FENCING LESSONS

For those who don't buy off the rack.

Homeowners build fences for a lot of different reasons. Some want total backyard privacy while others can live with a partial screen–enough to peek at the neighbors without feeling on display. And then there are the practical types who lean toward chain link for keeping the kids in and the neighbor's dog out. However, you don't need kids, dogs or something to hide to want a fence. The fact is, a well-designed fence is one of the best ways to add personality to your home. If it also defines your space in a useful way–so much the better.

1--Gang together picket blanks and use a circular saw set at 45 degrees to make most of the cuts for the rough picket shape.

Of all the fences you might build, the picket fence is one of the most popular. Depending on how it's detailed, a picket fence is as appropriate in a community of split-levels as it is in the backyard of an urban townhouse. The partial screen of a picket fence adds an element of friendly privacy to the landscape–you're not shutting the world out, you're just organizing it.

Our fence is made up of 1 x 4 pickets screwed to 2 x 4 rails. While the picket/rail assembly is conventional, our post design has several unique features. First, the posts are boxed--3/4-in.-thick pine encases a pressure-treated 4 x 4 core. Then, instead of full-length 4 x 4s, ours extend from below the frost line to about 20 in. above grade. This stub post negates the effect of excessive twist common in longer lengths of 4 x 4 stock.

The box post design also makes it easy to notch in the rails and completely enclose the rail ends. At the top, our post has a 4 x 4 core block with a pyramid-shaped upper end. Surrounding the block and recessed into it is a sloped collar that seals out the weather. Decorative trim underneath the collar completes the post top.

Ground Work

This fence is designed for a relatively level site. If your site has minor elevation variations, plan for the tops of the pickets and posts and the top rails to be level. Cut the bottoms of the pickets and posts to suit the grade and adjust the bottom rail position accordingly. We preassembled the picket/rail sections in modular lengths of 12 pickets (about 8 ft.) and built shorter, custom sections where necessary. Note that rail lengths change depending on whether the picket/rail assembly is in the middle of a straight run of posts, at a corner or at an end or terminating post.

Carefully lay out the post hole positions and dig the holes below the frost line. Keep the removed soil covered on a tarp or plywood panel until it's time to backfill the holes.

The Pickets And Rails

We used a router to shape the pickets. To reduce the load on the router, first rough out the shape of each picket with straight cuts. Make a template of the rough picket profile as shown in the drawing accompanying this article and use this to mark your work. Gang a number of pickets together, make sure they're aligned and hold them in place with a pipe clamp. Then make the 45 degrees cuts with your circular saw (Photo 1). Use a sabre saw to make final cuts on the sides of the individual pickets (Photo 2).

Build the picket jig shown in the drawing to hold each picket while the final shape is routed. Clamp each picket in the jig and use a 1/2-in. straight bit and 1-in. guide bushing to make the cuts (Photo 3). Use a router table and piloted chamfer bit to shape a 1/8-in. bevel around the top and sides of each picket.

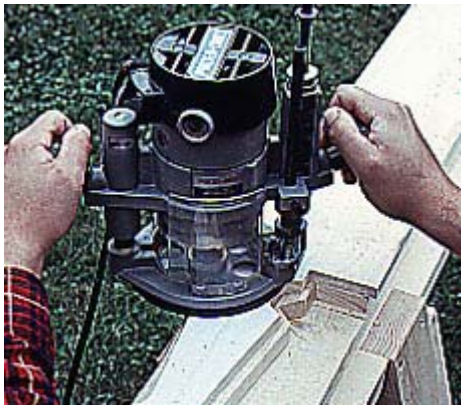
Cut the rails to length based on your plan. Note that the distances from the outer pickets of each section to the rail ends vary depending on the type of post. At an end post the rails extend through the inside of the box. At a corner, the rails of one section run long while the rails of the adjacent section are short and butt against the longer rails. In a continuous run of fence the rails meet at the post centerlines.

Preassemble the rail and picket sections, securing each picket with two screws at each rail (Photo 4). Use a piece of plywood with stops attached to locate the rails. Then use spacer blocks to position the remaining pickets.

The Posts

Rip 1 x 6 pine to 5 in. wide for the wider post faces. Cut two 5-in.-wide pieces and two 1 x 4 pieces to length for each post. Use the chamfer bit and router table to shape the stopped chamfer on

2--Finish the rough picket outline by making the longer side cuts on individual pickets with a sabre saw.



3--Use a router, 1/2-in. bit, 1-in. guide bushing and picket jig to trim the rough pickets to the finished shape.

4--Build an assembly table with stops to position rails. Use spacers to locate pickets and attach with two screws per rail.

the wider pieces as shown. Then, cut the rail notches with a sabre saw. Screw two 1 x 4 pieces to a 5-in. piece to make three-sided posts (Photo 5). Bore angled screw pilot holes so the screwheads miss the chamfers. Countersink the holes slightly.

Cut the top 4 x 4 blocks to length and shape the ends with a miter saw (Photo 6). We used cedar for the top blocks as it was dry and dimensionally stable. If you use pressure-treated stock, you may need to trim the 4 x 4s with a power plane or hand plane so the blocks fit the 3 1/2-in.-sq. box openings. Build a jig to rout the recess around each block as shown. Attach each top block to a post with screws driven through on two adjacent sides (Photo 7).

5--Assemble three-sided post boxes. Bore screw pilot holes and drive screws at a slight angle so heads miss the post chamfers.

6--Use a power miter box to cut top blocks to size and shape. Set the saw for 23 degrees and trim to centerlines marked on the block end.

7--After routing the recess around each block, install three-sided posts and secure with a screw on two adjacent sides.

Make the collar stock by ripping 5/4 pine to the angle shown. Miter each collar piece to length and assemble three-sided collars with screws and exterior glue. Slide each partial collar in place from the open side of the post, align it and secure one side with screws (Photo 8). Then, add the fourth collar piece on each post and screw the collar to the box sides as shown.

Use an ogee bit to rout the post cap trim in 5/4 pine, miter the trim and install three sides around the box post (Photo 9).

Cut the 4 x 4 core posts to length, check that they will fit in the box cavities and plane the faces if necessary. Place each in its hole and use a line level to locate the notch positions. Cut the notches by making a series of cuts with a circular saw and removing the waste with a chisel (Photo 10). Check that the bottom of each box post will end at the correct height above the ground and trim if necessary. Secure the posts to the 4 x 4 cores with four screws on two adjacent sides.

Installation And Finish

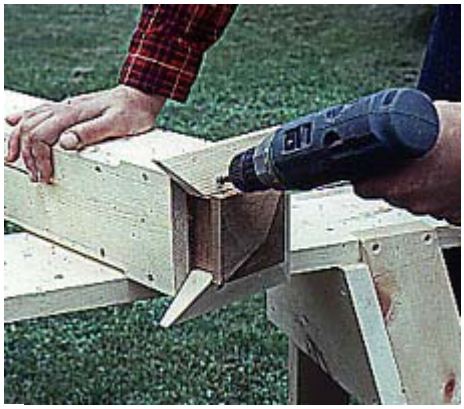
After priming the posts, place them in their holes with the open sides facing the inside of the fence. Then, clamp a picket/rail assembly to each pair of posts. Screw the bottom rail of each section to the notch in the 4 x 4 core post (Photo 11).

Use braces screwed to stakes to hold the posts upright in the holes. Plumb each post and sight down the fence to make sure they're aligned. When you're satisfied, backfill the holes, tamping down the soil after every few shovels.

Install the remaining post sides with screws driven into the existing post boxes, post cores, top blocks and upper rails. Cover all screwheads with exterior-grade wood filler and nail the remaining piece of trim at the top.

Build each gate as a typical fence section, except with end pickets flush with each pair of rail ends. Position the picket tops to create a concave curve as shown and screw them to the rails. Cut a diagonal brace to fit, secure it to the rails with 2-in. No. 12 screws and screw the pickets to the brace.

Apply a bead of paintable silicone caulk to the gap around the post collar and along all mitered seams (Photo 12). Attach the gates with heavy-duty T hinges, using 2-in. screws where the hinge screw holes are over the fence rails (Photo 13). For a double driveway gate, install a cane bolt on one side and attach the second gate to the first with a barrel bolt. Fill and sand all remaining holes. We finished our fence with an acrylic primer followed by semi-gloss acrylic white paint.



8--Slide three-sided collar around block from open side of post. Secure with screws and attach remaining side with glue and screws.

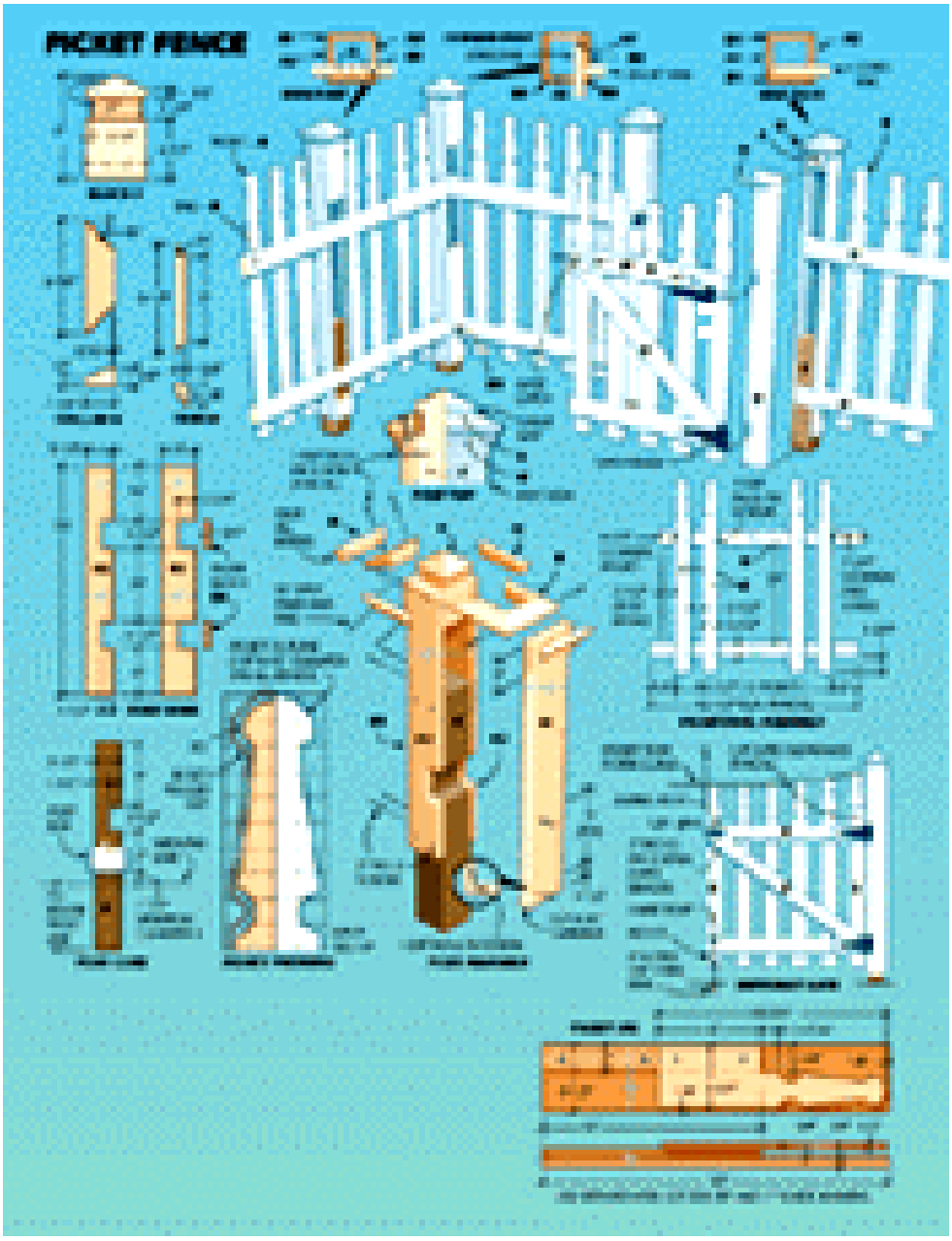
9--Use galvanized finishing nails to secure trim under the post collar around three sides of the box post. Drive two nails per piece.

10--Cut 4 x 4 post notches by making a series of kerfs with a circular saw. Then remove the waste with a sharp chisel.

11--With the posts resting in their holes, install picket/rail assemblies. Screw bottom rails to 4 x 4 posts, then plumb and align fence.

12--Apply a paintable silicone caulk in the gap between the collar and top block. Also, caulk any open joints in trim or box sides.

13--Clamp support sticks to the gate to help align it with the fence. Use 2-in. screws to secure hinges to fence rails.


PICKET FENCE