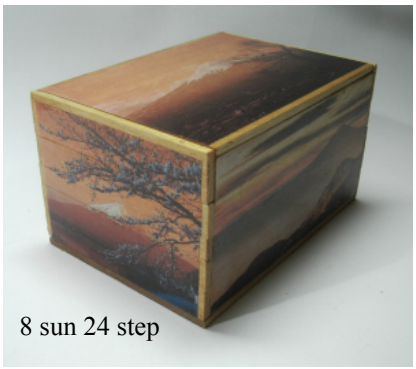
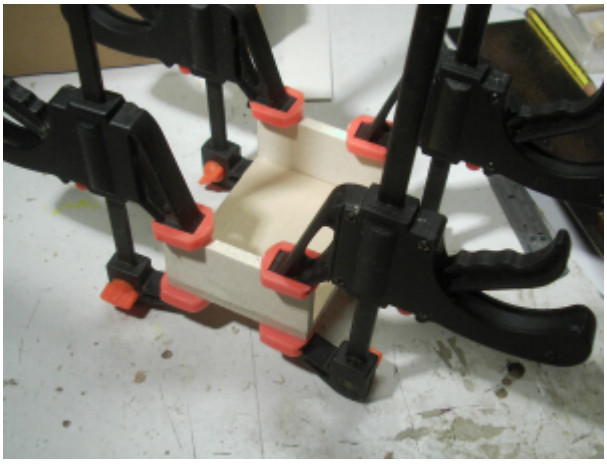
A Photo Guide to making an Oriental style puzzle box

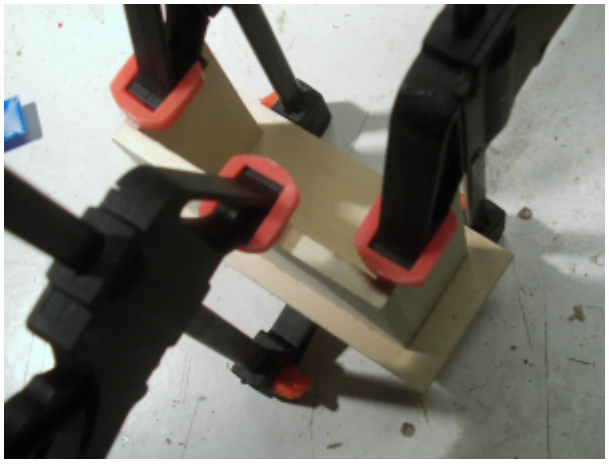
Homemade Puzzles



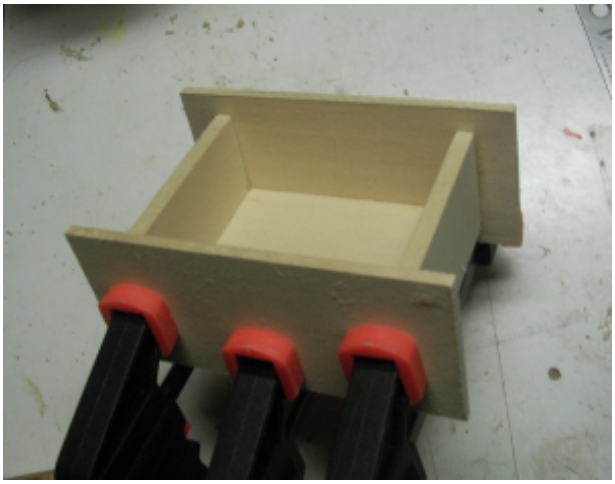
The plans for an Oriental style "sliding panel" puzzle box show the cutting sizes of the pieces, and describe how to assemble them, but sometimes it's hard to visualize how the parts really go together. Some plans have isometric diagrams to help, but photos are more helpful in showing how to actually assemble the box.
These photos were taken during the making the "Better Odds" puzzle box, but the same methods are used when making most of the "sliding panel" puzzle boxes.
If you've never made a puzzle box before, and not sure if you can, perhaps these photos will help you decide.



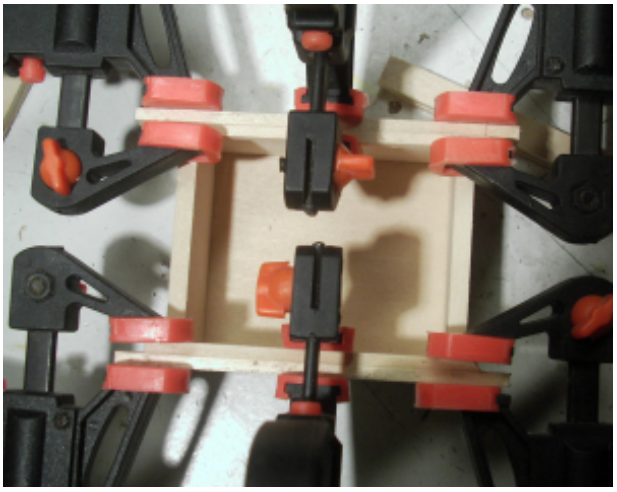
Most of the "sliding panel" puzzle boxes are built around an "inner box" of five pieces. Start by gluing the two ends onto the inner base. These three pieces must be square, as the box is made around them. The end pieces must not lean outwards.



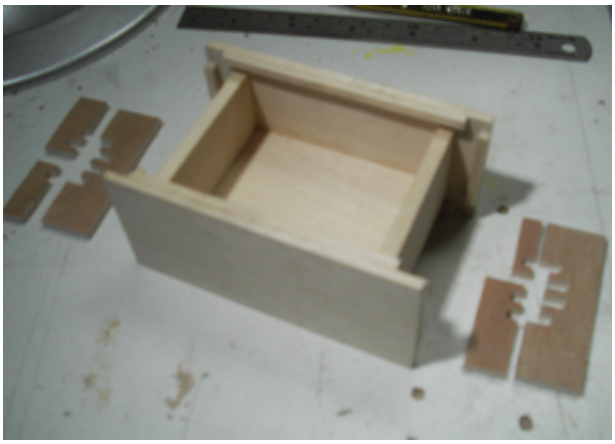
Glue the back panel onto the rear edges of the three inner pieces. Use scrap wood to centralize the inner box, in this case, three layers in from the left and right edges of the back panel, and two layers in from the top and bottom edges.



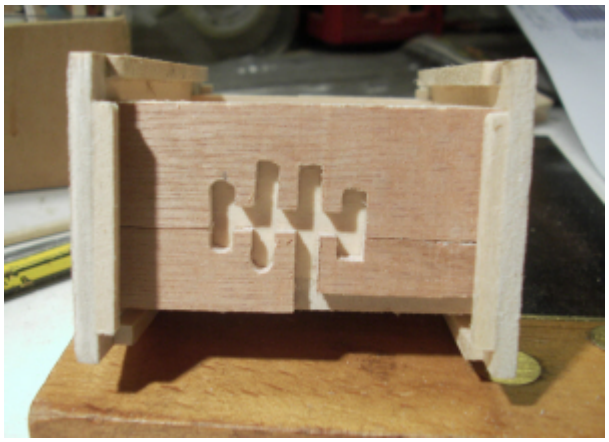
Glue the front panel in place. Again, to get the inner three pieces exactly in the middle, place layers of scrap wood between the edges of the front panel and the inner box.
Don't be tempted to glue both front and back panels on at the same time, because something will always move out of place, and you won't notice until the glue has set.



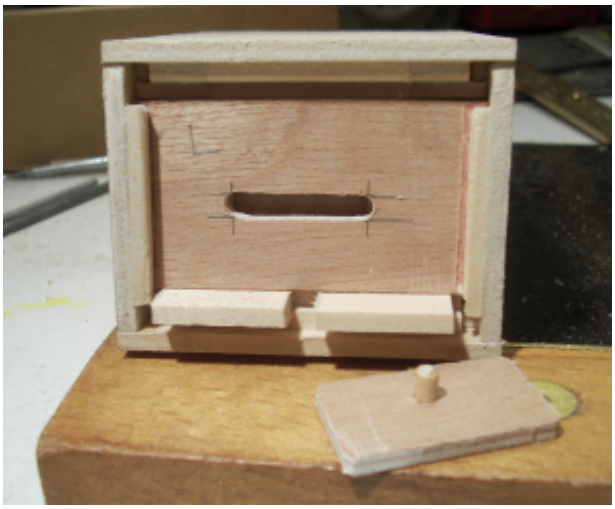
Glue the two top rails onto the front and back panels. Place a piece of scrap wood between the rail and the top of the inner box, for the correct clearance for the top holder panel. In this case, because the top panel overlaps the front and back panels, the rails are flush with the top edges of those panels.
The same will apply to the bottom and end rails. Again, don't be tempted to glue all the rails on at the same time, just glue two at a time.



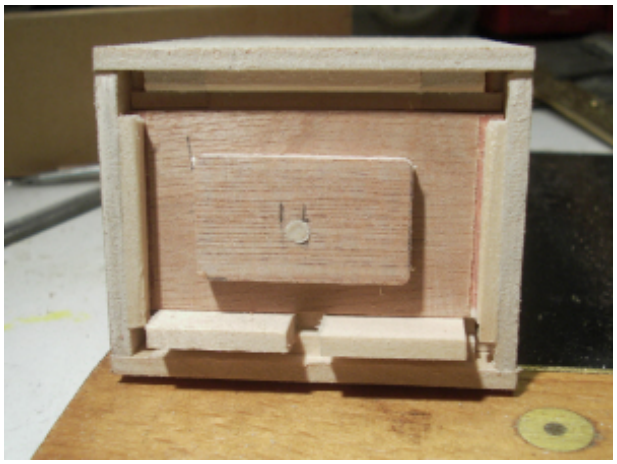
The completed inner box, with all the rails glued on. Some boxes have the slider holder moving in and out of notches cut in the rails, some have pegs moving in a keyway. This box has pegs and keyways, and they are next to go in place.



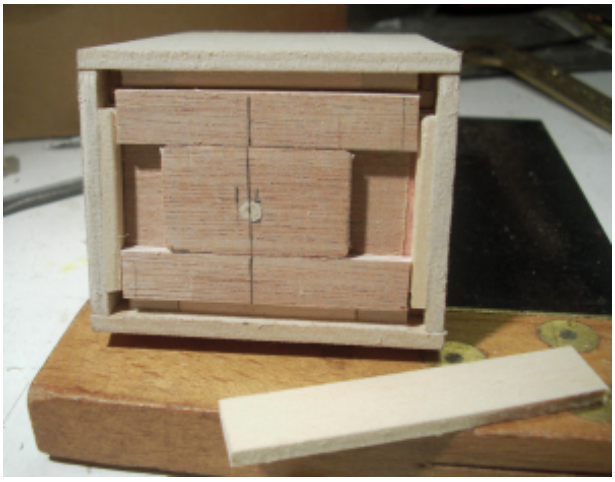
Keyways are usually easier to cut in two or three pieces, then joined together on the box. These three pieces form a complete keyway, and they are glued together and onto the inner box end.



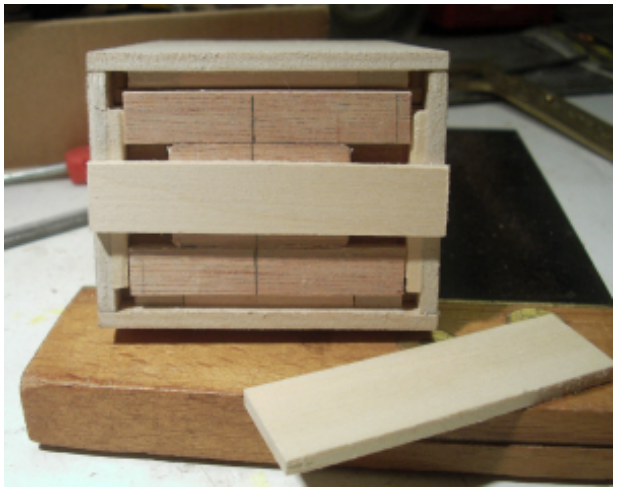
All moving panels have a "holder" panel, which holds that whole panel in place. The holder panel is dropped between the inner box end and the rails. Notice the two pieces of scrap wood holding it at the right height. This holder panel has a slot cut in it for the peg to pass through, and engage in the keyway behind it,



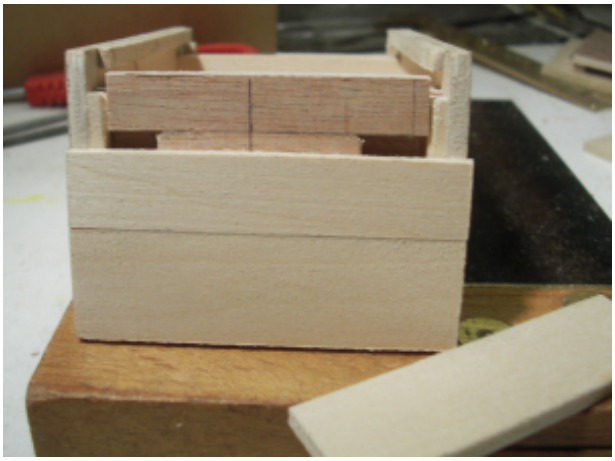
The slider holder placed onto the holder panel. This slider holder has a peg in it, which passes through the holder panel, into the keyway. The simpler boxes don't have pegs on the slider holders. Those have longer slider holders, reaching the rails.
This part is NOT glued on. Normally the box would be standing on end to place the slider holder on.



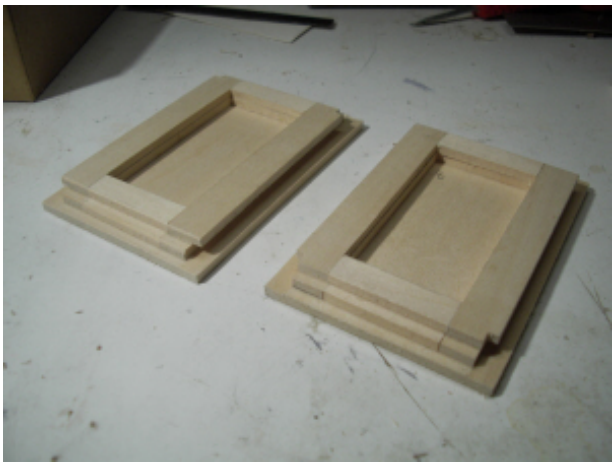
The middle layer upper and lower panels glued into place, just above and below the slider holder. The pieces of scrap wood are no longer required to hold the panel in place, as the peg is doing that. The pencil lines show where the "locked" position is.
Next piece to go on is the outer slider.



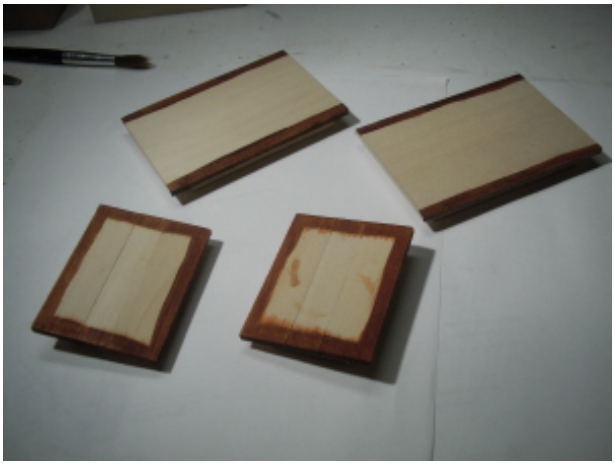
The outer slider glued directly onto the slider holder. The ends of the slider are flush with the front and back of the box-the starting position. This is why the pencil lines are important on this box.
Next piece to go on is the outer lower panel.



The outer lower panel glued into place, onto the middle layer lower piece, just below the slider. The ends of this panel are also flush with the front and back of the box. Check that the slider can still move. Next piece is the outer upper panel, to be glued onto the middle upper piece, again flush with the front and back of the box.

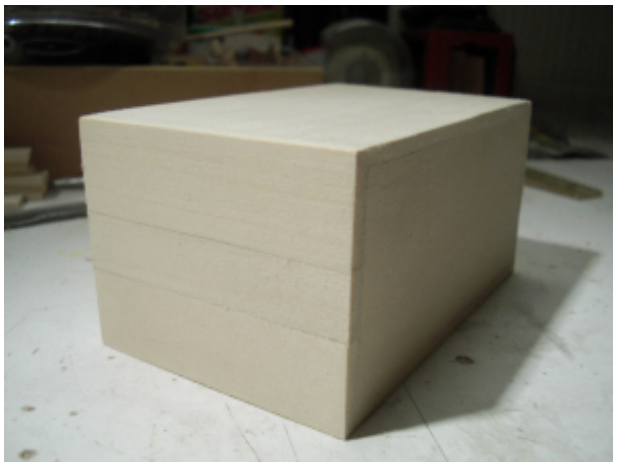


The top and bottom panels. Because these panels are moving panels, they are made in three layers. In this case, the inner two layers are made from strips, but they could be single pieces of wood.

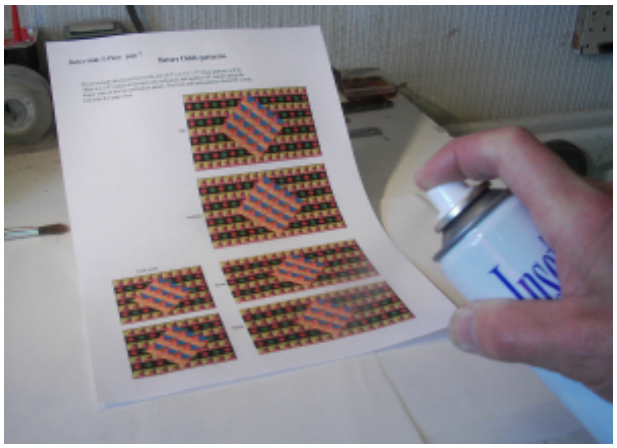


If patterns are to be put on the box, the edges of all the moving panels should be painted or stained. It's best to do this with the panels off the box.

Inside view of the completed end panel. The inside of the peg is poking through the slot in the holder panel. On simpler boxes, there wouldn't be a peg, as the slider holder would do the locking and unlocking of the end panel.
The other end panel is assembled in the same way.



The whole box assembled, but without any decoration. This is the time to check that it's working correctly, and to make any adjustments.



If patterns are printed from the computer, before cutting them out, spray the sheet with either Artist's Fixative, or ordinary hairspray. Hairspray is cheaper and more available, and does the same job in protecting the ink. If the printer ink gets damp, it will smear, and if varnish is to be applied, the ink will certainly get damp. The spray prevents this.

Patterns cut out and glued onto the panels. If any panel has sliders, apply the pattern onto that panel when it's in place on the box. This will ensure the ends of that panel are in line when the pattern is glued on.

When the paper pattern has completely dried, cut along the edges of the sliders using a craft knife and a steel ruler.
If the pattern is not dry, the paper will tear.

If the box is to be varnished, remove as many panels as possible. If the panels have sliders, open the sliders as far as they'll go. The varnish will tend to "stick" the sliders, whether open or closed, but it's a lot easier to "unstick" the sliders when they're open. Make sure the sliders will still move between coats of varnish.

When the varnish is dry, assemble the box. Although this box is different to the one on page 1, they were both made exactly the same way.

My puzzle boxes aren't made from the same exotic woods as the genuine Japanese puzzle boxes, nor have the authentic Yosegi patterns applied to them, but they work in exactly the same way. If you like Oriental puzzle boxes, and would like to make one, perhaps this photo guide will show that it isn't all that difficult. All you need are a few simple tools, and a bit of patience.

Get plans and solutions at Homemade Puzzles
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