

Entranceway DUO

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hether your home has an entrance hall, an alcove or a mudroom, there's good reason to pay special attention to how this area is equipped. Besides the value of creating good first impressions, there's the practical issue of organization. Besides aesthetics, most entrance areas need to handle a lot of potentially messy stuff.

Without a system to deal with coats, hats and a place to sit down while pulling on shoes and boots, mess definitely reins. The entranceway duo I built for the stone mudroom of my house delivers practical benefit in a style that I don't often see in modern designs. Highlighting solid wood in traditional ways, I aimed to capture a heritage look while also dealing with the large volumes of traffic that flow in and out of my house.

Most of the wood I used for this project was locally cut, air-dried white pine (planed in my shop), plus a small amount of veneered plywood and ready-milled mouldings for the coat rack. More so than with most projects, both these designs require the use of a benchtop thickness planer for best appearance. You could use standard planed lumber, but the results won't look as well proportioned.



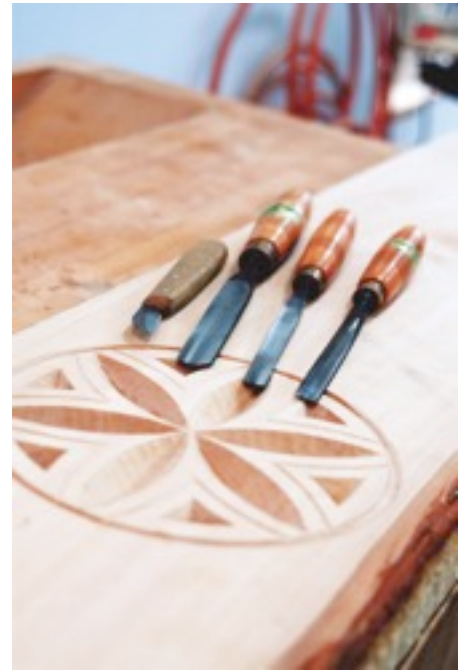


Sit Down for a While

The trestle bench is the simplest project of the two and it uses two joints that deserve more use. The trestle connects with the uprights using tusk tenons – a kind of pinned mortise and tenon – while wedged dowel joints uniting the seat to the uprights.

Begin by rough-cutting wood for the seat, the uprights and the trestle. Edge-glue enough material to create the 11 7/8"-wide parts required, then dress everything down to final length, width and thickness. Wait until later to prepare the dado grooves in the underside of the seat, the ones that connect with the uprights.

The most challenging part of building the bench involves preparing two particular features in the uprights. First, you'll need to make a mortise to accept the tenon on each end of the trestle. You'll also need to prepare a decorative profile on the bottom end of each leg. Both these details are made much easier with a technique called pattern routing. It's a powerful method for quickly and accurately creating precise shapes in wood.



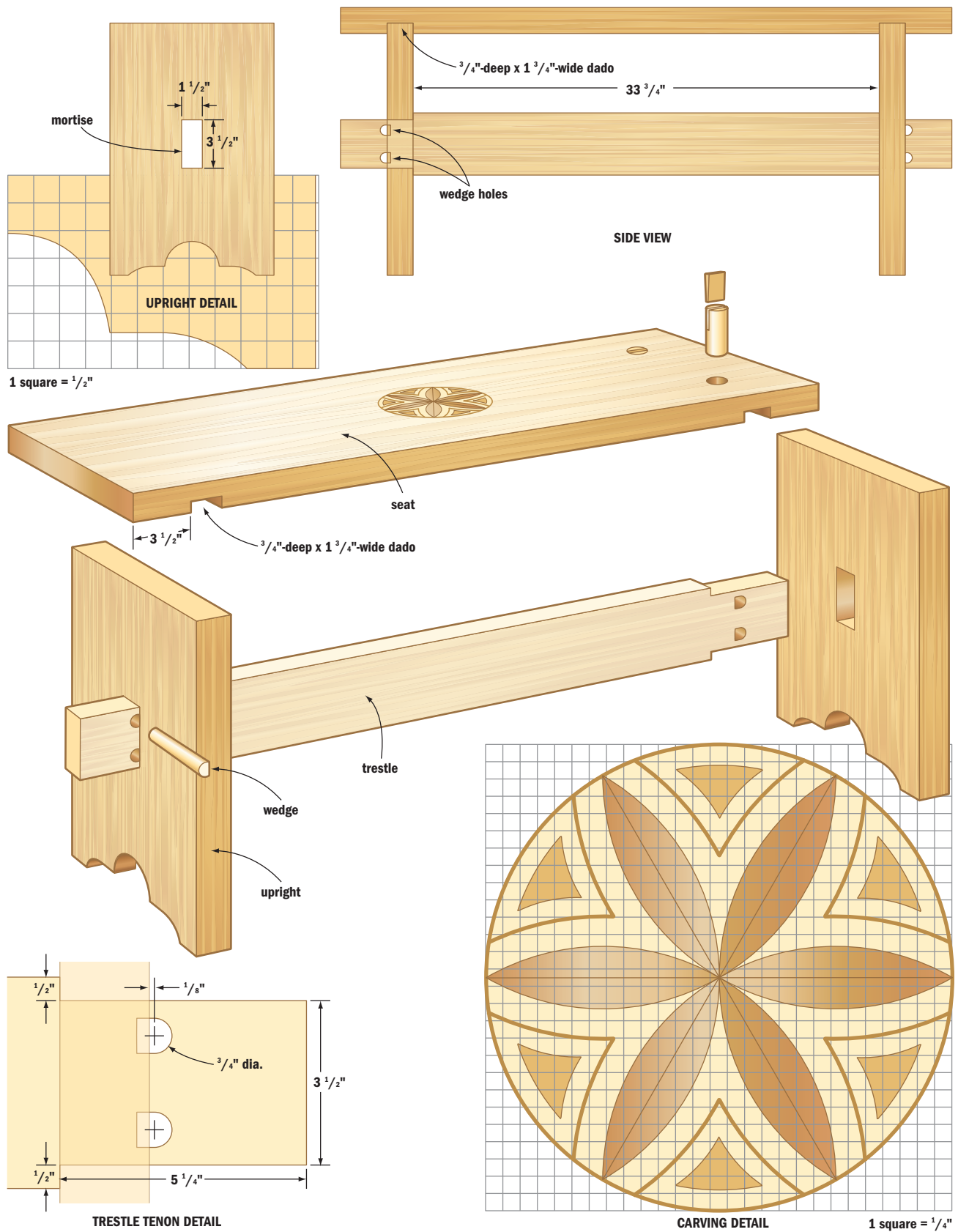
Start by preparing a pattern of the mortise and foot details using a thin and consistent material like 1/4" medium-density fiberboard or hardboard. Download and print a full-size template at www.canadianhomeworkshop.com/templates.

You'll find it easy to make an accurate template out of thin MDF or hardboard for two reasons. Besides the fact that these materials are both a breeze to work with, the thin cross sections of this kind of template stock are much easier to cut accurately into curved shapes than thicker materials.

When your template is done, trace the outline of the foot and the trestle mortise onto your wood. Rough-cut the waste using a jigsaw or scrollsaw (leaving about 1/16" of waste all around the pencil lines), then temporarily fasten the template into position on your upright again using double-sided tape or small finishing nails.



PLANS FOR BENCH



WHAT YOU NEED

BENCH

PART	MATERIAL	SIZE	QTY.
Uprights		1 7/8" x 11 7/8" x 18 1/4"	2
Seat		1 7/8" x 11 7/8" x 44 1/4"	1
Trestle		1 1/2" x 4 1/2" x 44 1/4"	1
Seat dowels	Hardwood	1" diameter x 2 1/2"	4
Trestle pegs	Hardwood	1/2" x 3/4" x 5 1/2"	4

COAT RACK

PART	MATERIAL	SIZE	QTY.
Backboards	Birch-veneered ply	3/4" x 9" x 45 1/8"	2
Backboard side trim		1/2" x 1 7/8" x 5 3/4"	2
Coat pegs	Hard maple	1" diameter x 8 1/2"	5
Inner spacer strips		3/4" x 2 1/2" x 45 1/8"	4***
Top caps 2	Birch-veneered ply	3/4" x 4 1/4" x 46 1/2"	2
Top cap bullnose		1 1/8" x 2" x 72"	1**
Bottom cap		3/4" x 2" x 45 1/8"	1
Bottom cap bullnose		3/4" x 1 1/4" x 72"	1**
Bottom trim		1 1/8" x 2 1/2" x 47 1/2"	1
Middle moulding		1 1/8" x 2 1/4" x 72"	1**
Middle moulding backer strip	Plywood	1/2" X 2 1/4" x 72"	**
Middle moulding bottom strip	Plywood	1/2" x 1" x 72"	1
Crown cove		5/8" x 5/8" x 72"	
Crown cove spacer strip		3/4" x 1 1/2" x 72"	
Wood buttons	Hardwood	1" diameter	

**Cut to length as required

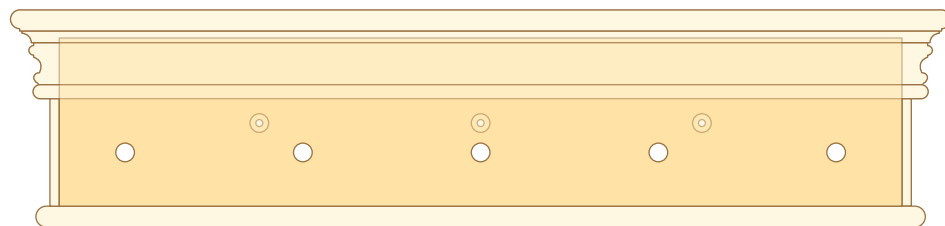
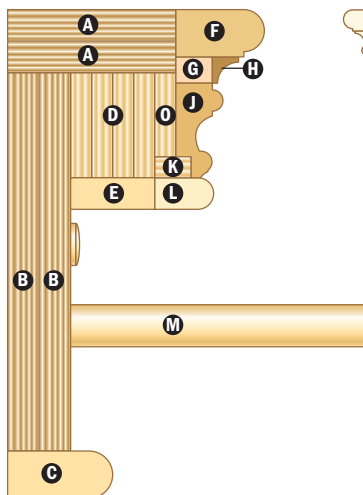
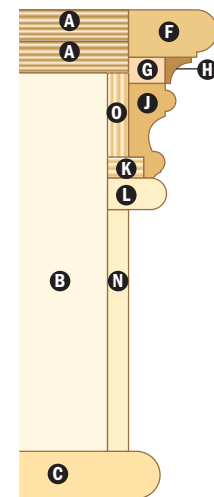
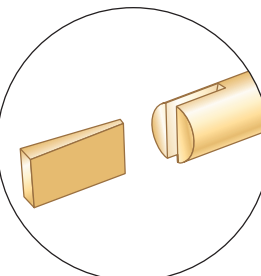
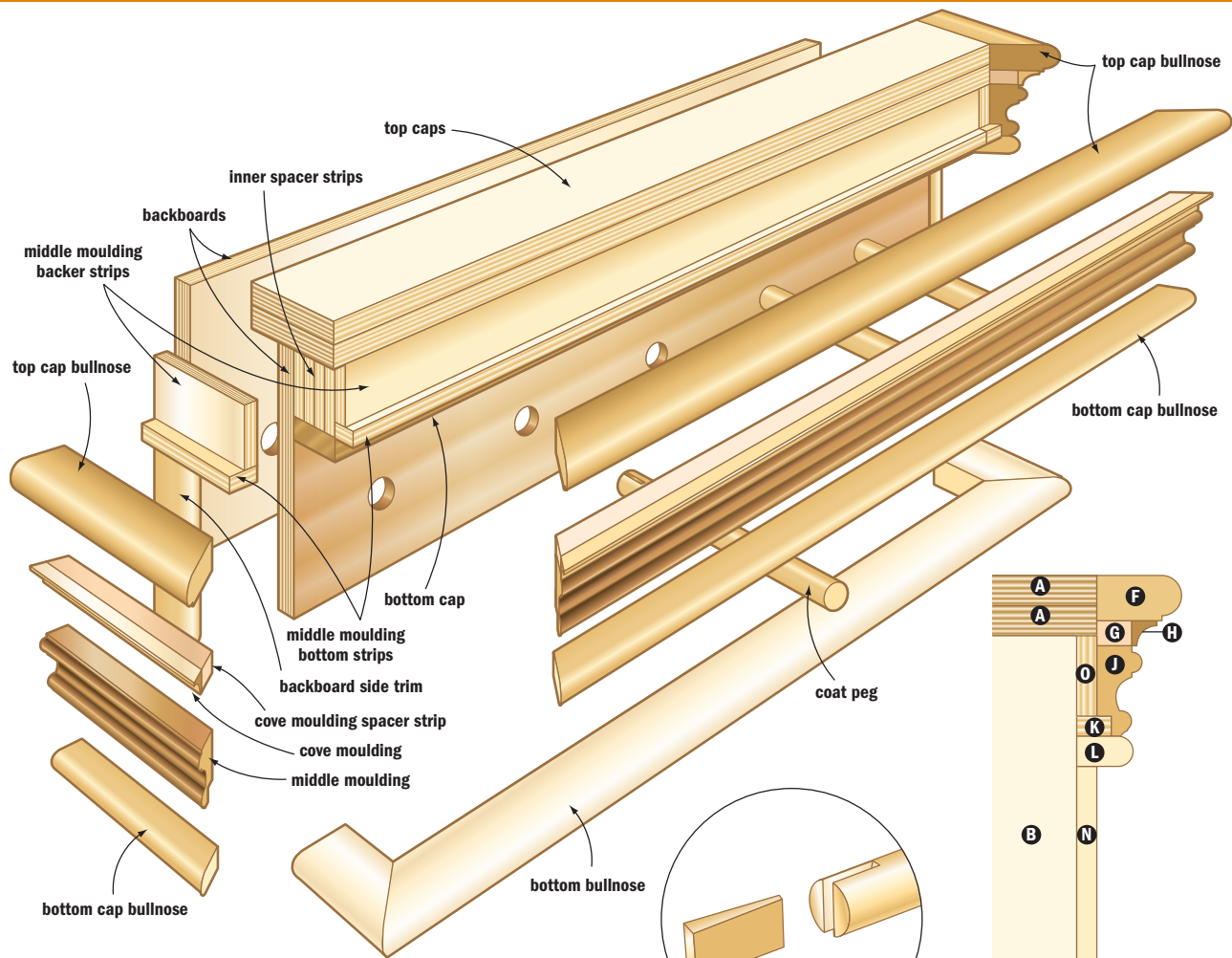
***Adjust overall size to suit your moulding



The first peg-style coat racks I built all had the same flaw. Although they looked solid and substantial on my workbench as I was making them, they seemed to become puny and plain and small on the wall. I eventually came to realize that even a 1 1/2"-thick back board disappears into insignificance without something more substantial to grab your eye. That's where the shelf and mouldings on this shelf come into play.

My design combines a 1 1/2"-thick, birch-veneered plywood backboard and inner spacer strips surrounded by a combination of store-bought mouldings and shop-milled bullnose trim. These work together to support five pegs for storing coats, plus a small shelf for hats, mitts and other items you might want to keep handy by the door. Like the entrance bench, this project works best when you've got access to a thickness planer. As I designed the project, I didn't use my tape measure to decide on part thicknesses, but rather milled everything down to proportions that looked pleasing. You'll also find the thickness planer handy for fine-tuning the size of the various spacers that support the mouldings. More on that later.

PLANS FOR COAT RACK



- A. top caps
- B. backboards
- C. bottom bullnose
- D. inner spacer strips
- E. bottom cap
- F. top cap bullnose
- G. cove moulding spacer strip
- H. cove moulding
- J. middle moulding
- K. middle moulding bottom strip
- L. bottom cap bullnose
- M. coat peg
- N. backboard side trim
- O. middle moulding backer strip



The genius of the template routing process springs from the flush-trimming router bit. There are several different designs, but all have the same essentials in common: a pair of straight cutters coupled with a bearing (or two) that's exactly the same diameter as the bit. Chuck the flush-trim bit in a table-mounted router, adjust the height of the bit so the bearing rides only on the template, then switch ON and push the template/workpiece combination across the router bit. The bearing guides the operation as it rides on the

edge of the template, leaving the cutters to mill away all the waste wood that extends proud of your traced outline. What you're left with is a very smooth surface with perfectly square edges. This is especially valuable when working with wood as thick as the uprights. Besides creating a smooth finished outline, pattern routing also delivers perfectly square edges – something that's surprisingly difficult to accomplish accurately if you're relying on a jigsaw, scrollsaw or bandsaw followed by sanding. Finish up by squaring the rounded inside corners left behind by the router bit within the mortises using a chisel.

Next comes the trestle. To keep things simple, this part only has shoulders on the top and bottom edges – none on the sides. I prepared the shoulders 1/2" high, using multiple cuts across my tablesaw, with the workpiece supported on a crosscutting sled. There should be 33 3/4" between tenon shoulders when you're done. Adjust your blade height so the tenon is 1/16" taller than the height of your mortise, then pare it down with a hand plane and chisels. Aim for a nice, snug fit that comes together without a mallet.

The wedges I used to pin the tusk tenon together are the same kind I've made for a number of projects in my house. Besides being tapered, the wedges also have rounded outer surfaces so they fit just right into holes drilled through the tenons.

Start making the wedges with a piece of hardwood that's 5 1/2" long (along the grain), and about 8" to 10" wide. Round the corners on both edge-grain edges using a 3/8" radius roundover bit in a table-mounted router. Rout one side first, then flip the board over and do the other side, creating a full semi-circular profile (called a 'bullnose') along each edge. Continue by using a random orbit sander to refine the bullnose shape, removing any ridge of wood that might exist where one router pass met another.

Next, use the simple shop-built tablesaw jig to slice off these rounded edges in a tapered, wedge-shaped orientation. Adjust the tablesaw fence to create wedges that are about 1/8"-thick at their thinnest end. Repeat the routing, sanding and tablesawing process to create the rest of the wedges you need. Do you like the look and strength of the tusk tenon joint? Might as well make extra wedges while you're set up for it.

Temporarily assemble the uprights and trestle, then mark the end of the tenon for drilling 3/4" diameter wedge holes. Locate the centre point of these holes 1/8" away from the outer edges of the uprights, then square up the inside edge of the holes with a chisel. See plans for details.

Lock the uprights and trestle together with the wedges, then measure the distance between the uprights at their top end. This is the precise distance you need to establish between the dado grooves in the underside of the seat.

Using your tablesaw, create 3/4"-deep grooves to accommodate the top ends of the uprights. A dado blade speeds up this process, but it's not necessary. You could take multiple crosscutting passes with an ordinary crosscut blade until you've got the kind of groove you need. If your groove is just a tiny bit too tight, that's fine. Rather than trying to widen it with more tablesaw passes, use a hand plane to take a skiff off the uprights so their fit is ideal.

Bring all the parts together for one final dry-fit. Sand and adjust until all is perfect, then bring the parts together for final assembly. Glue and clamp the uprights into the dados in the seat, and tap the pegs into the tusk tenons. No need to glue these. When the glue has dried, bore 1" diameter x 2"-long dowel holes into the seat and uprights. Cut four pieces of dowel to length, then use a handsaw to create a 1"-long slot across the centre of each one. Glue the dowels into the holes, then hammer wooden wedges into the slots, with the wedges oriented perpendicular to the grain of the seat. (These wedges require no routing, but you can cut them with the same jig you used earlier to make the tusk tenon wedges.) When the glue has dried, saw off the excess dowels and wedges, then sand the area flush.

Begin work by laminating two thicknesses of cabinet-grade plywood face-to-face, creating a 1 1/2"-thick slab for the backboard. Make these pieces slightly larger than the dimensions in the materials list, then saw them down to final length and width when the glue has dried. Cut, glue and trim the three inner spacer strips now as a single unit in the same way.

Two sub-assemblies create the top and bottom of the shelf area of the coat rack: the top cap and the bottom cap. I made these out of veneered plywood (to avoid seasonal expansion and contraction problems), with the unsightly edges capped by shop-milled bullnose trim. Prepare these parts now, but be careful. As you sand the joint between the solid wood bullnose trim and the veneered ply parts they're glued to, go easy. Veneers of this sort are often less than 1/64" thick, and if you sand right through, there's no easy way to make the parts look good again.

Before you start fastening the various coat rack parts onto the backboard, bore five 1" diameter holes right through for the coat pegs, and whatever counterbored mounting holes make sense for your situation. The main issue here is that the peg holes be square to the backboard. Even a few degrees of error will make the coat pegs look bad as they splay off in different directions. If you don't have a drill press, rig up some sort of guide block to ensure you bore holes perpendicular with a hand-held drill. Prepare your coat pegs now, too, including a 1 1/4"-long handsaw cut in the back end of each one. This creates a slot for the wedge that locks the pegs in place (just like you completed did for the seat pegs on the bench). Get wedges and pegs ready, but leave them off until later. It will be easier to install mouldings without the pegs in the way.

Next, glue all four inner spacer strips together, then position the group at the top end of the backboard and see whether the height of this group matches the height of your middle moulding and crown cove. Adjust the height of the inner spacer block as needed, then fasten it to the backboard using a bit of glue and some #8 x 2 3/4" screws driven from behind. Next, add the top cap (using glue and clamps only), then the bottom cap in the same way. The space in between these caps is where the middle moulding and crown cove goes, but don't attempt to put them on just yet. You need to do some experiments first.

Store-bought mouldings vary in thickness and width, and that's why you need to fine-tune the thickness of the spacer strips that sit behind these mouldings, supporting them at just the right front-to-back location. This is where a benchtop thickness planer comes in handy again. The plans show the arrangement of spacers I used to fully support the mouldings, but expect to modify the details for your rack. You can use solid wood strips for the spacers, MDF or even plywood. All of these materials can be planed down to a custom thickness using a benchtop planer.

When you've got your spacers fine-tuned, install the middle moulding and the crown cove with mitre joints at the corners. I used both glue and finishing nails here, but be careful. Since the nails are so visually prominent, don't just eyeball nail location. Measure where they go to create a balanced nail appearance. Add the backboard side trim and bottom trim with a bit of glue and a few more well placed nails.

All that remains now is to install the coat pegs with glue, hammer the locking wedges into the grooves you sawed into the back, then trim them flush. To add extra strength to the shelf parts, I plunged #20 biscuits slots across moulding joint lines in the back face of the rack where they won't be seen. Adjust your biscuit joiner to create slots that are deeper than usual for this operation. Make them to accept three-quarters of the width of the biscuits, glue them in place, then sand off the excess biscuits when the glue is dry. Plunged biscuits like these are a fast and very strong way to reinforce unseen joint lines.



Finishing

I finished both these projects in an unusual way because I was after an antique colour without completing a full-blown distressing job. Even though they're indoor projects, I used my favourite outdoor finish because I like the colour so much. Cetol 1 is one of a series of exterior finishing products by Sikken's, and it comes in a handful of colours. For the first coat I applied Cetol 1 in the dark oak colour. After sanding lightly with 240-grit paper to remove any raised grain, I applied the second and third coats – Cetol 1 in the cedar colour. The combination looks great, and of course the occasional splash of water or slush isn't a problem at all.

