

# Twinned jewellery box

Israel Martin makes a jewellery box using secret mitre dovetails and maple edge inlays



PHOTOGRAPHS BY JAN LINDON

When I'm fortunate to get hold of a piece of timber with strong characterful grain for a project like this, my first reaction is to use mitres at the corners to allow the grain to run unbroken around the box. This project was no different but I decided to incorporate some secret mitre dovetails as well. There are times when it's hard to justify the time it takes to cut any sort of dovetail, nevermind secret ones, but as with all things, the more you do the quicker you get.

The most important thing is to ensure you start with very accurately prepared stock. This means having consistent thicknesses throughout and sides that are square from every face. The second most important thing is make sure your layout lines are equally as precise. With this as your starting point the rest is not too complicated, start with the dovetails then tackle the mitres.



## Using local wood

For this box I used timber from an old dead oak that was cut down about four or five years ago. I took it to the saw mill and got 4cm-thick boards and after four years of air drying I started working them. The first time I hand planed them I noticed that it was much easier than other oaks I've used. I'm not aware of any studies comparing air-dried wood vs kiln-dried wood, but after years of testing both, I find air-dried wood to be more hand tool friendly than kiln-dried wood.



Ready for the saw mill



The oak tree that supplied the timber



Some of the boards after air drying



A single board split down the middle

**Getting continuous grain boards**  
Start with the wood selection and prepare the boards to get four continuous grain pieces. There is a simple way to get a nice, continuous grain pattern, as shown here: divide the board in two by sawing it in half, then cut the two boards in two parts again.



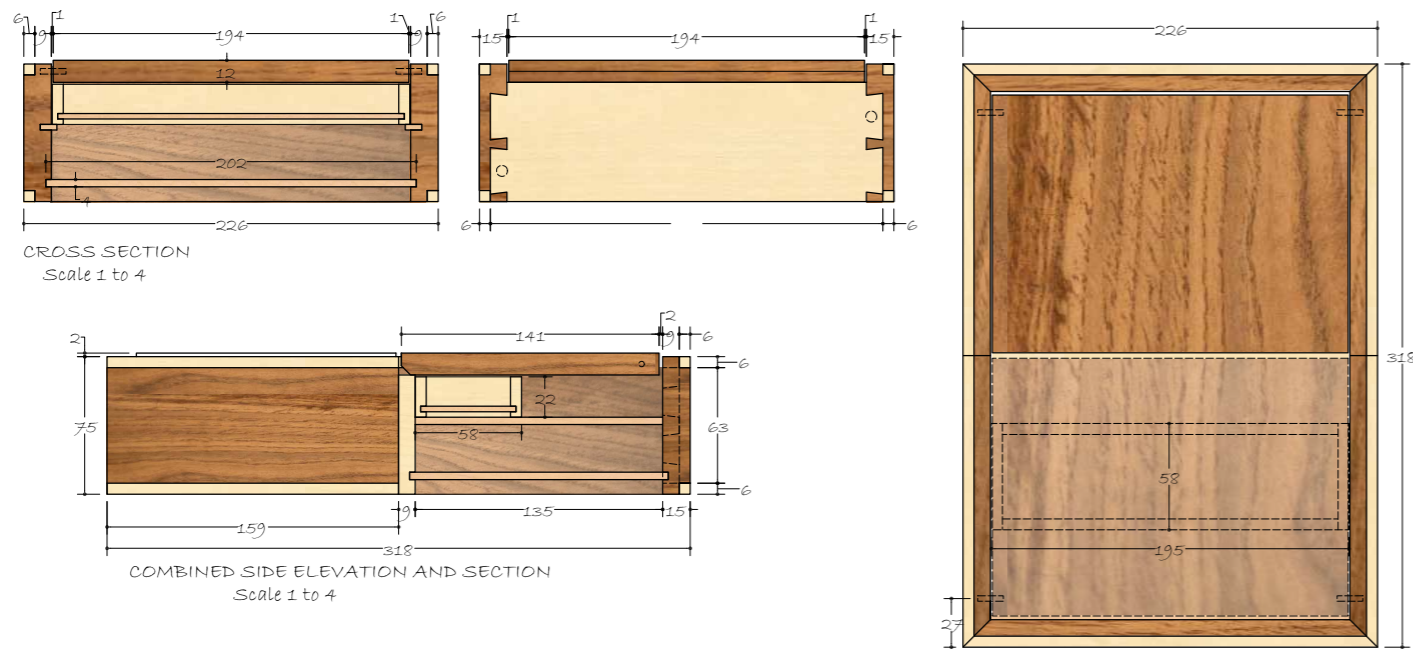
Bookmatching the piece



Cross cutting the two pieces in four



The result: continuous grain pattern



EXPLODED 3D SHOWS ONE TWIN ONLY

Hinged lid has chamfered bottom edge which acts as finger grip

Lap dovetail jointed maple and cedar tray slides on redwood strips let into carcass front and back

Lap dovetail jointed maple inner end or divider with rare earth magnets buried into tails to hold twin boxes together

Top and bottom of carcass rebated to take quartersawn maple edge inlay

Quartersawn maple edge inlay around bottom outer edges

Hidden pivot hinge for lid

Four outer carcass corner joints formed by secret mitre dovetails

PLAN OF TWIN BOXES TOGETHER  
Scale 1 to 4

## Secret mitre dovetails

When I cut dovetails my preferred method is to start by cutting the tails and then use them to mark out for the pins. This process is reversed when it comes to secret mitred dovetails. After these are completed, I start forming the mitres with my No. 62 plane, stopping just short of the knife line. Then carefully from one side and then the other, I chisel to the line. It is important to check the mitres as you are working on them as it is almost impossible to close even the slightest gap through clamping. When the mitres are done you can turn your attention to producing rebates for the maple detail line and grooves on the inside faces for the tray runners and the bottom of the boxes. The bottom is made from quartersawn red cedar, which is difficult to leave a mirror finish on given its soft grain and the silica in its cells.



Pins and mitres are ready



Chopping the tails

## Making two boxes from one

Given that I wanted to make something different, I decided to cut the box in two equal parts so I could have two boxes that look like one box when they are together. I used half-blind dovetails on the mating sides of the boxes and added four rare earth magnets behind the tailpieces in order to hold them together. This part has to be done carefully so that the grain continues the same; you don't want to remove a lot of wood as that will affect the flow.



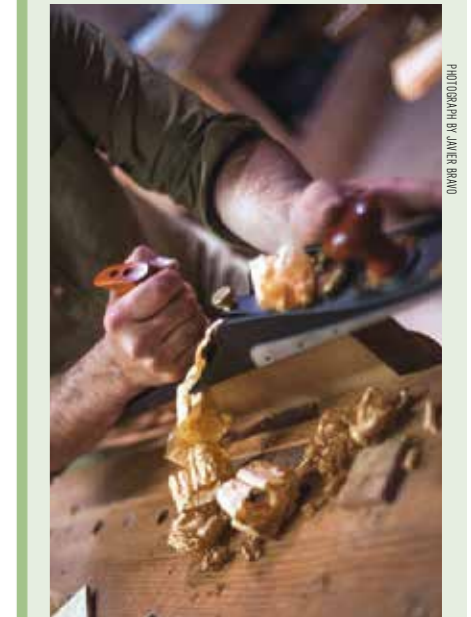
Ripping maple by hand to get the inner sides of the boxes from the same board (inside the box)



Rare earth magnets are buried into the tails of the sides before gluing the box together

## Planing difficult soft grain woods

I normally use quartersawn red cedar for most of the bottoms of my drawers or boxes, however, I have always failed to get a mirror finish in red cedar using only hand planes. Red cedar contains silica in its cells, so hand planing it makes the iron dull in a few strokes. Instead, I use a bevel-up plane, with an A2 steel blade and plane the wood normally, then before the last strokes I sharpen the blade to a very nice edge with a 10,000 grit stone to achieve that mirror finish. Very little 'dangerous' dust is made while planing compared to using sandpaper, which is the most common way to deal with red cedar.



Using a bevel-up jointer with a sharp blade to plane red cedar



Both boxes glued up with magnets in place

## Making the lids

The pivot hinges for the two lids are hidden. As you can see, the grain of the lid flows with the grain of the sides. This means that, with the wood movements, the lid could be stacked in the box. For this reason you have to know how your wood will behave when the box is finished, in this case given that the moisture in my shop is very high, I made them very tight, so they will shrink a little bit in their new home and therefore leave a small gap between the sides and the lid.



Checking the lids for alignment

Cutting the lid in two parts with a continuous grain pattern was done in exactly the same way as dividing the sides in two. The box is made so that it has to be separated in order to open it. Chamfers are cut along the bottom edge of the lids to make them easier to open when the boxes are apart. The lids were given a coat of shellac before fixing to the box as access to all areas afterwards would not be possible.



The lids are pre finished before assembly

## Adding interest to your piece

In order to add interest to the piece, I added quartersawn maple edge inlays to all the box edges (top and bottom). I made all the strips with two sides exactly at 90° to be able to glue them to the sides. Once they are glued in to the box I hand planed them to get a nice smooth surface, being careful not to touch the lid which was already finished with shellac. These pieces also allow me to hide the brass pins that will act as the lid pivot hinges.



Gluing the strips of maple in place



The maple strips are left proud and mitred at the corners



Levelling off the maple strips



Job done!