Country Coat Rack

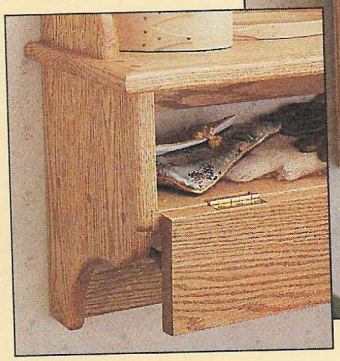
How do you fit a door in an opening?
With this coat rack, it's all in how you mount the hinges.

The only trick to this Country Coat Rack is fitting the door. How do you end up with a uniform gap around each side? I started with the gap at the bottom — it's determined by the depth of the hinge mortises. Then after the bottom gap is established, creating the other gaps is just a matter of cutting the door to size.

HANGING SYSTEM. Another interesting challenge is figuring out how to hang the coat rack. Instead of screwing it directly to the wall, the back is beveled and hangs on a mating cleat, see photo on page 9. It's easy to position but still strong.

FINISH. I built two coat racks, one of oak (shown here) and one of pine (see back cover). The oak one was finished with General Finishes' Two Step Sealacell. To give the pine a rustic look, I added square pegs and painted it with milk paint.

A full-sized pattern for the ends and the back is available, as well as sources for the hardware and finishing supplies, see page 31.



MATERIALS

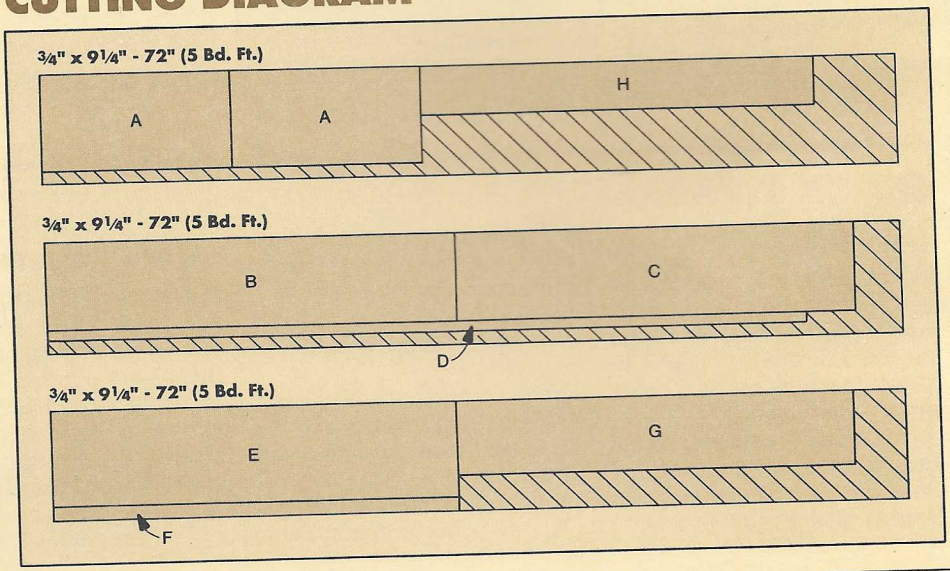
WOOD PARTS

A	Ends (2)	¾ x 8¼ - 16
B	Top Shelf (1)	¾ x 7½ - 34½
C	Bottom Shelf (1)	¾ x 7½ - 33½
D	Molding Strips (1)	¾ x ¾ - 60 rgh.
E	Back (1)	¾ x 7¼ - 33½
F	Hanging Cleat (1)	¾ x 2 - 32
G	Peg Rail (1)	¾ x 6¼ - 33½
H	Door (1)	¾ x 4⅛ - 32⅞

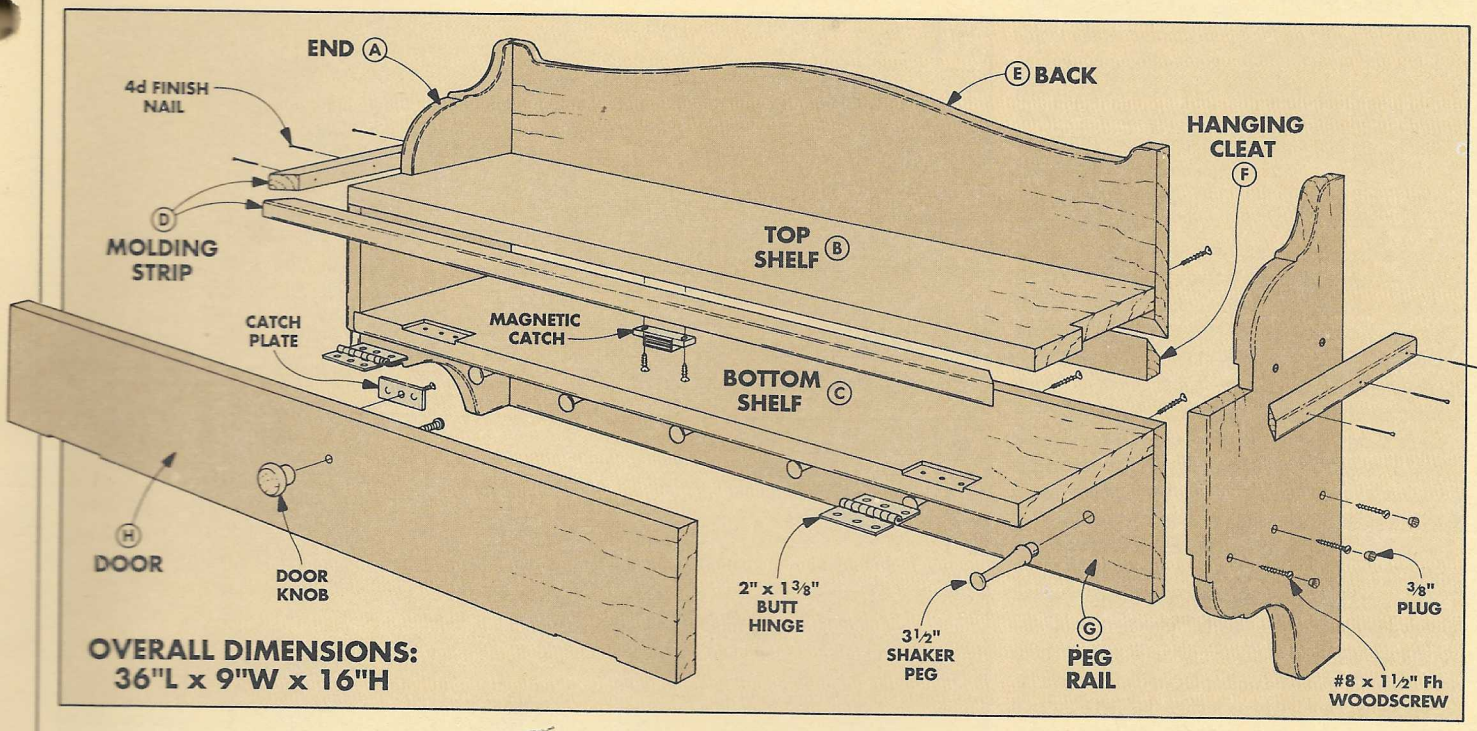
SUPPLIES

- (2) 2" x 1⅜" Hinges
- (1) Magnetic Catch and Plate
- (6) 3½" Shaker Pegs
- (1) 1" Oak Door Knob
- (24) #8 x 1½" Flathead Woodscrews
- (10) ⅜" Oak Flat Top Plugs
- (14) 4d Finish Nails

CUTTING DIAGRAM



EXPLODED VIEW



ENDS

The Country Coat Rack is held together by the **ends (A)**. Start by cutting two end blanks roughly 8½" wide. (Note: If you can't find flat stock this wide, edge-glue a couple of boards together.) Then cut them to a finished length of 16 ", see Fig. 1.

CUT DADOES. The shelves fit into ¼"-deep dadoes cut in the blanks, see Fig. 1b. The width of the dadoes should match the thickness of the stock. Position the first dado 5½" from the *bottom* edge, the second 10½".

CUT RABBETS. After cutting the dadoes, cut the rabbets for the back pieces. Like the dadoes, the rabbets should match the thickness of the the stock. They're cut along the inside back edge of each blank, see Fig. 1a.

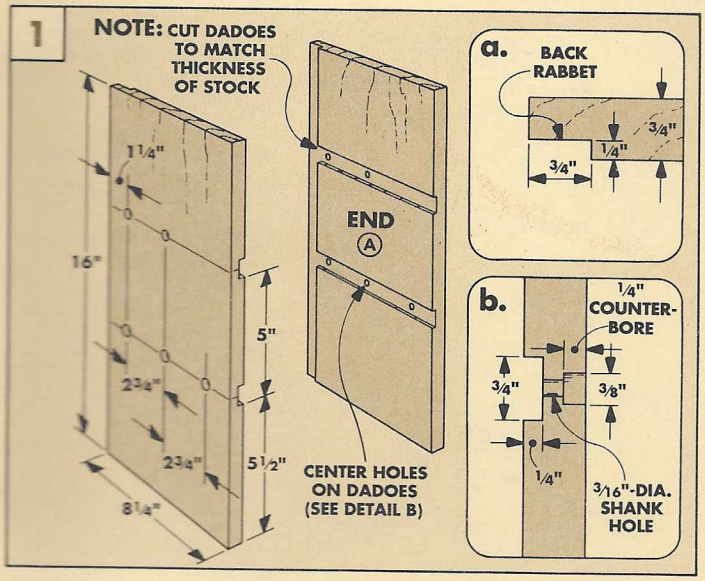
The next step is to cut the end blanks to finished width (8¼"), see Fig. 1. Doing this after cutting the dadoes cleans up any chipout. Just be sure that you trim off the front — not the rabbeted edges.

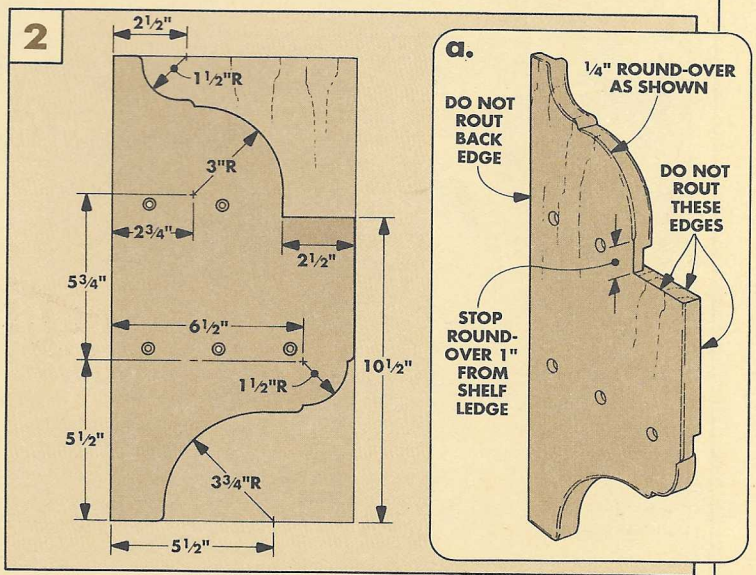
SCREW HOLES. To screw the shelves to the ends, you'll need to drill counterbores. They're centered on the width of each dado, see Fig. 1 and 1b. Then, drill shank holes through each counterbore.

CUT OUT SHAPE. The coat rack gets much of its country appeal from its curved edges. To cut an identical shape on both ends, carpet tape them together (dadoes facing *in*).

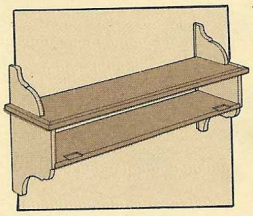
Now lay out the curved pattern on one face of the end pieces and cut just outside the lines, see Fig. 2. Then, to smooth up to the line, I used a drum sander.

ROUND OVER EDGES. To complete the ends, I routed a ¼" round-over on all the edges *except* the back. Note: To prevent any gaps where the shelves meet the ends, don't round over the edges where noted in Fig. 2a.





SHELVES



With the ends complete, I began on the shelves that form the top and bottom of the storage compartment. The top shelf is a little different. It has molding strips along the front and sides, so it looks like it extends *through* the ends.

CUT TO SIZE. To begin, rip the **top shelf (B)** and **bottom shelf (C)** to width. To find the width, measure the length of the lower dado on the ends (A), see Figs. 3 and 4. (Start from the shoulder of the back rabbet.)

Next, cut the bottom shelf (C) to length (33½"), see Fig. 4. Then clamp the shelf between the two ends (A) and measure from the outside face of one end to the outside of the other. This will be the length of the top shelf (C) (34½" in my case), see Fig. 3.

TOP SHELF. With the shelves cut to size, set the bottom shelf aside. The top shelf extends across the front edge of each end, so cut a notch out of the back corners, see Fig. 3. The length of this notch equals the length of the top dado in the ends (A). (Again, measure from the shoulder of the back rabbet.)

At this point, I drilled the pilot holes for the door catch, see Fig. 3. Inset the door catch a distance equal to the thickness of the stock *plus* the catch plate. I attached the plate to the door catch and positioned them ¾" in from the front edge.

BOTTOM SHELF. Next, I went back to the bottom shelf. First, lay out the locations of the mortises for the hinges, see Fig. 4.

I wanted a uniform 1/16" gap around the door. If the hinges were mounted flush with the surface, the gap between the shelf and the door would be about ⅛". So I cut the mortise on the shelf a little deeper — to half the thickness of the hinge barrel, see Fig. 4a.

After the mortises are cut, drill pilot holes for the screws. Then, rout a ¼" round-over on the front bottom edge, see Fig. 4a.

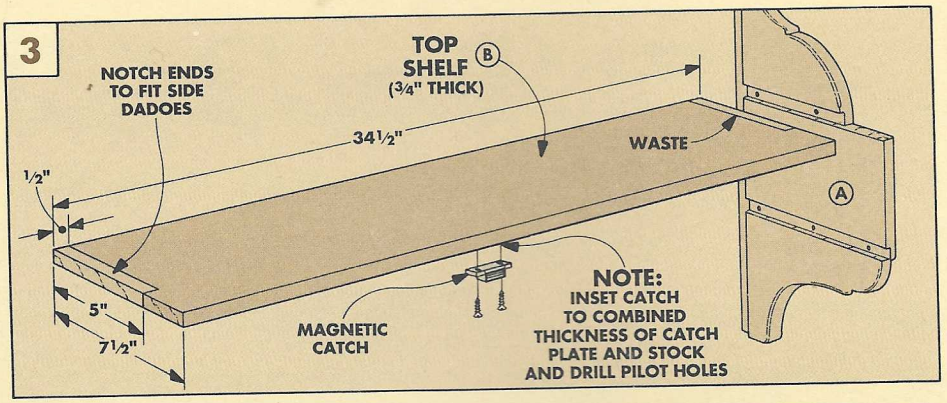
ASSEMBLY. At this point, dry assemble the shelves (B and C) and ends (A), and mark the position of the pilot holes on the shelves, see Fig. 5. After drilling the holes, glue and screw the shelves between the ends.

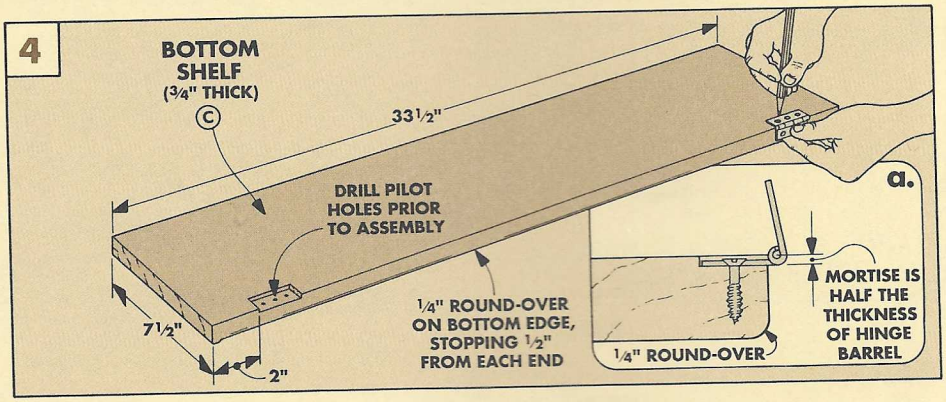
To prevent the top shelf from cupping at the front, I also drilled and screwed the shelf to the ends from the top, see Fig. 5 and 5a. Then I plugged all the screw holes except those covered by the molding strips.

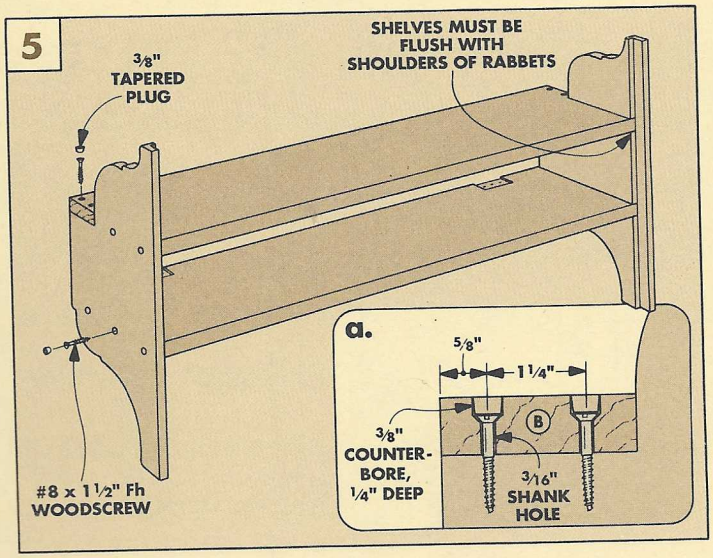
MOLDING. The molding strips cover the edges of the top shelf. (The thicknesses of each should match.) I started by rounding over the front edges of the ¾"-wide molding strips (D), see Fig. 6a. Then I cut one 40"-long strip, plus two 10"-long strips.

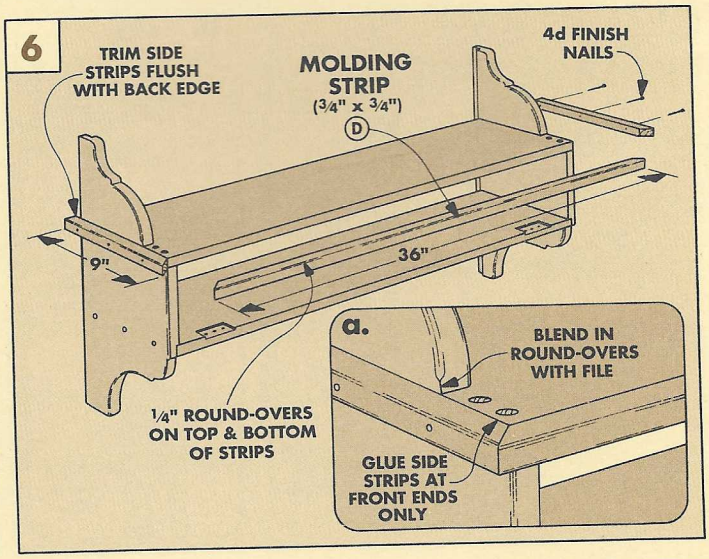
For the molding to fit best at the mitered corners, I cut the front piece first so the distance between the short points equals the length of the top shelf, see Fig. 6.

After the front strip is glued on, miter the other strips to fit on the sides. But only apply glue to the *front* ends of these strips. This allows for expansion and contraction with changes in humidity. Then nail the strips on and set the nails, see Fig. 6.

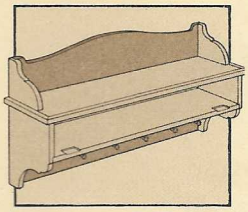








BACKS



The back of the coat rack is different than you might expect. Instead of one wide piece, it has two — a back (E) for the top and a peg rail (G) for the bottom. The gap between the pieces allows the coat rack to hang on a beveled cleat that's secured to the wall, see the box at right.

CUT BACK. The cleat is originally part of the back (E). Start by ripping the piece to a rough width of 9¼". Then cut the back piece to length so it will fit between the rabbets in the ends (A), see Fig. 8. (In my case, 33½" long.) Then, I tilted the table saw blade to 45° and ripped the back to a width of 7¼". Keep the waste piece. It will be used later as the hanging cleat (F).

CUT CURVE. The next step is to lay out the curve on the *back* side of the back (E), see Figs. 7 and 8. Mark the centerline on the workpiece and transfer the half-pattern to it. Then flip the pattern over and transfer it to the other half of the workpiece. Now, with a band saw or sabre saw, cut out the curve, staying 1/16" from the line. Finally, I used a drum sander to smooth up to the line.

CUT PEG RAIL. Now the peg rail (G) is cut to size. To determine the width of this piece, measure from the top edge of the bottom shelf to the bottom of the end pieces (6¼"), see Fig. 11. Like the back (E), it fits between the rabbets (33½" long).

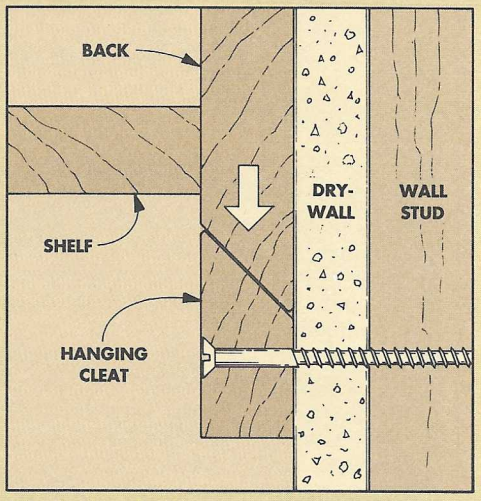
DRILL PEG HOLES. After the peg rail is cut to size, drill holes for the Shaker pegs, see Fig. 9. These holes are centered on a line drawn 2¾" from the bottom edge. Begin the series of holes with a hole centered 3" from the end. Then drill the remaining five holes at 5½" intervals (center to center).

ROUT ROUND-OVERS. Before attaching both the back and the peg rail, I routed a ¼" round-over along the upper front edge of the back (E), see Fig. 8a. I also routed the lower front edge of the peg rail (G), see Fig. 9. (Note: To prevent any gaps where these pieces fit into the rabbets, stop the round-overs ½" from the end of each piece.)

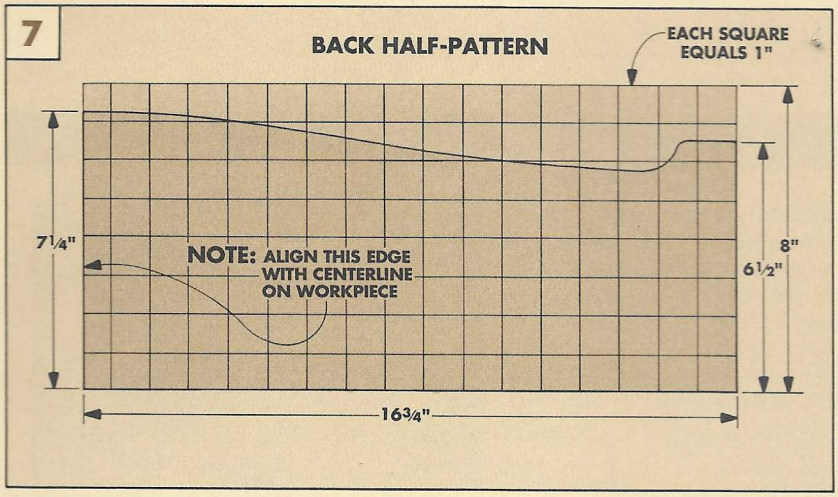
ATTACH BACKS. Now, drill countersunk screw holes through the back and the peg rail and into the shelves, see Fig. 10. Then screw these pieces to the shelves. To hold the back and peg rail in tight, I also nailed them into the rabbets. (Shop Note: To avoid splitting the wood, I drilled pilot holes and used 4d finish nails, angling them slightly.)

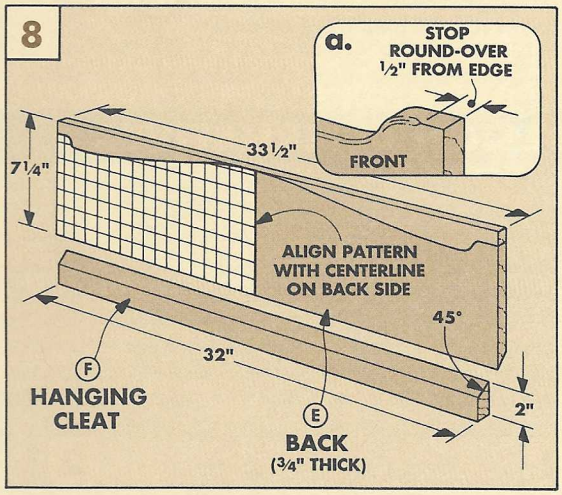
BLEND ROUND-OVERS. Some of the round-overs on the ends (A) and the back pieces (E and G) were stopped short so there wouldn't be gaps at the joints. But now that these pieces are assembled, you can finish rounding them over. Unfortunately, your router won't work in some places, so use a file to blend the round-overs, see Figs. 6a and 10.

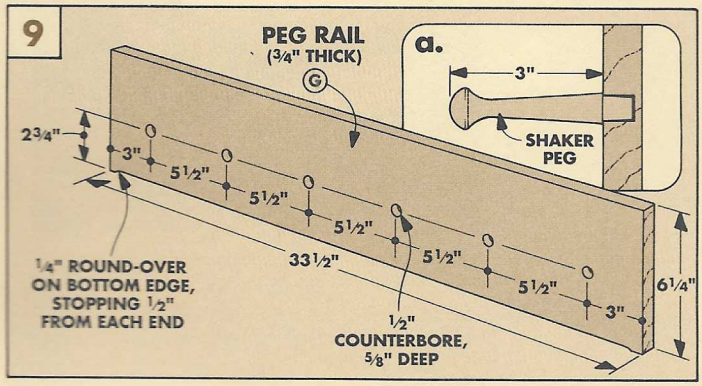
HANGING SYSTEM

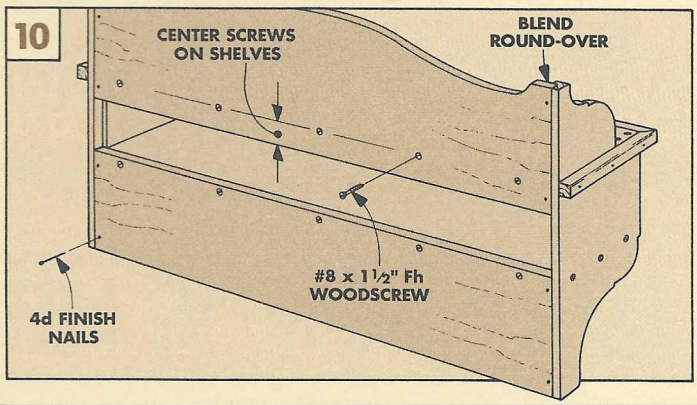


Here's how the hanging system works. A beveled cleat is cut to length so it fits easily into the opening in the back of the coat rack. Then the cleat is screwed to a pair of studs in the wall. After it's finished, the coat rack is hung on the cleat so the mating bevels interlock.

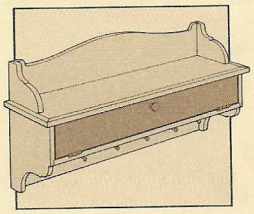








DOOR



All that's left is the door. It should have a consistent gap around each side. To get this, I cut the door to fit tight and trimmed it for an even gap later.

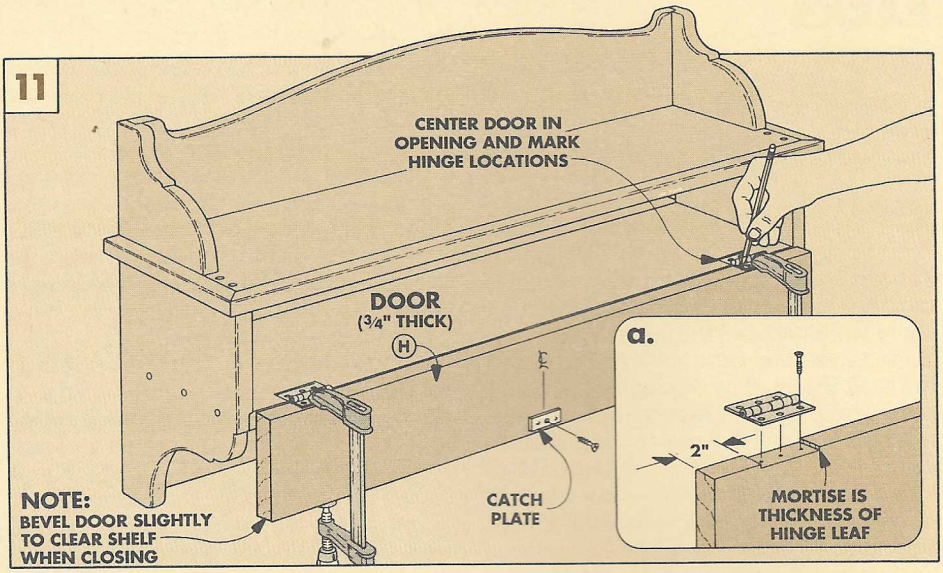
CUT DOOR. Start by measuring the opening and cut the **door (H)** to fit. Then rip it 1/16" narrower than the height of the opening so you can close the door when the hinges are mounted.

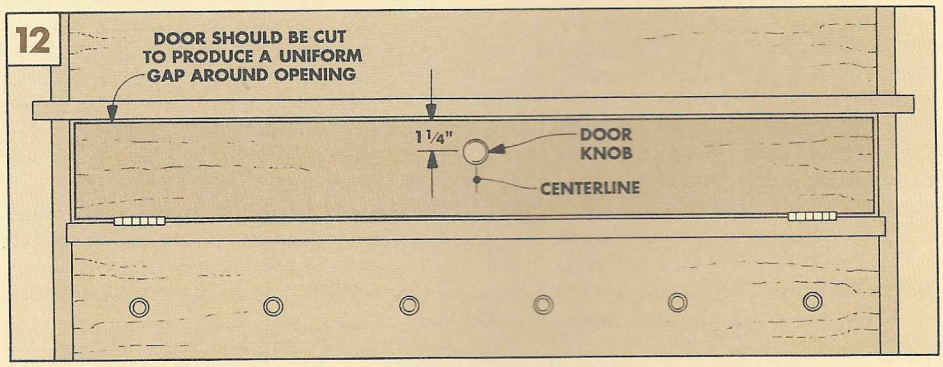
Now, attach the hinges to the bottom shelf with a "stubby" screwdriver. Then, to mark the position of the hinges, clamp them to the door, see Fig. 11. Note: The door should be centered across the opening.

CUT MORTISES. Next, cut the hinge mortises on the edge of the door, see Fig. 11a. Since the mortises in the shelf determined the gap along the bottom, these mortises can be cut to the thickness of the hinge leaf.

TRIM DOOR. After screwing the hinges to the door, measure the gap along the bottom and mark the top and sides so they'll have uniform gaps. Then remove the door and trim the top and sides. I also softened the front edges with sandpaper.

DOOR KNOB AND CATCH. Finally, drill pilot holes for the catch plate and door knob, see Figs. 11 and 12. Then apply finish to the coat rack and mount the hardware.





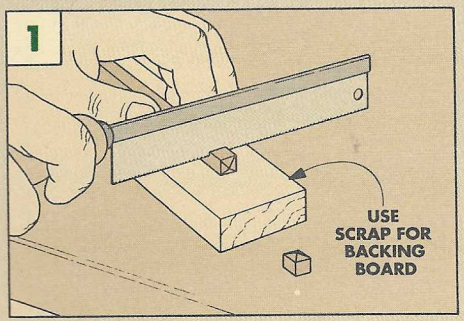
DESIGN ALTERNATIVES

I wanted to add a hundred years or more to the appearance of the Country Coat Rack that I made out of pine. To do this, I finished it a little differently than the oak one.

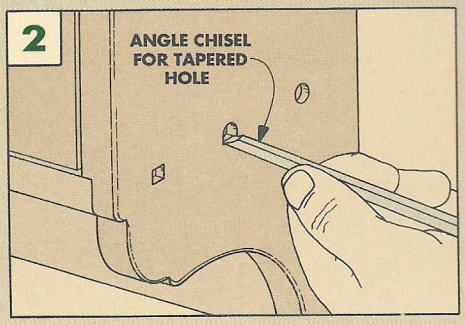
SQUARE PEGS. Instead of round plugs, I covered the screws in the ends and the top with traditional square pegs, see below.

MILK PAINT. Then, to finish the pine, I used what a country craftsman may have used — milk paint. (Note: For information on techniques for applying milk paint, refer to the article in *Woodsmith* No. 80.)

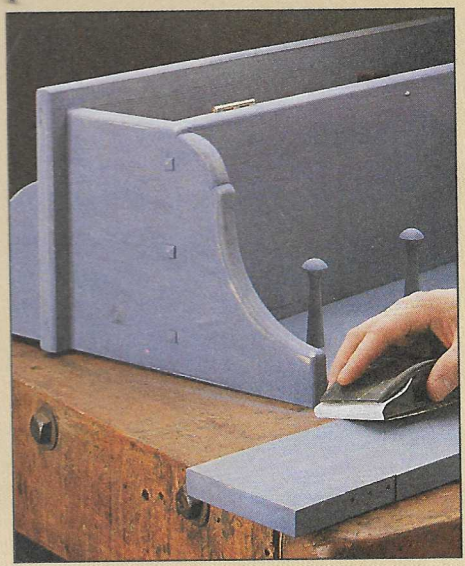
DISTRESSING. Finally, I distressed the wood, see photo at right. Adding dings and scratches can make a project look aged, but do it a little bit at a time — it can be overdone.



To make square pegs, first cut a 3/8"-square piece to a rough length of 18". Then, using a disc sander, shape the end to a slight pyramid and cut the peg about 3/8" long.



Next, square the screw holes with a chisel. The pegs will fit easier if you round their bottom edges with sandpaper. Finally, add glue and tap the pegs in place.



To give the Coat Rack a worn appearance, sand some of the edges after painting, and round the corners that would get the most wear. Then add a few dents and scratches.

Sources

COUNTRY COAT RACK

Woodsmith Project Supplies is offering a hardware and pattern kit for the Country Coat Rack on page 6. (Wood is not included.) We're also offering the full-size patterns and finishes separately, see below.

W86-786-100 Coat Rack Hardware/Pattern Kit..... $10.95

- (1 pair) Hinges, Solid Brass 1⅜" Open Width x 2" Long, with Mounting Screws
- (1) 1" Oak Knob and Screw
- (1) Magnetic Catch and Catch Plate, with Mounting Screws
- (6) Oak Shaker Pegs, 3½" Long, ½"-Dia. Tenon
- (10) ⅜" Flathead Oak Plugs
- (1) Full-Size Patterns of Back and Ends

PATTERNS. We're also offering separately a sheet of full-size patterns for the back and ends of the Country Coat Rack.

W86-8005-221 Country Coat Rack Patterns..... $3.50

SLANT FRONT DESK

Woodsmith Project Supplies is offering a hardware kit for the Slant Front Desk on page 16. (Wood is not included.) The kit includes enough full-size patterns (two views) for all of the ogee bracket feet.

We're also offering the full-size patterns and finishes separately, see next column.

W86-786-200 Slant Front Desk Hardware Kit with Ogee Bracket Feet Patterns..... $87.95

- (1 pair) Solid Brass Hinges, 2" Wide, 3 1/16" Open, with Screws
- (8) Solid Brass Pulls with Screws, 4¼" Overall Width
- (6) Solid Brass Drawer Knobs with Mounting Hardware
- (1) Solid Brass Back Plate for Door, with Escutcheon Pins
- (1) Full-Size, Two-View Patterns of Ogee Bracket Feet.

PATTERNS. We're also offering separately full-size patterns for the ogee bracket feet.

W86-8005-222 Ogee Bracket Foot Patterns..... $3.50

FINISHES

We stained the Coat Rack with Minwax's Golden Oak finish. It's available through retail stores and the catalogs listed below. After it dried we applied two coats of General Finishes Arm-R-Seal Oil (satin). **Woodsmith Project Supplies** is offering the Arm-R-Seal, see next column.

The Slant Front Desk was finished with one coat of General Finishes' Sealacell and four coats of Royal Finish (satin). We used almost two quarts of Royal Finish for the desk.

W86-4003-601 Sealacell Sealer (Clear) ..... $9.95 quart

W86-4003-602 Royal Finish Oil and Urethane Top Coat (Satin)..... $9.95 quart

W86-4003-620 Arm-R-Seal Oil and Urethane Top Coat (Satin) .....$9.95 quart

MILK PAINT. We finished the pine version of the Coat Rack shown on the back cover with Soldier Blue Milk Paint. **Woodsmith Project Supplies** is offering milk paint in a variety of colors. Each 6 oz. bag of powder will mix up a pint of paint.

W86-4001- Milk Paint (6 oz. bags of powder)

342 Bayberry.....$7.95
343 Oyster White.....$7.95
344 Barn Red.....$7.95
345 Soldier Blue.....$7.95
346 Lex. Green.....$7.95

ROUTER BITS

We used a variety of router bits to build the projects in this issue. **Woodsmith Project Supplies** is offering these high-quality, carbide-tipped bits. Order the shank size to fit your router.

W86-1514-643 ½" Straight Bit (¼" shank) $13.95
W86-1512-676 ½" Straight Bit (½" shank) $14.95
W86-1514-814 ¼" Round-Over Bit (¼" shank).....$23.95
W86-1512-823 ¼" Round-Over Bit (½" shank).....$24.95
W86-1514-817 ⅜" Round-Over Bit (¼" shank).....$24.95
W86-1512-826 ⅜" Round-Over Bit (½" shank).....$25.95
W86-1514-550 ½" Dovetail Bit (¼" shank) $15.95
W86-1514-400 ⅜" Rabbeting Bit (¼" shank) $24.95
W86-1512-450 ⅜" Rabbeting Bit (½" shank) $26.95
W86-1514-885 Flush Trim Bit (¼" shank) $15.95
W86-1512-887 Flush Trim Bit (½" shank) $17.95

ROUND-OVER. When making the ogee bracket feet for the Slant Front Desk, we cut an angle off the top edge, and then filed it to a round-over, see pages 27 and 28. Another way of doing this is to use a ¾" round-over bit. (Available in ½" shank only.)

W86-1512-835 ¾" Round-Over Bit (½" shank) $44.95

MORTISING BIT

To cut the slot mortises for the divider between the door support and the top drawer on the Slant Front Desk, we used a mortising bit in the drill press.

W86-1505-647 ¼" Mortising Bit..... $8.95

SHARP TEETH

There are a lot of ways to clean saw blades and router bits. We've heard people use lye, oven cleaners, and a variety of household cleaners and chemicals. We think that the safest and best way to clean blades and bits is to use a "pitch and resin remover" that's designed just for that purpose. They're available from the sources listed below.

ORDER INFORMATION

BY MAIL

To order by mail, use the order form that comes with the current issue. The order form includes information on handling and shipping charges, and sales tax.

If the mail order form is not available, please call the toll free number at the right for more information on specific charges and any applicable sales tax.

BY PHONE

For fastest service use our Toll Free order line. Open Monday through Friday, 7:00 AM to 7:00 PM Central Time.

Before calling, have your VISA, MasterCard, or Discover Card ready.

1-800-444-7527

Note: Prices subject to change after June, 1993.

MAIL ORDER SOURCES

Similar hardware and supplies may be found in the following catalogs. Please call each company for a catalog or information.

Constantine's
800–223–8087
Coat Rack & Desk Hardware, Shaker Pegs, Plugs, Milk Paint, Router Bits

Craftsman Wood Service
800–543–9367
Coat Rack & Desk Hardware, Minwax

Van Dyke's
800–843–3320
Desk Hardware, Plugs, Shaker Pegs, Wood Knobs, Milk Paint

The Old-Fashioned Milk Paint Company
508–448–6336
Milk Paint

Woodcraft
800–225–1153
Shaker Pegs, Plugs, Router & Mortising Bits, Pitch & Resin Remover

Woodworker's Supply
800–645–9292
Shaker Pegs, Plugs, Desk Hardware, Pitch & Resin Remover, Router Bits

Woodworking Unlimited/Shopsmith
800–543–7586
Coat Rack & Desk Hardware, Shaker Pegs, Plugs, Pitch & Resin Remover, Router Bits

The Woodworkers' Store
612–428–3200
Coat Rack & Desk Hardware, Shaker Pegs, Plugs, General Finishes, Minwax, Router Bits, Pitch & Resin Remover