

What you will need:

- Combination plane with 3mm, 6mm and 13mm cutters
- Rip and cross cut saw
- Block and jack plane
- Marking gauge and knife
- Card scraper – optional – and try square



Chess board *from old wood scraps*

Michael T Collins makes a chessboard and a box to store the pieces

The true origins of chess are unknown, but it's believed to have originated in India some time before the 7th century AD and since then has become a very popular pastime. This article looks at creating a chessboard and a box for the pieces from two contrasting wood species.

The wood

Start with two pieces of contrasting wood, I am using some very old

wormy maple (*Acer spp.*) and a piece of equally old walnut (*Juglans spp.*). The pieces are about 460mm long. You will also need a strip of wood 12 x 10 x approx. 1,727mm for the edging and 1,727 x 20 x 100mm wood for the box and drawer – for this I am using an old pine (*Pinus spp.*) panel door.

Making the board

1 I like butcher blocks and this very decorative wood lends itself to

Cutting list

Chessboard:

- 2 pieces of contrasting wood – 460 x 38 x 38mm
- 1 piece of 6mm ply 343 x 343mm
- 1 piece of 10 x 12 x 1,525mm

Base

- 1 piece of 20 x 100 x 1,525mm
- 1 piece of 10 x 430 x 430mm

Drawer

- 1 piece 20 x 38 x 760mm
- 1 piece 20 x 230 x 200mm

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

2 Then cut all the pieces to approximately 100mm long and glue together in an alternating pattern.

3 Next, using the marking gauge, mark a 10mm strip...



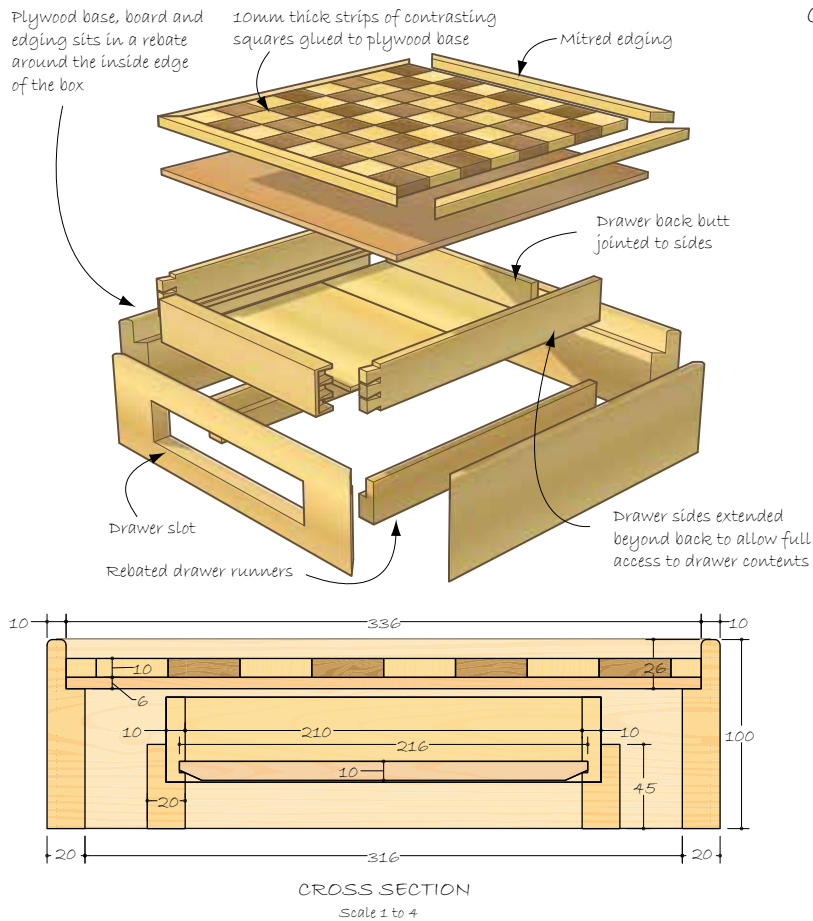
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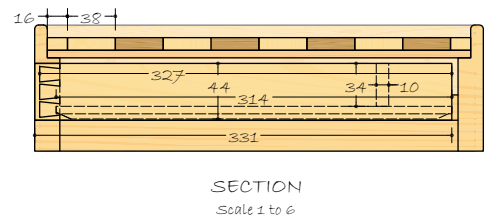
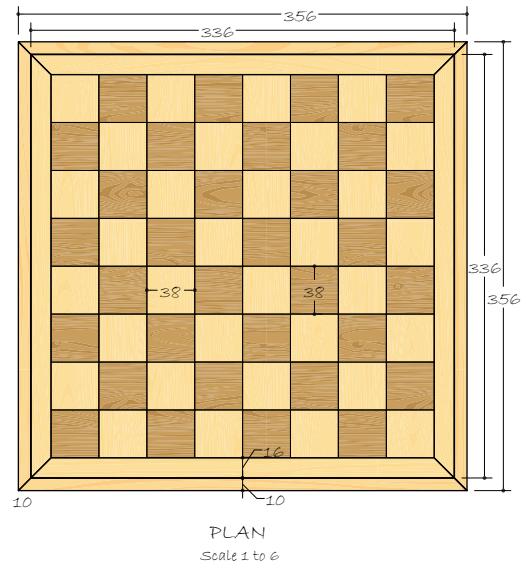
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CHESS BOARD CONSTRUCTION DETAILS



4 ... and then rip on the waste side.

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

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

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



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

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

Making the box

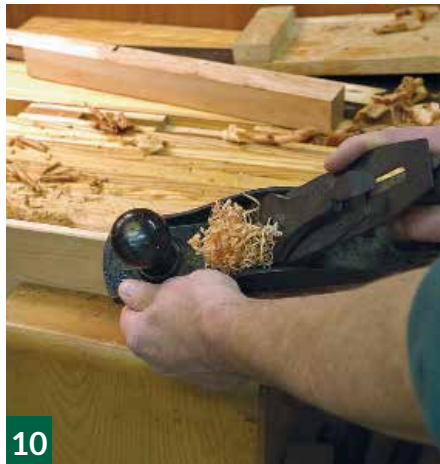
10 To make the base, first rip the pine and plane to 20 x 100mm, mark the face and edge and then using the combination plane create a rebate in the inside top edge. Planing rebates was covered in *Woodworking Crafts* issue 7 'Small sliding lid box'.

11 Using a plane, put a nice bull nose profile on the top edge.

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

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

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



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

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

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

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

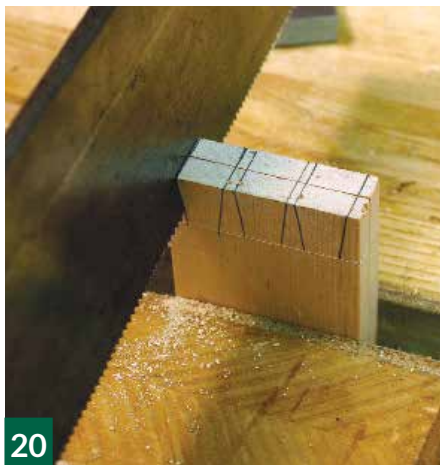
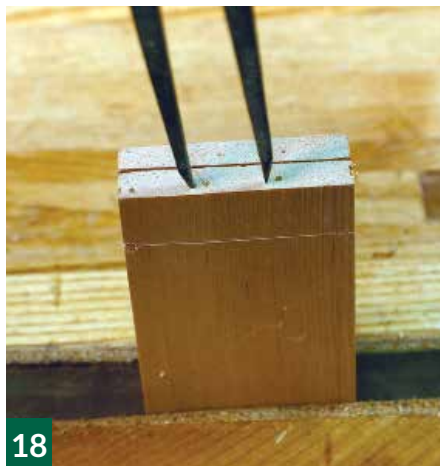
19 Using a shop-made dovetail template and try square, mark the tails. Tails are angled at approximately 1:6 – 26° – I prefer to make ‘English’ style dovetails, which have a very narrow apex to the pins.

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

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

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

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



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

25 Clean up the pins, however do not go beyond the lines. Slightly undercutting the front vertical wall of the dovetail will provide a cleaner, tighter fit. Slightly chamfer the inside edges of the tails to aid in the fitting.

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

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

28 The drawer bottom is made from a couple of pieces of 10mm pine jointed with a rubbed glue joint and the edge is chamfered to slide into the groove. Plane the mating pieces together to create a perfect joint. The drawer's grain should run parallel to the drawer front to allow for expansion. In order to control the direction of that expansion, run a small bead of glue on the leading edge of the drawer bottom and seat it into the groove, leave the draw about 12mm over long so that the end can move in and out without leaving a gap at the back of the drawer. Glue the drawer together and check for squareness. Test fit the drawer and plane accordingly until a good fit is produced. Make a couple of 'L'-shaped runners and a stop for the drawer. The chessboard can now be lowered into the top rebate – just a thin bead of glue is all that is needed on the bottom of the rebate. Place a heavy object on top while the glue dries.

29 For my board I chose to use old gnarly wood to give the appearance of age to go with an old chess set that I have, and what better way to bring out the colours than to use an oil varnish finish – in this case, Danish oil. Best results are achieved by



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

That's it – game, set and match.

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 **Twitter:** @sawdustandwood

