

# WOODWORKER'S JOURNAL

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## Classic Project



### In this plan you'll find:

- Step-by-step construction instruction.
- A complete bill of materials.
- Construction drawings and related photos.
- Tips to help you complete the project and become a better woodworker.

## Provincial Four-Poster Bed

P R O J E C T S



**Provincial  
Four-Poster Bed**

**I**f you've checked the furniture store circulars that usually come with the Sunday paper, chances are you know just how costly beds can be. Canopy-top four posters like ours usually sell for about \$1,000, and that's for the bed only, without the mattress and box spring.

For our bed, your materials expense should be less than \$200. That includes \$29 for the bed rail fasteners (M), \$49 for 28 ft. of crown molding (H) at \$1.75 a ft., with the remaining \$122 for the pine. You can use no. 2 pine for the bed, but avoid boards with loose knots.

Our bed accepts a standard queen size box spring and mattress. Though we don't show a headboard and footboard, if you'd like to include these, just come up with a pleasing profile matching the canopy top, leave a sufficient flat on the posts for mounting hardware, and order an extra set of bed rail fasteners.

Start by making the four posts. As shown in the Corner Detail, each post is actually a right angle formed by two 3/4 in. thick pine boards joined with a simple tongue-and-groove joint. Although our Bill of Materials lists the two pine boards as a post side (A) and post

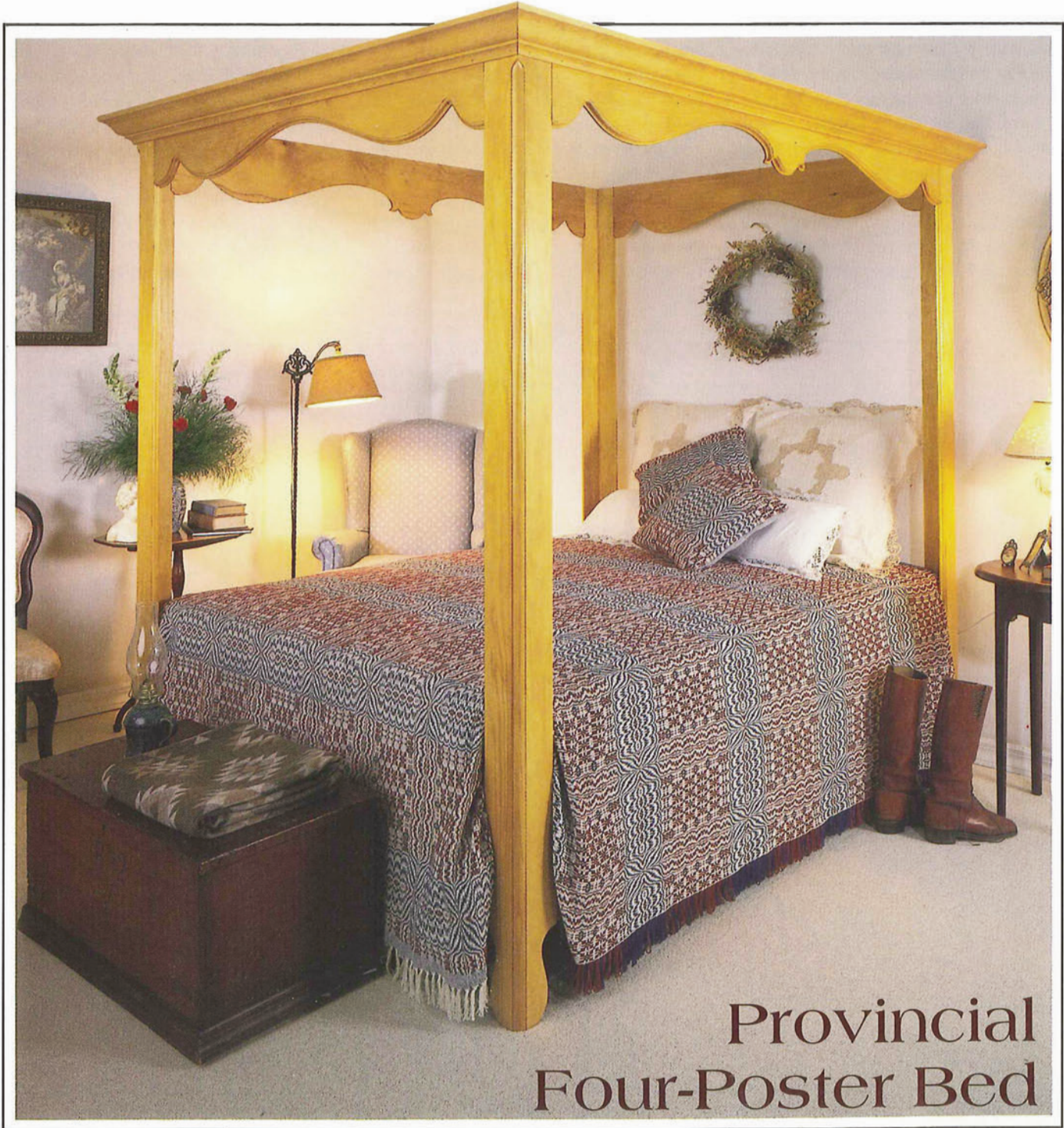
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canopy top, leave a sufficient flat on the posts for mounting hardware, and order an extra set of bed rail fasteners.

Start by making the four posts. As shown in the Corner Detail, each post is actually a right angle formed by two  $\frac{3}{4}$  in. thick pine boards joined with a simple tongue-and-groove joint. Although our Bill of Materials lists the two pine boards as a post side (A) and post

end (B), the orientation isn't important. Once assembled, the joint that's formed won't be easily seen.

To make the post, rip  $\frac{3}{4}$  in. thick pine to  $4\frac{1}{2}$  in. wide for the post sides, and to 4 in. wide for the post ends. Using the table saw and dado head, cut the dado in the post sides and the rabbet in the ends to form the matching tongue. Check your table saw setups on some scrap stock, before committing your project stock. With the tongue-and-groove joint cut, apply glue and clamp securely. Use several 90-degree waxed blocks to keep the parts at a true right angle along their

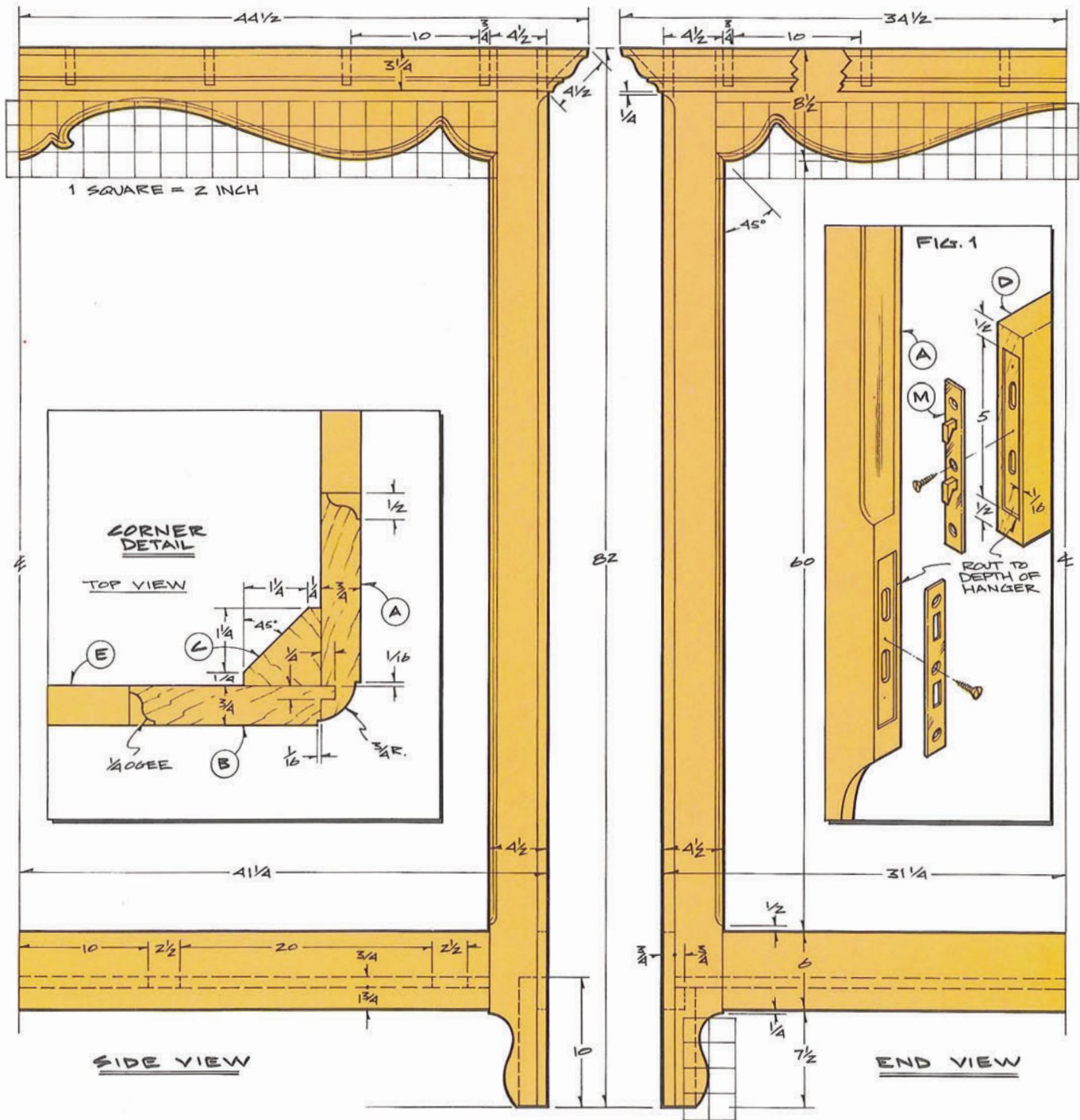
entire length.

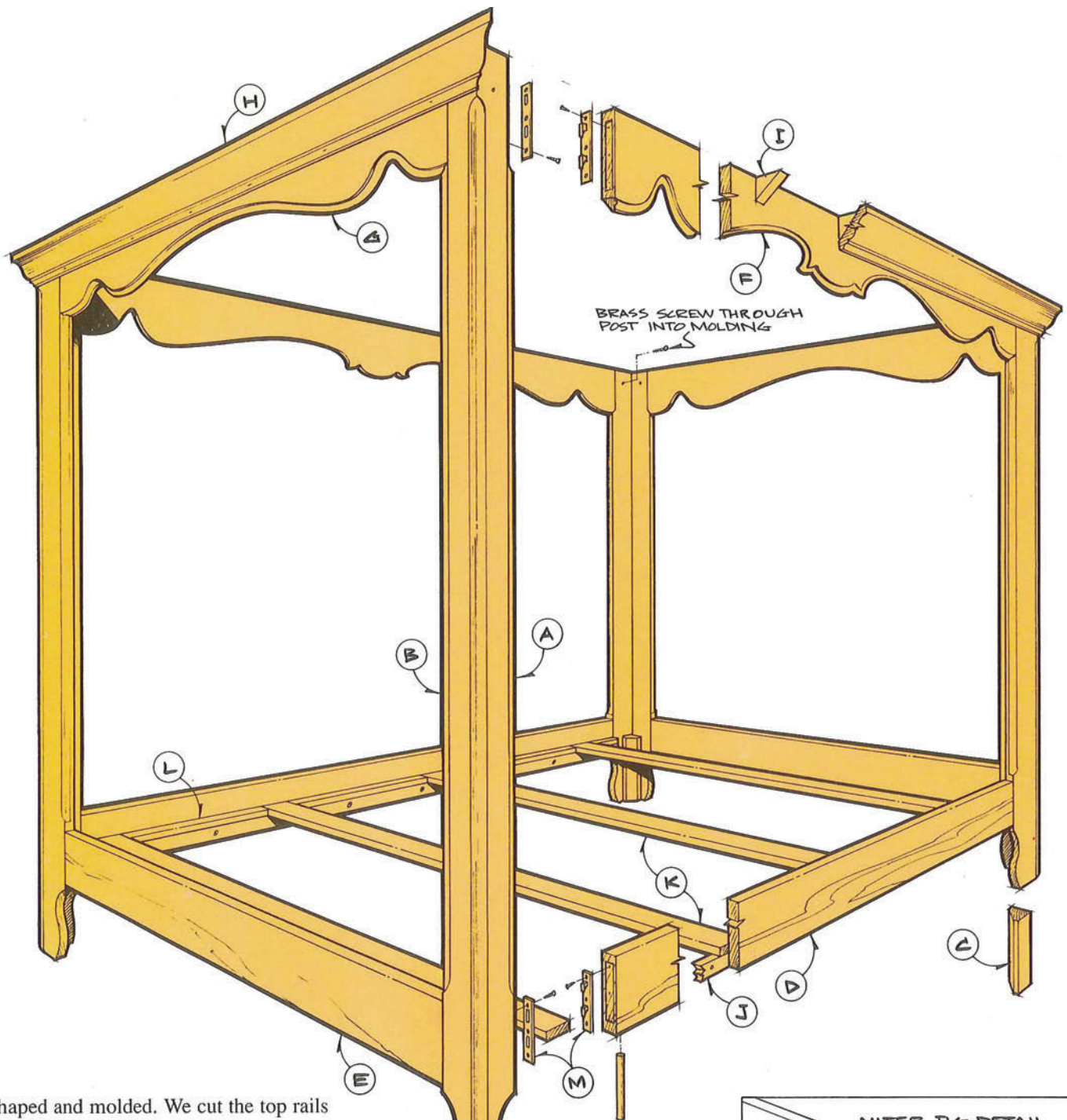
Once the posts are dry, lay out the  $\frac{3}{4}$  in. radius bead on the corner, the ogee on the edges, and the foot profile. As shown on the Corner Detail, the  $\frac{3}{4}$  in. radius bead, once cut, falls  $\frac{1}{16}$  in. past the joint line. Don't worry about this. After the finish is applied, the joint line won't be noticed. Note that the bead is stopped  $3\frac{1}{2}$  in. from the top of the post. The ogee starts 14 in. from the bottom end of the posts and runs to the top. Later, the top portion of the ogee is removed when the post edge is cut back and mitered to fit the top rails. Use the grid pattern

shown on the end view to transfer the foot profile.

For the router work, you'll need a router with a  $\frac{1}{2}$  in. collet capacity. That's because the required  $\frac{3}{4}$  in. radius ball-bearing guided router bit is only available with a  $\frac{1}{2}$  in. shank. Establish the roundover and ogee molded edges, then cut the foot profile with a hand-held jigsaw. Sand to smooth the jigsaw cut on the foot profile, then cut the corner blocks (C) and glue in place.

Next, cut the rail stock to length and width. The bottom rails (D, E) are square edged, but both top rails (F, G) are

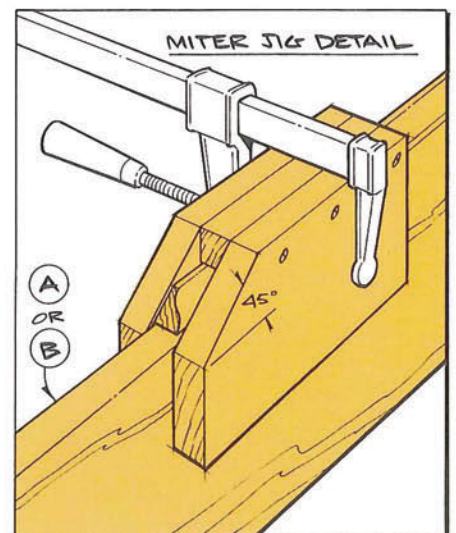




shaped and molded. We cut the top rails to length and width and established the miters where the ogee molded edges meet, before doing the shaping and molding on those rails. Insert  $\frac{3}{8}$  in. diameter by  $5\frac{1}{2}$  in. long dowels into the bottom edge of the bottom rails to anchor the bed hardware screws that would otherwise be fastened wholly in end grain.

There are several approaches to the fussy step of cutting the miters on the top rails and posts. You could make these miters with the table saw, but traditionally miters like this were cut by hand, using a simple shop-made jig (see Miter Jig Detail). The jig is just two

boards with 45-degree angles that are sandwiched around a third board. Clamp the jig to the piece being cut, make a rough cut with a sharp handsaw, then pare to the line with a chisel. The important thing with these miters is to locate them properly. For the miter on the posts, cut back the ogee as required, and establish the miter so it's a little long at first. Then test-fit the top rail. You can



then fine-tune the joint by paring back the miter until the top rail drops down flush with the top end of the post. Don't make the mistake of trying to get it right the first time. Remember, you can always cut back a little more stock, but once the stock is gone, it's a monumental task trying to stretch that board out!

To shape the top rails, transfer the profiles from the grid patterns and cut out with the jigsaw, then use rasps, files and sandpaper to smooth. Smoothing is an important step since the ball-bearing guided ogee bit will follow any bumps or gouges, causing the irregularities to be reproduced in the ogee molding. Take extra care with the router when you reach the miter on the top rails. If you let the bearing follow the miter at the end of the board, you'll round the end and ruin your crisp miter cut. An easy way to avoid this problem is to just guide the router off the end in a straight line. Or you can stop the ogee cut short of the miter and use files and sandpaper to continue the ogee profile to the miter.

With your rails shaped and molded, you'll need to cut the mortises for the bed rail fasteners (M) that hold the rails and posts together. Our bed is all

Bill of Materials (all dimensions actual)			
Part	Description	Size	No. Req'd.
A	Post Side	3/4 x 4 1/2 x 82*	4
B	Post End	3/4 x 4 x 82	4
C	Corner Block	1 1/2 x 1 1/2 x 10	4
D	Bottom Side Rail	3/4 x 6 x 73 1/2	2
E	Bottom End Rail	3/4 x 6 x 53 1/2	2
F	Top Side Rail	3/4 x 8 1/2 x 74 1/2	2
G	Top End Rail	3/4 x 8 1/2 x 54 1/2	2
H	Crown Molding	5/8 x 4 1/2**	28 ft.
I	Molding Block	3/4 x 2 1/2 x 2 1/2	28
J	Cleat	3/4 x 1 3/4 x 73 1/2	2
K	Box Spring Support	3/4 x 2 1/2 x 61	4
L	Filler Strip	3/4 x 3/4	11 ft.
M	Bed Rail Fasteners	5/8 x 5***	16


\* Width dimension before corner shaping.  
 \*\* When buying, specify 4 1/2 in. crown molding. Note that the profile and dimensions of the molding your local lumberyard carries may differ slightly from that shown.  
 \*\*\* Available from Constantine's, 2050 Eastchester Rd., Bronx, NY 10461; tel. (800) 223-8087. Order part no. 96J10. Cost is \$7.25 for a set of four (you'll need four sets). Add \$4.75 for shipping.

knock-down, so every rail-to-post joint uses one of these fasteners, which amounts to 16 in all. With so many mortises to cut, you'll be well advised to build a simple jig (see Working with

Bed Rail Fasteners) for your router or laminate trimmer.

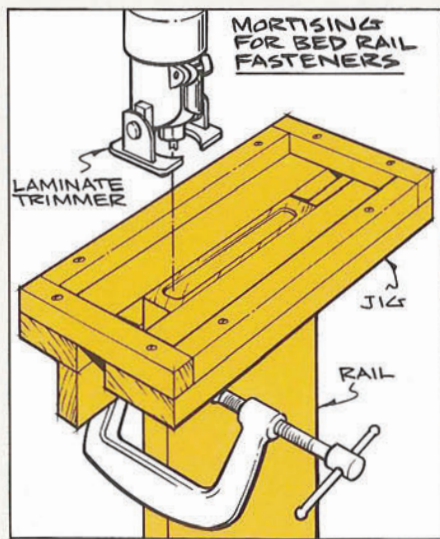
With the fasteners mounted and the bed assembled, add the crown molding (H). Most lumberyards carry a 4 1/2 in. crown molding similar to the profile shown. We glued molding blocks (I) to the crown molding and rails, and then inserted a brass screw through each post side and end to pull the miters up tight. The screws must be removed to disassemble the bed. Strips of wood, temporarily clamped to the top rails and even with the bottom edge of the crown molding, are an easy way to position the molding correctly while you are working on mounting it.

Next, add the cleats (J), box spring supports (K) and filler strips (L). The cleats and filler strips are glued and screwed in place, but the box spring supports just nest in the pockets between the filler strips.

The bed must be disassembled to apply the finish. We used three coats of orange shellac followed by a single coat of McCloskey Heirloom Clear Varnish, Eggshell no. 0032. The orange shellac adds just the right amount of color to the wood, making a stain unnecessary. 

## Working with Bed Rail Fasteners

**B**efore locating for the bed rail fastener mortises, you should take the hardware and see how the parts lock together. Note how the holes in the plate side of the hardware are offset toward the top. This little detail insures that both plates will be on the same plane when in the locked position. On most bed constructions, getting both parts of the hardware on the same plane isn't all that critical, since if you miss by 1/8 in., no one will notice. But that's not the case on the top rail-to-post joints for our bed. If both parts of the fastener aren't close to or exactly on the same plane, you could end up with an unsightly gap at the miters where the ogees meet. To insure a tight miter, cheat the prong side of the hardware (the half that's mounted to the top rails) up just a hair. Also, to avoid a fastener that locks tight before the prongs are fully seated, test-assemble each fastener before mounting. A few taps with the hammer will seat the prongs.



Mortising for bed rail fasteners may seem as easy as drawing a breath, but what looks easy can also be deceptive. We recommend that you use a jig (see Mortising For Bed Rail Fasteners detail) to rout the bed rail fastener mortises. Once located and clamped in place on the respective post or rail, the

jig insures an accurate, foolproof mortise for the fasteners. Given the narrow 1/16 in. lip remaining on either side of the 5/8 in. wide mortise, the jig is pretty much a must. As shown in Fig. 1, the mortises on the posts must also include two deep hollows to accept the two bed rail prongs. The mortises in the rails have two shallower hollows to fit the back of the prongs. Note that on the post mortises for the top fasteners, you'll probably need to clean out the part of the mortise nearest the miter by hand. The miter interferes with indexing the jig to cut the full mortise length.

With the mortises cut, test assemble the top rails by mounting each fastener plate with just a short center screw. That way, if you need to adjust the mortises and move the plate a little higher or lower, you'll still have the top and bottom screws to provide maximum hold. If the center screw hole overlaps the first, the longer screw should still find good hold.

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