

# RMS TITANIC'S *Deck Chair*

*Only two deck chairs survived the sinking of the ill-fated oceanliner. Build your own reproduction with a band saw and a spindle sander.*

**A**RRANGING DECK CHAIRS on the sinking *Titanic* is synonymous with futile gestures. Building a reproduction of one of the two known surviving chairs is anything but futile as you capture a piece of history and add an enduring piece of comfortable lounging furniture to the deck of your home.

Construction is more tedious than complicated, and two machines I found indispensable were a band saw and an oscillating edge belt/spindle sander from Ridgid. With all the interior and exterior curves, a spindle sander is almost essential, and Ridgid's combination machine made the job easier.

The first step is to plane the material to the proper thickness. I used 35 board feet of  $\frac{3}{4}$  mahogany, though teak would be more true to the original. The mahogany cost \$175 and hardware added another \$45, which seems steep until you compare it to the \$1,000 or more some stores charge for similar chairs.

**1 Saw Twice** • Start with the back crest rail and the arms. They're cut in a two-step process. Use the templates in the PullOut™ Plans to mark the top and front surfaces of each piece. Cut the top or vertical pattern of the crest rail first, then lay the piece face up and cut the bottom of the pattern. Leave the top flat until you've cut the mortises in the rail. Allow the back surface to rest against the band saw's table, rocking the piece as you cut. On the arms, cut the top surface pattern first, then flip the piece onto the inside edge and make the second cut.

**2 Shaped and Drilled** • Use the templates in the PullOut Plans to

*David Thiel is senior editor of Popular Woodworking.*

lay out the rest of the pieces. Nest similar pieces (the back and foot rest slats, etc.) so you won't waste wood. Be sure to pay attention to grain direction on the legs. Maintain as much long-grain orientation as possible at stress points.

This is where the tedium begins. After band sawing each piece to rough size, sand it smooth. When cutting the slats for the seat and foot rest, leave the tenons uncut until the piece is sanded to shape, then mark the necessary  $\frac{1}{2}$ "-thick tenon and cut it to finished size.

Next, mark the clearance holes and attachment points on the individual pieces, again using the templates in the PullOut Plans.

**3 Mortise and Fit** • Now transfer the mortise locations from the templates to the crest and back lower rail, the seat sides and the foot rest sides. The foot rail mortises are straightforward, but the mortises on the seat sides need to be cut free-hand, without using a fence. The mortises on the back crest need to be drilled at different depths as the piece is concave. Once the crest rail mortises are complete, band saw the top of the rail.

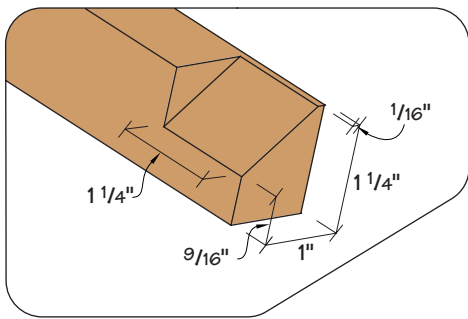
Assemble the chair before finishing to check the fit of all pieces. Start by assembling the back, center and front leg pieces with pivot hinges, and attach the arms to the center legs with drop-front hinges mounted to the bottom surface of the arm and the back edge of the leg. Make both the left and right sides, then attach the two halves by adding the stretchers and supports. The crest rail fits into beveled notches cut at the ends of each center leg. Use the rail itself to mark and fit the rail in place.

Next place the back slats in the mortises in the back lower rail, and clamp the rail in place between the front legs.

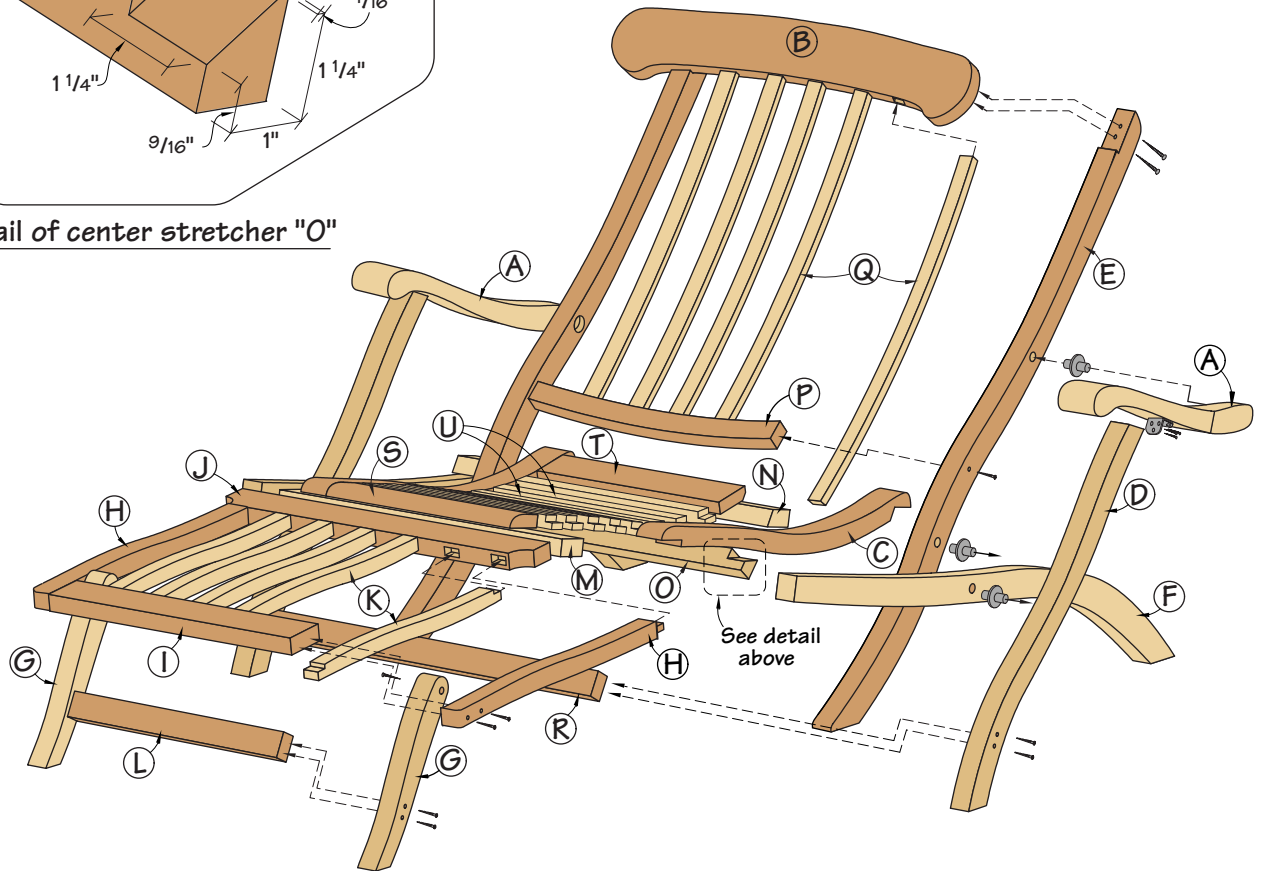




# DIAGRAMS



Detail of center stretcher "O"



Schedule of Materials: Titanic's deck chair				
No.	Let.	Item	Dimensions T W L	Notes
2	A	Arms	1 <sup>3</sup> / <sub>4</sub> " x 2 <sup>1</sup> / <sub>2</sub> " x 18"*	Two-dimensional cuts
1	B	Crest rail	1 <sup>3</sup> / <sub>4</sub> " x 5" x 25 <sup>1</sup> / <sub>4</sub> "*	Two-dimensional cuts
2	C	Seat sides	1 <sup>3</sup> / <sub>4</sub> " x 2 <sup>1</sup> / <sub>2</sub> " x 23 <sup>1</sup> / <sub>2</sub> "**	Notched front & rear
2	D	Front legs	1 <sup>1</sup> / <sub>4</sub> " x 2 <sup>1</sup> / <sub>2</sub> " x 24 <sup>1</sup> / <sub>8</sub> "**	
2	E	Center legs	1 <sup>1</sup> / <sub>4</sub> " x 3" x 41 <sup>1</sup> / <sub>4</sub> "	Notched for crest rail
2	F	Rear legs	1 <sup>1</sup> / <sub>4</sub> " x 5 <sup>3</sup> / <sub>4</sub> " x 37 <sup>3</sup> / <sub>4</sub> "	
2	G	Footrest legs	1 <sup>1</sup> / <sub>4</sub> " x 1 <sup>1</sup> / <sub>2</sub> " x 11 <sup>1</sup> / <sub>2</sub> "**	
2	H	Footrest sides	1 <sup>1</sup> / <sub>4</sub> " x 1 <sup>5</sup> / <sub>8</sub> " x 18"*	Drilled for threaded inserts
1	I	Footrest front	1" x 2 <sup>1</sup> / <sub>2</sub> " x 17"	
1	J	Footrest rear	1" x 2 <sup>1</sup> / <sub>2</sub> " x 21 <sup>3</sup> / <sub>4</sub> "	1" radius notches
5	K	Footrest slats	1" x 1 <sup>1</sup> / <sub>4</sub> " x 16 <sup>1</sup> / <sub>2</sub> "**	Nest pieces to improve yield
1	L	Footrest stretcher	1" x 1 <sup>3</sup> / <sub>8</sub> " x 14 <sup>7</sup> / <sub>16</sub> "	
1	M	Seat support	1" x 2" x 20"	Mortised for hinges
1	N	Seat support	1" x 2" x 22 <sup>1</sup> / <sub>2</sub> "	30° bevel on front edge
1	O	Center stretcher	1" x 1 <sup>1</sup> / <sub>4</sub> " x 22 <sup>1</sup> / <sub>2</sub> "	30° notch on ends
1	P	Back stretcher	1" x 2" x 17"*	
5	Q	Back slats	1" x 1 <sup>3</sup> / <sub>8</sub> " x 22 <sup>3</sup> / <sub>4</sub> "*	Length is for longest slat
1	R	Front stretcher	7/8" x 1 <sup>1</sup> / <sub>2</sub> " x 22 <sup>7</sup> / <sub>8</sub> "	
1	S	Seat front	3/4" x 2 <sup>1</sup> / <sub>2</sub> " x 13"	Shaped front edge
1	T	Seat rear	3/4" x 2 <sup>1</sup> / <sub>2</sub> " x 13"	Back cut at 30 degree bevel
8	U	Seat slats	3/4" x 1" x 14"	1/2" x 1/2" tenons included

\*Size is approximate and oversized to allow trim around piece.

## Hardware Details



Attach the footrest legs (above) with threaded inserts and a brass screw. Attach the footrest with sewing machine hinges mortised into the rails (below).





**1 WELL ARMED** • On the arms, cut the top surface pattern first (below), then flip the piece onto the inside edge and make the second cut (above). Be sure to make a left and right arm.



**3 HAND-FIT NOTCH** • Using the lower stretcher to maintain the proper spacing, the crest rail is held in place and the notches are marked on the legs then cut and hand fit.



**2 HARDWARE MAKES THE CHAIR** • The pivot hinge hardware allows the chair to fold. But pay careful attention to left, right and inside and out when drilling the two-step holes.



**4 SHAPED SEAT** • With the mortises cut in the seat sides, assemble the seat and sand the surfaces flush and smooth. The seat remains loose and is screwed to the frame.

The slats will extend over the front of the crest rail and must be marked and cut to fit into the 1/2"-deep mortises in the rail. With the slats cut to length, fit them into the crest rail mortises and screw the lower back rail in place.

With the exception of the seat and the foot rest, the chair is essentially assembled. You may note that the chair does not sit perfectly flat. Wait until the seat and foot rest are attached to trim the legs to adjust the stance.

**4 For Sitting** • The seat assembles with the slats flush to the top of the sides. The seat front and rear pieces are joined to the sides with dowels. Though the template should give you a good fit for the seat sides, check your pieces in place. With the seat fit, attach it to the chair frame with screws up through the seat support rails.

## Details at the End of Your Journey

The footrest's sides are joined to the rear rail with tenons, and the front rail is screwed between the sides. Attach the sides

before assembling the foot rest.

I recessed the hinges that attach the footrest into the surface of the front seat support and the rear foot rest rail using a trim router and straight bit. The chair is now complete. Adjust the stance of the chair by trimming the legs. Start by leveling the front and back legs. Once they are level, trim the center legs to match, and finally trim the foot rest legs.

Disassemble and mark all the pieces and sand them to 150 grit. To finish the chair I applied a mahogany stain and gave the entire piece a coat of exterior-grade urethane for protection.

Two details finish the piece. Before finishing, apply a stick-on five-pointed star in the center of the crest rail to mimic

the carved logo of the White Star line on the original. You can add a brass card holder to the back of the crest rail which, on the original, was used to identify the passenger the deck chair was reserved for.

You're now ready to enjoy the turn-of-the-century luxury of a first-class deck chair. Feel free to arrange the chair as necessary. **PW**

## Supplies

From Rockler, 800-279-4441

3 pair - pivot hinges #51243,  
\$6.99 per pair

2 pair - sewing machine hinges  
#32284, \$8.99 per pair

1 - card holder #27946, (2 per pack-  
age) - \$1.79

2 - 1/4-20 threaded brass inserts  
#33183 (10 per pack) \$2.99

2 - brass 1/4-20 rh screws #61416 (10  
per package) \$3.49.

Ridgid's Belt/Spindle Sander is  
available at the Home Depot.