, naturalist, philosopher and military commander Pliny the Elder – who lived AD 23-79 – distinguished between *Prunus*, the plum fruit and *Cerasus* being the cherry fruit. We now use this latter name for the sour fruit cherries, whereas we are looking at sweet cherry, *Prunus avium*. In Pliny's time there were already various cultivars for this big family of fruit-producing trees.

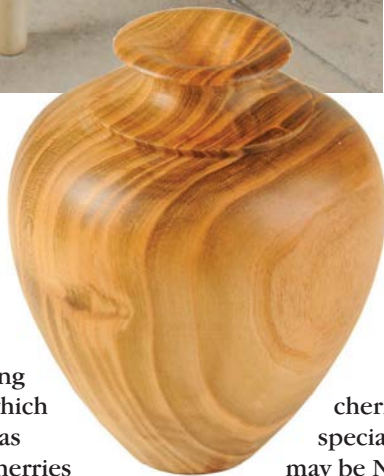


### Ancient origins

The cherry is believed to have been exported to Europe, from an ancient Greek region near Turkey – the word cherry deriving from French, Spanish and Turkish names all originating from the Latin '*cerasum*' which refers to Giresun – Turkey as the place near where the cherries were grown. The indigenous sweet cherry covers most of Europe, Western Asia and North Africa. The Romans imported cherry trees to various parts of Europe and later Henry VIII ordered them to be imported and planted at Teynham in Kent.

### Typical uses

Apart from its value as a foodstuff, cherry is prized as a timber for both turnery, musical instruments and furniture making. When you buy



A classic  
hollow form  
vessel by  
Mark Baker

cherry wood from a specialist timber yard it may be North American black cherry, with its reddish brown colour. UK sourced wild cherry has creamy white sapwood and contrasting light pink heartwood, possibly with green tints and streaks which add interest. Usable sizes are limited with widths of 100–200mm; the core of the tree is often rotten which reduces the useable size. It can be used for smoking food, particularly meat or as fuel where the scent is similar to the flower scent. A green dye can be produced from the plant. ➤



A delicious cherry and oat smoothie  
created by Rachel Glazer





### Fascinating facts

- The sweet cherry was once known variously as 'gean', 'massard' and 'mazzard'; the latter term still used in North Devon for varieties grown there, in particular the orchards at Landkey.
- In Japan there is the traditional custom of 'Hanami' (translates as 'flower viewing') enjoying the relatively short-lived beauty of flowers, especially the cherry blossom. It is such an important event in the annual calendar that the weather bureau give 'blossom forecasts', so people wishing to observe Hanami can organise parties to enjoy and celebrate during what is a roughly fortnight period until the petals have fallen.

### Timber conversion

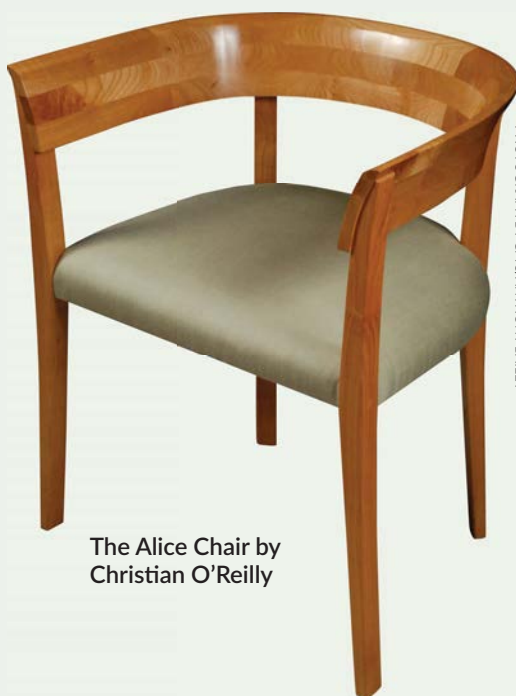
Conversion is reasonably straightforward if the trunk has grown straight. There are various ornamental and garden varieties of cherry, irrespective of which species they are, it is worth planking or cutting into turning blanks.

### Choosing the timber

If you are lucky enough to find some, choose carefully as it won't be cheap. You need to buy from a bonafide merchant who understands exactly what species he is selling to you.

### Working characteristics

It is a straight-grained timber which is easy to work and suitable for interior use usually for smaller items due to limited sizes and availability. It suits contemporary solid wood furniture designs, especially chairs. Its warm colouring makes it a good timber for turning and relatively easy to work and give a good finish to, be it oils, waxes or satin lacquer.



The Alice Chair by Christian O'Reilly

PHOTOGRAPH BY GMC/ANTHONY BAILEY

### Food and medicine

We all know sweet cherries can be delicious, although they have little nutrient content with only a moderate amount of dietary fibre and vitamin C plus small amounts of other vitamins. The *Prunus cerasus* (not being discussed in this article) produces sour fruits instead, which are still capable of food use.

The gum from bark wounds is aromatic and can be used as a chewing gum substitute. Medicine can be made from the stalks of the fruit (or drupes), which is astringent (causes contraction of skin cells and other tissues), antitussive (suppresses or relieves coughing) and diuretic (increases production of urine).

Various birds and wild animals eat cherry fruit or, in some cases, crack open the kernels to eat the seed, therefore netting over trees is essential to protect the crop.

### Diseases

Cherry trees can unfortunately suffer from various diseases such as leaf scorch and leaf spot, also blight, canker and powdery mildew.

### Make your own discoveries

Why not visit your nearest arboretum, stately home or urban park and see which unusual trees you can identify? Let us know if you find something unusual, send a photo and details, and we can publish it!

Check out: [www.rhs.org.uk](http://www.rhs.org.uk) ■

PHOTOGRAPH BY GMC/MARK BAKER



A wild cherry vessel



Splitting cherry log, ready for carving

PHOTOGRAPH BY ZOE GERTNER



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# Desk repair

The Editor loves nothing better than a challenge and this poor old desk badly needed some work on it to make it better again...

**T**his oak desk with one drawer dates, at a guess, to early 20th century. It is nothing special, but quite useful to the owner. Construction is fairly crude, in particular the top which has a split and was originally fixed down firmly with screws, so splitting would be inevitable as the wood shrank. The top was cupped across the grain which could prove problematic trying to remove the cupping. The first thing would be to remove the top and deal with that, the legs and underframe being a separate matter.

PHOTOGRAPHS BY GMC/ANTHONY BAILEY



## Repairing the top

**1** An even clean split, a dark water stain, cupping and thick varnish are the obvious faults here. The underframe had dry loose leg joints where the hide glue had long since failed.

**2** The screws holding the top down had narrow screwdriver slots found on older screws. So the first job was to regrind the tip of my biggest screwdriver so it would fit neatly in the screw heads.

**3** The flared section behind the tip of the screwdriver bit clashed on the side of the screw pocket, which begs the question about the shape of the original assembly screwdriver tip because...

**4** ... the drawer runners were already in place as evinced by the special gouged cutouts that allow the screwdriver shank to drive the screw head lower down (out of sight in photo). When doing restoration work these conundrums often show themselves as in – ‘how did they do that’ – often there isn’t an obvious answer.

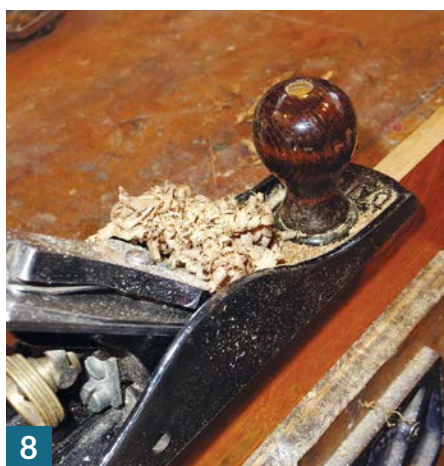
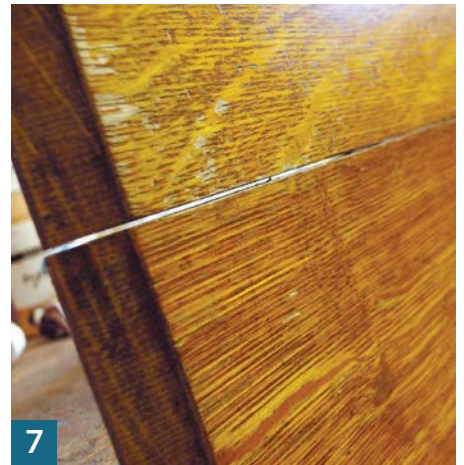
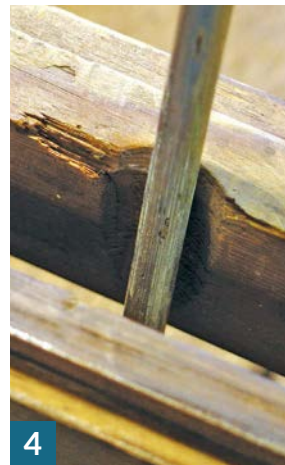
**5** One of the original machine cut screws. The fact that it is machine (rather than hand) cut is to be expected for furniture of this period.

**6** The first job was to scrape the edges of split top using the sharp side of a chisel. Once any gunk and glue were removed I could see if the edges would meet properly.

**7** The answer was a definite no, with gaps at the ends while meeting in the middle. Hand planing the edge would be required.

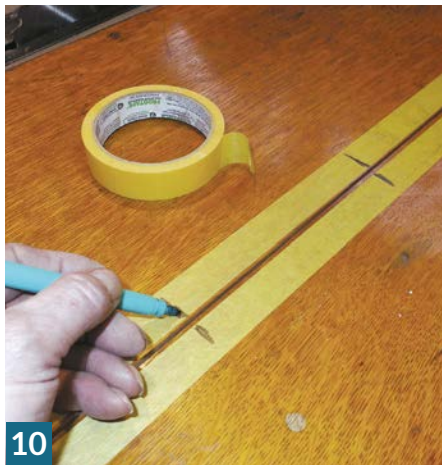
**8** To start with, both edges were levelled with a No.5 jack plane. I wanted to try and get a good meeting from end to end.

**9** Although the edges now met correctly there was the matter of cupping, which is very evident here. I angled the jack plane passes slightly to try and reduce the problem without it creating a hump at the join. ➤





**10** To ensure the two halves never parted again I decided to employ the technique of biscuit jointing the edges together. While not traditional, it is invisible and adds great strength. To avoid scratching or marking the top I used low tack masking tape and a felt tip to mark the 'strike' positions.



**11** Slotting with No.20 biscuits is quick and easy spaced at roughly 200mm intervals. The cupping wasn't so bad that the fence might offset some slots, so the top surface should be a dead flush joint.



**12** Elsewhere in this issue Louise Biggs talks about glue choices. Well, I deliberately broke convention and used PVA for the top because it works well with biscuits and the joint is hidden. I would revert to animal hide glue for work on the underframe.



**13** Careful, thorough clamping with strips of wood to protect the moulded edges only closed the split edges completely. More strips not visible here, but placed underneath the ends of the top then clamped firmly, pulled the cupping down almost entirely flat; this augured well for re-assembly time.



## The underframe

**14** The drawer's runners were knocked out of place and the small cut nails removed. There was also a small fillet at one end only visible at the right, which needed to come out. The glue was shot, so no resistance.



**15** Using a couple of quick clamps in spreader mode, it was comparatively easy to push the ends apart. The longitudinal joints were firm, just the end ones were completely loose.



**16** All the joints were marked so they would go back together correctly. Each tenon was partly covered with a fine mesh fabric when originally made, its purpose not clear though. The glue was dried and barely present.



**17** After scraping out the mortises I opted for cold liquid hide glue, which is reversible if future restoration work becomes necessary. It does not have the same strength as hide glue prepared in a glue pot, but for simple repairs it is easy to use.





**18** The underframe was firmly clamped and excess glue wiped away with a damp cloth, although any remaining glue could still be wiped away later if the cloth was soaked in warm water.

### Refinishing the top

**19** While the underframe glue was curing I could get on with stripping off the nasty varnish on the table top. I used one of the safer new types that doesn't contain dichloromethane, working it around with coarse wirewool. The downside is these strippers take longer to work properly.

**20** Here you can see the way the varnish is dragged off by the wirewool once the varnish had softened. Proper chemical protection gloves are essential.

**21** Not all the varnish lifted, so I finished the job using a scraper in order to get an even bare finish. I used Liberon bleach to lighten the ring stain, but it would not go completely.

**22** Because the screw holes in the table underside would be slightly in the wrong positions due to shrinkage and edge planing, I needed to drill and plug the holes for a fresh start.

**23** I whittled down some pine (*Pinus* spp.) and glued and tapped a piece of it into each hole in turn.

**24** A fine toothed Japanese flush cutting saw made quick work of trimming off the plugs. On the top of the table were a series of curious, evenly spaced holes that must have held something in place once. I drilled and filled these with contrast mahogany (*Swietenia macrophylla*) plugs so they became a feature.

**25** Using a cabinetmaker's awl I marked the new screw locations on the underside of the top. These were then shallow pilot drilled so the top could be refixed. The last job was three coats of tung oil to bring out the colour of the wood and protect it. ■



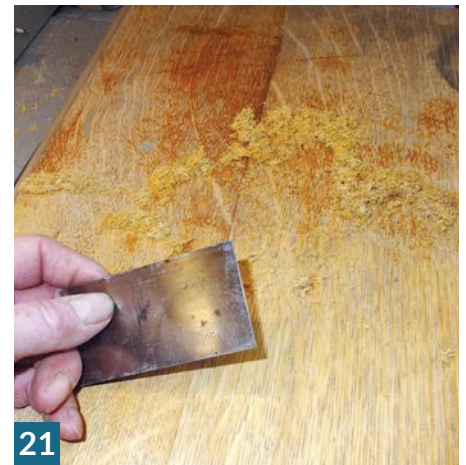
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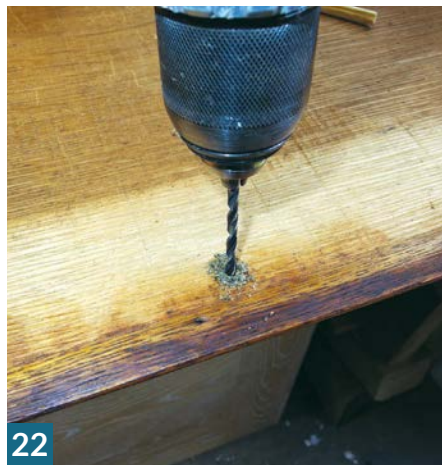
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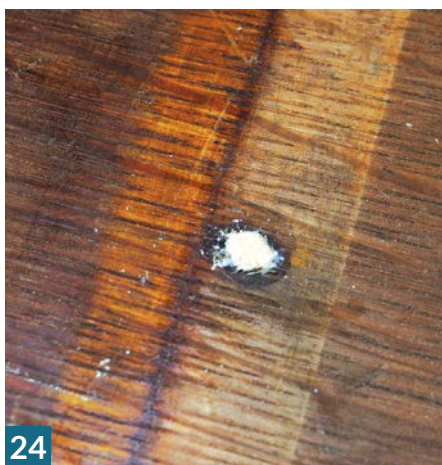
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# BBQ fire box

This simple idea for a homemade BBQ has **Bob Adsett** all fired up!

An acquaintance told me that when he was out with friends on camping trips with his VW camper, he used an old washing machine drum on a tube driven into the ground for makeshift barbeque. Here, I show you how it's done...

**1** Use an old stainless steel washing machine drum and approximately three foot of steel scaffold pipe. Remove the bearing using a pair of grips to hold it, then use a 2lb hammer to knock the shaft through, which the drum needs to sit on the pipe.

**2** Next, use an angle grinder to cut one end at about 45% or slightly sharper. Drive this end into the ground.

**3** Any suitable large stoneware pipe will do for the drum to sit on – I had a section of terracotta chimney liner which was perfect. It improves the appearance and stability of the BBQ.

**4** Now I was able to set a tripod with adjustable chain over the grill at an easy working height, but there was a problem; the lip around the top of the

drum deflected some of the heat, so I drilled some holes, then I could jigsaw it off using a metal cutting blade. Hammer the cut edge flat to the inside of the drum.

**5** Replace it on the base and fire it up! What a difference now there is heat evenly over the whole top of the drum and when the fire had burnt down to charcoal cooking will be lot more even and no need to shuffle the food around to cook it. The food cooked really well on mine and all the family enjoyed dinner in the garden. ■

## Things you will need

- Washing machine drum
- Piece of scaffold pipe
- Pair of grips, club hammer, drill and bit
- Jigsaw and metal cutting blade





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# TENONING TOOLS

## *for chairmaking*

In the second instalment of his guide, **Peter Wood** demystifies the process of creating smooth tenons

**L**ast month I talked about drilling round mortises, this month I'd like to run through a few ways of producing consistent tenons to match the mortises we've drilled.



PHOTOGRAPHS BY PETER WOOD

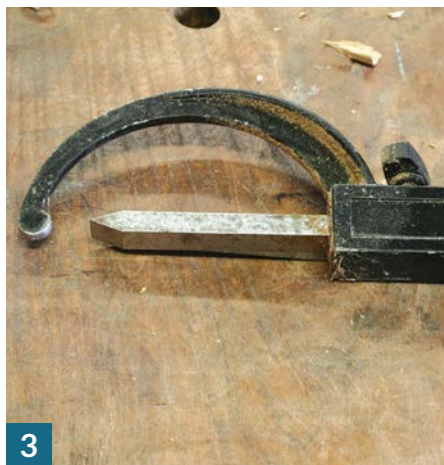


**1** Your first port of call for producing tenons is turning on a lathe. I turn my chair legs while green, leave them to season and then leave the majority of the leg 'straight from the chisel'. The leg will then be an oval shape and I can just resize the top 40mm to produce a nice smooth tenon. You can size by eye and trial and error, or set up some callipers for greater accuracy. Some people have a series of spanners matched to each drill bit to use as a guide.



**2** Try to aim for a gentle transition between turning and the tenon. On this tenon I've domed it at the end. This is for when I've drilled the mortise with a round-ended spoon bit (see the article in the last edition). It will give me an extra 10mm depth to the tenon.

**3** If you're not confident in sizing freehand, the next option is to use a sizing tool. Mine is made by Sorby to use in conjunction with a parting tool. It works well for repeating the same diameter tenon.



**4** The tool requires a slightly different technique to just using a chisel. When cutting you pull the parting tool away from the work, with the end of the guide rubbing on the opposite side of the work rather than pushing the chisel into the wood. If you push it's easy to take too much off and have an undersized tenon. This tool works best if you turn down to almost the right diameter with a gouge, then size your tenon.

**5** One problem with this tool is it can leave a ragged surface, which is not desirable for a good glue joint. It's tempting to leave a shoulder at the end of the tenon but this 'shoulder' is the weak point of your tenon. It's much better to gently smooth into the finished tenon rather than leaving a shoulder.



**6** With my work a lot of the parts are shaped with a drawknife and spokeshave following the curves of the wood, so there is no option to turn a tenon. When the wood is dry you can shape the tenon using a drawknife or spokeshave. Start by squaring the tenon.

**7** Then take off the corners to produce an octagonal tenon. You can further round the tenon, but if





you're driving the tenon into soft wood you can leave the facets on the joint as the corners will 'bite' into the round mortise, giving a very tight joint. When shaping a tenon this way be careful, as it's very easy to taper the tenon. Using the drill bits I highlighted in the previous article we created a parallel mortise, so make your tenon sides parallel to match.

**8** On my courses one of the main tools I use is the Ashem Crafts rounding plane. Originally designed by Fred Lambert this is a good tool to produce consistent tenons. It works well when set up properly but can be very fiddly to set up. It is available in imperial and metric from 10mm up to 65mm.

**9** You can make or get bushes to centre your work if your work is significantly smaller than the entrance hole of the tool.

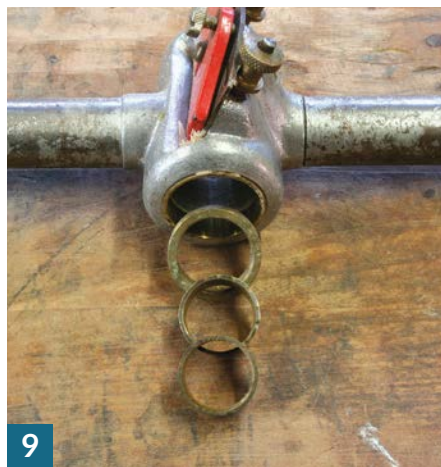
**10** Ray Iles also produces a wooden version of the rounder. A simple but very effective tool.

*“you should be producing long ribbons of shavings”*

**11** To use this tool first secure your work in the vice then turn using the handles. After initial centring you should be producing long ribbons of shavings. With proper sharpening and setting up (this can be quite exacting) you can produce consistent, smooth tenons.

**12** The main problem with this rounder is you are limited by the size of the opening. If your initial part is oversize it won't fit or will bind on the tool. To correct this you either need a larger rounder to initially size, or you can turn/drawknife the part to fit the rounder which creates extra work.

**13** The rounder with its long handles produces a large amount of torque. Pictured is an example of what not to do. I'm using the rounder to size a long spindle, it's small in diameter and I've set it high in the vice. It would be far better to set the spindle low in the vice and keep moving the work up as the tool reaches the vice. ➤





**14** If the tool catches on the thin spindle the torque can twist the wood and shear the spindle. A disaster on the final day of a course.

**15** The second 'main tool' I use for tenoning is the Veritas tenon cutter. Designed to be used with a power drill, I use it extensively at my woodland workshop with larger cordless drills. One advantage with this sort of cutter is the curved blade which means you can start the cutter with most diameters of stock, reducing the need to size your stock.

**16** The tenon cutter produces accurate tenons consistently with little effort. Always clamp your work in a vice and sight along two planes, either with help or setting a mirror in your workshop to view if you're cutting level. It is very easy to cut an off-centre tenon. The cutter has a built-in spirit level, so if your vice top is level you can use this as a guide for one plane.

**17** The tool will cut long tenons, over 100mm in some models. I plug the cutter so it only cuts to the depth I want. The longer the plug, the shorter the tenon.

(NB: When using a plug with the Veritas cutter don't hold the cutter facing downwards, the plug will fall out and you'll end up cutting an overlength tenon.)

**18** One problem with the Veritas cutter (especially the micro cutters) is it produces quite a severe transition between the tenon and the rest of the part. I find it inelegant in a chair and the sharp shoulder is a point of weakness.

**19** The larger cutters give a curved shoulder which is better but I would still then shave the work to a gradual taper.

**20** I prefer the Ashem Crafts rounder for smaller diameter tenons. It gives a better transition (right hand tenon) with less clean-up.

After these two articles you should now be able to produce consistent matching mortise and tenon joints. Next month I'll look at the different types of mortise and tenon joints I use in practice. ■



**Tool links**  
[www.ashemcrafts.com](http://www.ashemcrafts.com) for Ashem Crafts rounding planes  
[www.oldtoolstore.co.uk](http://www.oldtoolstore.co.uk) for Ray Iles tenon cutters  
[www.classichandtools.com/acatalog/Veritas\\_Power\\_Tenon\\_Cutters.html](http://www.classichandtools.com/acatalog/Veritas_Power_Tenon_Cutters.html) for Veritas tenon cutters





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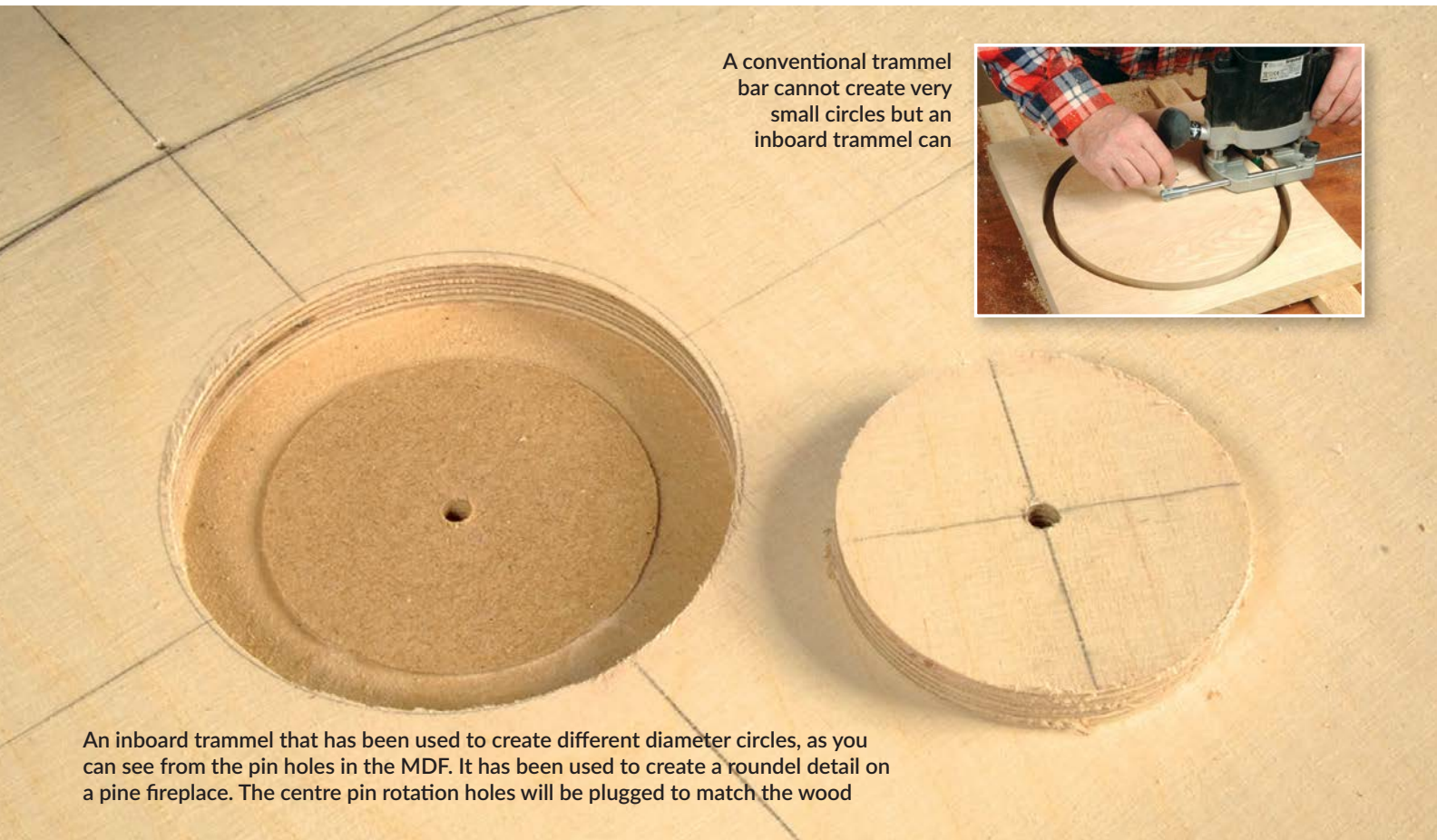
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# Router inboard trammel

There are times when you can get in a bit of a spin trying to rout in ever-decreasing circles. What you need is an inboard trammel



The standard attachments that come with a router usually include a trammel point that fixes on a fence rod if the rods are detachable. This is OK if you want to machine a circle larger than the router base. Quite often we may want to create a much smaller circle, which poses a problem. One solution is to buy a ready-made template to use with a guidebush, but you are governed by the specific sizes provided and it costs money. So long as the required size isn't too small, you can create the size you want by making up an inboard trammel, which is a sub-base with a pin as a rotation point.

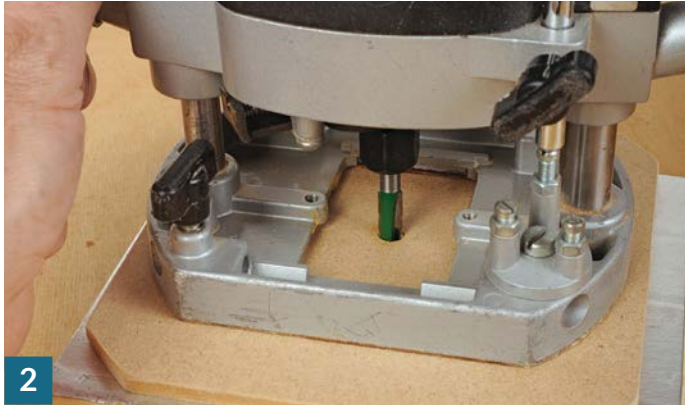
## Making an inboard trammel

**1** First cut a square of 6mm MDF the same size or larger than your router base. Now mark where the mounting holes in the base are and drill and countersink to take small machine screws. If no obvious mounting holes are present you may need to unscrew the baseplate and use the baseplate mounting holes to fit the trammel baseplate.



The cross line mark the centre of the MDF, the mounting holes on this Trend T5 router are marked from them as they act as datum lines





2

The initial centre hole has been drilled by sitting the router on a sacrificial piece of polyurethane insulation foam



3

The desired pin position has been marked from the edge of the hole to the pin centre



4

A stub of machine screw being wound through the board, you can use pliers but in this instance a narrow slot has been cut in the top of the machine screw to make it easier to turn



5

Now mounted and ready to use, all it needs is a test cut to verify the diameter is correct. If not, then a new hole in a different location on the MDF is easy to do

2 Mount the MDF sub-base after installing a standard 6.35mm straight bit and then power on and plunge cut through the MDF while supporting the router safely perhaps using the vice gap on the workbench.

3 Unplunge the cutter, switch off and unplug the machine. Invert it and mark the required diameter from the edge of the hole to the centre of the intended pin mark.

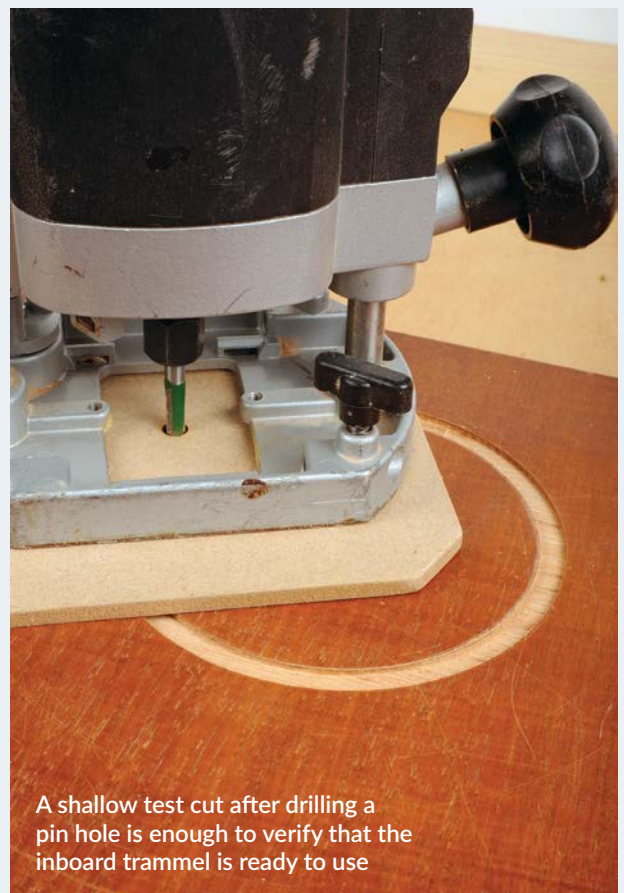
4 Remove the sub base and find a very small diameter machine screw, cut off the head and drill a small pilot hole where you made the mark. Insert the machine screw and wind it in with pliers.

5 Refit the trammel base and you are ready to make some cuts. ■

### Using the inboard trammel

In theory, the pin should give the required diameter but do test cuts to be sure. Drill a hole for the pin to sit in, plunge and rotate the router to complete a circle or arc, depending on what you need to do. If the cutter needs to go right through use several passes to depth, contra rotate the router between passes to unwind the mains cable and extraction if fitted. Place a suitable sacrificial surface underneath and use double-sided carpet tape to hold the centre waste piece in place.

Although this device creates cutouts it also produces circular pieces in the process that can also be useful. It is important that both parts of the workpiece stay in place though, as the cutter can damage the edges if something moves out of place.



A shallow test cut after drilling a pin hole is enough to verify that the inboard trammel is ready to use





# Woodland ways Thanks for the ride

**Gary Marshall** finds a rich diversity of wildlife in managed forests

I have often mentioned 'rides' in woodlands, particularly in my article on woodland management and recently on woodland access. Rides are more than just accessways. They are best created and maintained to give diversity to a wood's structure – both in terms of appearance and bio-diversity.

The Forestry Commission considers that a track becomes a ride where the canopy ceases to meet above the track. Rides provide a kind of internal wood edge – these areas are particularly valuable in encouraging diverse flora and fauna.

Look out for primroses, wood pimpernels and other wild flowers beside rides and in summer, butterflies like silver washed fritillaries flitting and floating among the brambles, grassland and shrubby edges. Rides can provide excellent views from otherwise wooded terrain. Vista creation is something to consider if making or enlarging rides.

A 'graded' ride with scalloped

edges gives even greater wood edge diversity. A woodland manager will look for opportunities to create or enhance these features where a wood naturally thins, or where thinning is to be carried out. Opening up rides can let a flood of light to the woodland floor and help dry out soggy areas – although very wet areas may still need additional ditching or drainage work.

In summer, and even on rare days in winter, rides will often be hotspots in the woods. These are ideal for reptiles, lizards, slow worms and snakes. Even larger animals like foxes can sometimes be seen enjoying the sun – if approached quietly.

## Zones

Sometimes in large forests – like in Thetford Forest in Norfolk – very wide rides act as firebreaks in coniferous plantations, limiting the ability of sparks flying from one part of the forest to another.

Rides not only give good wood edges, they can be broken down into

three distinct 'zones': zone 1 is the track, hard surfaced and/or grass; zone 2 a herbaceous layer (similar to a road verge); and zone 3 a shrub layer with occasional trees. Such rides can be 'carved out' of existing woodland, although careful consideration must be given. Considerations include positioning, windblow, the height of the canopy around and other natural and man-made features, taking care not to damage historic woodbanks for instance. Extra care must be taken in designated Ancient Woodland.

If planting new woodlands, rides should be included in initial planning from the outset, taking into account the eventual height of the canopy once the wood has matured.

To prevent rides from closing in again most management plans will suggest a timely system of mowing, topping and opportune scrub clearance on rides. Such work is best carried out after wildflower seed has set in the autumn. At warm edges habitat piles for reptiles and other





Managed clearance is essential for a healthy woodland

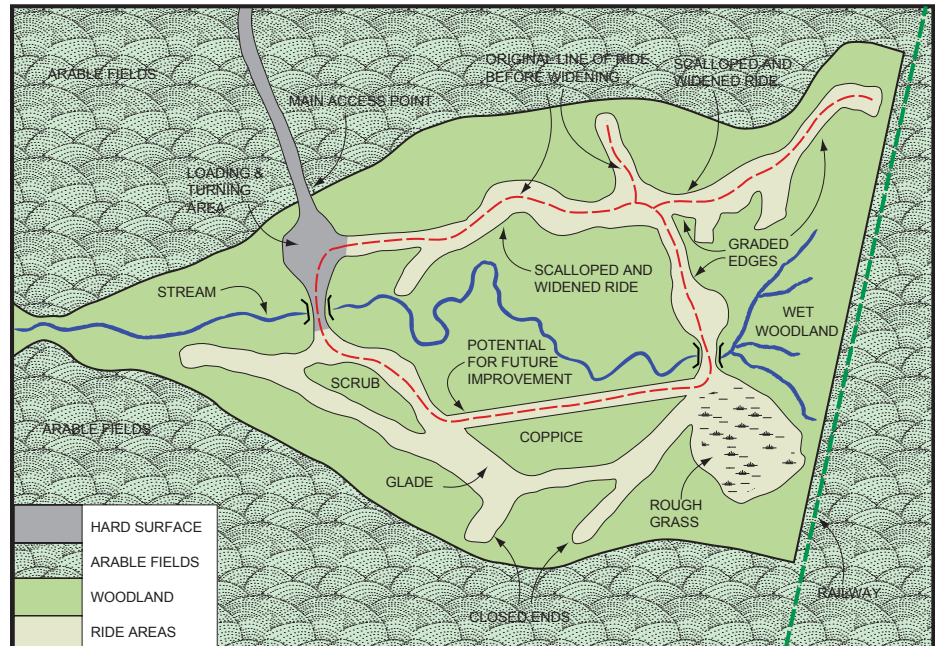
animals can be strategically placed and are ideal for early morning basking.

## Placement

You might think that rides running north-south are the sunniest, but research shows that east-west running rides usually have a better chance of creating flora and fauna variety. To avoid wind tunnels the ends of rides can be narrowed or end in a graded cul-de-sac within woodland.

Large 'lobes' or scallops, or where rides meet often give rise to larger cleared areas that can act as glades. Straight rides are easy for access when it comes to harvesting timber but can be visually dull, slightly curved or apparently winding or contoured rides often fit into a landscape better. Walkers will be familiar with that 'I wonder what's around the next bend' feeling.

Of course, there are good leisure opportunities in open access woodland where orienteering, mountain biking and horse riding may also be permitted – rides help users to get into the woods and enjoy them – but do take time to appreciate the immense wildlife opportunities of rides – to quote from the Forestry Commission's Leaflet on Ride Management – go to [www.forestry.gov.uk/pdf/ewgs-on011-ride-mangt.pdf](http://www.forestry.gov.uk/pdf/ewgs-on011-ride-mangt.pdf): 'a greater number of species inhabit the first 10 metres of any woodland edge or ride edge than inhabit the remainder of the woodland.' ■



A woodland map showing a diverse range of rides and habitats



When a ride becomes a glade



This ride needs improving!



New plantings with a closed end ride



A recently opened ride



# #@\*&!%?! happens!



## ... loose joints

Let's face it, these are a fact of life; it doesn't always go well. Still it's only wood, so there has to be a simple answer...

**T**his is a bit exaggerated for effect, but joints that aren't a good fit won't make for sturdy reliable pieces of work. Legs and other critical joints will fail if the joints are loose. There are a few gap filling adhesives, but we shouldn't rely on glue to do the job, it should just be the finishing touch only. Mortise and tenons are a case in point.

If the gapping is narrow you can use pieces of veneer glued along the faces of the tenon. Larger gaps need to be cut to fit, but can be overthickness. Don't try putting the extra slips into the mortise as you push the tenon home, as they will probably get misplaced and glue spilling out everywhere. Instead clamp them to the tenon faces and allow the glue to dry.



PHOTOGRAPHS BY GMC/ANTHONY BAILEY



Anything thicker than a veneer will almost certainly need trimming until the tenon fits nicely in the mortise. Use a very sharp chisel for this, or if you are lucky enough to own a cabinetmaker's rebate plane you can use that instead. Make sure the end and edges of the tenon are trimmed smooth and ready to fit. Use a piece of wood with similar grain with a through tenon so it looks correct on the outer face.



The joint lines and grain break is only slightly visible, and the joint has full working strength even though the additional pieces aren't part of original tenon. ■

### Next month...

we look at patching wood.



# Meet the contributors...

We put all of this month's professional and reader contributors here, so you know exactly who they are and what they do!



## Louise Biggs

Having completed her City and Guilds, Louise trained for a further four years at the London College of Furniture. She joined a London firm working for the top antique dealers and interior designers before starting her own business designing and making bespoke furniture and restoring furniture.

Web: [www.anthemion-furniture.co.uk](http://www.anthemion-furniture.co.uk)



## Michael T Collins

British-born Michael has been working with wood off and on for 40 years. He moved to New York in 1996 and over the years, has made bespoke furniture, including clocks, inlay work, Adams fireplaces, book cases and reproduction furniture.

Web: [www.sawdustandwoodchips.com](http://www.sawdustandwoodchips.com)



## Bob Adsett

Bob started his woodworking career in 1967 in furniture manufacturing before moving into the construction industry. He then worked as a demonstrator and trainer for Kity Machines, which included factory-based training in Soviet-era Latvia. He then joined Axminster where he marketed CMT cutters and helped launch Lamello products.



## Nicola Butcher

Nicola is a qualified carpenter working in the Stevenage area, who has recently been awarded the UK and Ireland's Ultimate Tradesperson by Irwin Tools.



## Peter Wood

Peter has been a skilled green wood craftsman making Windsor chairs and other creations for more than 25 years. He demonstrates these skills around the country, gives lectures and runs

hands-on workshops for all ages. He set up Greenwood Days in the National Forest as a centre to teach a range of traditional and contemporary crafts. He is also the current world champion pole-lathe turner!

Web: [www.greenwooddays.co.uk](http://www.greenwooddays.co.uk)



## Gary Marshall

Gary has had a life-long interest in woodlands and the countryside. He trained in countryside management and subsequently ran a company working with the local County Councils and

Unitary Authority and their Countryside and Rights of Way Teams, as well as a wide range of conservation organisations.



## Peter Brett

Peter has a background in teaching and trade journalism. Leaving teaching behind a few years ago, he has concentrated on designing and making as well as developing a wider range of trade skills.

But he is always on the lookout for a well-designed new tool that will make life easier.



## Simon Rodway

Simon Rodway also runs LineMine, a website with articles and online courses on drawing software. A new course, 'SketchUp for Woodworkers', is proving really popular.

Web: [www.linemine.com/courses](http://www.linemine.com/courses)

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Printed in the UK by **Stephens and George Print Group**, Distributed by **Seymour Distribution Ltd** Tel: 020 7429 4000 **WOODWORKING CRAFTS** (ISSN 2057-3456) is published every four weeks by **GMC Publications Ltd**, 86 High Street, Lewes, East Sussex, BN7 1XN

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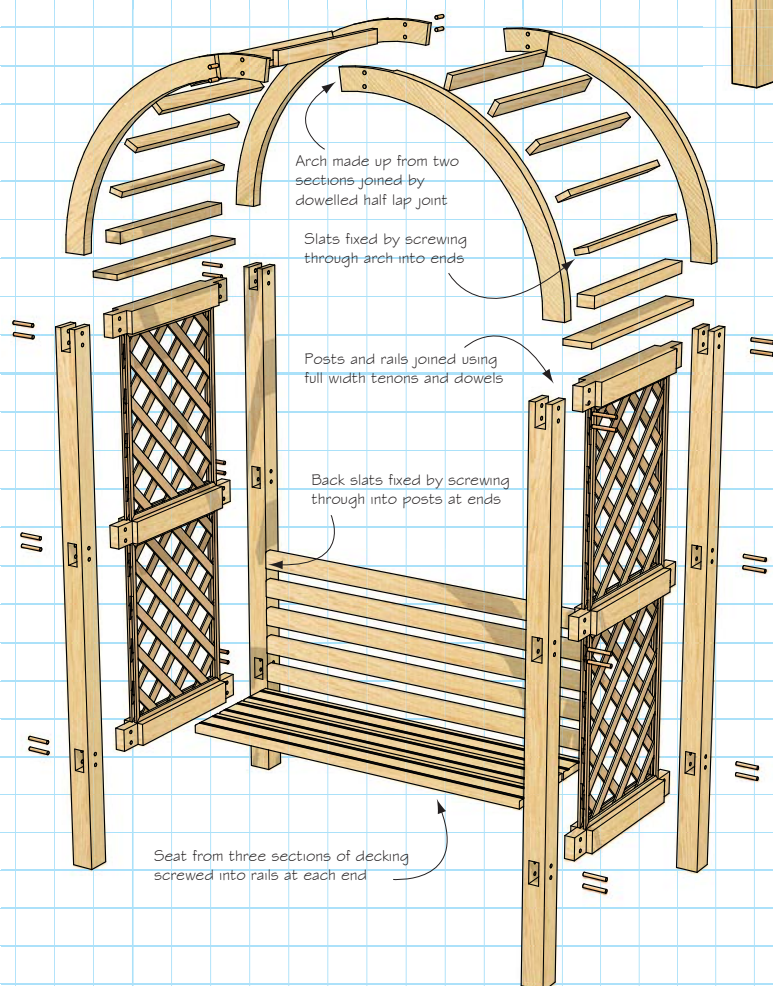
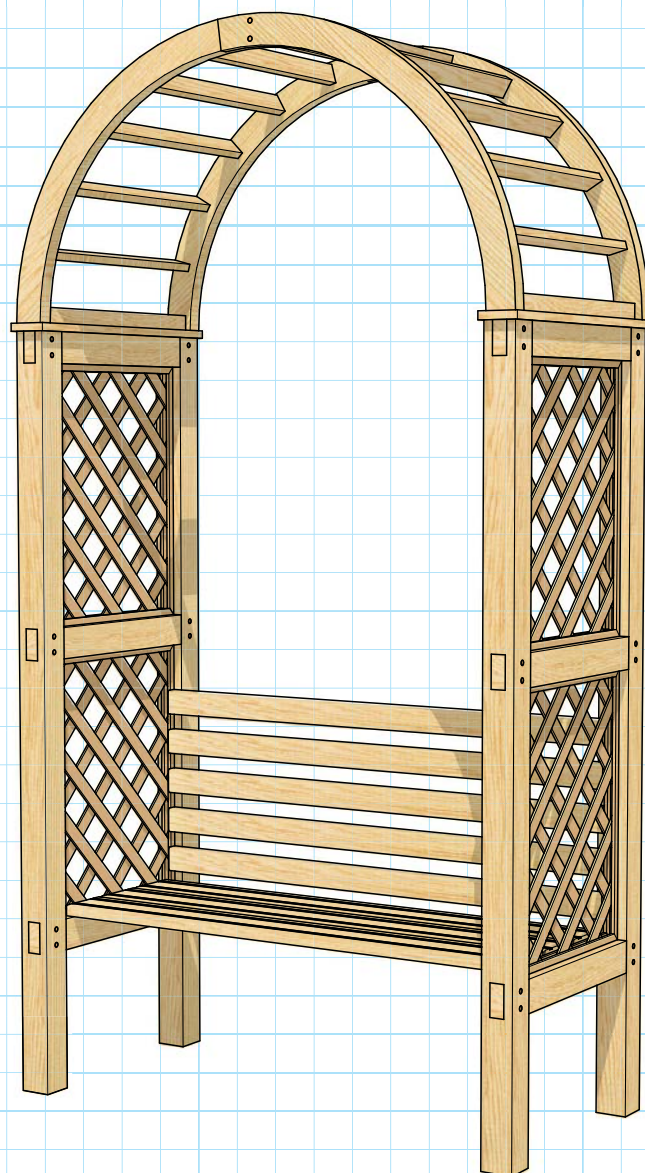
# PLANS 4 YOU

## Garden arbour seat

Simon Rodway makes  
an arbour seat

### Cutting list

|                |      |                    |
|----------------|------|--------------------|
| Posts          | 4 @  | 1940 x 80 x 80     |
| Side rails     | 6 @  | 672 x 80 x 80      |
| Seat           | 3 @  | 1310 x 140 x 28    |
| Back slats     | 5 @  | 1310 x 65 x 28     |
| Curved top     | 4 @  | Ex 1150 x 315 x 40 |
| Spacers        | 11 @ | 592 x 50 x 20      |
| Capping pieces | 2 @  | 692 x 100 x 20     |
| End spacers    | 2 @  | 592 x 65 x 40      |



An arbour is one of those delightfully useless additions to the garden, unless you count somewhere to train a climbing plant or two as a use, but they can add so much to the overall experience of being outdoors as to seem indispensable. If you can add a function to this apparently whimsical object, so much the better, and that is exactly what this project does.

In keeping with my strategy of making things as buildable as possible, I've used standard 80mm square section 'off the peg' posts, pre-treated and available from Wickes and other suppliers in 3m lengths. You should only need a total of six of these for the complete lower structure, posts and rails, although this depends on how you anchor the posts into the ground. I haven't included any additional length for setting into a concrete footing, for example; my preferred











# Warwickshire College

Anthony Bailey sees what Jamie Ward and colleagues are achieving at a centre for academic excellence in the West Midlands

**R**oyal Leamington Spa College sounds very grand, as befits its location, but the college is actually a very down-to-earth, functional establishment. It is dedicated to teaching a wide variety of courses, from hair and beauty to legal studies, management, media and film studies, welding, construction and the built environment. You name it, there is a course for it – more than 40 of them, in fact.

The ones I wanted to investigate were furniture making under the guidance of course leader Jamie Ward. In common with many other 1960s-era learning institutions, the college has had a brand new facade grafted on to the front, giving a much more impressive welcome to visitors. Jamie greeted me in a glass-roofed atrium with a hair and beauty department highly visible to one side. Jamie admitted that his own beard would be coming off shortly in aid of charity.

Jamie was, as you might expect, a mine of information about the collegiate structure, as Leamington Spa is one of a group of seven centres, with the newly joined colleges of of

Evesham and Malvern Hills. On the way to the workshop building, he pointed out some of the landscaped installations, which display the students' furniture-making skills. Inside the workshop building was reminiscent of other colleges of its vintage – square corridors of painted brickwork, double doors to all departments and rows of display cabinets housing some beautifully turned out student work.

## The workshop

Entering the workshop was a bit like stepping back in time: a mature, richly coloured teak parquet floor populated with one of every kind of machine, the now sadly-defunct Wadkin green figuring large. There is something reassuring about massively built kit with heavy cast iron tables, you just know it will run and run. It was meant to last and it has. There was plenty of room to move in the machine shop and extraction pipes dropped down to the machines all around the room.

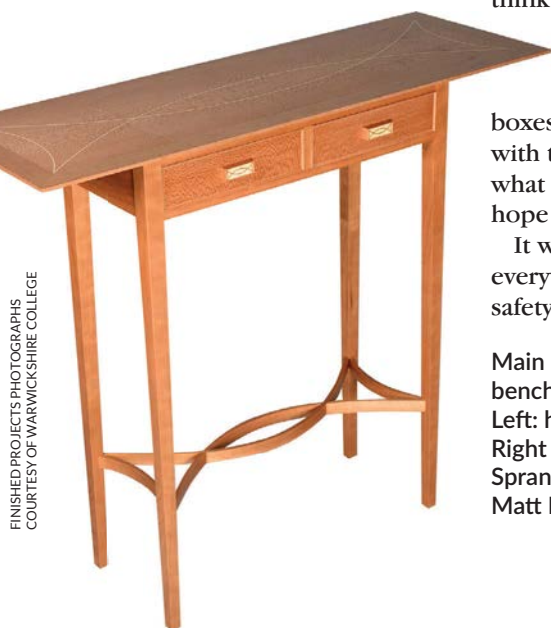
The bench shop next door was barely separated by some partitioning but the noise dropped sufficiently for students at the bench to work and think comfortably. The day I visited the second-year furniture students were working on a mixture of wall cupboards and trinket boxes. It was great to be able to chat with them and find out more about what they were doing and what they hope to achieve in the future.

It was very noticeable that Jamie was everywhere around the workshop, safety glasses perched on his forehead,

Main image: students working in the bench shop

Left: hall table in lacewood

Right from top: Jamie Ward with Uldis Sprancis; Kezia Burke with trinket box; Matt Brown with bench maquette



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A general view of the machine shop



The veneer press showing whose work is being pressed



A massively built Robinson bandsaw

busy giving advice and support to the students. It seemed to me that while they were all working independently, if anyone was ever in need of help, Jamie would be by their side and taking an interest in their progress. It speaks volumes about how committed he is about passing on woodworking skills and helping students to fulfill their potential.

### The students

During the first year students make the usual jointed frame, occasional table and veneered panel. There was some interesting second-year work: one of the students showed me a plane he had proudly restored, obviously a tool junkie like myself, so we had a discussion about dating the age of a Stanley hand plane. Another student was trying to incorporate Ian Hawthorne design hinges into her trinket box and rueing the problem of narrow, brittle wood breaking out around a hinge, one of the hazards of working to fine tolerances. Another had artfully shaped the shelves so they looked thinner at the front edges while still retaining essential strength. Moving up to Level 3 concentrates on individual design-and-make projects, where the

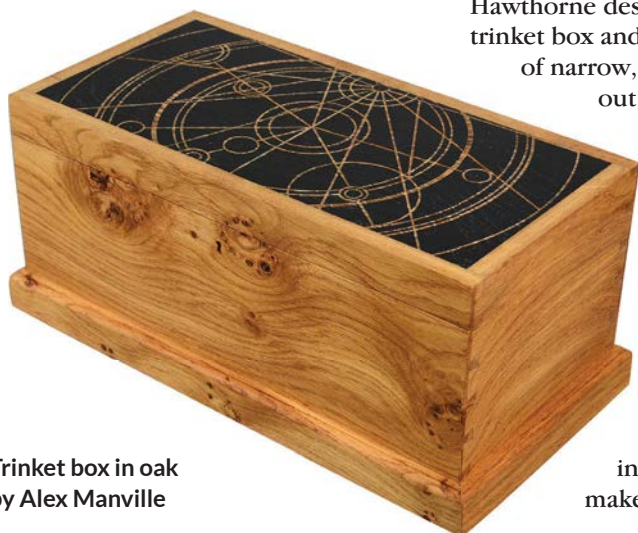
split is 90% practical, 10% theory. Then there was Matt, who was part of the Level 2 main course and who works at the royal appointed NEJ Stevenson in Rugby on the days he is not at college. He was improving his design and hand skills while working on a maquette of a circular bench seat, intended to replace the worn out, rotted existing bench at Kenilworth Castle. The next step would be building the curves of complex full-size structure for real.

### The tutors

Jamie has a small team of experienced tutors working alongside him: Armando Magnino, Oliver Renison and Martin Tottle – finishing; Dave Hardcastle – first-year technical drawing including 3D design and Mark Hancock – wood turning; Sue Lay – pastoral support. In addition guest speakers are regularly invited to the college. Past visitors include Sean Feeney, the late Andrew Varah, Matthew Platt from Workshop Heaven and Veritas to name but a few.

### The future

Jamie revealed that all the college courses were run on fewer days each week because of cuts in government funding. This echoes comments by Christian Notley at Chichester College. This is a ridiculous state of affairs when full-time furniture student numbers are buoyant, with four classes running and evening class numbers full with a sizeable waiting list of more than one



Trinket box in oak by Alex Manville





*"I like to shout student successes"*

*- Jamie Ward*

hundred. However some of this group will transfer to full-time study if they like the subject and decide on a change in career and lifestyle.

For Jamie or any course leader at the college there is always the nail-biting 42-day period each September, where there has to be a viable number of students enrolled to justify running the course.

### The real world

Jamie went into the joinery industry as a 16-year-old before going to university as a mature student. While studying at Bucks College as was and is now Bucks New University, he completed a substantial renovation of a property in Amersham as part of the course. He worked for furniture manufacturer Hands of High Wycombe as a spindle moulder while still at university, then set up a furniture making workshop, before finally getting into teaching.

Students are given outside work experience where possible, including apprenticeships and clients such as Coombe Country Park in Warwickshire,

working with the estate manager. Ideas for clients are often subjected to a *Dragons' Den*-style presentation. Visits to Whitmore's timberyard and the Gordon Russell Design Museum in Broadway, Worcestershire expand their knowledge and confidence. Jamie is also about to set up an Erasmus exchange programme with a college in south west France.

Jamie is a big believer in social media and you can follow his and the students' progress using the links below. If you are interested in doing something practical and different, may be one of the furniture courses might suit you? ■

Above left: Jamie with Matt Chatterley Shaw marking out a mirror;  
Above right: Jamie and Will Davies discuss drawer making

### For more information

Contact: Jamie Ward  
Web: [www.warwickshire.ac.uk](http://www.warwickshire.ac.uk)  
Youtube: [bit.ly/2moFOaE](https://bit.ly/2moFOaE)  
Instagram: [jamiewardfurniture](https://www.instagram.com/jamiewardfurniture)



Above: Hall table in walnut and maple by Ben Sawyer



Left: trinket box with sand shaded veneers



Left: Warwickshire College's front entrance with new facade  
Right: Ziricote veneered table







PHOTOGRAPH BY GMC/ANTHONY BAILEY

# Work smarter

## Work supports

It is an easy mistake not to plan how to hold large or awkward workpieces when you are working on them. We give you some useful suggestions to make the job safer and more predictable

**I**nvariably it is the waste section that isn't properly supported, it can fall to the ground throwing everything off balance, tearing the last part of the cut. If you are a self-employed woodworker then you get used to fashioning safe working solutions, but if you only do the occasional piece of awkward or outsize work then it can be more difficult trying to devise safe working methods. Space is also an issue in home-based workshops so compact collapsible supports are needed.

### Help

There's often a helpful friend or family member keen to 'hold the other end'. Unfortunately, this well

intentioned help is misplaced because simply holding up the end of a board can cause a sawblade to become trapped. The board needs to hang down slightly so the saw kerf opens enough. Trapping is more serious with a portable circular saw than a handsaw and must be avoided. Thin sheet material is the worst offender because it bows out of shape easily and never try and cut more than one sheet thickness at a time. This mistake has been responsible for very some nasty wounds. Instead if you want to cut large sheet material get it done at a timberyard where they have a vertical panel saw. It is safer and more accurate than you can manage and avoids back damage too.

If there is no alternative, see if you can find space outdoors or in your garage on level ground and set up three long lengths of 75 x 50mm PAR (Prepared All Round) softwood acting as bearers across two strong work supports and have help to place the board across them to avoid back injury. Make sure the bearers stay in the correct place and set your circular saw to just over board thickness so the bearers don't get cut into very much. A track saw is more predictable to use than running against a batten fence and you can stop part way, alter your working position, then withdraw the saw slightly and restart the cut safely as it will still be resting on the track.

If you are handsawing medium size





You can sense how to hold the workpiece when hand sawing better than someone else who comes along and helpfully grabs the end pulling it upwards in all probability, thus trapping the saw

boards and need to hold up the waste section as you cut, you can use a spring clamp to hold the already open cut ends together. At the same time as using a couple of work supports you need support under the waste section which can simply be a 'third leg'. Use a vertical batten with a block clamped to it, and place it under the edge of the waste section. The weight should hold it there while you hand saw, when you reach the end of the cut, the board and the third leg will fall away separately. Make sure the board can land safely. This method avoids trapping the blade mid cut.

Saw tables and cabinet thicknessers seldom give enough runout support. You can buy roller stands but unless the height is right they can easily topple over as the workpiece advances on to them. I favour having a simple MDF or ply table at the same or fractionally lower height to the machine table and it could also have rollers fitted to it.

Safety note: HSE guidance is that any rear take off table must be 1200mm deep from back to front if a second 'take off person' is present so they cannot reach forward and accidentally contact the saw blade.

### Smaller spaces

In a small workshop however, it would take up too much room so maybe look at your workshop layout and see if there is a way to enhance work support by rearranging bench and machines. If there is a window or door maybe you could feed timber through it and have a removable roller to help this. A compound mitre saw could have a small removable work support that clamps in the vice for holding up wood being crosscut, it could then be removed so the vice can still be used. ■



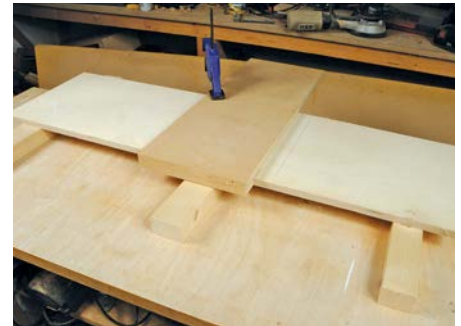
A vertical panel saw cuts cleanly and accurately and some timber yards don't even charge for cuts. Better value for money than buying 'DIY size' board, easier to transport and no risk to you in cutting. What's not to like?



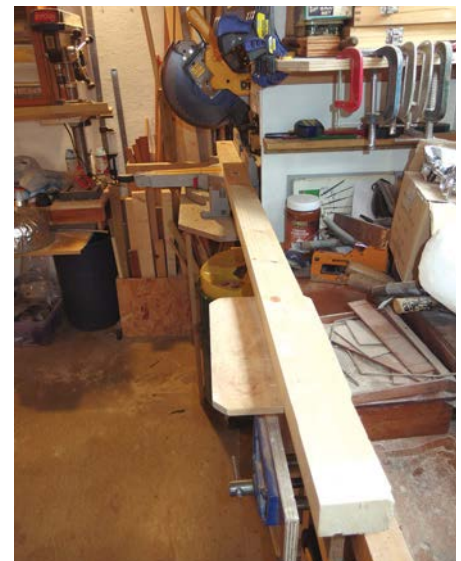
A small diameter bladed track saw running on a roll-up type track being used to part a large MDF board. Extraction is essential and the track ensures an accurate safe cut from start to finish. No measured base offset is required as the blade runs along the line of pencilled marks which the track has been set against



This Triton work support is better than many because it has very wide spread legs to avoid tipping over and it can be screwed or bolted down. Instead of a roller it has curved glide surfaces, making it safer for crosscutting work as boards won't suddenly run sideways when the cut parts them



Here a section of board has been laid across three equal height bearers and a clamp-on fence been placed ready to make a cut with a portable circular saw. The waste piece to the right should separate cleanly without upsetting the left hand section thus avoiding risk or damage



Here is an example of a removable long length work support for a compound mitre saw mounted in a vice. It is exactly the same height as the saw, which itself is securely fixed down



Extraction is usually the workshop 'cinderella' especially when trying to saw big boards and the hose keeps dragging on the board edge. It is better to hitch it from the ceiling so it doesn't risk disconnecting from the power tool or pulling it off course at full extension





# Career questions

This month, **Nicola Butcher** answers two questions arising from student career days

**T**here were two questions that stood out to me at the latest careers event I attended; the first one because I believe nobody should be doing a job they don't enjoy and the second because it opened my eyes to the way teenagers are being taught about life in the workplace.

## 'DO YOU LOVE YOUR JOB?'

Yes I do. In fact I don't think I would do it if I wasn't enjoying it. There is an incredible amount of satisfaction in making things. One of the most memorable moments for me was when I made a wardrobe for a client and she told me I had made her dreams come true!

Now, while I don't get that reaction every day, I do live for those moments when the customer is so happy after seeing the work you've done for them, it fills me with pride and confidence and reminds me of why I chose to be a carpenter.

## 'DO YOU FACE SEXISM IN YOUR INDUSTRY?'

Yes! It's a male dominated industry, it will be for a very long time, but I'm sure if you ask anyone in any line of work they will tell you this. In one way or another we will all face sexism in the workplace at some point in our lives. The recent discussions about the Gender Pay Gap are a great example of sexism in any industry. One of my favourite quotes is this: 'The world is not ours to change. It means that we must accept it as it is and adapt ourselves, making the world work for us.' I have great respect for the men in this industry, most of them are a lot more experienced at their jobs than me and have a lot of advice I can learn from. There will always be the few that are against women in construction, but I try not to let that affect me in any way, and as long as my work is as good as theirs or better then it's a small and quiet victory in my eyes. ■



Nicola talking to college students



PHOTOGRAPHS COURTESY OF NICOLA BUTCHER





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# NEWS & EVENTS

All the latest events and news from the world of woodworking



PHOTOGRAPH COURTESY OF SHUTTERSTOCK

## Amazon rainforest was a garden for prehistoric tribes

**T**he Amazon rainforest has been long regarded as one of the most pristine natural habitats on the planet but archaeologists have found evidence to suggest that much of the Amazon basin was cultivated by the ancient tribes who lived there many thousands of years ago.

Researchers led by Dr Hans ter Steege from the Naturalis Biodiversity Centre in the Netherlands have studied more than 1000 one-hectare plots and discovered that out of the 16,000 or so species that are found in the forest, a small number (1%) – such as brazil nut, cocoa and rubber – accounted for more than half of all the trees, leading them to believe that these dominant species had been planted intentionally and that the forest at one time was widely cultivated.

The Dutch researchers compared the patterns of distribution of 85 species of tree through the forest and found that 20 of the most common were found in areas where there were signs of ancient human activity. This

suggests that indigenous peoples were managing the forest and cultivating trees that were most useful to them.

Dr ter Teege noted that the researchers were able to plot a decrease in the number of domesticated trees the further away they went from the ancient sites of occupation.

The area that showed greatest concentration of domesticated vegetation was on the southwestern edge of the Amazon basin. Archaeologists have established this was occupied from around 4800 years ago. A further study by the University of Utah found that earthworks in certain areas of the Amazon showed evidence of human habitation which extended as far back as 8000 years ago.

Critics have said that too much time has elapsed since these prehistoric peoples lived in the forest and there is no way of knowing what the trees were used for. Dolores Piperno, an archaeobotanist at the Smithsonian, in the US, said 'Interpretations are



Recent research has found evidence of ancient cultivation in the Amazon

mainly based on modern-day usages and it's unclear for some species how extensively utilised they are even today.'

One of the trees to become domesticated before Christopher Columbus arrived in 1492 was the Peach palm, or *Bactris gasipaes*. Its fruit is edible and nutritious, since it contains very high levels of vitamin A, and the wood can also be used for timber.

Up to 10 million people lived in the Amazon area, many in sophisticated communities that organised and used vegetation on a wide scale. After the arrival of Columbus and the European colonists, millions of Indians died from exposure to diseases like chicken pox, from which they had no immunity.

The systematic cultivation of the Amazon area would have ended around 500 years ago, after the local indigenous communities had been decimated by illness.

JANETTE WOLF



# RHS Chelsea Flower Show 2017

International Boatbuilding Training College, Lowestoft (IBTC) are creating a garden for the Chelsea Flower Show 2017 themed around an ancient wooden boat.

In July 2013 a 1000-year-old boat was discovered by Environmental Agency workers beside the River Chet in Norfolk. The boat was 6 metres long and skilfully built of oak. Wooden pegs and iron nails were used in its construction, and between the overlapping strakes animal hair and tar had been used for waterproofing.

In 2015 The Broads Authority commissioned the International Boatbuilding Training College, Lowestoft to create a replica of the 'Chet boat'. The Broadland Boatbuilder's Garden is inspired by the traditional skills which continue to be taught at IBTC Lowestoft, and by the ancient landscape of the Broads itself.

In the design of the garden IBTC have incorporated plants which are of their time and native to the Broadland area. This garden draws attention to the fragility of this environment and identifies a relationship between the delicate biome of this precious landscape and the need to keep alive the skills of those that have shaped it.

## About the 'Chet boat'

The original boat, which was made of hewn oak, was a relatively small vessel, double ended and about 6m long and 1.5m wide. The surviving part of the boat consists of a keel plank with four strakes on either side. In the centre of the boat there is a setting for a mast.

Only two wooden frames were present, although rows of nails indicate that there were originally at least four frames. Unusually (perhaps?) for a small boat the keel plank on this



The Broadland Boatbuilder's Garden features a replica of the 'Chet boat'

vessel was made of two pieces of timber scarfed together end to end. The presence of this scarf and the long scarfs on other planks suggests a skilled builder working with relatively inexpensive materials.

## About the planting

The garden contains plants native to the dykes that criss-cross the grazing marshes, including Common Reed, Meadowsweet, Purple and Yellow Loosestrife, Southern and Early Marsh Orchid, Royal Fern and Crested Buckler Fern. The Chelsea Flower Show takes place 23–27 May.

## Web links for you

### Websites

- **Nunhead Cemetery Open Day.** 20 May, 2017, Nunhead Cemetery, Linden Grove, London, SE15 3LP – walks, talks, choir, food and drink and bodgers among the trees.... [www.fonc.org.uk/2017-open-day.html](http://www.fonc.org.uk/2017-open-day.html)

- **Wild Wood 27-29 May**, Wakehurst Place, West Sussex [www.kew.org/visit-wakehurst/whats-on](http://www.kew.org/visit-wakehurst/whats-on)

- **Wood Show 17-18 June 2017**, Weald and Downland Museum, Singleton, West Sussex [www.wealddown.co.uk/events](http://www.wealddown.co.uk/events)

### Pinterest

- [uk.pinterest.com/luishsoni/joints/](http://uk.pinterest.com/luishsoni/joints/) This Pinboard has plenty of mind boggling joints to get you thinking, maybe even try some?

### Instagram

- Green woodworker and Woodworking Crafts contributor Lee Stoffer has his own Instagram page majoring on spoon carving and, ahem, hairdressing [www.instagram.com/lee.stoffer](https://www.instagram.com/lee.stoffer)

### YouTube

- [www.youtube.com/watch?v=yigFtAuUPDE](https://www.youtube.com/watch?v=yigFtAuUPDE) A UK video promoted by the Sylva Foundation, it shows how a trunk of an oak tree is milled to create a series of beautiful prime slabs of waney edge timber

### Facebook

- The Malvern Hills Repaircafe has been going for some years with great success, it is part of a global network of repaircafe's – google Repaircafe – drop-in, drink tea and coffee and chat while your broken stuff gets mended! [www.malvernhillrepaircafe.co.uk](http://www.malvernhillrepaircafe.co.uk)

## The Weald of Kent Handmade Fair

Formerly the Weald of Kent Craft and Design Show offers a celebration of handicrafts, including jewellery, home and garden pieces, furniture, leathers and glassware, with some unlikely additions including terrier racing and stone carving.



When: 29 April-1 May, 2017  
Where: Penshurst Place, Tonbridge, Kent  
Web: [www.thecraftshows.co.uk/kent/spring/](http://www.thecraftshows.co.uk/kent/spring/)

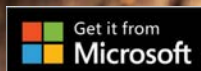


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*'Anyone fancy a chocolate biscuit?'*

# Biscuit 'bites'

Here are some tasty jointer tricks to get your teeth into...

**B**iscuit jointing is so easy, but it gets easier and more accurate still when you make up some simple jigs or even use the workpiece as the jig itself. So make project building less stressful and even fun with these useful ideas.

If you are making a bedframe or a drop-in shelf biscuit the support rails in place and leave to dry. Once set, you can use the internal face of the board as the reference surface for the jointer to sit on. Then proceed to slot the rails ready to receive the slats or shelf as desired.



A simple T-square made from MDF or ply glued and screwed to a batten makes cross-panel slotting easy. You can even mark the T-square with set divisions if you need to do a lot of repeat slots.



Now the corresponding slots need to be made using an L-shaped jig for accurate slot registration. In the case of narrow slat the L-jig needs modifying with two strips of MDF, one either side of the slat to locate it. They need to be slightly lower so they don't reduce the slot depth. Press the jointer against the back of the jig and centre it on the slat and plunge. Normally, a 20 biscuit would be best for strength.



Most jointers can be inverted and clamped in a vice for static slotting. Make sure the fence is set correctly and clamp the machine firmly. Switch it on and leave it running so you can make as many slots as required. The base centre mark will show where to align the component strike marks against. ➤





If you want a double thickness board for a workbench or a desk aligning both boards is tricky, especially once the glue has been spread out because the top board will keep slipping around. Just set the fence so you can do a few biscuit slots near one edge along the length of the board. Now repeat a matching set of slots on the other board.

Now create a zigzag pattern of glue lines all over the board, not forgetting an outline line of glue so the edges have coverage as well. You can use a toothed glue spreader or a glue roller but this method works just as well without needing to clean-up tools afterwards. Now add the biscuits, which don't need glue as they are only intended for positioning. Bring both surfaces together and use heavy weights all over the middle area of the board to push adhesive outwards and then rows of clamps around the outside edges. Wipe off any exuded adhesive and leave to dry.



If you use the jointer fence for specific board thickness settings it can be problematic getting the right setting time after time. The answer is to make a set of blocks slotted at specific fence settings. Mark them accordingly so you know which one to pick. Then with the machine unplugged, adjust the fence with the blade protruding and lock the fence ready for slotting.



The easiest and safest way to slot components is to make a biscuit jointer bench hook. It can be quite large and clamped in a vice. Just place the workpiece against the upstand at the rear and then press the jointer against and lined up with the pencilled strike mark and plunge – quick, safe and simple.



Another variant on the L-jig is a board with a batten across it, which is held vertically in a vice. You can then rest the jointer on the batten for slotting components that lie against the back of the jig. Clamp them in place so they stay put while slotting. ■



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# *What you need to know about planer/thicknessers*

We give you the plane facts about machining timber flat and square, safely

Large square stock being fed past a bridge guard, flat boards must be fed under the guard

PHOTOGRAPHS BY GMC/ANTHONY BAILEY, UNLESS STATED OTHERWISE

## **Safety note**

All machining operations carry a risk. For definitive advice using planer/thicknessers you should visit the HSE (Health and Safety Executive) website and download the WIS17 PDF for free.





PHOTOGRAPH BY PETER BRETT

Peter Brett trying out a small benchtop planer, quite useful but noisy and with limited capacity



The results from cabinet thicknessers are remarkably good, but only use shallow cuts with wide boards to avoid straining the motor

**P**laner/thicknessers, surface jointers and thicknesser cabinets have various things in common. They have a bed or beds for the workpieces to move across, a cutter block fitted with knives and a fence to run against in the case of surface planers and some form of guarding. Vintage machines can have slow 'run down' times when switched off, while modern machines have braking to bring them to a halt quickly to improve safety. Like all machines they need to be correctly setup and treated with respect. Isolate your machine before carrying out blade changes or altering extraction hood positions, etc.

**1** Very small bench-top machines are usually very noisy and not particularly accurate. I've tried them and don't care for them really. At this small scale of operation it is probably

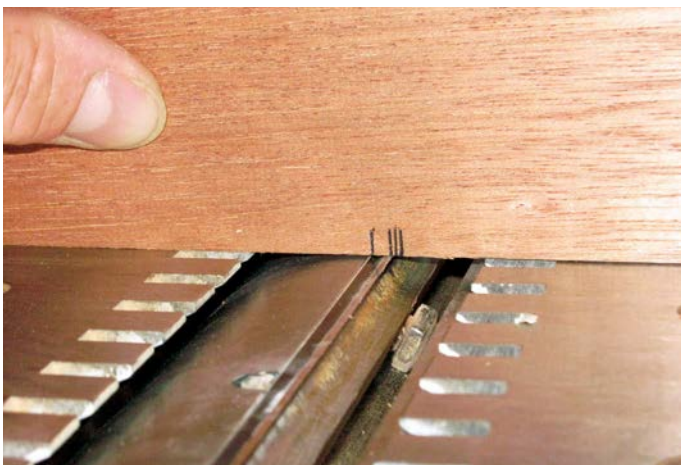
better to learn good old fashioned hand planing techniques and take pleasure from developing those skills.

**2** Bigger home workshop machines are capable of quite decent results and will be quieter as they are fitted with induction motors. The exception noise wise are compact cabinet thicknessers, which have noisier brush motors, but correctly set up can work very well.

**3** On a surfacing planer the infeed and outfeed beds need to be level to each other i.e. not tilted at all. They should be supplied in this condition but check before starting to use the machine. An accurate straight edge will show this, just sighting along the beds is not precise enough. Never lift a planer by the beds as this can cause misalignment.

**4** The planer knives will be factory set and ready to use. However, it is instructional to use a piece of prepared softwood with a pencil mark to do a manual 'pull-over', taking care to avoid getting cut on the blades. Mark at one end of the block where the wood is moved to and at the other end as well. It is unlikely they will be identical positions. Repeat with all the knives.

**5** Changing planer knives is the thing that causes more problems than anything else. Knives should be changed once they get damaged or blunt, not left because changeover is awkward and inconvenient. Follow the guidance in the manufacturer's manual about releasing the blades and then replacing one at a time rather than emptying the block of knives and clamping blocks. ➤



Pulling over a cutterblock to check how high the blades are from end-to-end and blade-to-blade. Small machines have two blades, larger professional planers have three blades or special spiral types using lots of tiny 'bladelets'



PHOTOGRAPH BY ALAN HOLTAM

Undoing the bolts that clamp the blade in place, the correct spanner size is important so the heads don't get rounded off because the bolts can be quite tight to shift



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**6** Clean out the cutter recesses and the step where the slightly wedge shaped clamping blocks are fitted. The best thing you can do is invest £30-40 in a pair of special magnetic blade height setting jigs. These are loaded with rare earth magnets and ensure by setting the dials that the blade is parallel in projection from end to end. Again, check the setup procedure in the manual including the amount of blade projection permitted above the outfeed table. Note these blade jigs do not work on aluminium table surfaces because they rely on magnetic attraction.

**7** Blades may be single edge or reversible. The general rule is to tighten starting from one end, or work from the middle rather than both ends as the blade steel may become stressed under pressure of tightening. Make sure before you start blade changing

that the toolkit is complete. Note that cabinet thicknessers are usually self-setting for height.

**8** Once the blade change is complete check the blades don't catch on anything when turned by hand, wearing armoured gloves. Lower the planer beds and lock them down as appropriate.

**9** The next job is fence setting; most fences nowadays are aluminium extrusions which are seldom perfectly flat. Check for flatness and decide what is the most appropriate position for 90° using an engineer's square and lock off. Adjust the zero setting bolt if fitted, so the fence can be quickly reset to 90° after bevel planing.

**10** Check and adjust the guards to make sure they function within their adjustment range and do not

catch on the cutter block. There must be a form of guarding in place behind the fence as well. Modern machines have a swing up guard and arm, whereas older machines may just have a bridge guard which slides up and down and must be easy to adjust.

**11** Thicknesser beds or in the case of a cabinet thicknesser – the motor head and cutterblock, must rise and fall smoothly and be capable of locking at any height. The latter machine type has folding infeed and outfeed beds which can be adjusted up or down to give better support and reduce 'snipe' – stepping at the ends of a workpiece.

## IN USE

**12** When used from new or freshly maintained, a planer/thicknesser should be test run with guarding in place and 'off load'.



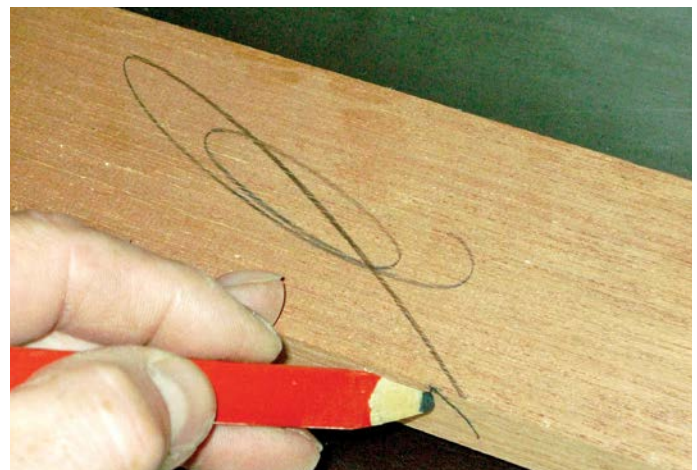
This extruded aluminium fence is unusually flat, many are slightly uneven which makes accurate squaring of stock rather problematic



The majority of surface planers are fitted with this standard swinging arm guard. There is normally a height limit which when reached means tall stock will need to be fed alongside the guard in its low down position instead



Cabinet thicknessers are really useful but the infeed and outfeed tables may need adjustment accessible underneath, in order to give continuous support while reducing or eliminating 'snipe' or stepping at the ends of the workpiece



Use face and edge marks after flattening on face and adjoining edge. These become the reference surfaces from which to flatten and thickness the other face and edge





Thicknessing beds do get dry which is enough to bring the workpiece to a halt mid cut. Waxing the bed improves the ability of the thicknesser to pull the workpiece through



PHOTOGRAPH BY JIM ROBINSON

Veteran woodworker Jim Robinson showing correct hand positions fore and aft of the cutterblock and guard area. There is no need for fingers or hands to be near the danger area

Then reset the guards to pass a piece of timber both 'under and over' the machine successfully. If everything works well it should be safe for general use.

**13** When the machine is used when overhanding, the guards must be set close both to the workpiece and the cutterblock. Unlike some circular sawing operations where limited sight of the blade is an advantage, with planing the workpiece has to take its course and the result judged by examining the wood once it comes off the outfeed table.

**14** Only feed wood into the direction of rotation of the cutterblock. The infeed table should be set only a small amount lower than the outfeed table according to the depth setting scale, say 1mm. To start with when planing sawn and/or misshapen stock the initial cuts are minimal but as the down facing surface begins to flatten the blades will bite more and remove more wood at each pass. If necessary adjust the infeed table up or down as seen fit, depending on whether too much or too little is being removed each time.

**15** Hands should be kept well away from the cutterblock, one in front of the guard, transferring pressure to the other hand beyond the guard. Shorter sections may require a push block. Although it is possible to plane quite short pieces I do not recommend it, the risk of finger to blade contact or a workpiece being

thrown back, is too high. Plane longer sections and crosscut to required lengths afterwards instead.

**16** When thicknessing do not sight down the tunnel or opening in case of kickback or more likely, piercing shards of wood as anti-kickback fingers should hold the workpiece in place. Do not let your fingers become trapped under the surface tables if the thicknessed piece is moving directly underneath as you not be able to reach the emergency stop button or disengage the thicknesser drive.

**17** Thicknessing beds are often made of cast iron which can become quite dry and friction then stops the wood moving. My choice of lubricant is a clear hardening wax applied once the machine has been isolated.

**18** Always feed the higher end of a component in first; that way the thicknesser need not jam. If it does smack the red off button immediately to avoid straining the drive or overloading the motor causing it to cutout or fuse.

**19** Adopt standard workshop practice for straightening and thicknessing wood, move the wood over the surfacer with the bow uppermost, i.e. concave face downwards. Then do the same to an edge and mark both with simple face and edge marks you can rely on. Check the first face and edge with an



A set of planer knife setting jigs makes the whole procedure much quicker and more predictable, it takes the stress out of blade changing

engineer's square for accuracy. This must be right if the finished stock is to be truly squared all round. Now thickness the other face and edge and also rerun the first face and edge through as well so you get an improved finish compared to hand feeding which can leave light ripples on the surface.

**20** You will need really good, capacious chippings extraction to deal with the outpouring of waste. Don't try and work without it, especially when thicknessing as 'printing' of chippings on the surface will mar the wood. ■



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# Making a steam bending box

PHOTOGRAPHS BY MICHAEL T COLLINS

## Things you will need

- Pine/exterior ply sides  
– 4 @ 1220 x 145 x 20mm
- Pine/exterior ply end  
– 1 @ 110 x 110 x 20mm
- Pine/exterior ply door  
– 1 @ 145 x 145 x 12mm
- Door latch
- Hinges
- Oak or other material for dowels  
10mm or 6mm
- Length of rubber weather strip  
(self-sticking)
- Wallpaper steamer
- Assorted plumbing fittings

## Michael T Collins

looks at making a steam bending box

Several years ago a friend of mine approached me saying that he wanted my help to make a Shaker rocking chair. After looking through several reference books, it was clear that in order to get the shape needed for the back legs and the splats we were going to have to bend the wood, a technique I wasn't terribly familiar with.

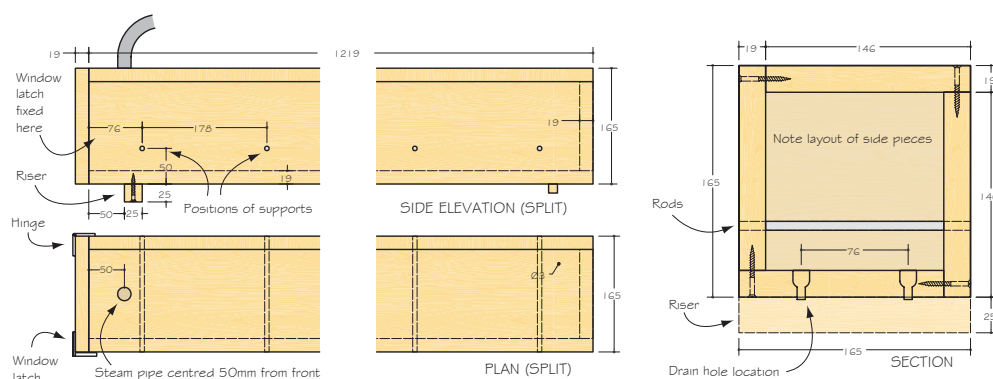
There are several methods to bend wood. In last month's article, we soaked wood in warm water as an effective way of bending wood; heat and glue lamination are another option. But the quickest is to combine heat and moisture. I introduce you to the steam box.

A steam box should be just small enough to accommodate the largest work piece you need to bend – if it is too big it is going to need a greater volume of steam to raise the temperature to the point where the wood becomes pliable. It also needs to be fairly airtight, but not so tight that steam cannot escape. Steam under pressure is an explosion waiting to happen. The best way to achieve this is with small drain holes, which allow the moisture to escape.

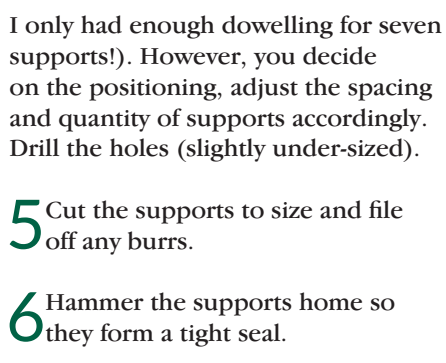
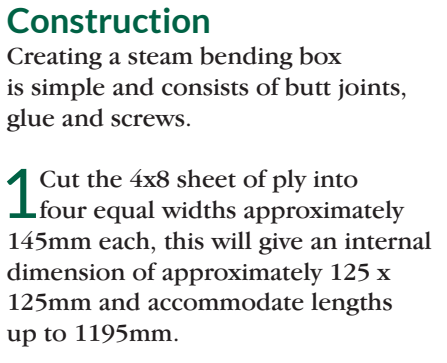
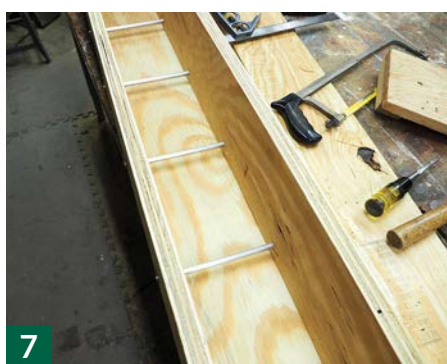
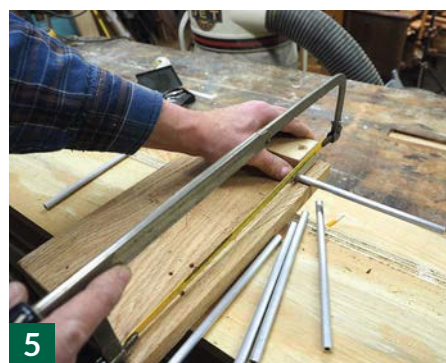
For this project you can use any material that can stand up to high temperatures and humidity. I'm using 20mm exterior grade ply. You could also use pine (*Pinus* spp.) boards. Pine works well for the box construction, producing a sturdy long-lasting box. ➤

## Warning!

Wear thick leather gloves (steam is very hot and will scald on contact with skin!). Carefully remove the wood and place in a bending form. Never leave the steamer unattended.







## Construction

Creating a steam bending box is simple and consists of butt joints, glue and screws.

**1** Cut the 4x8 sheet of ply into four equal widths approximately 145mm each, this will give an internal dimension of approximately 125 x 125mm and accommodate lengths up to 1195mm.

**2** Glue and screw three pieces together as per the diagram, to produce the base and sides of the box.

**3** Next, drill the two drain holes 32mm from the end and 38mm from the sides and insert two copper fittings – these serve to guide the dripping condensate.

**4** Position the support locations every 180mm (this was because

I only had enough dowelling for seven supports!). However, you decide on the positioning, adjust the spacing and quantity of supports accordingly. Drill the holes (slightly under-sized).

**5** Cut the supports to size and file off any burrs.

**6** Hammer the supports home so they form a tight seal.

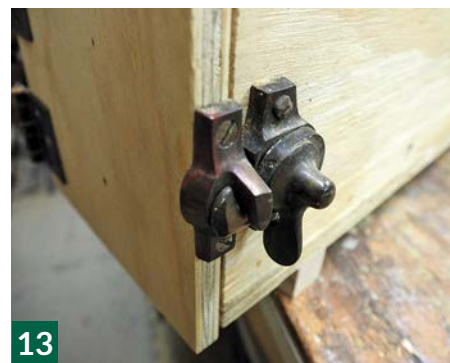
**7** Here are the supports in place to carry the steamed components.

**8** Glue and screw the top into place. Drill and counter sink first.

**9** An end cap can either be glued onto the end or, as I did, inserted into the end, giving a cleaner finish.

**10** Drill the steam feed hole and insert a double-ended male fitting.





**11** Secure a 25 x 25 x 180mm riser block of wood about 50mm from the front of the box.

**12** Add a door (made of 12mm ply) with a couple of hinges.

**13** Position a window latch so that it tightly seals the door.

**14** Add a rubber draught seal between the end of the box and the door.

**15** Drill a 3mm hole at the end with the drain holes and 38mm from the side for the meat thermometer – this will give a reading farthest away from the steam's entry point.

### Priming the steamer

**16** Attach the steamer, fill up and let it come to the boil. Check the thermometer to see that it reaches 215°F before putting the

wood in. Place a bucket under the drain holes. If you make this out of pine, the smell and the sap steaming away is quite aromatic. As a guide, it takes about 1 hour of steaming at 215°F for every 25mm of thickness, but wood will vary with species.

### Preparing wood to steam

The best wood to bend has continuous grain running the length of the piece. This is generally achieved with wood that has been riven or split along the grain. Wood that is sawn will need support when bending as the fibres are likely to have been cut through and bending may cause the wood to splinter and break. Soft wood such as pine is easier to bend than hardwood.

### Preparing to bend

**17** Once the steamer has reached the desired temperature – load the wood. While it is most desirable

to have air-flow around all pieces, this is not always possible and you may have to move the pieces inside the box around. Treat steam bending like baking something in the oven, you may need to move things around and increase the cooking time, check to see if it needs more 'cooking'. Take out a piece and test its pliability.

**18** Once the wood has 'cooked' enough, remove it from the steamer and immediately place in the bending form.

**19** Leave the wood in the form until it has fully dried out. Remove the wood from the form. Don't be surprised if the wood tries to spring back to its original shape. It is a good idea to design the form to over bend the piece so the wood relaxes to the shape you desire. There you have it; a cost-effective way to bending wood. ■



# Ask the Experts

This is your chance to challenge our editors and for them to answer your comments and queries



**ANTHONY BAILEY**  
Editor,  
Woodworking  
Crafts magazine



**MARK BAKER**  
Group Editor,  
GMC woodworking  
magazines

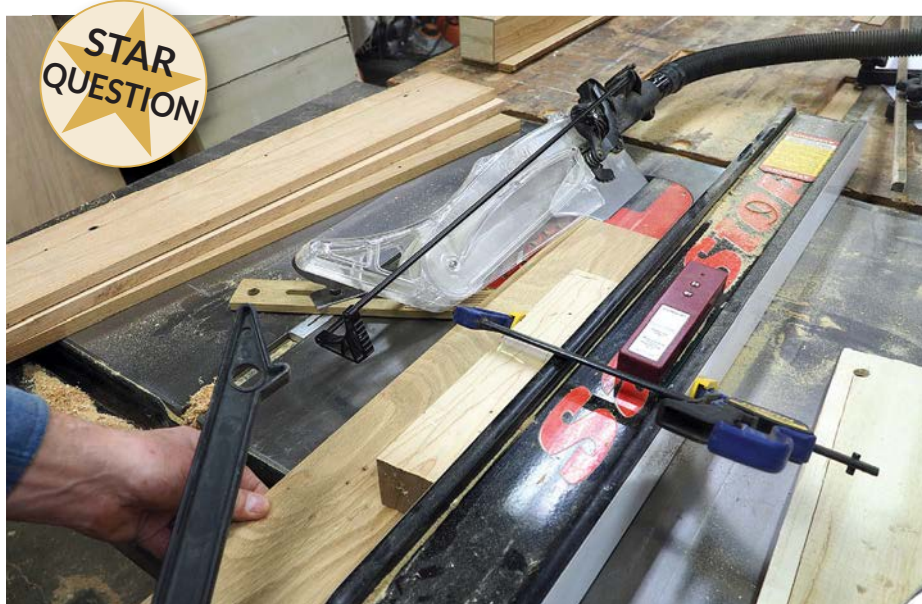
## ALIVE AFTER A KICKING

“ I’ve read your article on tablesaws and thought I ought to admit to making a mistake that might have turned out worse. I wanted the full depth of cut on my tablesaw for some thick English oak (*Quercus robur*) I managed to get hold of. The crown guard was just slightly too low to allow the wood to pass through with the blade wound right up, so I took it off as very little of the blade would show during the cut. I figured it would be OK if I was careful. It got part-way through the cut and the blade slowed all of a sudden and the wood jumped back at me, which I wasn’t prepared for. It whacked me across the face and temple, in fact I fell back feeling quite disorientated for a couple of minutes with the saw still running. I’ve learnt a lesson; I was bruised and slightly cut and it took several weeks to heal, but I guess it could have been much nastier than it was. ”

Embarrassed, Anon

**Anthony replies:** Thank you for your honesty, most of us wouldn’t want to admit basic errors like yours, except perhaps down the pub over a couple of pints! The crown guard is a lot more essential than it may sometimes seem to be. It has three functions: to cover the blade to avoid accidental amputations, stopping kickbacks like your experience and removing wood dust thrown up by the sawblade.

1. First, the crown guard needs to be securely fixed so it cannot come loose. A lot of riving knives have a slot for the crown guard to fit into. If the lock knob is loose the guard could come free but that means the crown guard instead of always sitting down on the workpiece will be horizontal to enable workpieces to pass under. However, this exposes some of the blade teeth which can pose a risk if you don’t use a pushstick. The



An example of safe sawing, Michael T Collins tablesaw set up for bevel cutting – drop-down guard, extraction, spring fingers and pushstick at the ready

answer is to use a pushstick, so keep it handy. There are some guards which have pivoting sides that are designed to be loose so they can drop down on to the workpiece, these give better blade coverage without compromising the security of the guard.

2. To reduce the impact of a kickback usually caused by wood binding on the blade. Oak is a typical example as the structure of the cells can be quite awkward and sawing then releases tensions in the wood unexpectedly. Kickback tends to occur when the blade speed reduces under load but the machine manages to overcome the resistance and then throw the workpiece, as you discovered.

3. A lot of fine wood dust is released above the workpiece as the blade spins, propelling the dust up and out of the wood. Modern crown guards have an extraction spout which can be connected to an extractor. However my own experience is that HVLP (High Volume Low Pressure) extractors cannot remove crown guard generated dust effectively so it still presents an inhalation risk.

The solution we have adopted is to connect a separate HPLV extractor normally used with power tools, to the crown guard with the former type connected to the tablesaw main extraction outlet.



This form of see-through drop down guard is ideal for vision and safety



When wood is pushed against the guard it raises upwards like this

PHOTOGRAPHS BY GMC/ANTHONY BAILEY



## A BIT GREEN

“ I’ve started doing a bit of green woodworking after trying my hand at an experience day. I started carving spoons, but I’d like to do other things including carving green wood or even pole lathe turning. I’m not sure where to find suitable wood, any suggestions? ”

Norma Grace

**Anthony replies:** Green wood means wood that is basically still fresh, i.e. ready to fell or recently felled and with high water content and the wood cells are still pliant and relatively soft. Sourcing wood is an issue because just like mediaeval times, it still belongs to someone. Wood is regarded as a valuable resource and is growing on someone’s land. In other words, as you have no doubt discovered, you can’t just help yourself! Several suggestions, if you are in the country or near a private estate it may be a chat with a landowner might result in them being happy to let you have a limited amount of wood for nothing if they are having trees felled or branches trimmed back. You could join a countryside volunteer group and may sometimes be allowed to remove freshly sawn logs during work sessions. If you are new to green woodworking perhaps you need to learn more by going on a course,



A pile of useful logs left after a woodland volunteer workday

where you can also access green wood.

What you must not do is to remove logs or cut branches just because no one is around and they ‘won’t be missed’. Apart from damage to living trees, piles of logs may be waiting for collection by an authorised person or they may have been left deliberately to encourage wildlife to find a home in them as they degrade.



An acrylic four flute spiral cutting bit being used to cut a slot in hard plastic, note the narrow shavings

## SHINY SHINY

“ I want to machine acrylic plastic with my router but I understand I need special cutters that are expensive.

Is it possible with normal router cutters? I tried it and it sort of worked but the plastic swarf stuck around the cut, cutting was a bit rough too. ”

Geerhart Zettters

**Anthony replies:** First you need to set the slowest speed on your router, next you need a very sharp cutter and yes, you do need a cutter designed for machining acrylic-type plastics. You should also be using proper jigs or templates with a guidebush so you have complete control of the process.

## CHOOSING CHISELS

“ I’ve been given a chunk of money for my birthday and top of my shopping list of tools is a decent set of chisels. There seem to be a very confusing array of makes and types I could buy. Do you have any suggestions? ”

Baz Stevenson

**Anthony replies:** It sounds as if you aren’t too limited on budget, so don’t buy the cheapest brand, go for a well known one instead. A full set of Narex chisels, for instance, covering 6mm to 50mm widths will cost you around £170, or you could opt for a smaller set which are correspondingly cheaper. Irwin Marples Splitproof chisels look good with their transparent coloured handles and a six-chisel set will cost around £60. What you need to bear in mind is that you don’t need every size made. I would tend to buy a small set and add a couple of wider ones for paring work because what tends to happen is you will use just a few sizes for most jobs. It also means fewer chisels to keep sharp!



A set of chisels and several gouges that will deal with almost any job



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If you have anything to say, write to: **The Editor, Woodworking Crafts, 86 High Street, Lewes, East Sussex BN7 1XN.**

Alternatively, email: [anthonyb@thegmcgroup.com](mailto:anthonyb@thegmcgroup.com)

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# Take the rough with the smooth

Mark Baker turns a natural edge vase



## Things you will need

- Bowl gouge
- Beading and parting tool
- Spindle roughing gouge
- Spindle gouge
- Thin parting tool
- Revolving centre
- Drive spur
- Chuck
- Sanding block
- Abrasives down to 400 grit
- Finish (oil was used on this project)
- Callipers
- Paper towel
- Personal protective equipment (PPE): faceshield, dust mask and extraction

At some time or other every turner wants to work with either branches of timber or bowl sections with the bark still on it – a process known as natural-edge turning. There are some basic principles associated with this, the most important of which is protecting the bark (or natural edge) at all times. I have used alder for this project. Some timbers, such as yew, elm, sycamore and beech, are better-suited to natural-edge turning because their bark is close to the sapwood and therefore more likely to stay intact. Other timbers, such as some fruitwoods for instance, have a large soft and spongy area underneath the bark and between the sapwood, which makes it more difficult to keep the bark intact. Don't worry if a section comes away, you can stick it back with superglue or, if something goes badly wrong, remove the whole bark section completely and keep the underlying wavy edge intact. It is a challenge, but with a few simple steps and key stages in mind, you will be well on the way to mastering the technique. This endgrain vase (which could be a goblet), made from a log section, is the perfect project for practising it.

**1** Mark the centres at each end of your chosen timber and then secure it in place between the centres with the pith off to one side. This means that the log may be off-centre. Use a bowl gouge to clean up the end nearest the tailstock and then a beading and parting tool to cut a spigot to suit your chuck jaws. The spigot should be close to or larger than one-third the overall diameter of the log to ensure stability. Once cut, remove the timber from the lathe,



## Things to consider

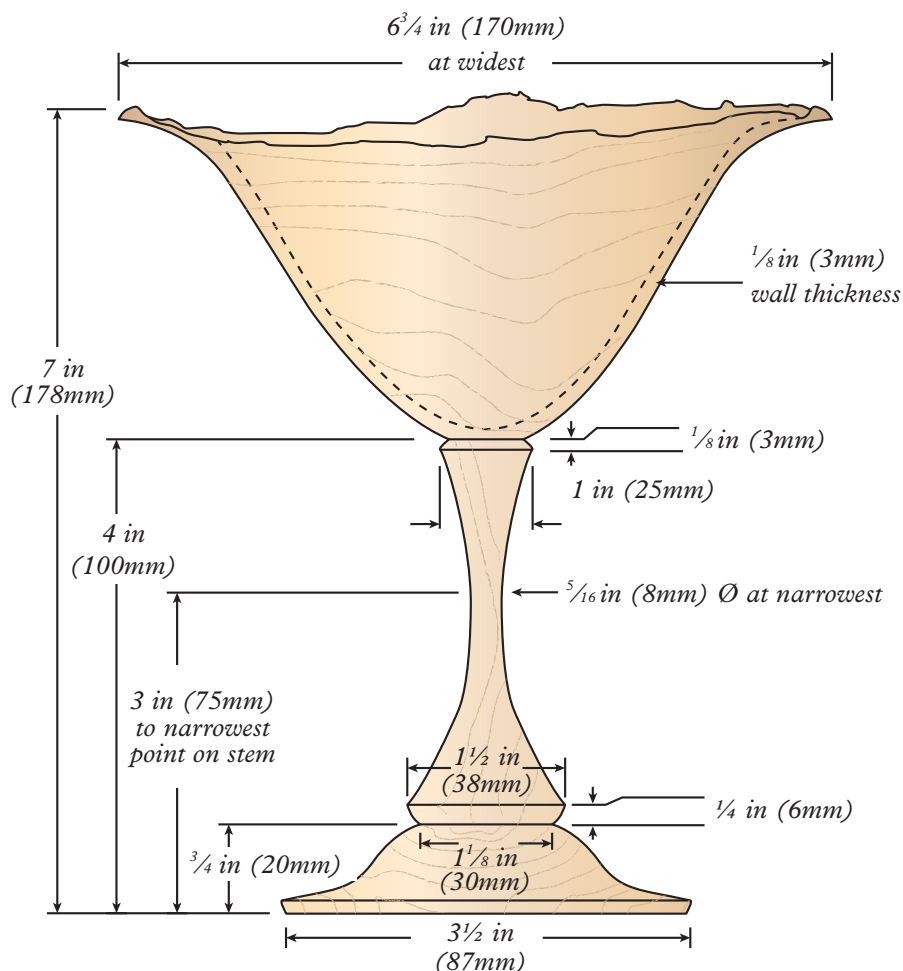
1. The log section selected for this project has not been felled long, maybe a month or so. The wood is still wet, which means you must make the thickness of the walls as even as possible. Failing to do this will mean the timber dries out at uneven rates, which will cause stresses that may lead to cracking.

2. You can expect movement when the wood dries. Choose a design that works even if the piece warps and changes shape a bit. This is the fun part. You never know wholly what will happen but you can give everything the best chance of success and then wait for the magic to happen.

3. You do not want the pith of the log, which will eventually become the stem of this project, to be in the exact centre, otherwise it could create a weak area that may not be stable during cutting. Ideally the pith should be off to one side.

4. Err on the side of caution with the lathe speed. If in doubt, slow things down, especially when working with thin sections.

5. Before switching on the lathe, always spin the work by hand to make sure everything is clear of the rest. Never move the rest when the work is revolving.



reverse it, fit the spigot in the chuck and bring up the tailstock.

2 Now use a bowl gouge to clean up this end too. A bowl gouge is the best tool for this because of its strength and also because, due to the uneven surface of a typical log, the rest can at times be some way from the work, resulting in a large overhang of the tool over the rest. The extra strength of the bowl gouge is handy in this situation.

3 After cleaning up the end, use a spindle roughing gouge to remove some of the waste timber from the middle section of what will be the stem area. Note that I have left a wide section of bark near the end that was just cleaned up. All that is needed at this stage is to define the parameters of the rim and body section, so don't take too much away. ➤





**4** I want to keep the tailstock in place as long as possible, so I am making a push from the outer edge to a point close to the tailstock. Regardless of grain orientation we need to cut into the bark from the outer edge in all circumstances to avoid or minimise the risk of pushing off the natural edge, even if this means working against the grain. The key is to use a gentle and controlled cut and try to angle the cutting edge to slice or peel away the fibres of the grain.



**5** You can see the presentation angle of the gouge and the cut better here, even though I am cutting against the grain. The flute is not pointing at the normal 2 o'clock position; instead it is nearer the 4 o'clock. This presents an elongated cutting edge to the work, thus peeling the fibres.



**6** Technically, because the wood is endgrain-orientated, we should be working from the centre out to the edge. A spindle gouge can be used to do this easily. Be sure to stop well short of the bark.

**7** Note the damage on the inner area and also the fluffiness of the surface.



**8** Work out whether to use this cut or the one used earlier, where we had a slicing/peeling action cutting against the grain to get the best surface finish. I found that the slicing cut against the grain worked best on this timber and a spindle gouge coped easily with this.

**9** Depending on how clean the surface is, you can use a scraping tool to refine it. Work from the centre of the inner hollow outwards, stopping short of the bark.



**10** If you find that the scraper tears the grain, go back to a gouge then use abrasives. Whichever way you go, abrasives are the next stage. The wood is wet and needs to remain so in order to avoid splits occurring due to the wood drying out when sanding. So having decided to use oil as a finish, I coated the whole surface with it and sanded while it was wet. You can of course use water. Work through the grits, only applying more oil if you see airborne dust or if the surface becomes dry.



**11** Wet sanding creates a slurry that may darken the wood slightly so this method should only be used on timber of a uniform colour. If you have a dark heartwood and light sapwood there will be colour contamination.

**12** Natural edges may be very uneven. If this is the case it might be prudent to use a sanding block to minimise the risk of your fingers touching the natural edge, which should be avoided at all costs. Make sure you trail the block and sand using the lower section of it so you do not have a leading edge coming into contact with the oncoming timber. If the higher edge touches the wood it is likely to grab into it.

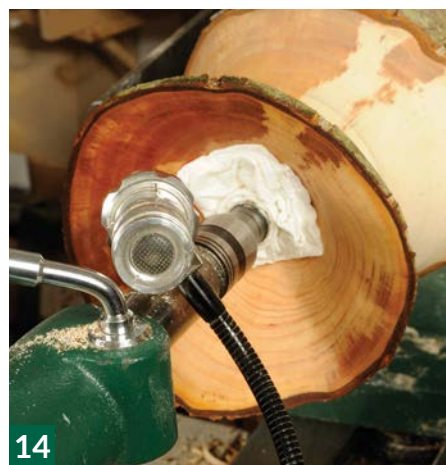
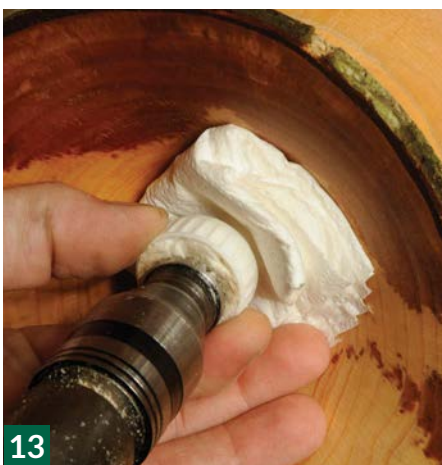
**13** After sanding, wipe over with fresh oil to clean up the surface of slurry and then bring up the tailstock to provide support when turning the stem. Take care that the point does not damage the fresh surface. Here I am using a drinks bottle cap stuffed with paper towel to slide over the revolving centre and more paper towel between it and the wood to prevent damage.

**14** Tighten up the assembled parts and then have a light source, in this case a multi-bulb LED light, shine on the inner wall while working on the outer one. Note that the LED is a cold light so doesn't dry the wood out.

**15** Using a bowl gouge, gradually remove the excess wood on the outer section of the cup form. Gradually work back to the final thickness. You can see that the light from the other side shines through the thinner section.

This is one way of gauging wall thickness on wet wood. When the light appears to shine evenly through the wood you have an even wall thickness. Of course, you can double-check this with calipers after stopping the lathe.

**16** Work down in stages by removing more waste and then creating the even wall thickness required. A bowl gouge suits this well. At some stage we need to sort out the height of the stem. For this we need to know the depth of the cup section – a homemade gauge will help, as would a ruler. ➤





**17** The bottom section should be as thin as the side walls. Now refine the bottom and the top of the stem section using a spindle gouge. When cutting into deep sections such as this, remember to rotate the blade as you reach the end of the cut so that the flute points horizontally (i.e. sideways). This will help ensure you do not end up with a catch.

**18** Once cut, finish it off by oil sanding (as done on the inside) before you move on to creating and refining the lower section. A spindle roughing gouge is then used to remove the bulk from what will be the stem section.

**19** Note that the shoulder section on the cup is similar to what you have done before. The thinnest section of the stem is about one-third of the way along the stem and the lower section near the foot gradually flows to the lowest part. A spindle roughing gouge is best for bulk removal of wood and a spindle gouge for refining.

**20** When you have achieved more or less the desired shape, refine the top part of the stem where it meets the cup by rolling over the edge to create a rounded section. Then shape the stem further working from both sides down to the lowest part.

**21** Once the stem is shaped, refine the lower section where it meets the base to mimic the upper section detail but be a bit wider. The width can be adjusted in order to get the balance of the piece just right.

**22** A spindle roughing gouge is then used to remove the remaining bulk from the base area.

**23** Refine the shape of the base with a spindle roughing gouge you will see it is an ogee form (an S-shaped curve) rising up to the lower section of the stem. Use a parting tool to undercut the base part way, to create a more or less even wall thickness. Before you go too far, wet sand the stem and top of the base.

**24** Now part almost through the underside, stopping just short – around 1/8 in (3mm) or so. Remove the tailstock and the piece from the lathe, carve off the pip and then sand and oil the bottom. ■





# Fein MultiTalent

## *A professionally rated oscillating tool*

Peter Brett puts an adaptable workhorse to the test



I thought oscillating multi-tools were overrated – until I got to use one. They cut, sand and scrape – depending on the accessories – and the more you use it the more uses you will find for it. I was lent a 12v cordless Fein MultiTalent for a series of jobs. Fortunately, it came with accessories in a spacious fitted case with space for all the extras, including a spare battery and charger.

I liked the Starlock blade mounting system – blades changed in a matter of seconds, and they can also be angled to suit the job in hand. The job in hand here was that I needed to cut a lump of rotten window sill obstructed by a

creeper stem. By mounting the blade at right angles to the head I was able to do a cut without damaging the plant. Accurately too!

Detail sanding is easy with the delta sander – an FFP2 dust mask is needed – followed by a thorough vacuum. Sanding over skirtings and doors took less time than I thought. With adjustable speeds I got the finish needed on various materials. The 2.5Ah 12v battery packs lasted very well – three quarters of a day at least. Charging took just over 40 minutes.

There are loads of oscillating tools on the market, mostly cheaper than the Fein. Cheaper multi-tools usually mean

noisier and with less well-controlled vibration, and no Starlock system either. You get what you pay for! Nevertheless, oscillating multi-tools can still do jobs other tools can't and, in my view, are a very welcome addition to the toolkit.

Fein multi-tools are professionally rated and corded versions are cheaper than cordless. A similar Fein corded kit costs around £120 on the net. This 12v MultiTalent costs around £180, but it is quieter and more comfortable to use because of its anti-vibe system. No cord, so more freedom to move. ■



### SPECIFICATIONS

**Model:** AFMT 12 SL  
**Nett Weight:** 1.4kg  
**Oscillation Rate:** 11,000–18,000/min  
**Oscillation Stroke:** 2 x 1.6°  
**Pad Size Corner to Corner:** 80mm  
**Rating:** Industrial  
**Battery Capacity:** 2.5Ah  
**Battery No:** 2 x 12V  
**Battery Type:** Li-ion  
**Battery Voltage:** 12V

### DETAILS

**Price:** £180 inc. VAT  
**Contact:** Fein  
**Web:** [www.fein.com](http://www.fein.com)



# KITTED OUT

All prices correct at time of printing and inclusive of VAT.

Take a look at the tools, gadgets and gizmos that we think you will enjoy using in your workshop

## Veritas Wile plane hammer

Making fine adjustments to plane-blade position is easier with the right tool, and few can compare to the finely made plane hammers of Richard Wile, a hobbyist woodworker from Nova Scotia, Canada. Veritas' hammer is machined to have the same elegant proportions as Wile's design, giving it a weight and balance that feel right in the hand. The small brass head, only 16mm in diameter and weighing 85g, allows precise, delicate adjustments to the blade. The torrefied maple end flares out to a 21mm diameter face to distribute the force of strikes. This face is slightly belled with rounded edges to help avoid marring your plane. The hand, also made from torrefied maple, is 277mm long. An excellent fine hammer with many uses around the shop, this is a tool that is as pleasing in the hand as it is to the eye.

**Contact:** Lee Valley  
**Web:** [www.leevalley.com](http://www.leevalley.com)



## Bencil The World's Most Durable Pencils

The new range of Bencil pencils from Johnson Tools addresses the common problem of snapping or fracturing an ordinary pencil and more, Bencil is manufactured from a revolutionary patented formula of solid semi-flexible graphite composite eliminating the fragile lead and wooden surround of traditional pencils.

Because of the unique construction of Bencil it will last up to ten times longer than a standard wooden pencil and requires far less frequent sharpening resulting in less down time. Bencil is non-toxic, writes on most surfaces, is non-smudging and water resistant.



Available in traditional HB, Blue and Red plus a slimmer hexagonal version in HB for those who require the finest of lines, Bencil represents exceptional value for money and a huge leap forward in pencil design.

**Contact:** Johnson Tools  
**Web:** [www.johnsontools.co.uk](http://www.johnsontools.co.uk)

## Mak1705 DMR109 DAB jobsite radio

The latest version of Makita's very popular jobsite radio features the DAB digital broadcast system and with twin large 76mm diameter speakers will generate a massive 3.5watts from each speaker when powered by a Makita 18v Lithium-Ion battery. This radio can be mains powered with the AC adaptor jack built in, but will happily operate on most of the Makita batteries from the 7.2v and 10.8v Li-ion stick batteries to the 10.8v, 14.4v and popular 18v slide type batteries. It is not compatible with the older Ni-Cad, Ni-MH or G-series batteries. It has an FM frequency range of 87.5 - 108Mhz and uses the Band 111 5A - 13F frequency band. The tuner has a bright, clear and easy-to-read LED display and the flexible antenna can be removed for storage in the battery cover. A micro USB port is provided for software upgrades and an AUX-IN jack enables external audio source to be played through this radio. Weighing just 4.6kg this rugged and powerful DAB radio is weather proofed to IP64 standards and available in either white or blue body colours.



**Contact:** Makita UK  
**Web:** [www.makita.co.uk](http://www.makita.co.uk)

## IRWIN QUICK-GRIP deck tool kit

The IRWIN QUICK-GRIP One-Handed Bar Clamp Accessories provide added versatility and functionality to traditional one-handed bar clamps—allowing you to do more. The deck tool kit converts the One-Handed Bar Clamp into a deck clamp for easy, accurate spacing, aligning and holding during deck building.

**Contact:** IRWIN  
**Web:** [www.irwin.co.uk](http://www.irwin.co.uk)





# Kit News

## Snickers WorkTrousers are now getting even 'Smarter'

Snickers WorkTrousers are getting even 'smarter' with the integration of technology to improve performance and wellbeing at work. Wearable Technology is already woven into our daily lives through smartphones, fitness devices, sports clothing and accessories - to help monitor and improve performance. A recent study carried out in Scandinavia\* showed more than 50% of the professional craftsmen there are cutting corners at work and don't use the available health and safety equipment as they should.

David Clark, managing director of the Hultafors Group UK says, "Our experience is that craftsmen usually are so focused on getting the job done that personal protection tends to be overlooked".

But repeated 'corner cutting' over the years definitely creates a long-term health problem – an issue that Snickers Workwear has



been continually addressing with its patented KneeGuard System.

Clark says, "The study shows that 6 out of 10 craftsmen are suffering from pain in their knees. So we see that there is definitely room for improving their wellbeing beyond just knee protection - and our 'Smart Workwear' is one way".

'Tracker 1' is Snickers' first prototype of wearable technology, a chip fitted to a pair of WorkTrousers enabling the user to monitor work place noise levels, heat conditions and knee impact.

Clark goes on to say, "Market-leading technology and innovation have long been hallmarks of Snickers Workwear. We are well known for our KneeGuard System, 37.5



Fabric Technology and technical functionality, but the integration of 'smart' wearable technology into our clothing shows the extent to which we are looking at working clothes and wellbeing on site in a completely new way".

**Contact:** Snickers Workwear

**Web:** [www.snickersworkwear.co.uk](http://www.snickersworkwear.co.uk)

## Clarke Portable Heavy Duty Dehumidifiers

NEW Clarke YDE20/YDE30 Dehumidifiers with LCD display are ideal for domestic and office use, removing excess moisture from the atmosphere to help prevent damp, mould and mildew.

An easily replaceable carbon filter allows for dehumidification and air purifying with a choice of 3 different settings, high, low and automatic. In automatic mode, humidity can be set from 40-70% and an on/off timer can be set for added convenience.

Both models feature an internal drying function to prevent build-up of mildew, a removable easy-clean filter and a removable collection tray of up to 6 litres with added water tank level and LCD tank full indicator.

With up to a 30 litre extraction rate per day, these models include a drainage hose so water can be continuously drained or collected in the collection tank.



From  
£179.98

**Contact:** Machine Mart

**Web:** [www.machinemart.co.uk](http://www.machinemart.co.uk)

## CraftPro Router Table

The CraftPro Router Table will suit craftsmen & woodworking enthusiasts. It is packed with the necessary features to maximise the versatility of all popular portable routers. It has a large laminated MDF table and a quick release aluminium extrusion high back fence with sliding MDF cheeks and fully adjustable side pressure fingers. A removable 6.35mm thick aluminium insert plate with 98mm diameter aperture is pre-drilled for Trend TBC (Trend Base Configuration) routers and Trend T11 routers with a quick Raiser and quick release facility for the Trend T11 router. It has a full perimeter leg stand with adjustable feet. Two insert rings are supplied with 31.8mm and 67.5mm diameter.



£255.89

**Contact:** Trend

**Web:** [www.trend-uk.com](http://www.trend-uk.com)



# Choosing which glue to use – and when

Louise Biggs gets stuck into adhesives







Traditional and electric glue pots with pearl glue and a bridled glue brush and modified hide glue for use cold



Forming a rub-joint with animal/hide glue

There are many different types of wood glue on the market, far more it seems than when I started as a furniture maker and restorer more than 30 years ago and far too many to go into here. Probably like every other craftsperson, I have particular types and brands I prefer but for the main part my choice of glue depends on the particular job I am working on and the timbers involved.

You may have noticed through my various articles that I mainly swing between the traditional animal/hide glue and the modern PVAs and aliphatic resins. In this article I will explain the glues I use on a regular basis and the reasons I use them.

## Gluing antiques

For my part there is a defining line between restoring an antique or heirloom piece and restoring or making a modern piece of furniture. I trained at the London College of Furniture (now all part of London Metropolitan University). That training has formed the baseline of how I work. Antiques and family heirloom pieces prior to the 1920s or 30s were glued with animal/hide glue and its variants of fish or rabbit skin glue. Totally

natural protein glues have been around since the Egyptians 5,000 years ago. They are classed as reversible glues, with gentle heat or water they can be reconstituted. But as with so many things, there are exceptions.

When restoring or conserving an antique it is professionally correct to use the same type of glue. This makes all of your repairs on a piece of furniture reversible if a problem occurs or if they need restoring later in life. If the glue can be reconstituted it causes less damage to the piece you are working on.

If, when you lift a section of veneer or open the loose joint, you only get a fine dust which used to be the glue, there really is little option but to clean out the dust and re-glue the joints or relay the veneer.

The animal/hide glues can be used for the construction of furniture and for the laying of veneers. They have the great benefit of being able to form a 'rub joint'. As they are used hot when applied between two pieces of wood they can be rubbed against each other and as the glue cools and the water

evaporates they develop an initial tack which gains strength as it dries. This can prove very useful especially if a piece is going to be difficult to clamp.

If there is a downside to these types of glue it is that they are not moisture resistant and heat will eventually degrade them – central heating seems to speed up the process. They also take time to prepare properly and require some specific equipment, namely a glue pot, whether this be the traditional water-filled glue pot or its modern day electric equivalent.

There is a modern prepared Liquid Hide Glue that can be used cold due to an additive but the disadvantage to this over traditional hide glue is the limited shelf life. It is still handy for that odd small piece that renders heating your entire glue pot impractical.

It has a fast working time due to it being used hot, ideal for veneering as the glue can be re-heated with an iron and rub-joints but gluing chairs and carcasses is best done in manageable stages and it is best left overnight to dry and gain full strength. ▶



An antique writing slope



Re-heating the hide glue while hand veneering



## Making new furniture

The modern glues have been around since the 1920s. The most common modern glue in furniture making is PVA – Polyvinyl Acetate (white glue). These nowadays seem to have been adjusted for ever shorter working times – around 10 minutes – for initial adhesion without load but still require the piece to be clamped for a good 12 hours or overnight. They work by the water dispersing into the surrounding timber. They come ready prepared and apart from a brush or roller to spread the glue need no special equipment.

Becoming more readily available and in several different forms are the aliphatic resin glues (one of the biggest names being Titebond). These now come in a range of standard glues, those suited for dark and light timbers so as not to show a glue line, an extended version to give a longer initial working time (30 minutes) and one designed for cold pressing veneers. These are all similar to PVA with modifications to improve strength, initial tack and moisture resistance. As with the PVA glues they do not require any special equipment.

Due to the ever shortening time of the PVAs I now tend to use the aliphatic resin glues, opting for the one with the extended working time which enables me with planning, clamp availability and sometimes a spare pair of hands to glue more sections of a piece of furniture in one go where possible. This then shortens the construction time of a job and gets the piece to my customer more quickly.

As I have a bag press for veneering I hold the cold press veneering glue in stock but this is only used for new



A new set of table and chairs

work, antiques are still hand veneered with the animal/hide glue. The biggest benefit of this cold press veneer glue is it has a slightly thinner constituency and can be spread with a roller to gain a thin even layer of glue, which will not create bulges or lumps behind the modern day thinner-cut veneers.

## Exceptions to the rules

As with everything there are exceptions to the standard rules. Some of the modern glues leave a residue in the timber and no matter how much you clean up the joints, if you are restoring a modern piece these glues will not adhere to one another properly. I have also found over the years that some timbers, such as rosewood and teak, do not glue well with the PVAs and aliphatic resins due to the oil within the timber. In both cases

I would use the animal/hide glue to re-glue a modern piece or to glue oily timbers. The oils do not seem to affect the traditional glue and it appears to adhere to modern adhesives rather better than they do to themselves.

I have covered the adhesives that I choose to use on a daily basis and hope I have given sound reasons for my choices based on my experience. All adhesives for one reason or another have a shelf life and it would be impractical and uneconomical to stock them all. They all have their pros and cons and sometimes it just comes down to personal preference. But my main rule is to use the appropriate glue for the particular piece of furniture concerned, animal/hide glue for antiques and modern glues for new furniture and modern restorations. ■



Modern PVA and Aliphatic resin glues



Spreading the aliphatic resin cold press veneer glue ready for the bag press





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- James Hatter has some assistance with his raised garden bed
- Making and using router hinge jigs
- Michael T Collins creates through and half-blind dovetails



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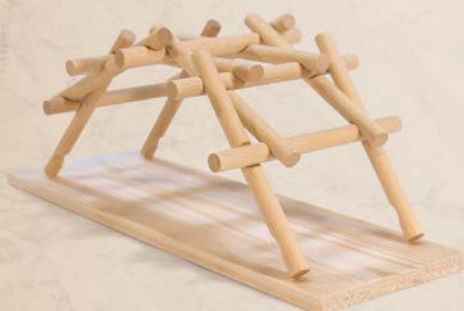
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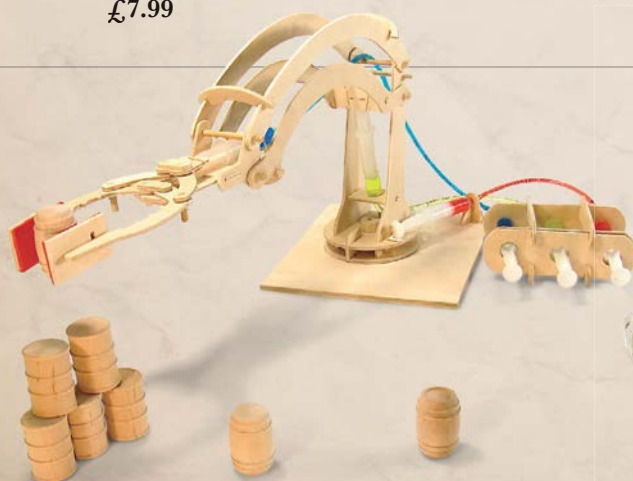


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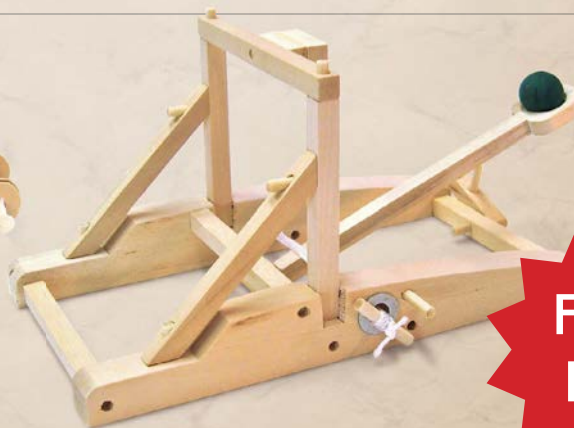
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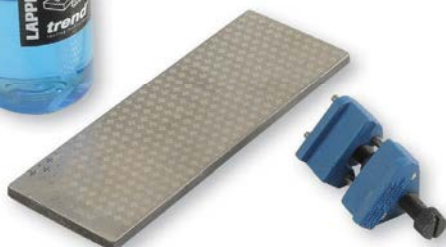
# 10 TIPS for SHARPENING

PHOTOGRAPH COURTESY OF SHUTTERSTOCK

Working with edge tools is essential, but keeping them really sharp and usable often defeats woodworkers. In an era of disposable tools it is easy to lose the knack – so we've recovered it!

**H**ardpoint saws can't be resharpened, but they cut a multitude of things including building blocks and plasterboard. Cabinetmaker's handsaws should only be used for cutting wood. Resharpening is a skilled task, so using them on the right materials and using a blade protector will help keep the teeth in good condition. Plane and chisel blades are the ones you are most likely to have to sharpen. Learn and develop a technique that works for you and stick to it once you get it right.

A two-sided diamond plate, honing guide and lapping fluid make sharpening quick and easy



**1** Oilstones become very gunked and messy to use; waterstones can be kept clean and come in a wide range of grades but do go out of shape with use and need re-flattening. There are also micro-fine sharpening systems such as so-called 'scary sharpening' using ultrafine papers, but these are taking sharpening to the ultimate degree and don't suit day-to-day usage. The quickest most reliable method today has to be the diamond plate, which is the method I'd recommend unless you want to adopt a higher effort/quality regime.

**2** Cheap perforated diamond plates on plastic backings are not worth buying as they aren't completely flat and separate from the plastic. Also the quality of the diamond grit bonding is uncertain. For initial coarse grinding it is possible to use a dry grinder. This suits woodturning tools where the tool is used straight off the grinder. Plane and chisel blades are another matter as grinding can easily cause them to lose shape and overheat evidenced by colour building up in

the hottest areas. Water-cooled rotary systems like Tormek are preferable but costly and slower, but give a better finish before you do the final honing.

**3** Invest in a decent quality diamond plate that is coarse on one side and fine on the other. A 300 and 1000 mesh (grit) plate is a typical example; the 300 mesh is used for coarse grinding while the 1000 mesh gives a good honed cutting edge which needs to be 'stropped' to remove any wire edge and polish it ready to cut. To start with the cut can seem quite fierce compared to say, a waterstone, however after some use it calms down as surface becomes smoother, relatively speaking. A good diamond plate should last a long time.

**4** The most usual grinding angle for plane and chisel blades is 25° and a secondary honing angle of 30°. This can be varied to suit specific needs but is the most common. Using a honing guide is the surest way to achieve a consistent flattened bevel. Woodturning, woodcarving and certain specialised



tools need different sharpening techniques. Woodcarving tools in particular need to be highly polished, whereas woodturning tools have a relatively coarse ground edge.

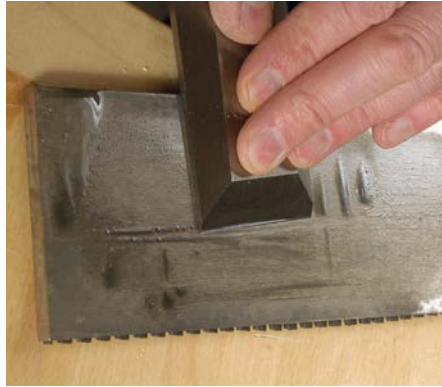
**5** The back of the blade needs almost as much attention as the bevel itself because until it is flattened in the edge area a proper meeting edge cannot be achieved. Lay the blade flat and use a circular motion to get a good result. Use proper lapping fluid at all sharpening stages as it lubricates and prevents rusting without clogging the diamond particles. You do not need to flat the entire back of a blade, indeed that would be an impossible task as blade backs are never completely flat.

**6** A new or worn bevel edge needs to be ground first, making sure it reaches all areas of the cutting edge so a slight wire edge forms. Standard honing guides have the correct blade projection marked on the side. To simplify setting a blade each time, mark a line on the top of the bench to set the blade edge against when the honing guide is pressed against the bench edge. Once it is ground using the coarse side of the plate, turn it over and repeat with the fine grit to get a fine finish.

**7** Although a leather strop and metal polishing paste can be used by drawing the blade backwards across it, an equally effective method is using a block of glued together 'short grain' MDF which you can draw a blade across at any angle to clean off the wire edge and gain a good shine on the very edge. Metal pastes such as Autosol, Glanor and Wenol (both latter are German brands) all contain a fine abrasive, which acts to polish metal and improve the edge of blades.

**8** Carving tools and narrow chisels are sharpened without the aid of a honing guide and rely on hand and eye to achieve the correct angle and shape. However, carving tools with an internal bevel such as gouges are sharpened using a slipstone which is suitably shaped. To get the all important polished finish a special block with matching profiles is needed with metal polish paste applied to it.

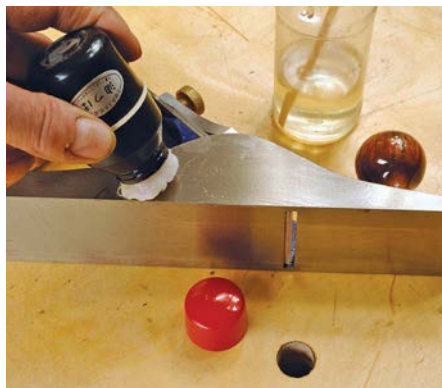
**9** Some timbers have an abrasive nature due to silica drawn up with the water that keeps the tree alive.



Flattening the back of a chisel or plane blade is the first essential to creating a good, sharp meeting edge

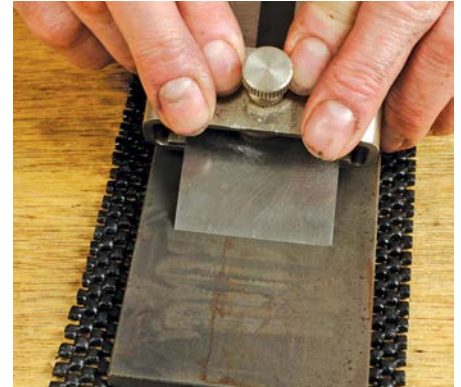


After stropping on leather or a 'short grain' MDF block with metal polish the wire edge will vanish and the edge will get a shine indicating it is sharp



Care of handtools is essential and will prevent rusting of both tools and their blades, here thin camellia oil is being used to coat a plane between uses

If that is the case, sharpening will be required more often than normal and isn't a reflection on your sharpening technique. There are different blade steels, especially for hand planes, apart from the one that came with your plane. Cheap planes have steel of unknown quality which may blunt fairly quickly. For a reasonable cost you can invest in a thicker carbon steel blade which should serve you better. You can spend even more money on a more advanced alloy blade but it isn't justified for most purposes.



Then the bevel can be sharpened, if it is in poor condition start with the 300 mesh side of the diamond plate then move on to the 1000 mesh for a good finish



A dry grinder is fine for turning tools but there is a danger of overheating the metal particularly with plane and chisel blades – shown by discolouration of the steel



Carving gouges are sharpened using slipstones and then stropped using a special profile covered with metal polish

**10** Look after your tools, keep them lubricated and use a rust protection agent in a toolbox or cabinet and don't let sharp blades contact other tools or anything that could damage them. Tool rolls for chisel and carving tools, and plane 'socks' or special shelves or compartments will keep your precious hand tools in good condition and give less reason for resharpening. Respect your tools, don't loan them out and they should repay the care you take with them! ■



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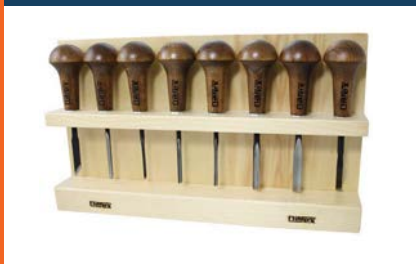
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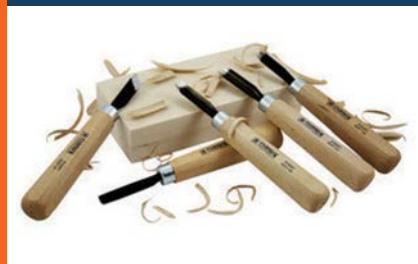
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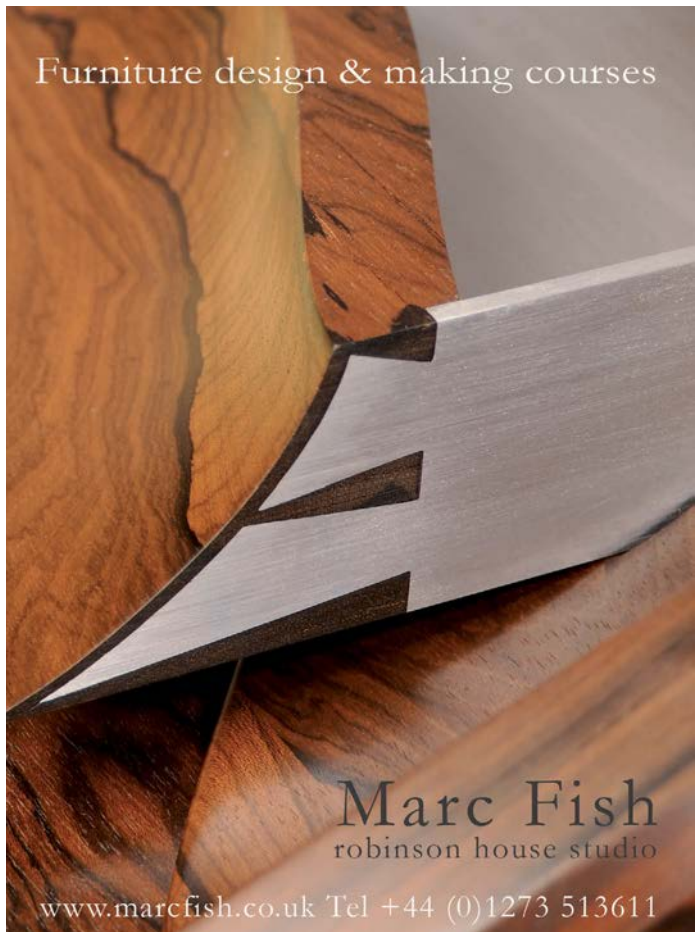
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# Focus on...



## ‘The Mouseman’, Robert Thompson

A quintessentially English craftsman working with oak in the traditional style

**B**orn in 1876, Robert Thompson was a notable part of the 1920s revival of craftsmanship inspired by the ‘Arts and Crafts’ movement, his designs being based on 17th century furniture. He started as a jobbing carpenter and stonemason. He married and had a daughter, his workshop was in Kilburn, Yorkshire and the emblem which he carved on to his pieces was a mouse and thus he became known as the ‘Mouseman of Kilburn’. The story goes that one of his craftsmen remarked that they were ‘as poor as church mice’, in response he carved a mouse on a church screen, it became a trademarked feature that is still used on furniture created by the workshop to this day. He used Yorkshire-grown

oak and created furniture and other items both large and small.

Working by hand, tables and other surfaces were adzed leaving the characteristic ripple marks created by this special tool. Much of his work was ecclesiastical in nature such as Ampleforth Abbey where in 1919 former headmaster Father Paul Nevill asked Thompson to make the furniture, which became an extended commission including the library and the main building. By 1925 he had six craftsmen working for him and by 1934 had 30 craftsmen in an enlarged workshop, having previously accepted a commission from the US.

A key feature of construction was and still is the use of pegged or wedged

mortise and tenons rather than relying on glue which can be prone to failure. The oak is fumed with powerful ammonia to create an even, rich colour and then waxed to give a final finish.

Today his pieces are highly valued, and critical to determining their authenticity and age are the actual design, adzing marks and even the shape of the mouse. Robert Thompson’s Craftsmen Ltd, still continue the tradition in which he started making furniture. There is a visitor centre at the workshop where you can learn in more detail about his skill, genius and iconic style.

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