

Build a \$25 wine rack

Careful planning is the key to making this great gift project

By Rick Campbell



Photo by Dave Starrett

As a woodworker, I enjoy using my skills to make gifts for loved ones. But in order to make these [gifts](#) fit into my holiday budget, I need to come up with a design that goes beyond the ordinary without breaking the bank. That's the thinking behind the challenge to build a wine rack for [less than \\$25](#).

My first stop was the lumberyard. I was looking for material with warm, rich tones that would complement the old-world design I had in mind. My first choice was South American mahogany; but at \$14 per board foot, a quick calculation determined that I would need to find something much more economical. My lumber dealer suggested African mahogany (often referred to as khaya), and it proved ideal. This wood is very close in appearance to its South American counterpart, but at half the price, the three board feet I needed fit the budget perfectly. (See the cut list plan on page 34 for details on how to get the most from your stock.)

Instructions

Getting Started

After choosing the wood, begin by making the corner posts. I was fortunate to get a full 1" finished thickness out of my khaya plank after planing. If your wood ends up being slightly less than 1" thick after running it through the thickness planer, you don't need to worry; just reduce the dimensions of the posts accordingly.

After cutting all four posts to size, bevel the top edges with a mitre saw or tablesaw blade tilted by 45°. Next, prepare 1/2"-long x 1/2"-deep x 3/8"-wide mortises for the tenons on the ends of the horizontal side rails, and 2"-long mortises for the arched crowns that cradle the wine bottles at the top. While you're at it, cut out the blank for the upper rails and complete 2"-long x 1/4"-deep x 3/8"-wide mortises on the inside faces to receive the ends of the wineglass rack that come later. I used a mortising machine to make my slots, but you can also clear the waste material by drilling a series of connecting holes, followed by some work with a sharp chisel to square up the sides.

Next, cut out blanks for the lower side rails and the crowns. It's easier to prepare tenons on the ends of the crowns now, before cutting the curved shapes. The square surfaces will rest more securely against your tool guides while you work. You may as well prepare the tenons on the ends of the side rails at the same time because the set-up is basically the same. I prefer to nibble material from the tenon cheeks using a tablesaw. A table-mounted router and a straight bit also do a nice job. I like to make my tenons a little on the tight side to start, then fine-tune the fit with a chisel or block plane. After all the tenons are complete, prepare a couple of cardboard templates to lay out the curved profiles for the crowns. I completed the wide arcs using a set of trammel points, and a regular compass for the smaller curved recesses that hold the wine bottles. Cut out the templates and transfer the patterns to the crown blanks, cut the shapes with a bandsaw or scroll saw, then sand all edges smooth.

Wineless Rack

Now is the time to tackle the wineglass rack that spans the top. A precise fit is essential, so don't rely on length measurements given in the materials list for this part. It's best to dry-fit the wine rack parts, then measure the gap between the rails for yourself. Don't forget to add 1/4" to each end for the tenons when you complete your calculations. When you have the measurements you need, cut the wineglass rack to size and prepare tenons on its ends to fit the mortises you prepared earlier.

Mark locations for the four holes that accommodate the wineglass stems. I bored these on the drillpress using a 1 1/4"-diameter spade bit. After this operation, lay out tapered openings that form the mouth of the stem holes. Complete the cuts at the tablesaw with your mitre gauge tilted by 5° to either side of square to form the tapers. Don't forget to stop cutting before the blade reaches the back of the stem holes. Add the wineglass rack to your dry-fitted assembly.

Corkscrew Tray

The storage area for the corkscrew consists of a shallow tray suspended between two long stretchers that hook over the tops of the lower side rails. Cut the stretchers to size and prepare 1/2"-wide x 1/4"-deep dados at the locations indicated in the plans, to receive the tray ends. Next, centre the stretchers on top of the lower rails and mark their notch locations. Create the 1/2"-deep notches on the stretchers by passing the parts on edge over the saw blade to nibble away waste material. As a final touch, I rounded the ends of the stretchers slightly using my stationary sander to remove the sharp corners. Dry-fit the tray sides to determine the interior dimensions for the tray's bottom panel and cut the panel to fit precisely into the opening.

Final Assembly

When you're dealing with smaller projects like this one, it's much easier to sand all parts prior to assembly. While you're at it, use your sandpaper to roundover slightly all the crisp edges on the parts. This step gives the project a softer, aged appearance.

Now, grab your glue bottle and start the final assembly. Begin by clamping the sides of the corkscrew tray together, with the bottom panel in place. Whenever I'm working with darker woods, I use a dark-coloured woodworking glue to help conceal glue lines. After assembling the tray, apply glue to all the mortises and assemble the rest of the wine rack. When the main assembly is dry, spread glue on the stretcher notches and secure the tray to the tops of the lower rails. Now, you're all set to apply the finish of your choice.

For my project, I used a coat of red mahogany gel stain to enhance the natural colour of the wood, followed by three coats of wipe-on polyurethane to provide long-lasting protection.

With the low cost of this project, you can easily make it in multiples for holiday gifts. Your friends and family will think you spent a fortune on the wood and be thankful for the time you spent making a gift by hand.

Tools and Materials

| Part | Material | Size (T x W x L*) | Qty. |
|-------------------|----------|--------------------|------|
| Corner posts | khaya | 1" x 1" x 18" | 4 |
| Side rails | khaya | 1/2" x 2" x 7" | 4 |
| Front/rear crowns | khaya | 1/2" x 3 1/2" x 15 | 2 |
| Wineglass rack | khaya | 1/2" x 2 1/2" x 15 | 1 |
| Tray Stretchers | khaya | 1/2" x 1" x 17" | 2 |
| Tray ends | khaya | 1/2" x 1" x 3 1/2" | 2 |
| Tray bottom | khaya | 1/2" x 3" x 9" | 1 |

* Length indicates grain direction

Plan

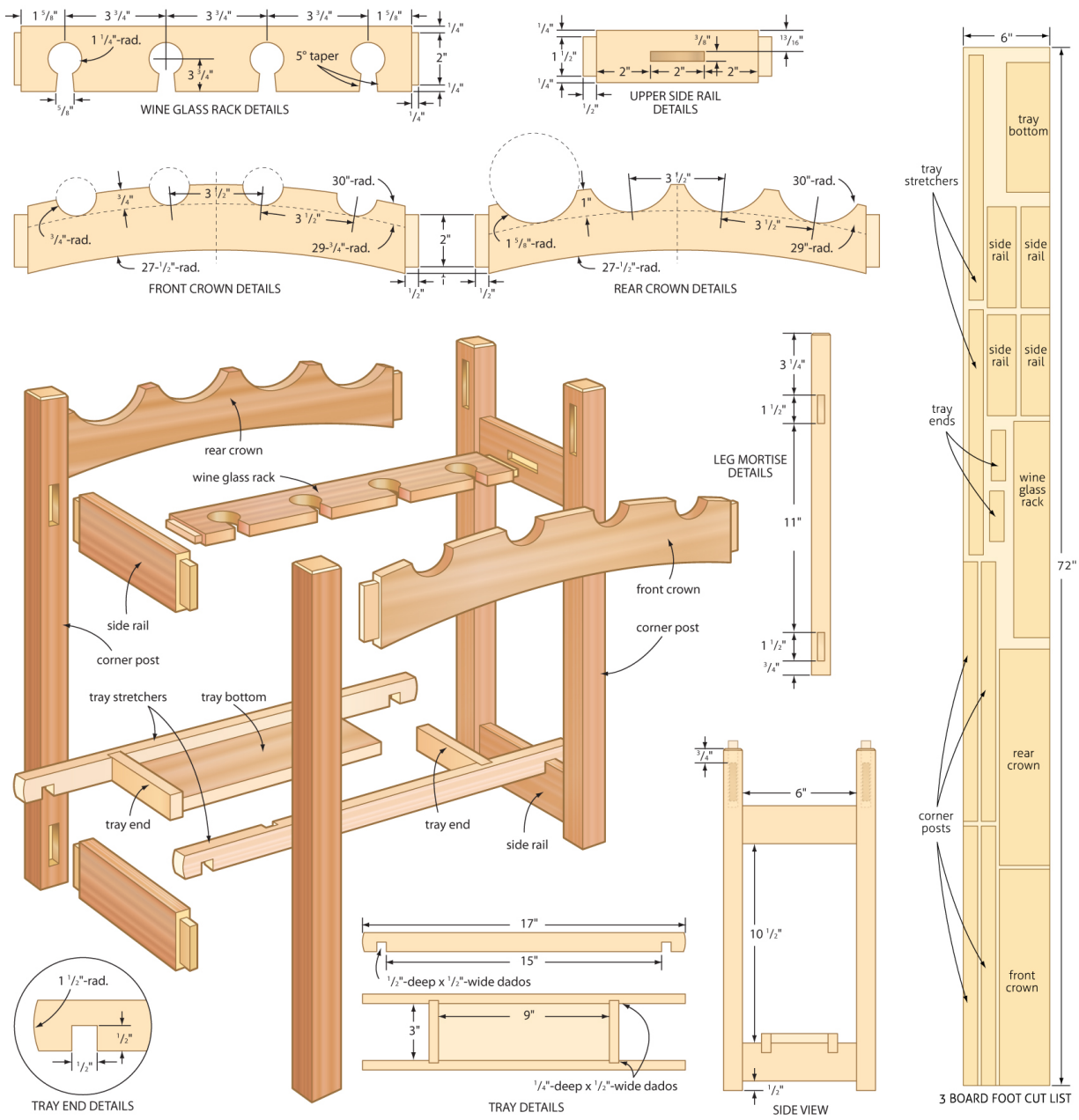


Illustration by Len Churchill