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Dave Campbell  
Editorial Content Chief, *WOOD* magazine



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# Picture-perfect Multi-frame

Coordinate with your color scheme, pull together your pictures, and showcase your shop skills. All in a single frame.



**T**his photo frame's not only fetching, it's flexible. Need more photo spaces? Add a few parts and stretch a couple measurements. See details on *page 3*.

## Start with a frame job

**1** From  $\frac{3}{4}$ " stock (we used cherry), cut one  $3\frac{1}{4}\times 54$ " blank for the large frame top and bottom (A) and sides (B) [Drawing 1]. Cut two  $2\frac{1}{4}\times 32$ " blanks for the small frame tops and bottoms (C) and sides (D).

**2** Attach an auxiliary face to your tablesaw's fence and install a  $\frac{1}{2}$ " stacked dado blade. Cut  $\frac{1}{2}$ " rabbets  $\frac{3}{8}$ " deep along both edges of one face of the  $3\frac{1}{4}\times 54$ " blank [Drawing 1a]. Lower the blade and adjust the fence (burying  $\frac{1}{8}$ " of the dado blade in the auxiliary fence) to cut  $\frac{3}{8}$ " rabbets  $\frac{1}{4}$ " deep along both edges of one face of the  $2\frac{1}{4}\times 32$ " blanks. Then, cut  $\frac{1}{4}$ " rabbets  $\frac{1}{4}$ " deep along both edges of the opposite face.

**3** Replace the dado stack with a rip blade and remove the auxiliary fence. Rip the blanks, splitting them to cut the

large and small frame parts (A–D) to their final widths [Materials List, *page 3*, Drawing 1a].

**4** To keep track of the orientation when mitering the small frame parts (C, D), mark a line down the length of the outside edge (the one with the  $\frac{1}{4}$ " rabbet,  $\frac{1}{4}$ " deep) of the small frame blanks. Attach an extension to your miter gauge and tilt the tablesaw blade to  $45^\circ$ . Use a stopblock clamped to the extension for repeatable cuts (or use the "Small-Parts Miter Maker" on *page 4*) as you miter-cut the frame parts (A–D) to length from the blanks you cut previously.

**5** Assemble the large and small frames (A/B, C/D) by first taping the frame members together [Photo A]. Flip each frame assembly and spread glue on the miters. Fold up the frame and tape the final joint. Allow the glue to dry.

## About the designer

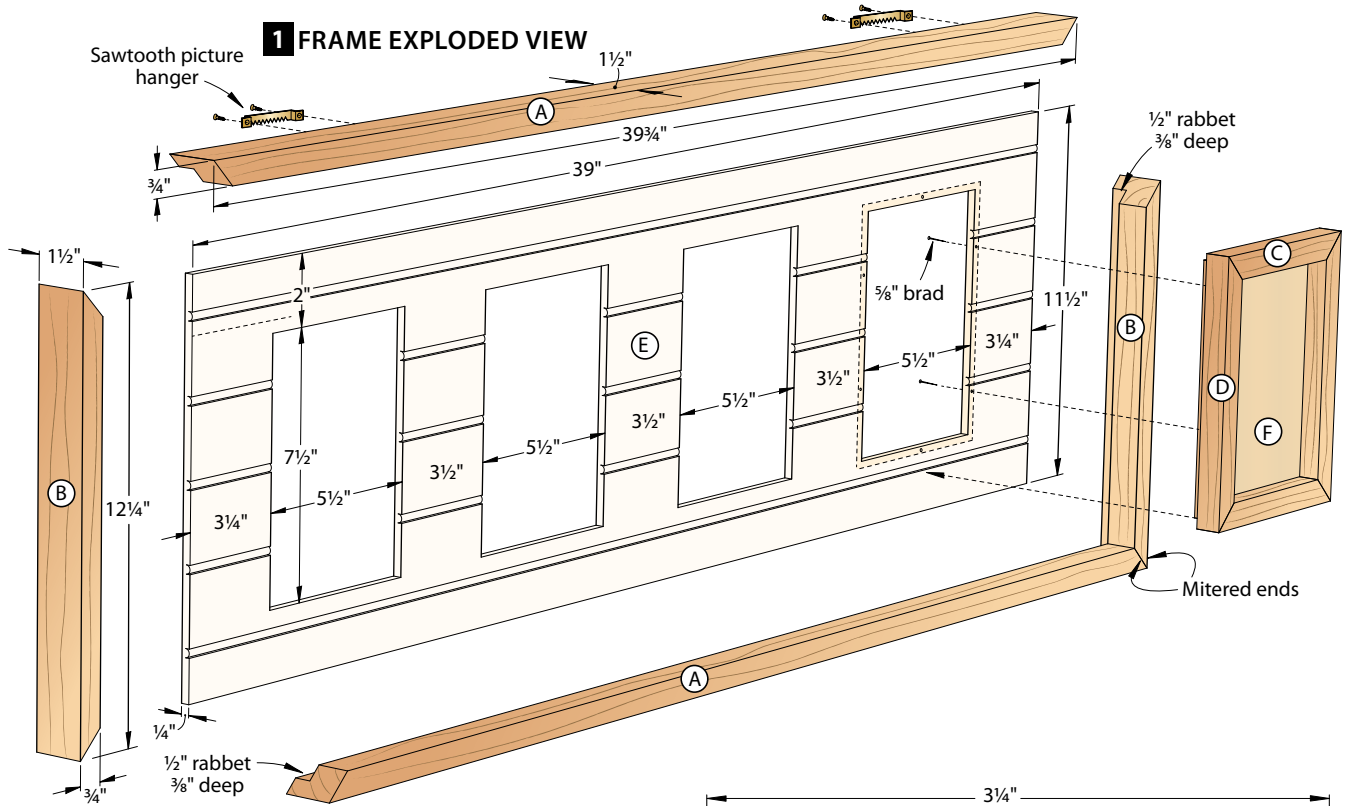
**WOOD**® magazine reader Jeremy Cranfill, of Connersville, Ind., is a graphic designer who likes to work in multiple mediums. He originally designed this easy and elegant picture frame to display sand dollars collected on a vacation. Have a design you think would be perfect for **WOOD**? Drop us a line at [woodmail@woodmagazine.com](mailto:woodmail@woodmagazine.com)



## PAINTER'S TAPE: A SMALL-PARTS CLAMP



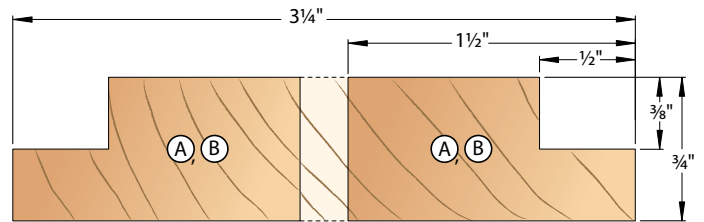
**A** Use a straightedge to align the frame parts as you butt them end to end and join them with painter's tape. The tape acts as both hinge and clamp.



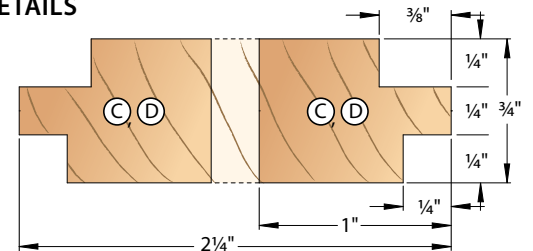
## Add a bunch of backs

**1** Measure the opening in the back of the large frame (A/B). Cut the beadboard back (E) to fit (see **Shop Tip**, below), taking care to center the beads within the height of the frame.

**2** Mark the locations for the small frame openings in the beadboard back (E) [Drawing 1, Photo B]. Drill blade-start holes, then cut the openings with a jigsaw. Paint the face of the beadboard back to coordinate with your decor. (We used Krylon Hosta Leaf interior-exterior spray paint.)



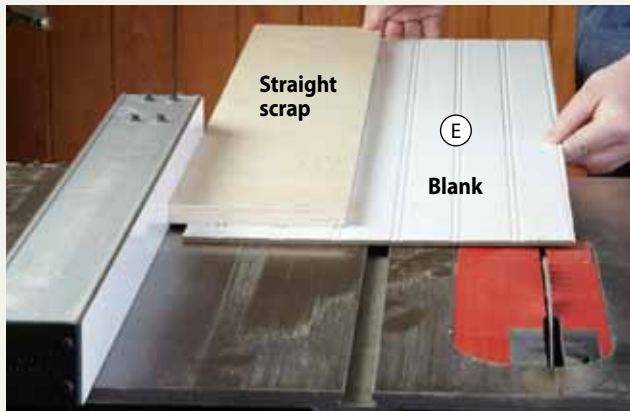
### 1a FRAME DETAILS



## SHOP TIP

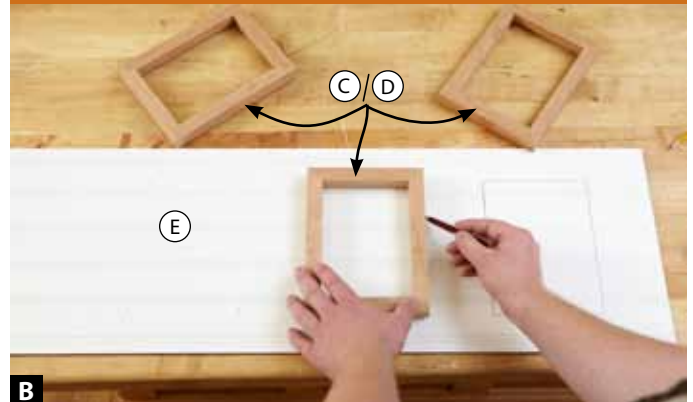
### True up a crooked edge

The beaded lines in the beadboard paneling we purchased at the home center did not run parallel to the factory edge. If yours are out of parallel, cut an oversize blank and true one edge as shown below before flipping the blank and cutting it to final width.

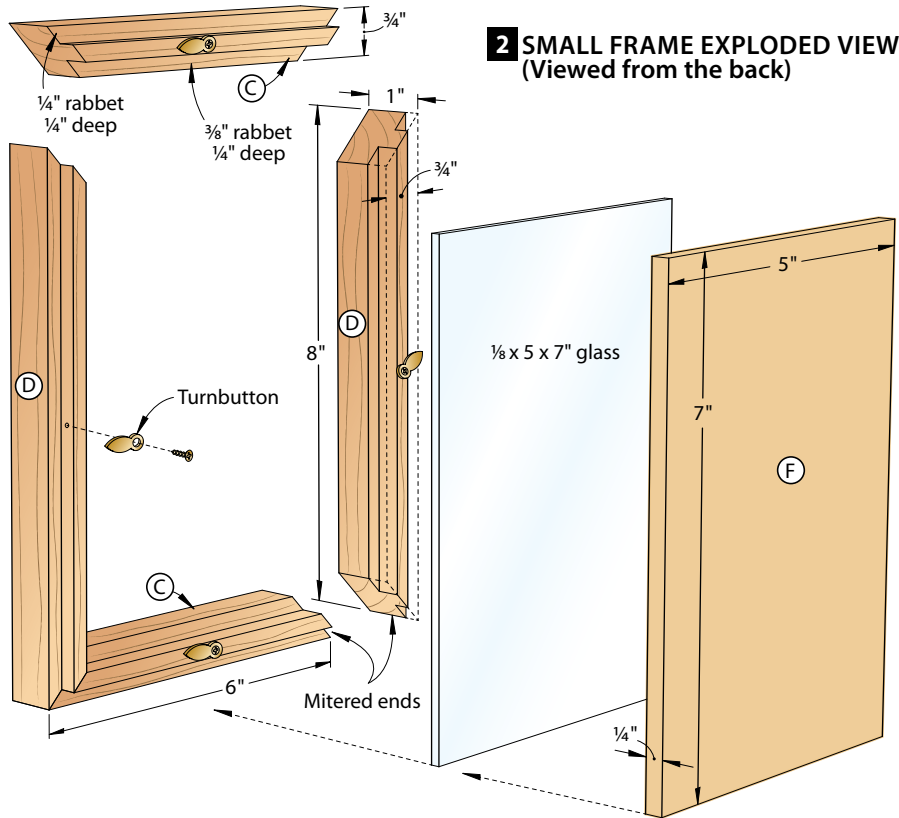


Tape a straight scrap to the blank, aligning one edge with a bead line and overhanging the other. With the scrap against the fence true the first edge.

### TRACE THE RECESSED RABBET



**B** Measure and mark the corners of the frame openings. Set each frame (C/D) in place to carefully trace the rabbet onto the beadboard back (E).



## 2 SMALL FRAME EXPLODED VIEW (Viewed from the back)

### Materials List

Part	FINISHED SIZE			Matl.	Qty.
	T	W	L		
A* large frame top & bottom	3/4"	1 1/2"	39 3/4"	C	2
B* large frame sides	3/4"	1 1/2"	12 1/4"	C	2
C* small frame tops & bottoms	3/4"	1"	6"	C	8
D* small frame sides	3/4"	1"	8"	C	8
E beadboard back	1/4"	11 1/2"	39"	BB	1
F small frame backs	1/4"	5"	7"	MDF	4

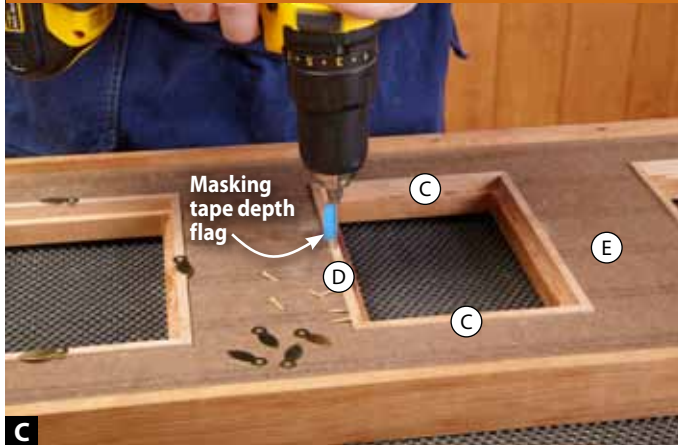
\*Parts initially cut oversize. See the instructions.

**Materials key:** C—cherry, BB—beadboard, MDF—medium-density fiberboard.

**Supplies:** 3/8" brad nails; photo-frame turnbuttons (16); #1x1/2" flathead brass screws (16); sawtooth hangers (1 or 2); 1/8 x 5 x 7" glass (4).

**Blade and bits:** Stacked dado blade, 1/2", 3/64", and 1/16" drill bits.

### DIMINUTIVE HOLES FOR DELICATE SCREWS



**C** For the #1 turnbutton screws, predrill a 3/64" shank hole and a 1/16" pilot hole, 1/2" deep, centered, on each frame side (D), top, and bottom (C).

**3** Sand the frames (A/B, C/D) to 220 grit and apply a finish. (We used Danish oil followed by two coats of General Finishes satin water-based polyurethane.) After the finish dries, attach the small frames to the beadboard back (E) using cyanoacrylate (CA) glue and 3/8" brad nails. Then attach the beadboard to the large frame the same way.

**4** Install photo-frame turnbuttons as shown [Drawing 2, Photo C]. Then install sawtooth hangers on the back of the frame assembly (A–E). To hang the frame vertically, attach one hanger centered on one of the sides (B). For a horizontal orientation as shown on page 1, attach two hangers 32" apart centered on the top (A).

### Need it bigger (or smaller)?

To add photo spaces, simply add a small frame back (F), a small frame top and a bottom (C), and two small frame sides (D). Add 9" to the lengths of the large frame top and bottom (A) and the beadboard back (E). For fewer photo spaces, subtract in the same amounts.

**5** Measure the opening in the backs of the small frames (C/D) and cut the small frame backs (F) to fit from 1/4" medium-density fiberboard (MDF). Install photos sandwiched between 5x7" frame glass (we got ours at a hobby store) and the small frame backs. Now hang the frame on a wall for everyone to enjoy your art. Oh, and your photos, too. 🌳

Produced by Lucas Peters with John Olson  
Project design: Jeremy Cranfill, Connersville, Ind.  
Illustrations: Lorna Johnson

### More Resources

- ▶ Free plan: On-the-money miter jig: [woodmagazine.com/miterjig](http://woodmagazine.com/miterjig)
- ▶ For a small fee, learn how to eke fine-furniture accuracy from any tablesaw: [woodmagazine.com/tsaccuracy](http://woodmagazine.com/tsaccuracy)
- ▶ Want more picture frame plans? Purchase them here: [woodmagazine.com/frameplans](http://woodmagazine.com/frameplans)
- ▶ Adjustable miter-gauge extension: [woodmagazine.com/extension](http://woodmagazine.com/extension)





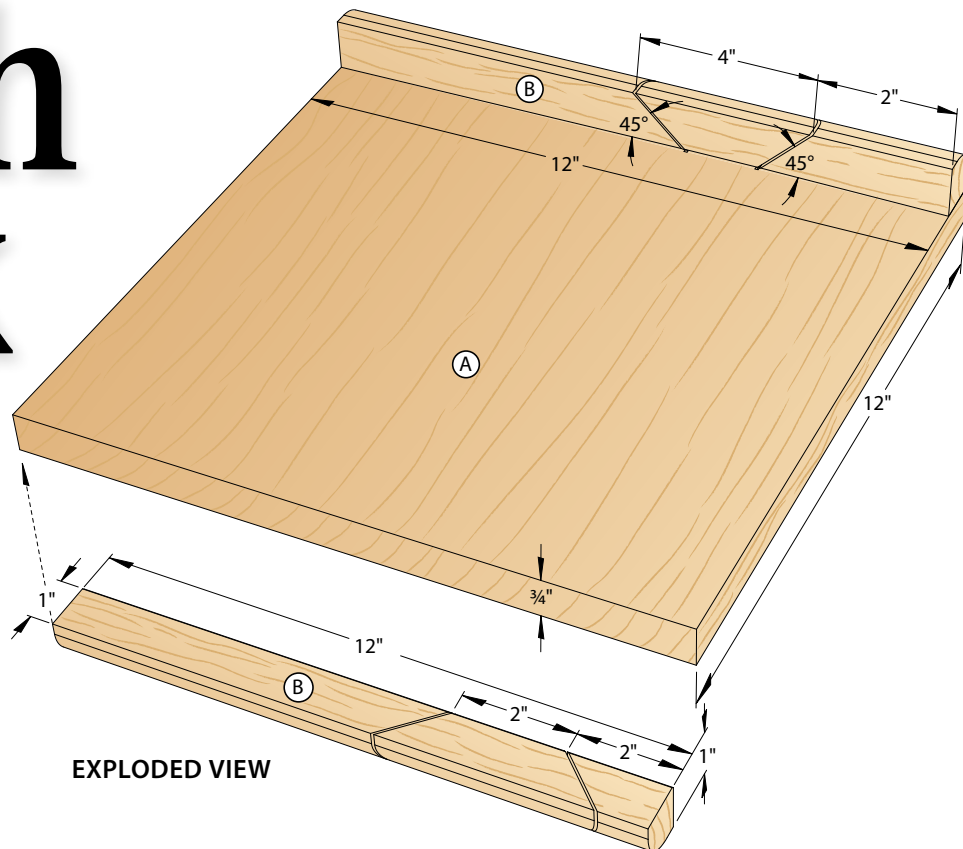
## Small Parts Miter-Maker

# Bench Hook

Cutting perfect miters in small project parts using a tablesaw or miter saw can be dicey. But with a handsaw and this bench-hook miter box, you'll cut those angles with ease.

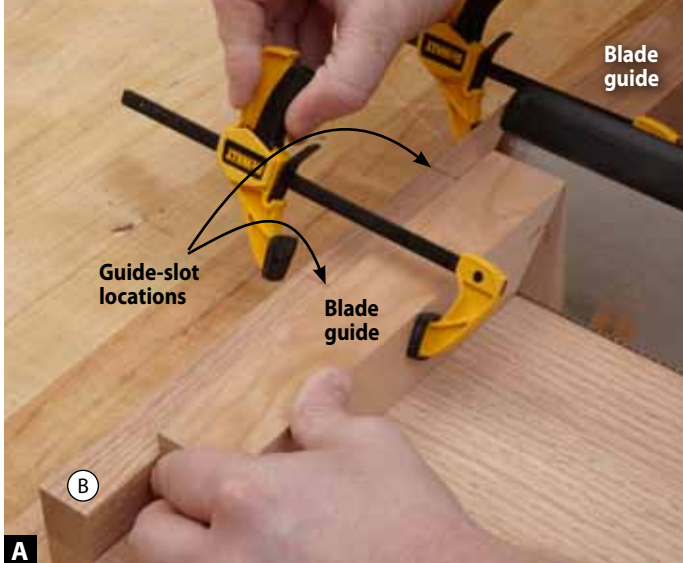
As its name implies, this jig hooks over the edge of your workbench. You apply forward pressure with your non-cutting hand during the cut to keep it locked in place.

**1** Edge-glue a  $\frac{3}{4}$ "-thick hardwood blank to 12" wide. Cut it to length for the bench hook's body (A) [Exploded View]. Cut two 12"-long 1x1" strips for



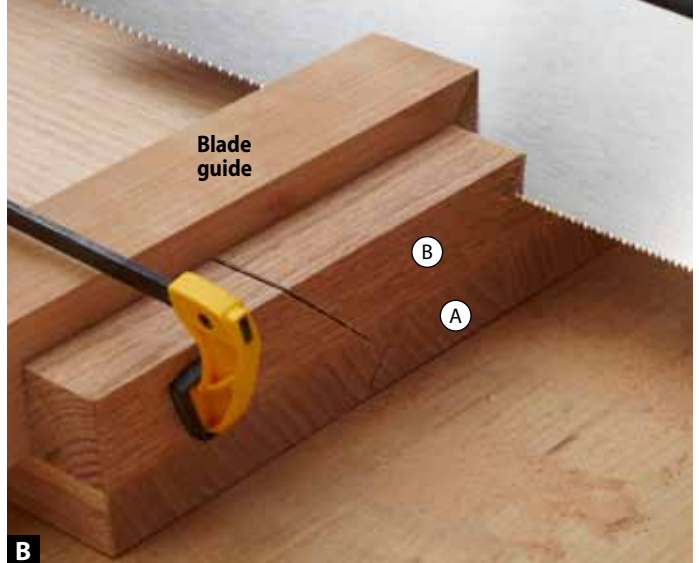
EXPLODED VIEW

### SANDWICH THE BLADE; THEN CUT THE FIRST GUIDE SLOT



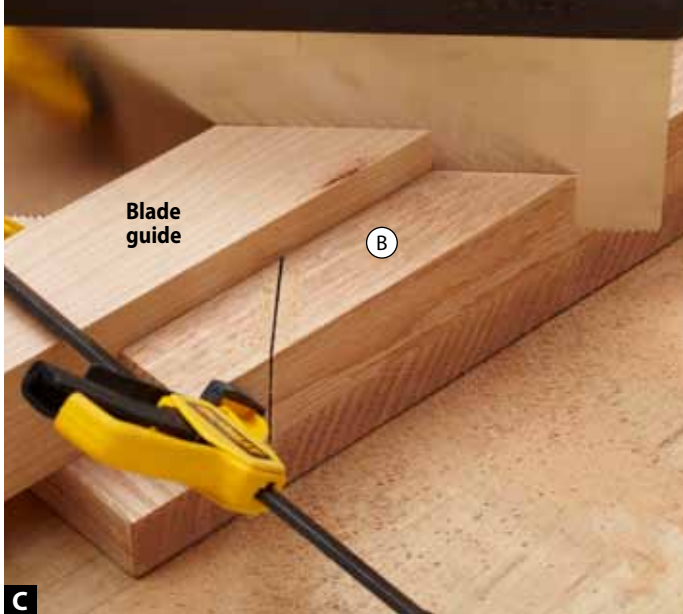
**A** Clamp one blade guide in line with a guide-slot location, then the other: surrounding, but not pinching, your saw's blade. Cut through the fence.

### CUT THROUGH THE FENCE AGAIN



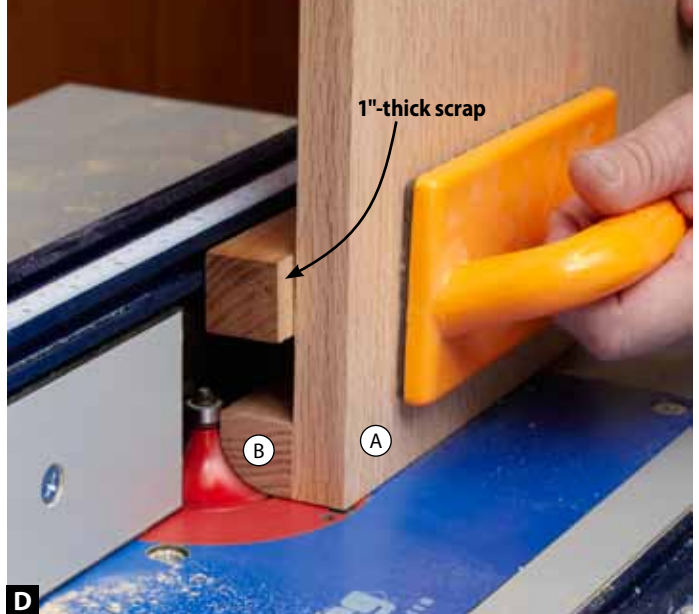
**B** Reposition the blade guides to the next marked guide slot and repeat, stopping before cutting into the body (A). Check to make sure the cut stays in line.

### FLIP THE BASE; CUT THE OTHER FENCE



**C** Flip the bench hook over, turn the blade guide on its side, and clamp it to the uncut fence (B)—capturing the saw blade as before and making the cuts.

### ROUND OVER FOR A RACIER LOOK



**D** Attach a piece of 1"-thick square scrap to the body (A) with double-faced tape to keep the bench hook parallel to the router table fence.

the fences (B). Glue them to opposite ends and opposite faces of the body.

**2** To cut precise guide slots (which capture your saw blade for accurate cuts) in the fences (B), first make a set of blade guides. To do this, use your table-saw or miter saw to make a 45° miter cut in the center of a 1½×1½×10" piece of scrap. Keep both pieces.

**3** Mark the guide-slot locations on the fences (B). If you're right-handed, make the marks toward the right end of the fence; if you're left-handed, mark

toward the left. This leaves room to grip the workpiece and fence during the cut.

**4** You should make this bench hook to perfectly fit a specific saw, so first select a short backsaw (a handsaw with a stiff rib on the edge opposite the blade's teeth) with 14–22 teeth per inch. Follow the steps in **Photos A, B, and C** to cut the guide slots.

**5** After cutting all four guide slots in the fences, install a ¾" round-over bit in your router table and rout the outside edges of the fences (B) using a scrap spacer

[Photo D] to give the bench hook a polished appearance. Be sure to note which saw the bench hook fits. 🌲

Produced by **Nate Granzow** with **John Olson**  
Project design: **John Olson**  
Illustration: **Lorna Johnson**

### More Resources

► For free help in learning the basics of choosing and using a handsaw, see [woodmagazine.com/helpfulhandsaws](http://woodmagazine.com/helpfulhandsaws).

► For free handsaw reviews, visit [woodmagazine.com/handsawreview](http://woodmagazine.com/handsawreview).

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