

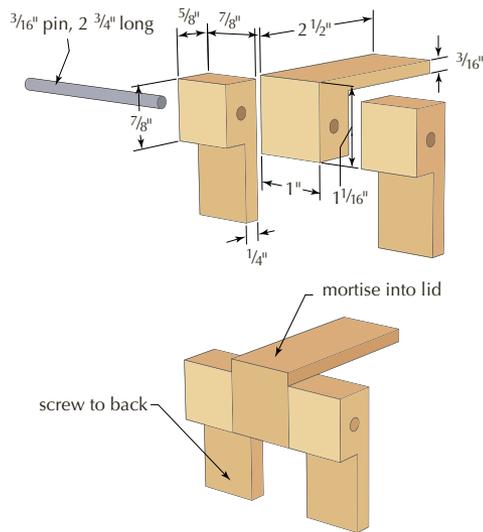
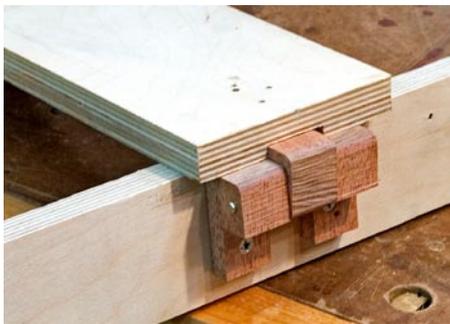
APRIL 2008



GREENE & GREENE INSPIRED CHEST

The difficulty in creating a hinge of this kind is not in the aesthetics but in the function – making sure that the top doesn't strike the fixed part of the hinge and that the moving part of the hinge doesn't strike the top rail. Making prototypes is critical in working out this right. The illustration shows the dimensions for the parts. In order for the top to close properly, the hinge knuckles must be mortised into it. For the knuckles on the top rail I opted not to mortise, instead using glue and screws.

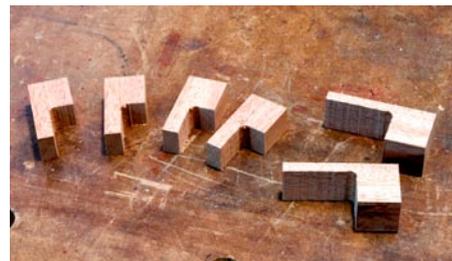
Layout the shapes on your stock and cut on the band saw. Before shaping, drill holes for the hinge pin in the four outboard



knuckles (those fixed to the back rail). I chose to use $\frac{3}{16}$ " brass rod for the pin. Ease all edges except those that will be housed in mortises. To mortise the top, mark the position with a marking knife and accurate square. Use a router, with a straight bit and the depth set to the hinge thickness, to remove stock just to the waste side of the

lines. Clean up to the lines with a chisel. Drill and countersink holes in all of the knuckles – I chose slotted, brass screws. Screw the knuckles into the mortises in the top, no glue yet.

Carefully position the top on the carcass. Place the outboard knuckles adjacent to those attached to the top, with their top edges against the top, and mark the screw holes. Drill pilot holes in the rail, then glue and screw the knuckles in place. Allow the glue to fully cure then place the top in position again and use the holes in the outboard knuckles to mark the pin hole in each inboard knuckle. Remove the inboard knuckles from the top and carefully drill



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the pin holes. Replace the knuckles into the top this time using glue and screws.

Obviously these hinges have no way to prevent the top from swinging too far. Some form of stop is required. In the spirit of, "In for a penny, in for a pound," I decided to



make that as well. Greene & Greene often used leather straps to suspend lighting fixtures. A strap would also do a very good job of restraining the top, simply attached to top and frame.



For attachment points I made two very small brackets with an almost organic shape. First I made a paper template in the desired shape. I traced this onto card stock which I cut out and used to trace the shape onto thin stock. Before cutting the pieces from the stock, cut the slot for the leather strap by drilling a series of holes with a $\frac{3}{32}$ " bit. Use a chisel and utility knife to clean up. Cut out the brackets at the band saw and shape with rasps and sandpaper. When locating the brackets, be sure that they will

not meet when the top is closed, and glue them in place.

There are numerous possibilities for the leather strap and I'm convinced that I'll stick with version 1.0. I may take the chest to an upholsterer to have the leather stitched in place. For now, I've used brass rivets to attach loops through the brackets. The easy-to-use rivets are available at craft stores (I found them in the leather section).

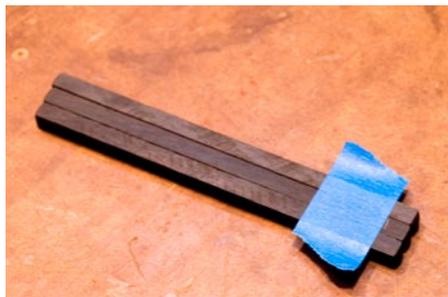




Dozens of Pegs

There are many methods for making mortises to house pegs. My currently preferred technique is to use a hollow chisel mortiser. It's important that the bit is well-tuned to avoid leaving telltale half moons. A little work with a file on the bit can correct this if it's a problem. Note that the mortises will go through to the grooves – backup the cuts to avoid splintering.

Making 72 of anything is likely to be tedious -- ebony pegs are no exception. Because I don't have a disk sander my method is more labor intensive than some though the results are quite good. Machine ebony stock into square bars, oversized by about $\frac{1}{64}$ ", for each of the required sizes. Part of the appeal of ebony pegs is the glow of highly polished end grain. I achieve this



by sanding the ends of the bars, beginning with #80 grit and progressing through #150, #180, #220, #320, #400, #600, #1000 and #2000 grits. Place quarter sheets of each grit on a forgiving surface – I use a mat intended to grip pieces for routing. Hold a bar as you would a pencil and move it in a circular motion while progressively tilting away from vertical to ease the corners. Polish both ends of the bar in this way and cut a strong $\frac{3}{8}$ " from each end (a strong $\frac{1}{4}$ " for the pegs that go in the rails). Bevel the bottom edges to ease installation. Repeat until done.

Install the pegs as each subassembly is completed. Place a small amount of glue into a mortise and tap a peg into place with a soft mallet. Pegs are very difficult to remove so don't set them too deeply.

