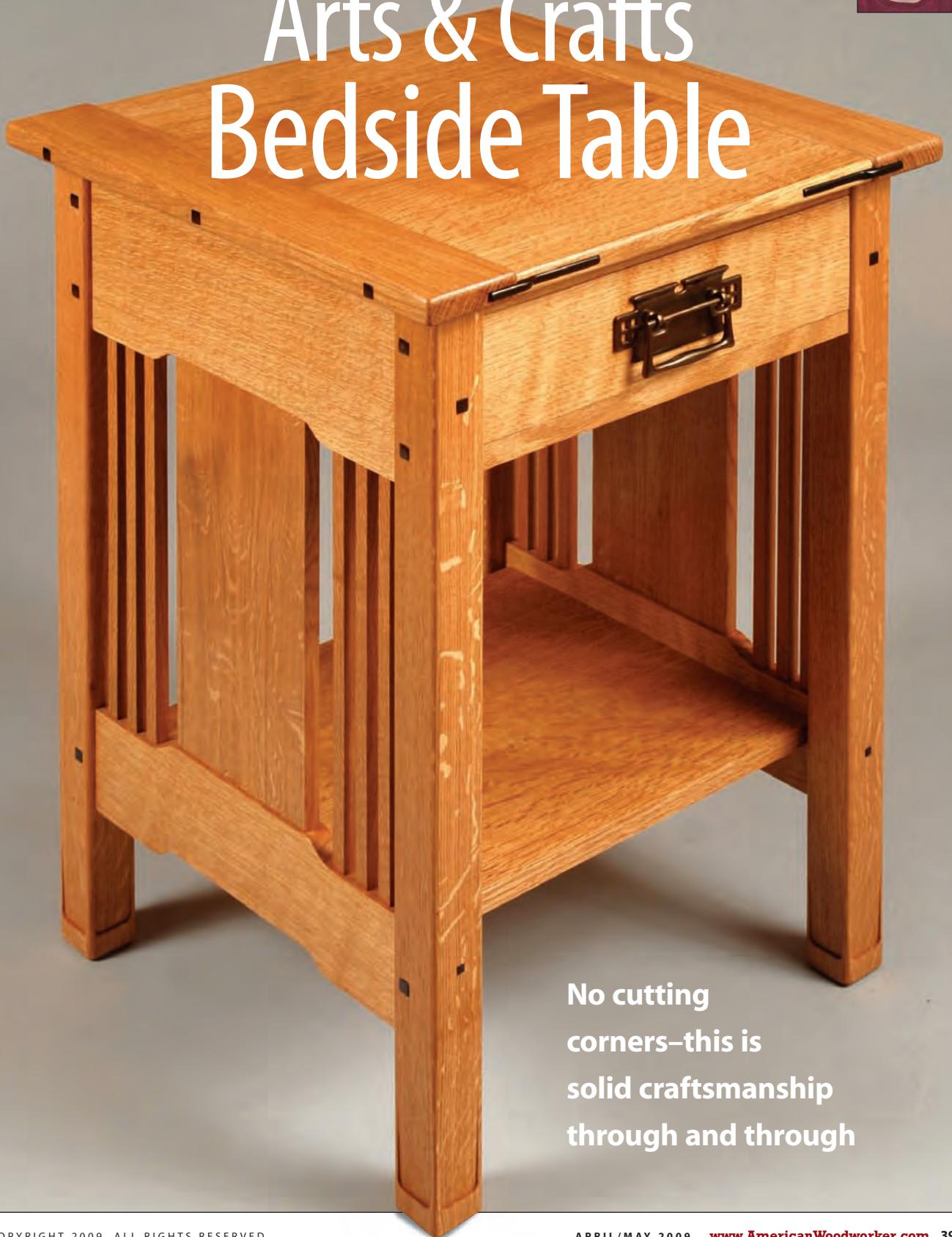


**Build Your Skills with Stewart Crick**

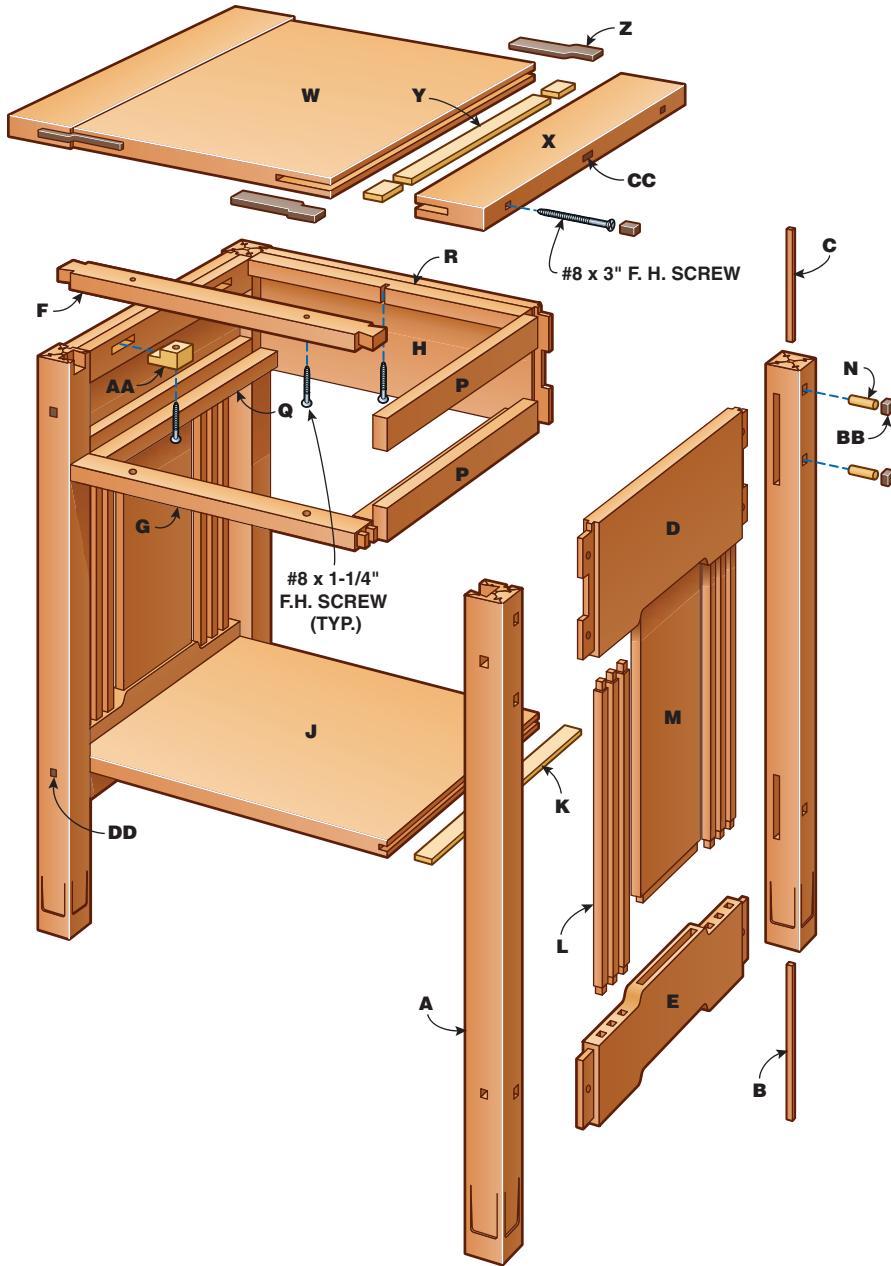


# Arts & Crafts Bedside Table



**No cutting  
corners—this is  
solid craftsmanship  
through and through**

**Fig. A** Exploded View



**ARTS AND CRAFTS** is both a style of furniture and a philosophy about craftsmanship. It calls for honest, functional design and a harmonious effort between designer and craftsman.

The design of this bedside table borrows elements from three Arts and Crafts sources (see Arts and Crafts Details, page 43). I've combined them to create my own style, and built this table using the best construction techniques of that period.

## Make the Legs

1. Glue up each leg from four separate extra-long pieces (A, **Photo 1**) (see Four-Sided Quartersawn Table Legs, page 47). Alternatively, you can make the legs from one piece of 8/4 wood. Once the legs are glued, make plugs (B and C) to fit into the legs' hollow ends. Mill the plugs so they're easy to slide into the ends, then glue them with epoxy. Trim the legs to final length.

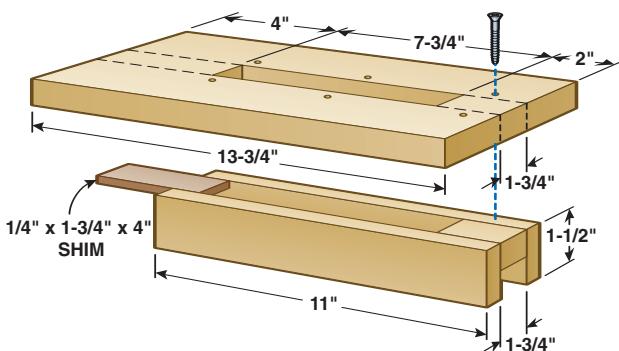
2. Cut mortises in the legs (**Photo 2**) for the upper and lower side rails (D and E), rear rail (H), and lower divider (G) (see Figs. D and E).

3. Layout and drill 1/4" holes for the pins (N) that will go through the joint's tenons (**Photo 3**). Cut mortises for the ebony plugs that cover the pins (**Photo 4**).

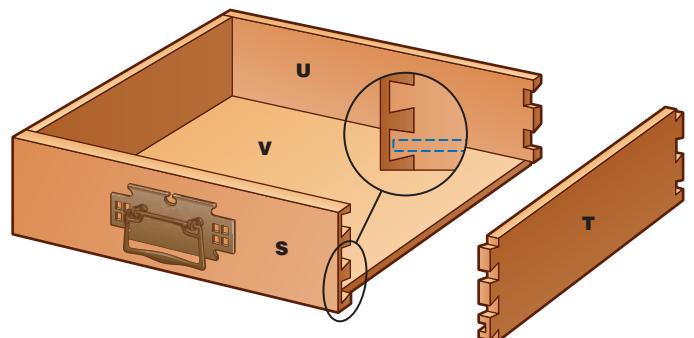
4. Rout a 1/8" roundover on all of the legs' long edges and bottom edges.

5. Rout leg indents using a jig (Fig. B) and a plunge router equipped with a 1/2" straight bit and a 1" O.D. template guide (**Photo 5**). A 1/4" spacer tilts the jig to create the indent's taper. (This jig was designed by Darrel Peart, an expert in building Greene and Greene-style furniture. See his book in Sources, page 46). To use the jig, draw a pencil line across

**Fig. B** Leg Indent Jig



**Fig. C** Drawer Details





1

**Begin by gluing** up the legs. Each leg is composed of four pieces of quartersawn oak, joined by lock miters. (For more on this technique, see Four-Sided Quartersawn Table Legs, page 47).



2

**Cut mortises** in the legs using a mortising machine.



3

**Drill holes** for 1/4" dia. pins in the adjacent sides of the legs. Insert a loose tenon into the mortise to prevent splintering.



4

**Make the holes square** using a mortising-machine's hollow chisel. Tap the end of the chisel with a soft mallet until the square portion of the hole is about 1/4" deep (see inset).

the leg at the indent's top starting point; then place the jig on the leg and the assembly in your vise. Next, place your router on the jig and plunge the bit until it touches the leg on the pencil line. Lock the bit at this depth. Push the router up the jig so the bit is no longer touching the leg, start the router, and rout the indent (**Photo 6**). Sand the bottom and edges of the indents with 150-grit sandpaper. Feather the top of the indents into the leg.

## Build the Sides

6. Mill the upper and lower rails, then cut tenons on their ends (**Photo 7**). Note that the upper tenon on the upper rail is 1/8" narrower than its mortise; this space allows the rail to shrink and swell without cracking. The lower tenon on this rail, and the tenon on the lower rail, are cut for a snug fit with their mortises. Cut grooves in the lower

side rails for the shelf support spline (K).

7. Make 1/4" hardboard templates for the upper and lower rails (Fig. F). Trace the templates' outlines on the rails and bandsaw the profiles. Attach the templates to the rails with carpet tape and rout the profiles with a flush trim bit (**Photo 8**).

8. Lay out and cut mortises for the spindles (L) and panel (M) (**Photo 9** and Fig. D).

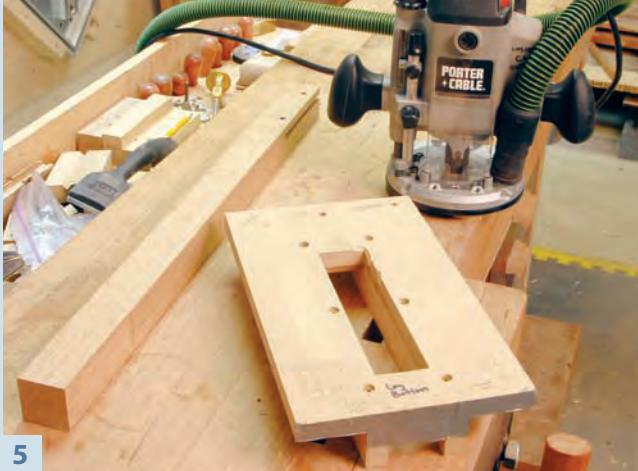
9. Make the spindles and cut tenons on their ends. Ensure a snug fit into the mortises, because the spindles will not be glued in place. Dry fit the rails, legs and spindles. Measure the distance between the rails to determine the panel's exact length. Make the panels and cut tenons on their ends. Dry clamp the entire side assembly and mark the location of the pin holes in the upper rail. Disassemble the side and drill elongated holes through the upper tenons,

so the rail is free to shrink and swell. Clamp the rails, spindles and panel together, without glue, then glue the legs to the rails (**Photo 10**).

10. Once the glue has set, complete the pin holes by drilling through the tenons. The final holes should be 1" deep. Glue the pins in the joints, but don't install the ebony plugs (BB). They'll interfere with clamping in the steps ahead.

## Assemble the Base

11. Mill the dividers (F and G) and rear rail (H). Using a dado set, cut a 1/16" shoulder on all four sides of the lower divider and the rear rail, and the bottom face of the upper divider. This cut establishes a consistent length between the shoulders of all three pieces. Raise the dado set to the appropriate height and finish cutting the tenons on the rear rail. Readjust the



5

**Build a router jig** for making Greene and Greene-style indents at the bottom of the table's legs.



6

**Route the indents.** The indents are shallow ramps that are flush at the top and about 1/8" deep at the bottom. This jig fits tight around the leg and tilts the router.



7

**Mill the rails,** cut tenons on their ends, and test their fit. The tenon on the upper rail is split in two in order to avoid weakening the leg.



8

**Make hardboard templates** for the rails, then shape the rails using a flush-trim bit. You can see that my router table is very simple!

dado set's height to cut the outside cheeks of the lower divider. Remove the material between the double tenons of the lower divider, staying 1/32" below the shoulder (Photo 11). Pare to the shoulder with a chisel.

12. Cut the dovetails on the upper divider. Scribe around the dovetails to lay out the sockets in the legs. Drill, saw, and pare the sockets.

13. Drill holes in the upper divider for screws to fasten the top. Drill holes in the lower divider large enough for a screwdriver to pass through.

14. Assemble the sides, dividers and rear rail without glue. Measure the distance between the lower rails to determine the exact length of the shelf (J). Make the shelf and cut a groove at each end to receive the shelf support spline (K) (Photo 12).

15. Disassemble the base and glue the spline in the side rails. Glue and

assemble the sides, dividers, rear rail and bottom shelf (Photo 13). Once the glue has set, drill holes through the tenons, as you did in step 10. Install pins in the joints. Mill the doublers (P). Measure the distance between the inside face of the upper rails and the legs to determine the doublers' exact thickness. Cut mortises in each upper doubler for table top buttons (AA). Glue the doublers in place. Mill the runners (Q) and cleat (R). Cut a slot in the cleat for a screw. Glue the cleat to the rear rail. Glue the runners to the lower doublers (Photo 14).

## Build the Drawer

16. I've built the drawer for this table in a traditional manner with half blind dovetails in front and through dovetails in back (Photo 15 and Fig. C). I lay out and cut these joints by hand, so I haven't drawn their precise dimensions for you. For more on cutting drawer dovetails by

hand, see "Precise Hand-Cut Dovetails," AW#119, January 2006, p. 62. There are many other ways to make the drawer, however—just pick the method you're comfortable with. Add the pull (see Sources) when you're done.

## Make the Top

17. Select the wood for the top's core (W). I like to book-match my tops by re-sawing a piece of 8/4 stock, and use other parts of the same board for the breadboard ends (X). I wait a few days for the re-sawn stock to stabilize, then glue up the top, ensuring that it's flat, and cut it to final size.

18. Cut a groove in each end of the core. Reference the groove's location from the core's bottom. Using the same setup, and also referencing from the bottom, cut a groove in the breadboard ends.

19. Drill stepped holes in each



9

**Clamp a pair** of upper and lower rails together, then lay out mortises for the spindles and panel that go between the rails.



10

**Clamp the rails,** spindles and panel together without glue. Then glue the legs to this assembly.



11

**Saw two tenons** side by side on the ends of the divider that goes below the drawer. One large tenon would weaken the legs too much.



12

**Fit the shelf.** It sits on a spline that runs the length of the lower rail. The shelf won't be glued, so it's free to expand and contract.

## ARTS AND CRAFTS DETAILS

Most of my work is influenced by the look and feel of Arts and Crafts furniture. In this bedside table, I've added details created almost one hundred years ago by Charles and Henry Greene, Frank Lloyd Wright, Gustav Stickley and L. & J. G. Stickley. Arts and Crafts designers borrowed ideas from many sources, and I have, too. I've used the following elements to create my own signature style:

- A. Quartersawn oak** was widely used by many Arts and Crafts designers.
- B. Breadboard ends**, slightly raised above the main top, are common on furniture by Greene and Greene.
- C. Ebony spline** often bridged joints in Greene and Greene pieces.
- D. Four-sided quartersawn legs** show oak's ray fleck figure all the way around. They were a trademark of L. & J. G. Stickley's Mission furniture.
- E. Ebony plugs** were a distinctive touch of Greene and Greene furniture. Some plugs covered screws, some covered pins that go through mortise and tenon joints, and others didn't cover anything—they were placed to please the eye.
- F. Square spindles** are reminiscent of several Frank Lloyd Wright designs.
- G. Leg indents and cloud lift profiles**, inspired by Chinese furniture, were adopted by the Greenses.





13

**Assemble the table** in a trial run. Tap the top rail into dovetailed sockets in the ends of both legs. When you're sure everything fits, glue the base.



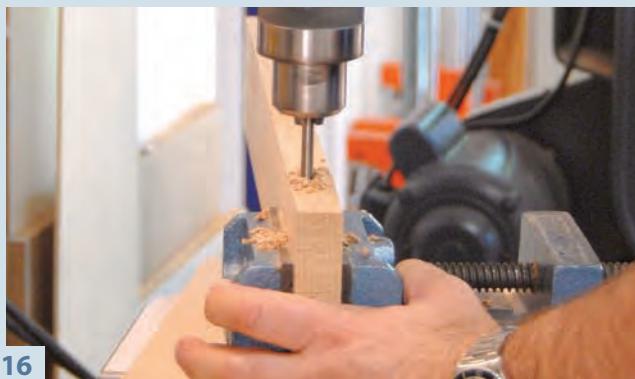
14

**Add runners** for the drawer. Make sure that they are flush with the front rail and square to the case, front to back.



15

**Glue the drawer**, using blocks with fingers to put pressure directly on the dovetails.



16

**Move on to making** the top. Drill deep holes all the way through the breadboard ends in order to fasten them to the top with screws.

breadboard end for the screws that will fasten it to the core (Fig. H). Start by drilling 1/8" holes all the way through the breadboards. Use a 3/8" Forstner bit to counterbore the holes from the outside edge (Photo 16). Drill elongated 3/16" holes from the inside edge to allow the screws to move with the core. Layout and cut plug mortises on the breadboard ends. Use a 1/8" roundover bit to rout all the edges of the breadboard ends, except the bottom.

20. Plane a hollow no more than 1/32" deep on the grooved side of each breadboard end (Photo 17). This is an optional step, but I do it to ensure that the joint stays tight.

21. Make the breadboard spline (Y). Cut each spline into three pieces (Fig. A) and glue the pieces to the core. Leave a gap between the spline pieces for the screws. Let the glue dry and scrape off any squeeze-out. Glue on the bread-

board ends, making sure that they're centered on the core (Photo 18). Don't put glue all the way across the joints—just in the center, about 4" wide.

Let the assembly dry overnight, then drill pilot holes into the core using an extra-long 3/16" drill bit. Add the screws.

22. Turn the top over, so the flat side is up, to cut slots for the decorative ebony spline. Mark the top to indicate where to begin and end the slots. Rout the slots with a 1/4" slot cutter set up for a 1/2" deep cut (Photo 19). Square the ends of the slots with a chisel.

23. Mill the stock for the ebony spline (Z). Cut the inside profile of each spline using a jigsaw or bandsaw. Trim each spline to fit. Install the spline, without glue, and trace the outer profile so that it protrudes 1/8" proud of the top. Remove the spline and round over all its edges and ends. Sand the spline up to 400 grit. Glue the spline,

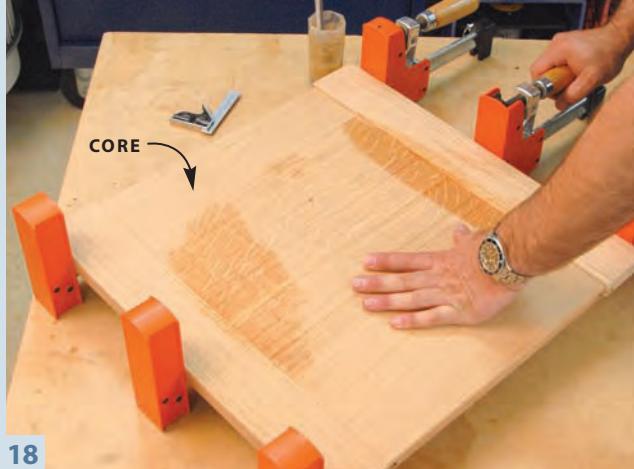
but only apply glue in the core portion of the slots. The spline should be free to float in the breadboard end, allowing the core to expand and contract.

24. Make the ebony plugs from a couple of blanks. Round the ends of each blank to create a pillow shape using a sanding jig (Photo 20), or by hand with a file and sandpaper. (For more information on this jig, and detailed instructions on shaping and polishing plugs, see Darrel Peart's book.) The jig has holes for various size plugs and is clamped to the disc sander's table. Rotating a blank into one of the holes quickly creates a pillow shape on the end of the blank. After this coarse rounding, sand the ends as you did the spline pieces. Cut the plugs to length on the bandsaw, to avoid kickback, and install them with a dab of glue.



17

**Plane a slight hollow** on the breadboard ends in order to create a spring joint. The hollow helps ensure that the joint comes tight at the ends and stays tight in the future.



18

**Glue the top.** Only the center portion is glued, so the core is free to move. Screws at both ends of the joint pass through elongated holes, also allowing the top to move.



19

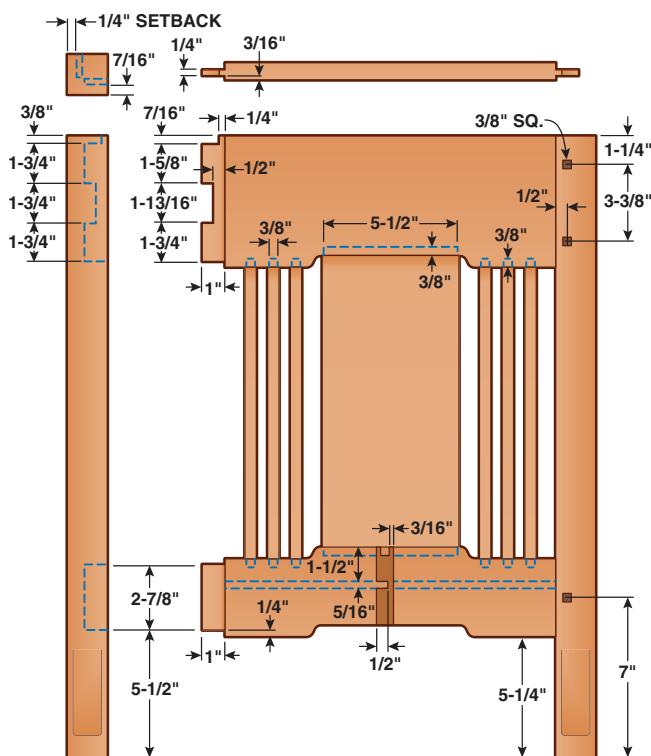
**Route slots** in the top's edges to receive ebony spline. Use a sloting bit with a bearing and an oversize base plate, which helps prevent the router from tipping.



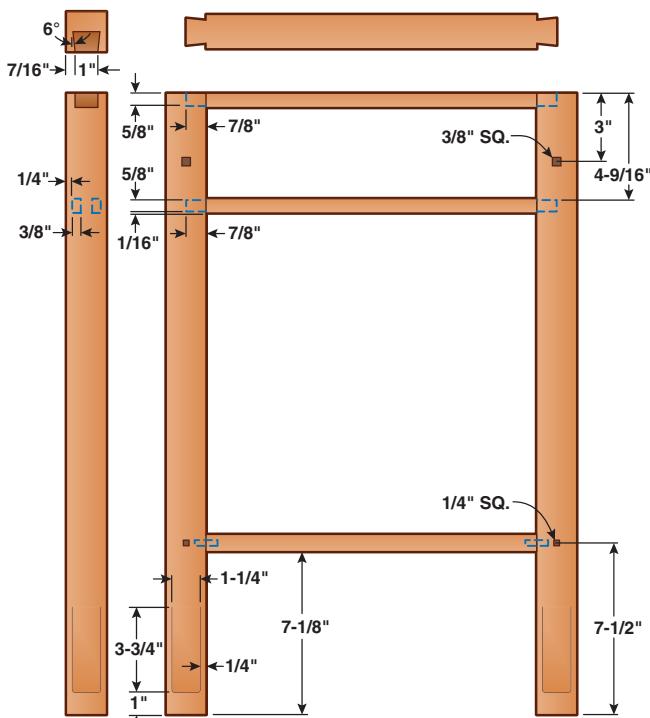
20

**Round the ends** of ebony blanks into a pillow shape for making plugs. I use a jig that accommodates various sizes of square stock—ready for my next Arts and Crafts project!

**Fig. D Side Elevation**



**Fig. E Front Elevation**



CUTTING LIST		BEDSIDE TABLE		Dimensions: 28-1/8" H x 20" W x 20" D	
PART	NAME	QTY.	MATERIAL	TH	X W X L
<b>Base</b>					
A	Leg part	16	QS White Oak*	3/4"	x 1-3/4" x 27-1/4" (a)
B	Lower leg plug	4	QS White Oak	1/4"	x 1/4" x 9"
C	Upper leg plug	4	QS White Oak	1/4"	x 1/4" x 6"
D	Upper side rail	2	QS White Oak	3/4"	x 5-3/4" x 16-1/2" (b)
E	Lower side rail	2	QS White Oak	3/4"	x 4" x 16-1/2" (b)
F	Upper divider	1	QS White Oak	3/4"	x 1-1/2" x 16-1/4" (c)
G	Lower divider	1	QS White Oak	3/4"	x 1-1/2" x 16-1/4" (c)
H	Rear rail	1	QS White Oak	3/4"	x 5-3/4" x 16-1/4" (c)
J	Shelf	1	QS White Oak	5/8"	x 14-1/2" x 16-7/32"
K	Shelf support spline	2	QS White Oak	5/16"	x 15/16" x 14-1/2"
L	Spindle	12	QS White Oak	1/2"	x 1/2" x 13-1/4"
M	Side panel	2	QS White Oak	1/2"	x 6" x 13-1/4"
N	Pin	12	Oak dowel	1/4"	x 3/4"
P	Doubler	4	QS White Oak	3/4"	x 1-1/2" x 14-3/4"
Q	Runner	2	QS White Oak	3/4"	x 1" x 15-1/2"
R	Cleat	1	QS White Oak	3/4"	x 1-1/4" x 14-1/2"
<b>Drawer</b>					
S	Drawer front	1	QS White Oak	7/8"	x 3-3/4" x 14-1/2"
T	Drawer side	2	Maple	1/2"	x 3-3/4" x 16"
U	Drawer back	1	Maple	1/2"	x 3-1/4" x 14-1/2"
V	Drawer bottom	1	Maple	1/2"	x 15-3/4" x 14"
<b>Top</b>					
W	Core	1	QS White Oak	3/4"	x 19-3/4" x 14"
X	Breadboard end	2	QS White Oak	7/8"	x 3-1/2" x 20"
Y	Breadboard spline	2	QS White Oak	1/4"	x 15/16" x 20" (d)
Z	Spline	4	Ebony	1/4"	x 3/4" x 4-1/4"
AA	Button	4	QS White Oak	3/4"	x 1" x 1-5/8"
BB	Plug	26	Ebony	3/8"	x 3/8" x 1/4" (e)
CC	Plug	2	Ebony	3/8"	x 3/4" x 1/4"
DD	Plug	2	Ebony	1/4"	x 1/4" x 1/4"

\* QS White Oak=Quartersawn White Oak

(a) Rough cut these pieces at 32" L. Completed legs are 1-3/4" x 1-3/4" x 27-1/4"

(b) Length includes two 1" L tenons.

(c) Length includes two 7/8" L tenons.

(d) Cut each spline into three pieces.

(e) Make from two blanks 3/8" x 3/8" x 12".

## Apply the Finish

25. I prefer to protect white oak with a simple oil finish, not adding any dyes or stains. Left natural, it's a beautiful wood which ages to a golden color.

26. Make four tabletop buttons. Cut lips on the buttons to fit loosely into the mortises on the upper doubler (Fig. J). Center the top on the base and fasten screws through the top divider. Install the buttons, centered in their mortises.

## SOURCES

◆ Darrell Peart, *Greene & Greene: Design Elements for the Workshop*, Linden Publishing, [www.woodworkerslibrary.com](http://www.woodworkerslibrary.com).

◆ Horton Brasses, [www.horton-brasses.com](http://www.horton-brasses.com), (800) 754-9127, Mackintosh Pull, AD-4064, \$18.50.



## Stewart Crick

A lifelong woodworker, Stu writes, teaches, and builds Arts and Crafts furniture from his Manassas, Virginia workshop. He also

serves as President of the Washington Woodworkers Guild. Visit his website at [www.stuswoodworks.com](http://www.stuswoodworks.com).

Fig. H Top Details

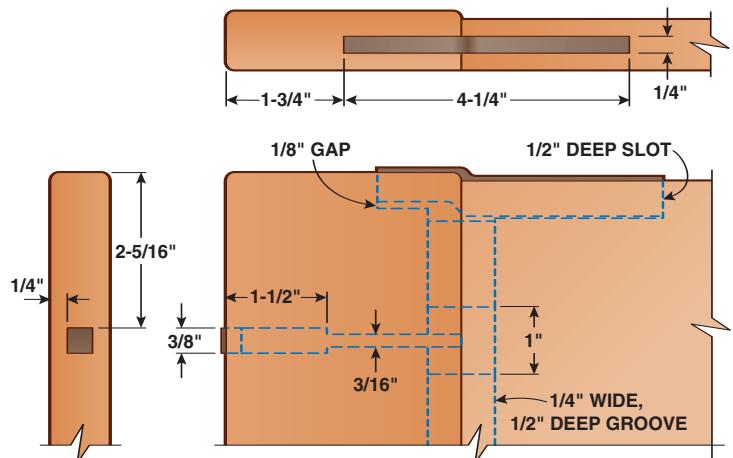


Fig. F Side Rail Templates

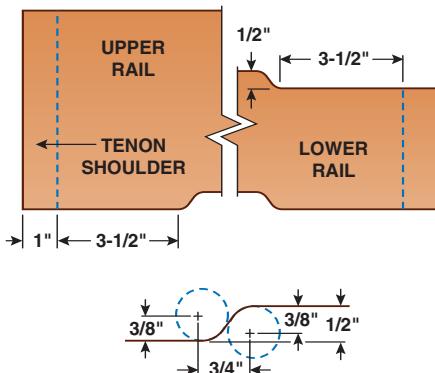


Fig. G Spline Detail

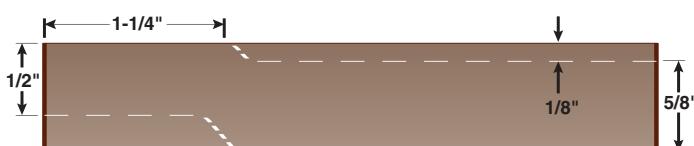


Fig. J Table Top Button

