



# Building a Multipurpose Fence

**This heavy-duty barrier can divide properties, provide storage, and block sound**

by Mark Clement

In my area, outdoor structures—like retaining walls, fences, and even pergolas—are usually the domain of landscaping and fencing companies. As a carpenter and remodeler, I have the skills to build them, of course, but as a business owner, I know I'm usually not even in the conversation for that potential revenue stream. That's because most homeowners assume that landscapers build walls, and that a fence should be installed by a "fence company."

But I think that approach is a missed

opportunity, both for myself and for potential clients. Exhibit A is a vinyl "Tab A, Slot B"-style fence that I recently saw installed around a \$600,000 house. The 6-foot-high panels were set dead level, while the ground sloped away at least 18 inches. As a result, the top of the fence started out 6 feet off the ground, but was close to 8 feet in elevation just a few panels away, leaving a huge gap under the bottom of the fence.

When I'm talking with prospective clients, I mention problems like this and

point out that a fence is more than just a mini-wall that anybody can install.

## Form and Function

In the gentrifying area where I do a lot of work, fences are called on to play many roles. This particular design—and if you've driven Route 95 in the Northeast, you might recognize the inspiration—serves many purposes, from division between properties to vertical storage to sound attenuation. It costs more than a typical post-and-panel system, but it does 10 times more. I think of the design as being the  $\frac{3}{4}$ -ton pickup of fences: Children can use it as a climbing wall, or you can add racks and use it to store ladders, garden tools, or even a wheelbarrow.

This kind of fence relies on a carpenter's eye to get the details right, and on core deck-building skills. I knew, for example, that the 2-bys would wane and create interesting shadow lines, but for a cleaner look, adding vertical 2x6 cleats would keep the boards in plane without degrading the neighbor's view. Another option would be to "saw-tooth" the horizontal 2x6 planks rather than cutting them off evenly, as I did on this project.





**Figure 1.** Installation started with demolition of the existing fence. After separating the panels from the posts, the author sawed the posts off just below grade, rather than try to remove them.

The fence is supported by 10-foot-long, 6-inch-round yellow-pine posts that are pressure-treated for ground contact. Even though they have to be special-ordered (about two weeks lead time from my local lumberyard), they've become increasingly popular in my area for everything from vineyards to backyards. Currently, they cost about \$35 each. The panels are simply stacked PT 2x6x10s that are also rated for ground contact.

### Layout

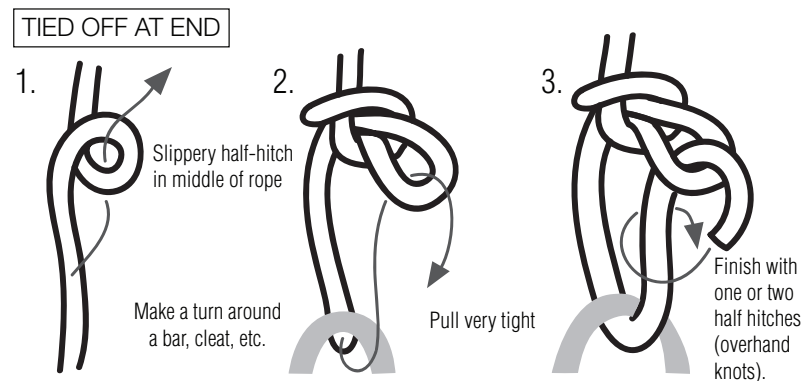
As is often the case, there was a fence in this location before I got started. Even so, it's always good to verify property lines with the homeowner and check on local permit requirements. Here, for example, a fence panel cannot be taller than 3 feet above the ground within one panel of the street (to ensure visibility for anyone pulling out of a driveway nearby).

To keep the job moving, I removed the old fence panels without taking them completely apart. That's not a bad strategy—if you have help. But I work alone, and the panels weren't just heavy, they were also floppy. I could move them, but it was a struggle to drag them into my trailer (**Figure 1**).

Removing the posts completely would have been a fool's errand. Instead, I tweaked the locations of the new posts and sawed off the existing posts below grade with a reciprocating saw. If there were a garden or other landscape feature where the post would have been in the way, I'd have removed the entire post. Otherwise, it just wasn't worth the effort.

**String line.** A fence should be laser-straight; posts that aren't lined up look sloppy and unprofessional. So I prefer to anchor the string line that I use to mark the fence layout with lengths of black gas pipe rather than wooden stakes, because every "sharpened" 2x4 I've ever pounded into the ground has almost immediately moved (when I immediately trip over it). I cut a 4-foot length of pipe in half and put a sharp point on each one with a

### Tying a Trucker's Hitch



A trucker's hitch—which works a little like a block and tackle—is useful for tensioning the string line when you're laying out fence posts.



**Figure 2.** The author hammered pairs of 2x4 stretchers into the ground to temporarily hold the plumbed 6-inch-diameter PT posts in position while pouring concrete around the post bases. The post holes are 36 inches deep, or frost depth.

grinder. Driven in at an angle, the pipes stay stock-still for weeks and are easy to remove at the end of the job. To make my string line super-taut, I cinch it with a knot called a trucker's hitch (see illustration, page 48).

Once the string is set, I locate the holes. On this project, I spaced them 8 feet apart so that I could quickly install the 10-foot-long planks without being too persnickety about layout. In fact, one of the beauties of this system is that the posts don't need to be dead-on accurate. A few inches this way or that along the string line is imperceptible in the finished product. So that I don't lose the hole locations, I mark them with screws stabbed through pieces of caution tape and stuck in the grass.

When the string is in the way—strings are always in the way—I trap it in the dirt temporarily with my scratch awl.

**Holes.** In our claylike topsoil, it takes

me about 15 minutes to dig a 36-inch-deep post hole (and probably another 10 minutes to catch my breath and question my sanity). There were 20 holes on this job.

I don't own a subcompact loader, but even if I did, using one would have been brutal on the landscape. Again, I work in town. There was nowhere on this property that was far away from anywhere else. I couldn't hide track marks and torn-up grass in the distance. I could barely have stored the unit on site. So I chose my three favorite digging tools: a long-handled shovel, a digging bar, and a positive attitude.

Of course, different soil conditions call for different digging strategies, and I always keep a rotary hammer with a 2-inch chipping iron handy for shearing off rocks or breaking up hard-pan. I've used everything from compact loaders with hydraulic augers to electric jackham-

mers, depending on the soil, but most of the holes go down the same way: Use the shovel as a chisel to shear off the sides of the hole (it's a shaft, really), then scoop out the debris.

While code here calls for 36-inch-deep holes because of frost, the soil bearing offered by that depth is at least as important. I want a lot of compacted dirt around the post so that it will hold up against a super cell or a blizzard or a teenager climbing it or anything else. I want it to stay straight for a long time after I'm gone too.

### Posts

Because the posts are milled round, plumbing them while setting them was a snap. I started by pouring half of a 50-pound bag of pea gravel into each hole. Setting the post on a layer of gravel rather than in the dirt provides a pathway for water to drain away from the end grain of the wood instead of pooling around the base of the post. If I cut any posts to length before setting them, I made sure that the uncut end of the post was the one that I set in the hole.

I bridged each hole with 2x4 stretchers, driving them into the ground on either side of the post with a 4-pound hammer (much faster and easier than with a framing hammer). The big hammer was also handy for "nudging" the posts around in their holes as I positioned and plumbed them. After checking for plumb, I fastened the post to the stretchers with a few screws (**Figure 2**).

For each hole, I mixed up an 80-pound bag of Quikrete premixed concrete, setting and pouring one post at a time. When I poured the concrete, I made sure to keep the hose nearby to spray off any spill-over. Then I let the concrete cure overnight before I came back to complete the fence.

### Planks

One of the biggest headaches about fence building is managing the extra dirt. I'd





**Figure 3.** Compacting the soil while backfilling prevents settling around the post and provides it with extra support (top left). The 2x6 PT planks are fastened to the posts with 3-inch-long structural screws (center left). After setting his saw's cutting depth to the thickness of the planks and snapping a line, the author cut them to length in place (bottom left).



rather do lots of things other than go to the dump and pay to throw away good soil. To minimize that, I compact the dirt with my sledgehammer as I refill post holes (**Figure 3**). The sledge eats up the air entrained in the dirt and prevents the soil from settling later. But it's not a fun job; to keep the skin on my hands, I release the handle at the end of each blow and try to let the weight of the sledge do all the work.

I thought the fence planks would look more pleasing if they were level than if they followed the grade of the yard. On this project, ripping a 2x6x10 on the diagonal created a piece with just the right taper, with no waste (each board yielded two tapered pieces).

I like to leave at least a 1½-inch gap between the fence and the ground (the local inspector likes that too). So after fastening one of the ripped, tapered pieces to the bottom of a full 2x6 with a few 3-inch screws driven through the narrow part of the taper, I placed the assembly on 2-by blocks at each post and checked for level. In order to maintain a reasonable gap, I sometimes needed to adjust the blocking at either end. I wanted the planks to be level, but I didn't worry if the plank layout aligned from section to section.

As with a deck, I cut the first three or four planks in each section to length before setting them in place and fastening them to the posts. I ran the remainder of the section wild and cut them off later. Cutting up was significantly easier than cutting down.







### Time-Saving Tips

While I'm far from being a dedicated fence guy, I have a few tricks that saved me a lot of wasted motion on this project.

**Bunks.** I use timber bunks (made from 2x12s; I have three of them) on all my deck sites. At about 16 inches tall, they create a perfect place to put a pile. You could park a dump truck on them. Unlike sawhorses that immediately become top heavy, these are stable.

**Spin move.** On a small job, who cares? On this job, I set about 300 planks, so I wanted to waste as little motion as possible. I found that a spin move—off the pile, spin right, hook the end of the board around the back of the post—was the most efficient motion.

**Shovel.** It seemed to depend on the pile and what was under it, but I used my flat shovel about half the time. Like a dirt-chisel, it was a time and effort saver.

**Smilers.** I needed to do the deck-builder “chisel trick” only once or twice. When a board had a little curve in it, I simply fastened one end of the board so the curve was facing up (like a smile) and used a chisel as a lever on the other end to straighten it, as shown in the photo. —M.C.



**Figure 6.** Because 2x6 PT lumber isn't perfectly flat, it creates interesting shadow lines in the fence. For a smoother surface, vertical cleats could be screwed to the backs of the panels to pull the boards into alignment.

I worked two panels at a time, two planks at a time. I stacked two, then fastened them using #10 by 3-inch Spax HCR-X coated deck screws. On a project like this, I often use screws instead of nails, because it's easier to move around carrying an impact driver than it is dragging an air hose. With no hose to tangle up or get wrapped around a tree branch, and no compressor to put away at the end of the day, screws ended up saving me time and definitely aggravation.

The final step was using a chain saw to cut the posts off at a slight angle so that they were all the same height above each panel top (**Figure 6**). The angle is purely cosmetic; I still coat the cut ends of the posts with preservative, but the only way to truly protect the end grain is to cover it with copper or with a block of wood that has an air gap between it and the post top. ♦

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