19th Century Tilt-Top Table

Neil Helsby

With the top lowered, a tilt-top table enables a dining table to be used in a small room. With the top raised, it can be pushed to one side where it doubles as a seat.

Normal procedures these days are for antiques sold by Britain's auction houses to travel across the Atlantic to America. So it was unusual to find this piece, believed to have been produced in New England, in Britain having obviously traveled in the opposite direction. Finished in a red-brown paint that, unlike modern paints, was more of a stain leaving the timber figuring visible. This has been reproduced in the miniature illustrated by using "red-cedar" water based wood stain.

Text in **bold** indicates that illustrated descriptions can be found on my web pages at www.smallfurniture.co.uk.

The cutting list shows the timber pieces required to build the miniature. Most rectangular pieces can be cut from standard width strips although the sides require trimming. The table top and the ends of some parts are **fret sawn**.

Step 1:
Cut the rectangular **parts to length** and **sand** all faces of each in preparation for **staining**.

Step 2:
Cut the table top planks to length and sand all faces. Although stain would normally be applied before gluing, in this case it is left until after the top has been constructed and sawn to shape allowing excess glue to be sanded away. To emphasize individual planks, position them with the grain on adjacent pieces set at opposing angles. Place an outside plank into the corner of the **gluing table**, spread a thin layer of glue along one edge of the center plank and push this onto the outside plank. Always allow the glue to set between steps.

Step 3:
Raise the planks from the gluing table to release any glue spots that may have adhered to the surface. Spread a thin layer of glue over the edge of the remaining plank and push this into place.

Step 4:
Place the table top to one side while preparing other parts. Cut to length the timber strips for the table supports, seat rails and feet. Using the **fretsaws** and **fretsawing** (**tools**), make these into **two-part sandwiches** by spreading hot-melt glue over the ends and center edges of the strips. This allows pairs of parts to be sawn at the same time making each identical.

From a photocopy of the drawing, cut out the table top pattern with a 1/4" border all round. Similarly, cut out the patterns for the table supports, table feet and seat rails (see photograph 1).

Step 5:
Fit the table support pattern to the top face of the 3/16” wide timber sandwich with spray mount adhesive and drill the 3/64" diameter hole for the hinge pin (photograph 2). Fret saw the parts to shape and immediately remove the pattern.

Step 6:
Attach the seat rail and feet patterns to the 1/4” wide sandwich (photograph 1), drill the hinge pin holes and saw to shape.

Step 7:
Fit the table pattern using the drawing's plank extension lines to align it with the planks (photograph 1) and carefully fret saw it to shape.

Step 8:
Sand all faces of these parts, a **sanding stick** being particularly useful on the fret-sawn edges. Ensure that any glue that oozed out when gluing the table assembly is removed (photograph 3).

Step 9:
Cut a 2-1/2" length of hinge pin and check that it slides through the four holes. Push the drill bit into the holes and rotate it between fingers to open up the holes if the pin is too tight.

Step 10:
Parts are now **stained** but if a stained face is placed on the work top the wet stain leaches into the surface leaving an uneven finish. To reduce this effect, timber 3/32” thick or greater should be stained in two stages. Thinner parts warp if only one face is stained so both sides must be treated at the same time. To reduce the effect of leaching, place the stained back faces on timber spacer strips while the stain dries. Stain the visible faces of all parts in two sessions except for the back panel where both sides are covered in a single session.

Step 11:
Start assembly of the body by placing one side against a stop in the corner of the gluing table. Spread a bead of glue along one edge of the back panel and slide this into place, the “good” face outwards. Spread beads of glue over one end and edge of the base panel and slide this onto the assembly (photograph 4).

Step 12:
Spreading glue over the appropriate edges, fit the seat and front panel, **clamping** these together (photograph 5).

Step 13:
Spread glue over all side faces of the assembly and push the second side into place.

Step 14:
With the body upside down, fit the table feet checking that they are flush with the side and that there is equal overhang at the front and back (photograph 6).

Step 15:
As the hinge holes on the seat rails must align with each other and the table supports, the supports are used as spacers to position the rails. Push the hinge pin through the parts and position them with the table supports hanging vertically (photograph 7). Lift one seat rail, spread a thin layer of glue along the body side and reposition the rail.

Step 16:
Fit the second seat rail in the same way.

Step 17:
Leave the hinge pin and table supports in position as the body is used to align the table supports on the table top. With the table top face down on the work top and allowing a little slack to ensure the table swings easily on the hinges, drop the body assembly into position. Centralize it by checking that all table support ends are the same distance to the table top edge (photograph 8). Lightly mark the end positions of each table support with a **pencil**. Lift off the assembly and spread a thin layer of glue over the edge of the table supports. Using the pencil marks as a guide, replace the assembly on the table top pressing the table supports firmly onto the table top.

Step 18:
Remove the hinge pin to separate the two assemblies. Apply a coat of **clear satin varnish** to each assembly; undertaking this in two sessions to allow a dry surface to be placed on the work surface while the varnish hardens. When all surfaces have been treated, lightly sand all faces and wipe away the dust before applying a second coat of varnish.

Step 19:
The hinge pin is stained but not varnished. Holding one end of the pin in a clamp, dip it into the tin of stain. Although made of plastic stain will adhere to the surface. Withdraw it from the tin and allow excess to drain off before leaving it clamped in a vertical position while the stain dries.

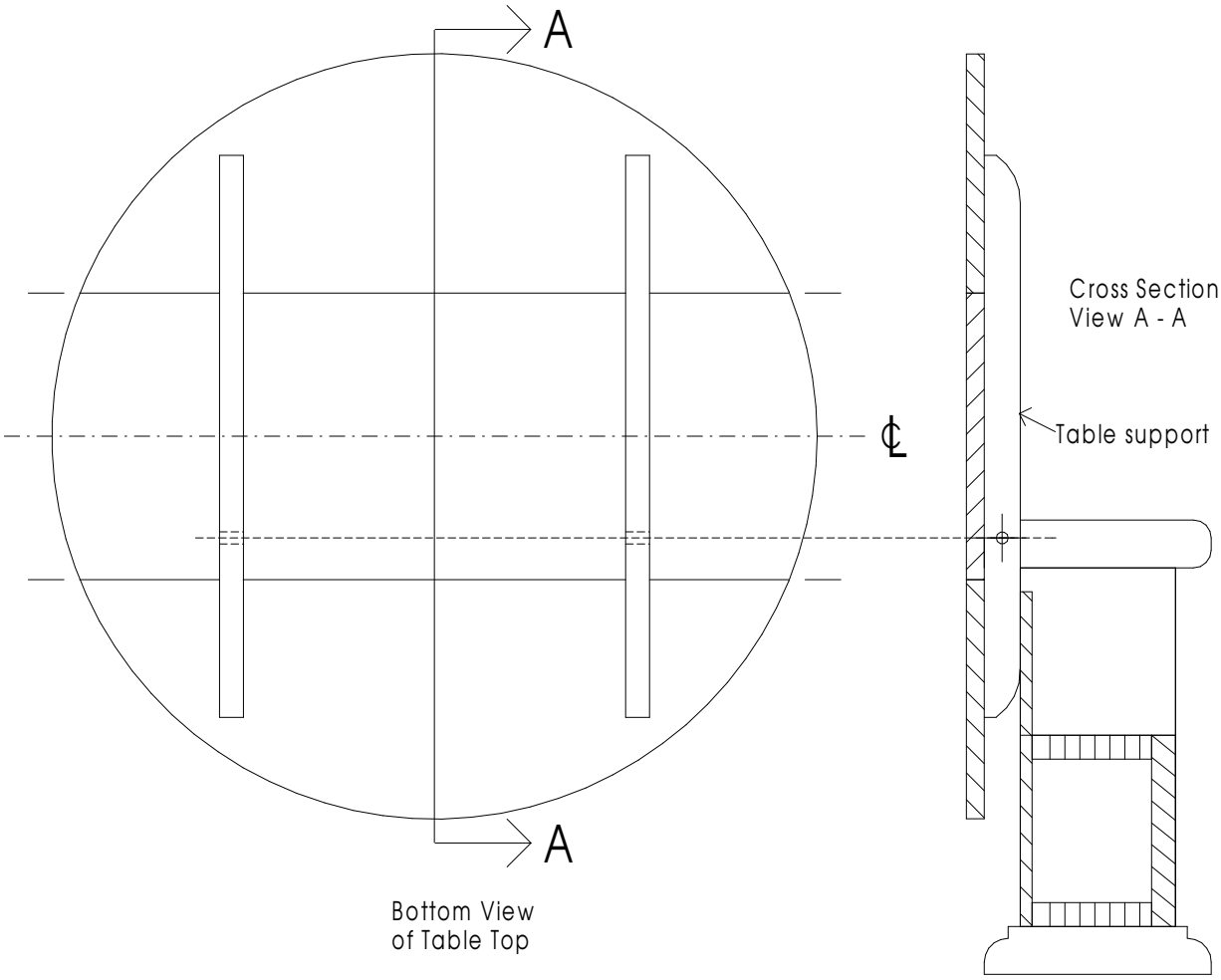
Step 20:
Remove the traces of varnish from the hinge pin holes with the drill bit. Measuring it against the outside faces of the table supports, snip the hinge pin to length with a pair of cutters. With the base upright, hold the table top in position and push the hinge pin through the holes (photograph 9). Fold the top down; it should fit neatly on the base (photograph 10).

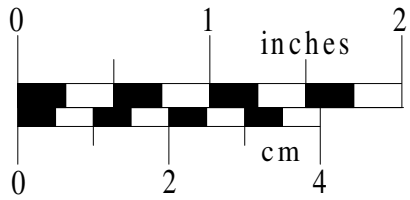
The completed tilt-top table is shown with the top down (photograph 10 and with the top raised (photograph 11).

Cutting List (length x width x thickness)

- Jelutong wood is highly recommended for this project (described under **miscellaneous**).

Non-rectangular parts:			
Table top:			
Planks	3 off	5” x 1-1/2” x 3/32”	(127 x 38 x 2 mm)
Table supports	2 off	6" x 3/16" x 1/8"	(152.5 x 4.5 x 3 mm)
Seat:			
Rails}	2 off	6-1/2" x 1/4" x 3/32"	(165 x 6.25 x 2 mm)
Feet}			
Rectangular parts:			
Back panel	1 off	1-5/8" x 1-3/4" x 1/16"	(41.5 x 44.5 x 1.5 mm)
Front panel	1 off	1-5/8" x 1" x 1/8"	(41.5x 25.5 x 3 mm)
Seat and base	2 off	1-5/8" x 5/8" x 1/8"	(41.5 x 16 x 3 mm)
Sides	2 off	1-7/8" x 13/16" x 1/8"	(47.5 x 20.5 x 3 mm)
		Cut from 1” (25.5 mm) wide strip	
Miscellaneous items:			
Hinge pin	3/64”	(1.2 mm) diameter white plastic rod	
		(- available from some model [railway] shops)	
Water based stain	“Red Cedar” (not stained varnish)		
Drill bit	3/64” (1.2 mm) dia.		





See text for dimensions

19th Century American Painted Pine Tilt-Top Table

Tilt Top Table

Construction photographs Neil Helsby © 2008

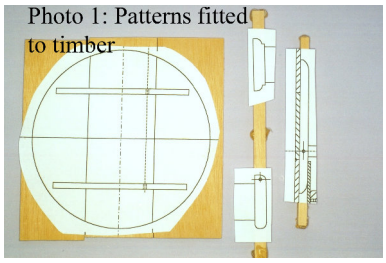


Photo 1: Patterns fitted to timber

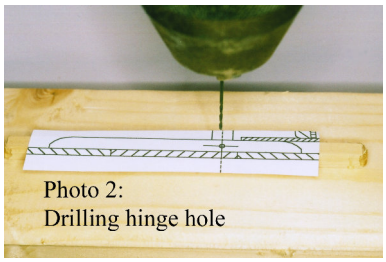


Photo 2:
Drilling hinge hole

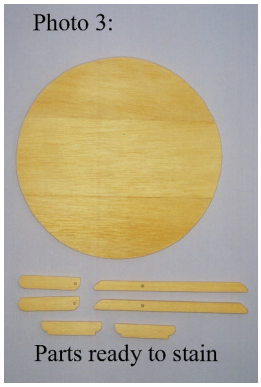


Photo 3:
Parts ready to stain

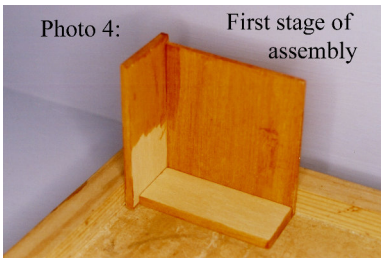


Photo 4:
First stage of assembly

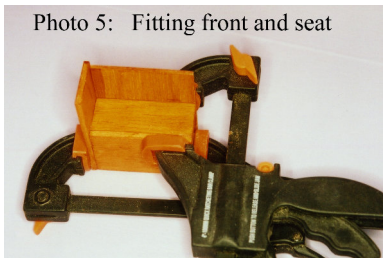


Photo 5: Fitting front and seat

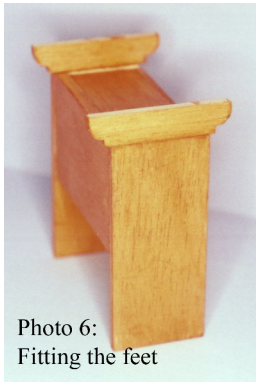


Photo 6:
Fitting the feet


Photo 7:
Fitting seat rails

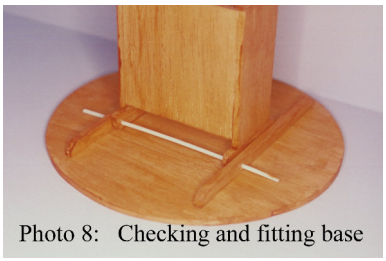


Photo 8: Checking and fitting base


Photo 9:
Hinge pin stained and fitted


Photo 10:
Completed table


Photo 11:
Top upright