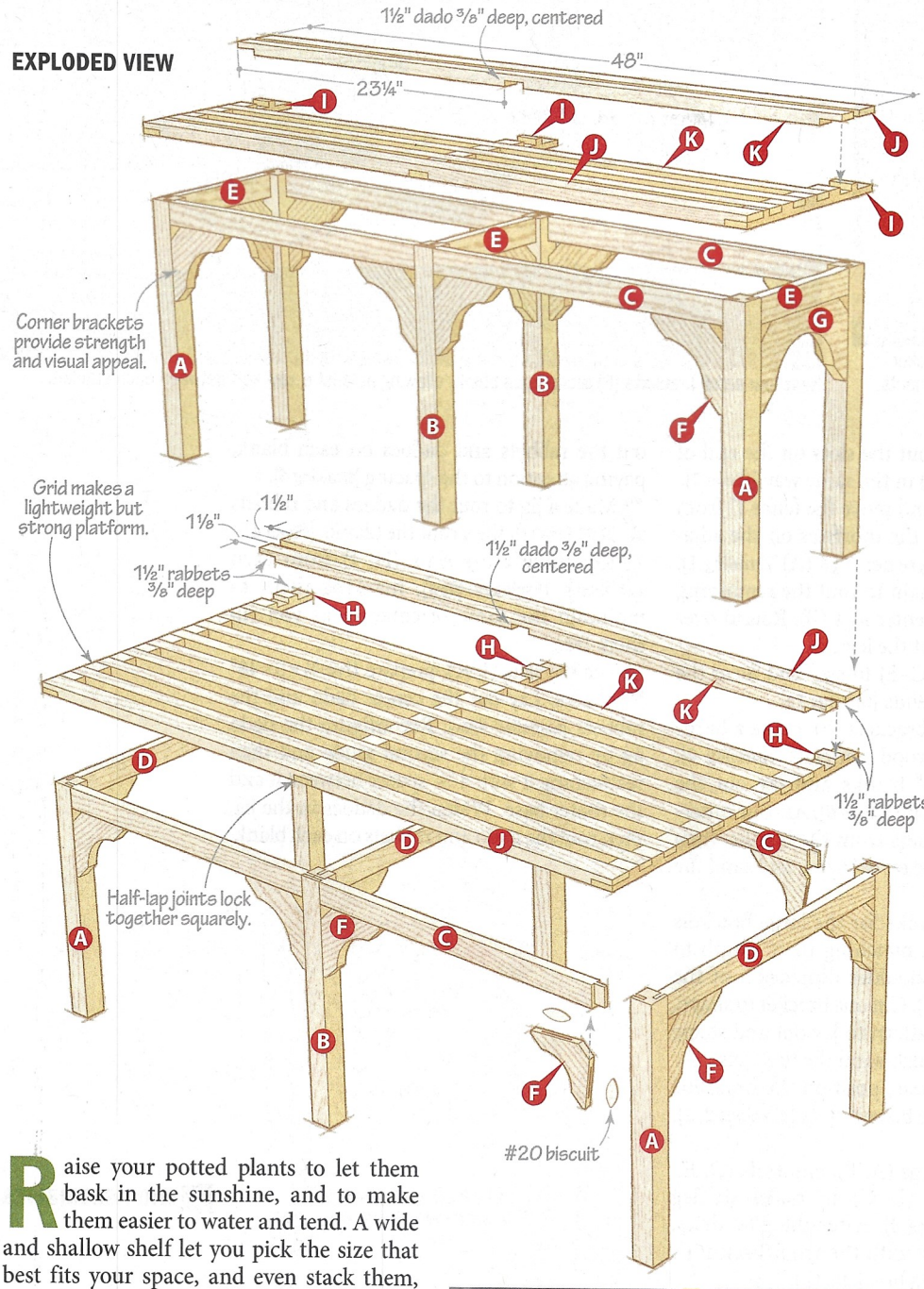
Stackable Plant Shelves

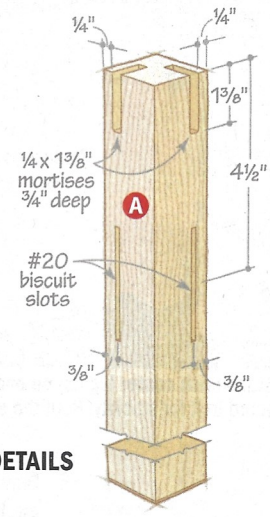
Grow your green space vertically, indoors or out.

DIMENSIONS: 48" W × 12" or 24" D × 18" H

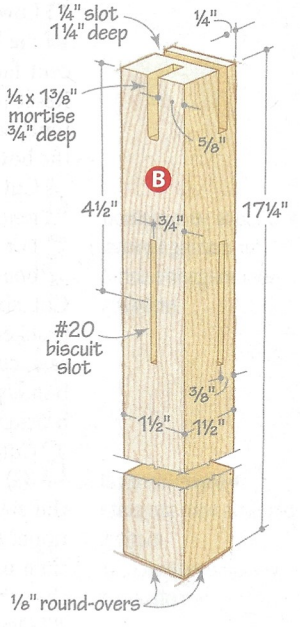
Approximate materials cost: $125

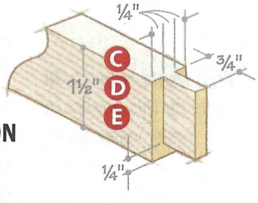
Cut 51 half-lap joints in one-third the time





1 LEG DETAILS





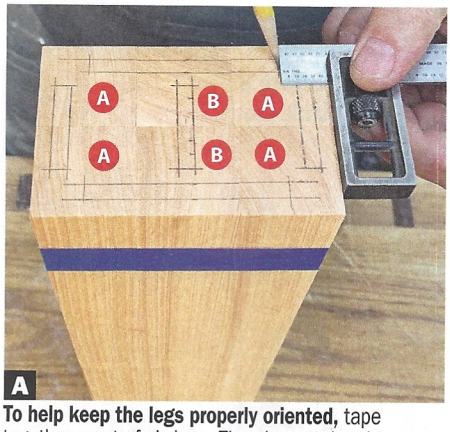
1a RAIL TENON

Raise your potted plants to let them bask in the sunshine, and to make them easier to water and tend. A wide and shallow shelf let you pick the size that best fits your space, and even stack them, providing more space for plants. Slats keep things lightweight and let light filter through. The **Materials List** on *page 51* shows parts quantities for one shelf of each size; adjust those numbers for as many shelves as you want.

Start with a dozen legs

1 Cut the legs (A, B) to size [**Materials List**]. Lay out the mortise and slot locations on the top end [**Drawing 1, Photo A**].

2 Mount a ¼" spiral bit in your table-mounted router, set the height to ¼", and secure the fence ¼" from the bit. Rout the top mortise on one face of each corner leg (A) in progressively deeper passes [**Photo B,**



To help keep the legs properly oriented, tape together a set of six legs. Then lay out the slot locations on the top end.

Painter's tape 1⅛" from the bit marks the stopping point for the workpiece when routing the slots in the tops of the corner legs (A).

Stand each center leg (B) on end and clamp a backer board to it for stability. Rout the slots in ¼" increments.

Nest four small brackets (F) along each blank, allowing at least a saw kerf between each bracket.

Drawing 1]. Then rout the slots on the end of each center leg (B) in the same way [**Photo C**].

3 Lower the bit and move the fence 1" from the bit to rout the mortises on the adjacent faces of the corner legs (A) [**Drawing 1**]. Reset the fence again to rout the remaining mortises on the center legs (B). Round over the bottom ends of the legs.

4 Cut the rails (C–E) to size and form the tenons on the ends [**Drawing 1a**].

▶Choose your method for making tenons. woodmagazine.com/mt4ways

5 For the small brackets (F), make a hardboard or plywood template [**Drawing 2**]. Cut six ¾×3×24" blanks and lay out the brackets on each one [**Photo D**]. At your miter saw, cut the brackets from the blanks, then bandsaw the curve on each one and sand the brackets smooth.

▶Make identical brackets with template routing. woodmagazine.com/templaterout

6 Cut to size blanks for the large brackets (G) [**Drawing 2**], matching their length to the shoulder-to-shoulder dimension of the upper end rails (E). Cut one bracket to shape, then use it as a pattern to lay out and shape the other two. Finish-sand the brackets.

7 Dry-fit each base, position the brackets, and lay out the biscuit slots [**Drawings 2, 3**]. Cut the slots.

Tip! *Use a Type II or III glue for this project to resist water spills.*

8 Glue up the legs (A, B), end rails (D, E), and brackets (F, G) to make six leg assemblies [**Drawing 3**]. After the glue dries, tie them together with the front/back rails (C) and remaining brackets (F).

All hands on deck

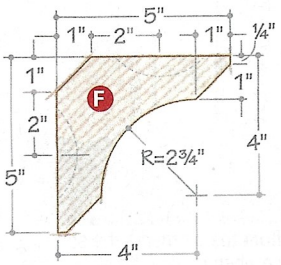
1 To make the cross slats (H, I), prepare a ¾×5×24" blank and a ¾×5×12" blank. Lay out the rabbets and dadoes on each blank, paying attention to the spacing [**Drawing 4**].

2 Make a jig to rout the dadoes and rabbets [**Skill Builder**], then rout the blanks [**Photo G**].

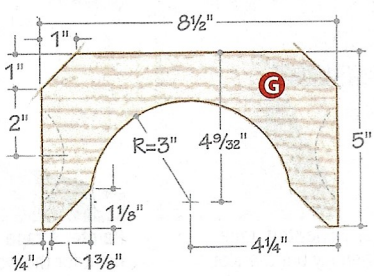
3 Rip three cross slats (H, I) from each blank [**Exploded View**], marking them to maintain the same orientation as you rip them free.

4 For the slats (J, K), prepare five ¾×5×48" blanks. Lay out the center dado and the rabbets [**Exploded View**]. Reconfigure the dado jig by removing the second guide and then reattaching it with a ⅞" spacer between it and the router base. Widen the dadoes in the jig, then rout the dado and rabbets on each blank.

2 BRACKETS

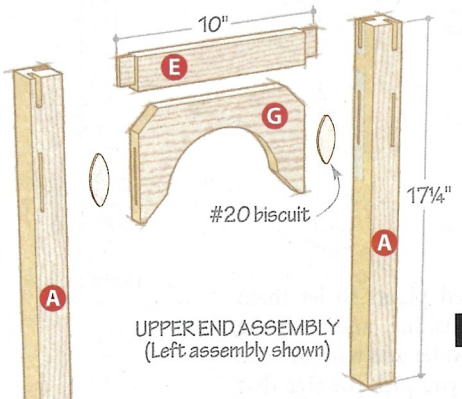


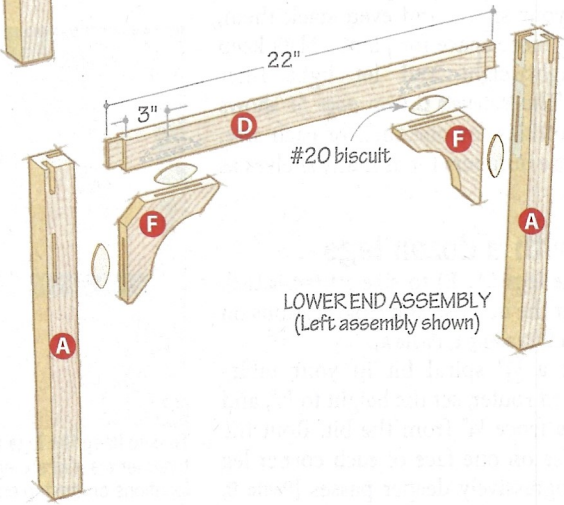
SMALL BRACKET



LARGE BRACKET

3 END ASSEMBLIES



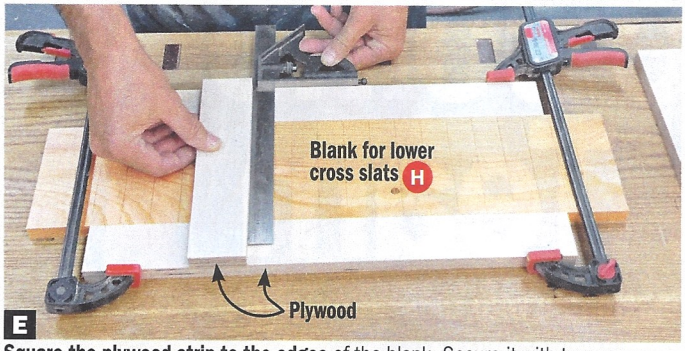


SKILL BUILDER

Simple dado jig makes lots of slots

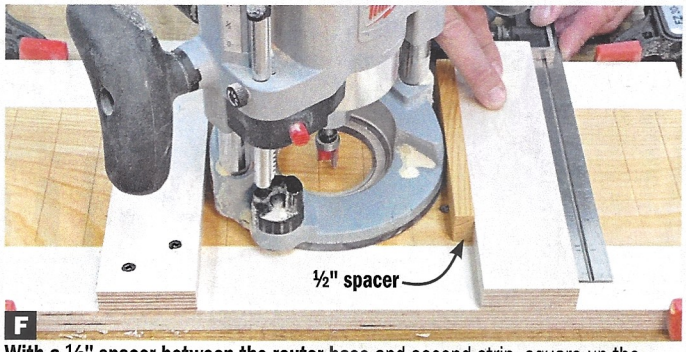
With a ⅝" dado clean-out bit in your plunge router, this jig helps you cut accurate 1⅛"-wide dadoes in two passes. To make it, rip three 2×18" plywood strips. Crosscut one into two 9" lengths. Sandwich a slat blank between the two longer pieces and screw one of the shorter pieces to the two long ones [**Photo E**]. Position your router against this piece, insert a ½"-thick spacer, and secure the remaining plywood strip [**Photo F**].

With scrap material in the jig, rout across the two long arms to show where the bit cuts. Use these dadoes to align the jig on the cross-slat blanks.



E

Square the plywood strip to the edges of the blank. Secure it with two screws through each end.

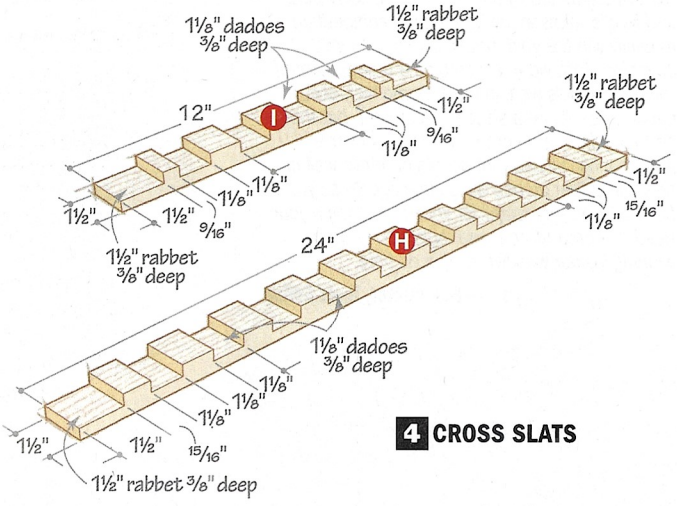


F

With a ½" spacer between the router base and second strip, square up the strip, then screw it in place (no glue).

G

Make two passes to cut the dadoes and the rabbets on the cross-slat (H, I) blanks.



4 CROSS SLATS

5 Rip the slats to fit the dadoes in the cross slats (H, I) [**Materials List**], and sand the edges smooth. Glue outside slats (J) to each set of three cross slats to make a frame, checking for square. Then glue the inside slats (K) in place.

6 Sand the grids smooth, then glue them to their respective bases, centered.

7 Apply a penetrating oil finish and allow it to dry thoroughly. Then plant your new shelves where your flora will flourish.

Materials List

Part		FINISHED SIZE T	W	L	Matl.	Qty.
A	corner legs	1½"	1½"	17¼"	C	8
B	center legs	1½"	1½"	17¼"	C	4
C	front/back rails	¾"	1½"	23"	C	8
D	lower end rails	¾"	1½"	22"	C	3
E	upper end rails	¾"	1½"	10"	C	3
F*	small brackets	¾"	5"	5"	C	22
G	large brackets	¾"	5"	8½"	C	3
H*	lower cross slats	¾"	1½"	24"	C	3
I*	upper cross slats	¾"	1½"	12"	C	3
J*	outside slats	¾"	1½"	48"	C	4
K*	inside slats	¾"	1⅛"	48"	C	13

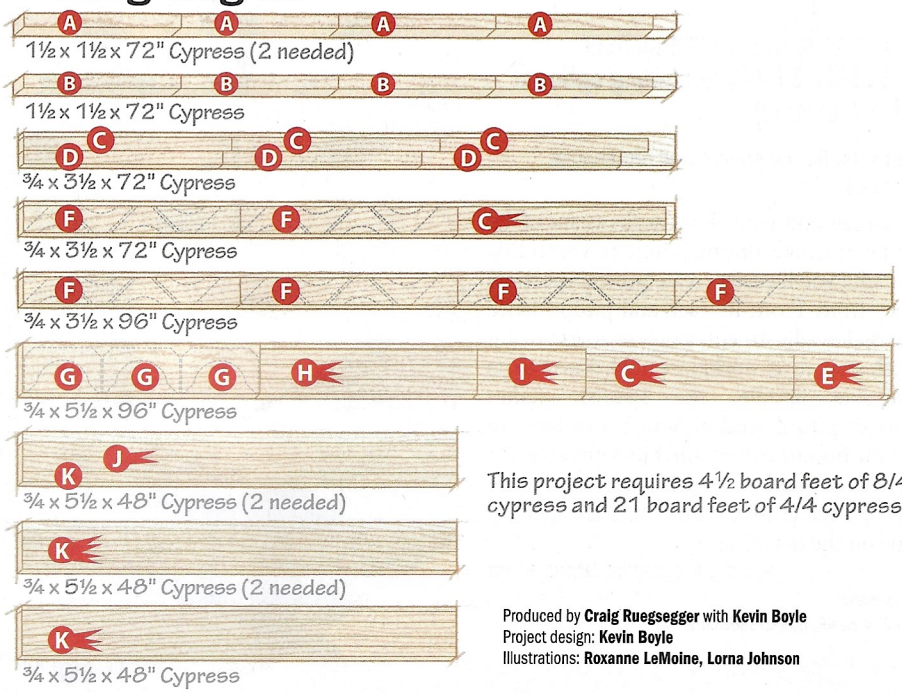
*Parts initially cut oversize. See the instructions.

Materials key: C–cypress

Supplies: #20 biscuits.

Bits: ¼" spiral upcut straight bit, ⅝" dado clean-out bit.

Cutting Diagram



This project requires 4½ board feet of 8/4 cypress and 21 board feet of 4/4 cypress.

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