

TALL CHEST

in width to allow it to expand and contract within the frame. Applying glue to the rails and stiles *only*, assemble the door parts for each door and clamp. This allows the panel to float inside the frame *without* glue.

And now for the drawers

Note: See the preceding drawer-construction and installation article for an in-depth look at our drawer-making techniques. Use these methods and the Drawer drawings to build the four small and three large drawers. The sizes for the drawers are listed in the Bill of Materials. For a continuous flow of grain across the side-by-side drawer fronts, see the Cutting Diagram.

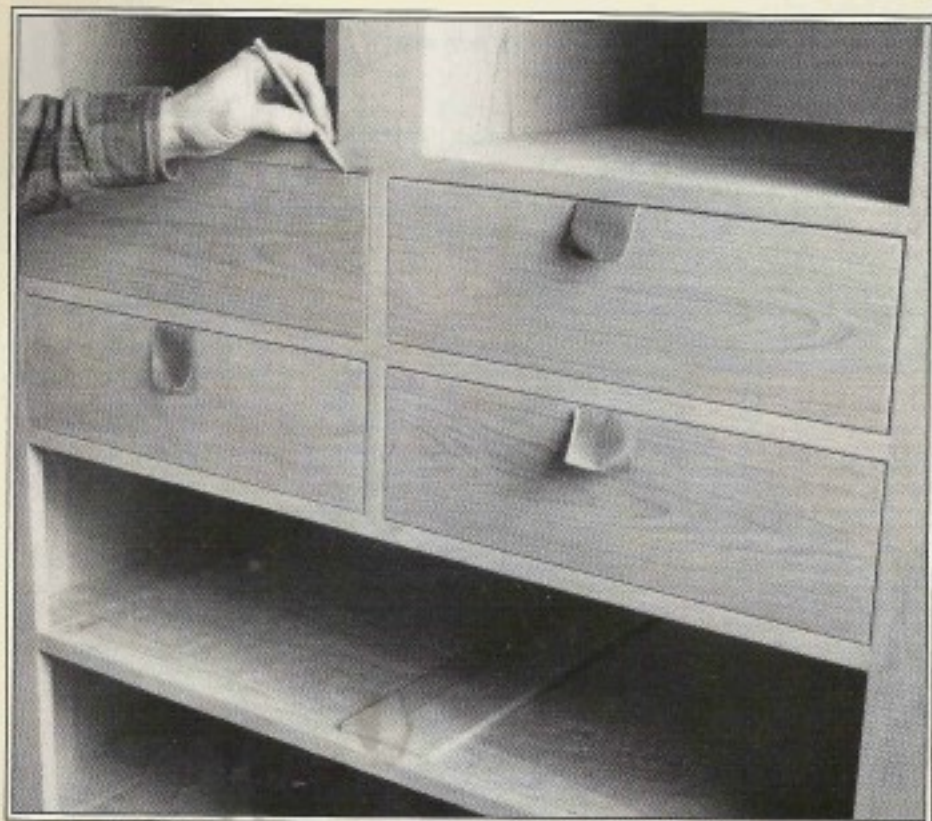
For stability, we used $\frac{1}{2}$ " beech for the drawer sides and back. Cherry or birch would also work.

For smooth action, add the guides and slides

1 Cut the drawer guides (AA) and slides (BB) to size. Sand a slight round-over along the top two edges of each guide.

2 Glue and nail a guide to each of the fixed shelves (B, C), accurately centered between the stiles of each drawer opening. (When attaching the guides, we used a framing square to keep the guides perpendicular with the front edge of the face frame. (To act as handles until the knobs are fastened later, we attached duct tape to the front of each drawer as shown in the photo *above right*.)

3 Find the center of each drawer bottom, and use $\frac{3}{4}$ " #17 brads to toenail the front end of the slides to the drawer front (two brads per front end of each slide). See the Drawer detail for reference. Slide the drawers into the openings, and square the front of the drawer with the face frame. Next, working from the back of the cab-



If the front of a drawer protrudes beyond the face frame, mark the protrusion. Then, plane and sand it flush with the face frame.

inet, mark the locations, and then, glue and brad-nail the back ends of the slides to the drawer bottoms. (We numbered each drawer and corresponding opening for a custom fit of the drawers to the openings and guides.)

4 Reinsert the drawers again, and check that the front faces of the drawers are flush with the face frame. If you find a drawer that is not flush, mark a line along its edges as shown in the photo *above* to indicate the protrusion. Now, plane and sand the drawer front even with the lines. Recheck against the face frame.

Cut and apply the trim

1 Cut one piece of $\frac{3}{4}$ " cherry to 4" wide by 8' long for trim pieces (CC, DD, EE, FF).

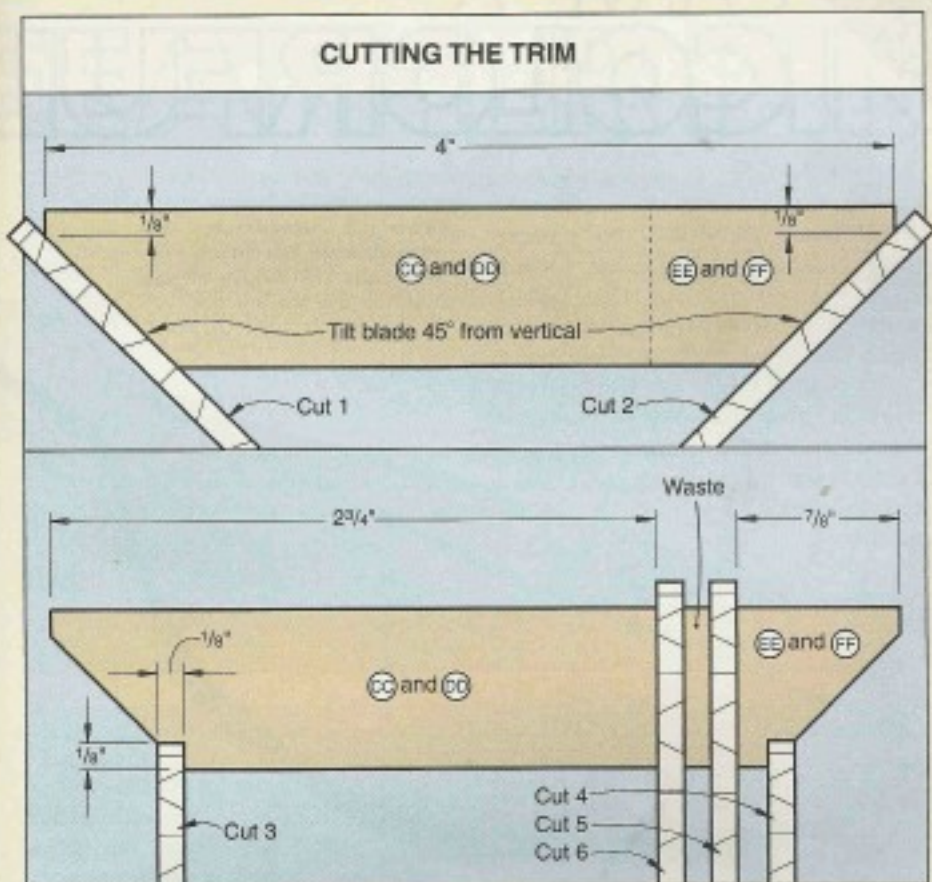
2 Follow the six-cut sequence

shown in the drawing on *page 43* to form the trim pieces.

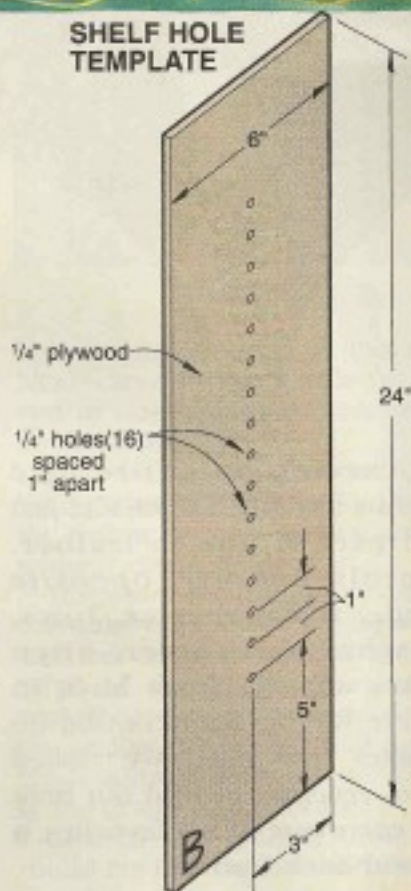
3 Miter-cut the top and bottom front and side trim pieces to lengths required by the actual dimensions of your cabinet's sides and front. Then, mark and cut the notch along the bottom edge of the front trim piece (CC) where dimensioned on the Bottom Trim detail accompanying the Exploded View drawing.

4 Clamp the bottom trim pieces (CC, DD) firmly in place with the mitered ends flush. Glue and clamp the trim pieces to the cabinet and remove the clamps. Attach the top trim pieces (EE, FF).

5 Now, cut the shelf front trim pieces (GG) to size for each shelf. Glue and clamp the trim pieces to the fronts of the shelves (F). Later, sand the shelves smooth.



SHELF HOLE TEMPLATE



Add the shelves, doors, drawers, and finish

1 Make a shelf-hole template like that shown *above right*. Mark a B on the bottom end; this will prevent you from inadvertently flopping it end for end.

2 Using the shelf-hole template and a depth-stop on your drill bit, drill $\frac{1}{4}$ " holes $\frac{3}{8}$ " deep into the sides (A) and divider (D) where shown on the Exploded View.

3 Mark the centerpoints, and drill the holes for the Shaker knobs in the drawers and doors.

4 Mark the centerpoints, and drill the holes for a pair of bullet catches in each door where shown on the Exploded View drawing and the Bullet Catch detail accompanying the Door drawing. Do not insert the catches in the doors just yet.

5 Add the hinges to the doors where shown on the Door drawing. Next, with an equal gap at the top and bottom, fasten the hinged doors to the cabinet.

6 Remove the hinges from the doors and stiles. Sand the cabinet, back, drawers, doors, and adjustable shelves smooth. Add the finish to all parts, including the Shaker knobs, being careful not to get any finish into the holes for the knobs, the tenons on the end of each knob, and in the bullet catch holes.

7 Insert the bullet catches and reattach the doors to the cabinet. Mark the mating bullet-catch strike locations on the face-frame rails (J, L). With the groove in the bullet-catch strike opening toward the front of the cabinet, nail the strikes to the top and bot-

tom rails, centered over or under the protruding ball of each catch when the door is closed.

8 Position the back in the rabbeted opening, and nail it in place. Glue the Shaker knobs in place. Insert the shelf clips and add the adjustable shelves.

Buying Guide

• **Hardware.** 4— $\frac{3}{8} \times \frac{1}{2}$ " bullet catches and strikes (#28464), 2 pair $\frac{3}{4} \times 2\frac{1}{2}$ " no-mortise hinges (#28696), 12— $1\frac{1}{8}$ " diam. cherry Shaker knobs (#78469), 16 shelf clips (#62067-4 sets). Kit no. 80870, \$49.95 ppd. Woodworkers' Store, 21801 Industrial Blvd., Rogers, MN 55374-9514. Or call 612/428-2199 to order. ●

Produced by Marlen Kemmet
Project Design: James R. Downing
Photographs: Wm. Hopkins
Illustrations: Kim Downing

CANDY-STRIPED



TOOLS AND SUPPLIES

Stock

2¼ × 2¼ × 20" turning square for each rolling pin. (For Colorwood, as shown above, see the Buying Guide, opposite page.)

Lathe tools

Spur-type drive center; tail center
1-1¼" skew chisel; ⅜-½" gouge
¾-1¼" roughing gouge
⅜" parting tool

Lathe speeds

Rough turning: 600-900 rpm
Finish turning: 1,200-1,500 rpm
Sanding: 1,200-1,500 rpm
(Speeds near these will work.)

ROLLING PINS

To achieve the striking results shown, we turned our rolling pins from Colorwood, a plywood built with dyed laminations. See the *Buying Guide* to order Colorwood by mail. Of course, you also could laminate your own blank or turn the pins from solid stock.

First, make it round

Draw diagonal lines to locate the center on each end of a $2\frac{1}{4} \times 2\frac{1}{4} \times 20$ " turning square. Mount the square between a spur-type drive center at the headstock and a revolving (live) center at the tailstock.

With your roughing gouge, round the square to 2" diameter. True the cylinder with your skew chisel. Now, decide which of the three rolling pins—straight, straight with ball handles, or tapered—to make first. We suggest starting with the straight one.

Almost done with one!

If you start with the straight French-style rolling pin, you don't have much work left to do. Gauge the turning at several points with calipers to ensure a constant diameter, and lay a straightedge along its axis to check for waviness. A true cylinder makes the best rolling pin.

With your parting tool, cut in $\frac{3}{8}$ " deep 1" from each end of your turning, leaving 18" between the cuts. Turn supporting tenons on the waste ends, and then round over the corner on each end of the rolling pin with your skew. (See the pattern at *right*.)

Sand with progressively finer sandpaper from 100- to 400-grit, using a sanding block to avoid making waves in the surface. Apply clear polyurethane finish.

After the finish dries to the touch, remove the rolling pin from the lathe. When it's ready to handle, saw off the supporting tenons. Sand and finish the ends.

Now, turn the tapered type

For the tapered French rolling pin, mount a turning square on your lathe as above, and then round it down to $1\frac{1}{8}$ ". Establish the $\frac{7}{8}$ " diameter at each end where shown by cutting in with your parting tool $\frac{3}{8}$ " deep $\frac{1}{2}$ " from each end of the turning.

Midway between those marks, cut in $\frac{1}{16}$ " to set the center diameter of $1\frac{1}{2}$ ". Now, using a 1" or $1\frac{1}{4}$ " skew, form a smooth taper toward each end. Avoid bringing the rolling pin to an abrupt peak in the center. Rather, turn a straight-sided cylinder at the center, and then begin the gentle taper down to each end.

Sand, finish, and part the rolling pin from the lathe as above.

Try the one with handles

A straight pin with ball handles completes the set. Start this one by rounding your square down to $1\frac{1}{8}$ " with your roughing gouge and skew chisel.

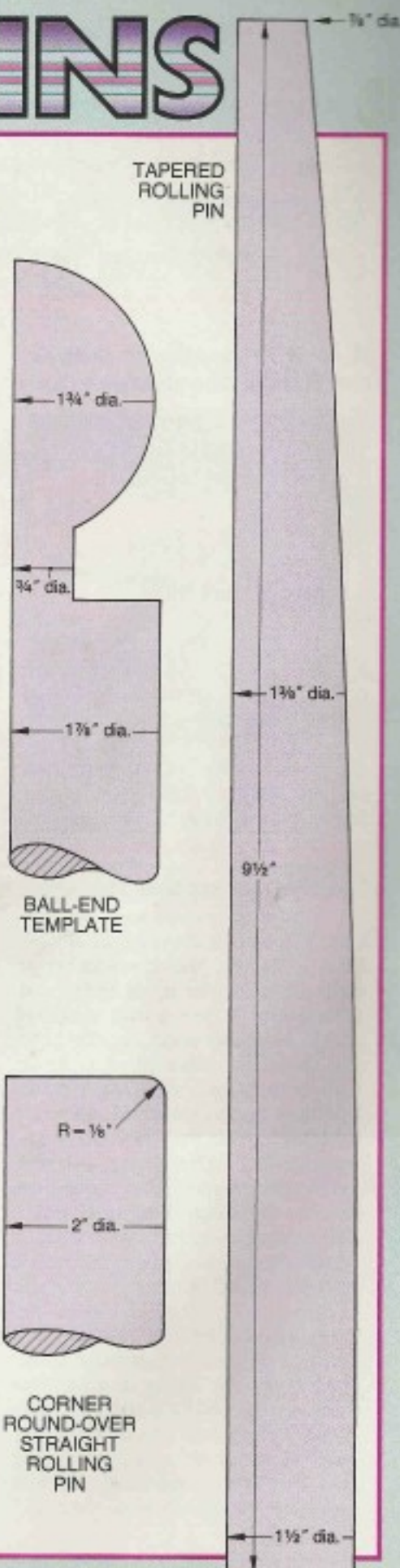
Next, lay out the segments for the handles. With the lathe running at a slow speed, make pencil marks $\frac{1}{2}$ ", $1\frac{3}{8}$ ", $2\frac{1}{4}$ ", and $2\frac{3}{8}$ " from each end of the turning. Between the two innermost marks on each end, cut in $\frac{3}{16}$ " to define the $\frac{3}{4}$ "-diameter handle tenon. At the next mark, cut in $\frac{1}{16}$ " to establish the handle diameter of $1\frac{3}{4}$ ". On the outside of each outer mark, turn to about $\frac{1}{2}$ " diameter with a skew or gouge.

Turn the handles and tenons to the profile shown. Then, sand, finish, and part off as before.

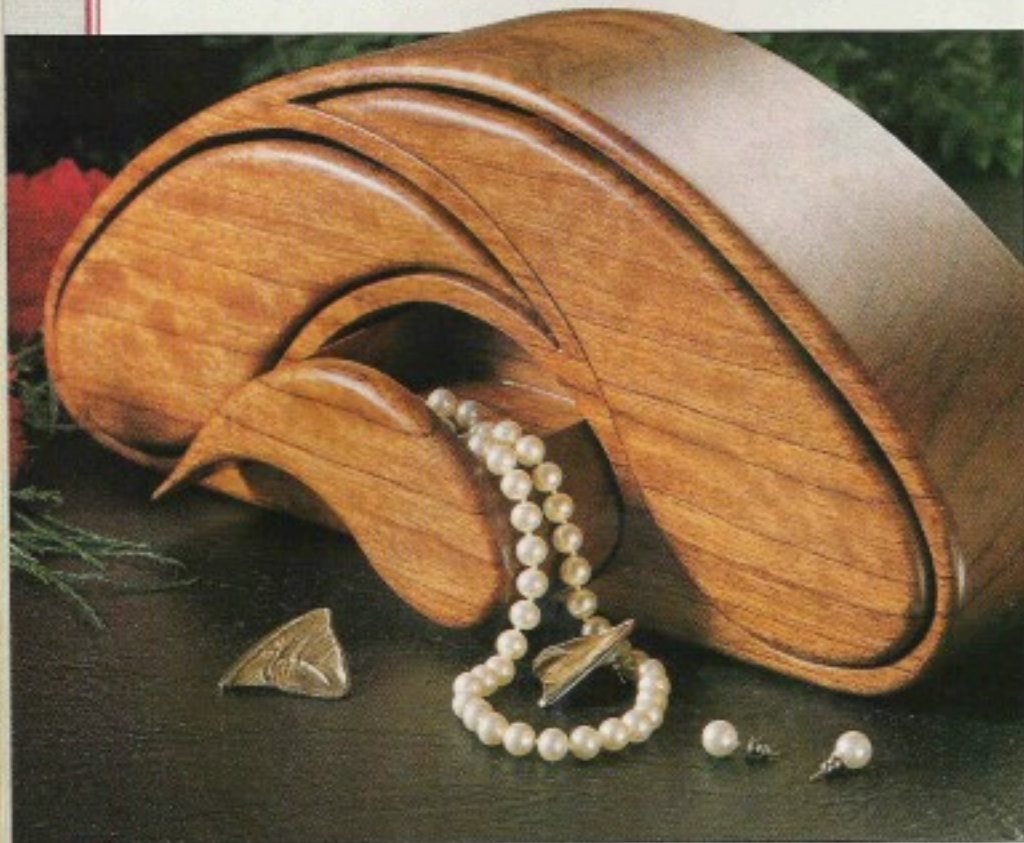
Buying Guide

- **Colorwood turning square.** Multicolored turning square $2\frac{1}{4} \times 2\frac{1}{4} \times 20$ ", \$19, or three for \$40, ppd. in U.S. Pine Hill Crafts, P.O. Box 268, Weston, VT 05161. No telephone orders, please. ♣

Project Design: Marlen Kemmet
Photograph: John Hetherington



DRESSER-TOP DELIGHT



While visiting an arts and crafts gallery in Boulder, Colorado, recently, I came across this beautiful bandsawed box designed and crafted by Jerry Patrasso. Jerry, a full-time woodworker from Boulder, specializes in making jewelry boxes with intriguing curved cuts. Having seen lots of bandsawed boxes, I knew this project, with its teardrop-shaped drawers, would be one you would love to build. Happy bandsawing.

Mark Kemmet
How-To Editor

Note: To start, you'll need a block of wood measuring 4x6x16" to form the box. Since dried wood this thick is quite difficult to find, we used a piece 2x6x32", cross-cut it in half, and laminated the two pieces face-to-face. You can either laminate your own stock to form the block or order 2"-thick stock from our Buying Guide source at the end of the article.

Or, you could also use a photocopy machine with reduction capabilities to reduce the full-sized pattern for a smaller box.

First, add an auxiliary tabletop to your bandsaw

1 Cut a piece of hardboard or 3/4" plywood slightly larger than your bandsaw's tabletop to make an auxiliary tabletop. (We suggest that you do this because some of

the pieces we first cut on our metal bandsaw tabletop caught in the miter-gauge groove, resulting in crooked bandsaw cuts.)

2 With your bandsaw running, feed the hardboard tabletop into the blade until the wood top is centered over the metal tabletop. Shut off the machine, and adhere the hardboard to the metal tabletop with double-faced tape. *Check that the bandsaw blade is 90° to the auxiliary tabletop, and adjust if necessary.*

Now, laminate your stock, and cut the block to shape

1 Joint one edge of a piece of 2x6x32" stock (you'll use this edge as the bottom). Now, plane and sand one face of the 32"-long piece of stock flat.

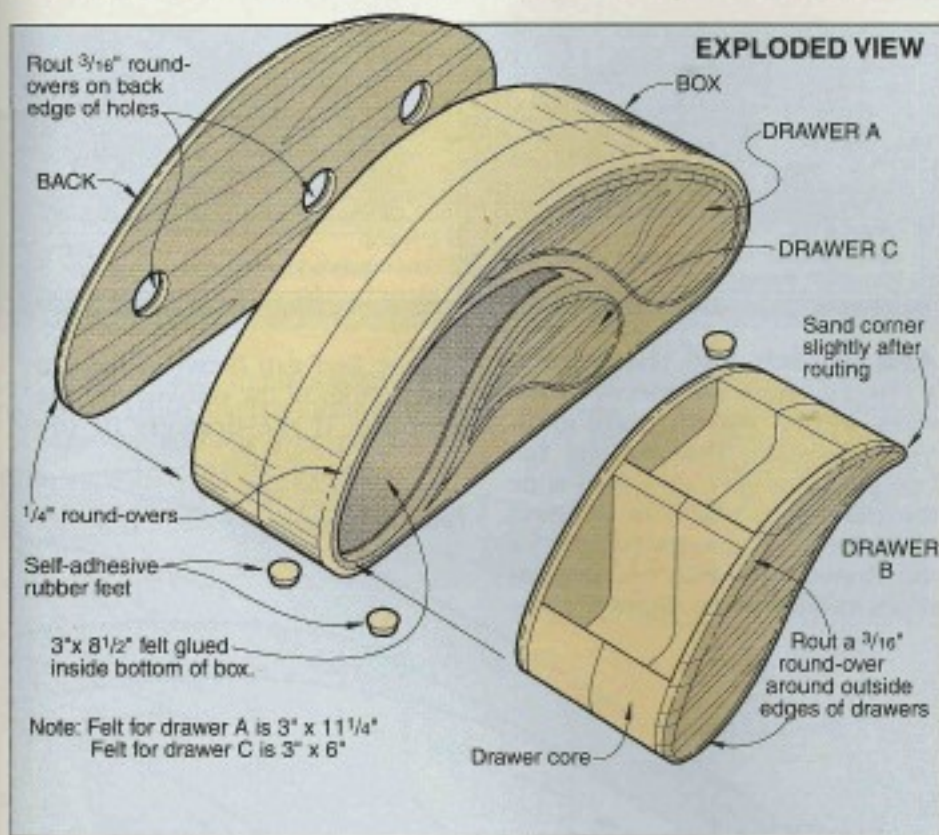
2 Crosscut the block in half.

3 Transfer the full-sized box-front pattern to the front face of one of the 2"-thick by 16"-long pieces. (We used carbon paper to transfer the pattern.)

4 Fit your bandsaw with a 3/4" blade that has 6 teeth per inch (TPI). Now, bandsaw the piece with the marked outline to shape, cutting about 1/8" outside the marked outline. Then, using the cut piece as a template, mark its outline onto the second piece of stock. (Cutting the pieces to rough shape now, enables better clamping-distribution pressure in the next step.)

5 With the planed faces mating and the bottom jointed edges flush, glue and clamp the two bandsawed pieces together, forming a 4"-thick lamination. Let it dry overnight.

A BANDSAWED JEWELRY BOX WITH ALL THE RIGHT CURVES



6 Scrape off the glue squeeze-out. Bandsaw just outside the marked outline to cut the top curved surface of the laminated block to shape. Using a stationary sander or belt sander, sand to the line to remove saw marks and finish shaping the curved surface. Sand the bottom flush if necessary.

7 Use a compass to mark a line $\frac{1}{4}$ " in from the back edge of the block. As shown in Step 1 on the Bandsawing the Box drawing, cut on the inside of the line to slice off the back from the block.

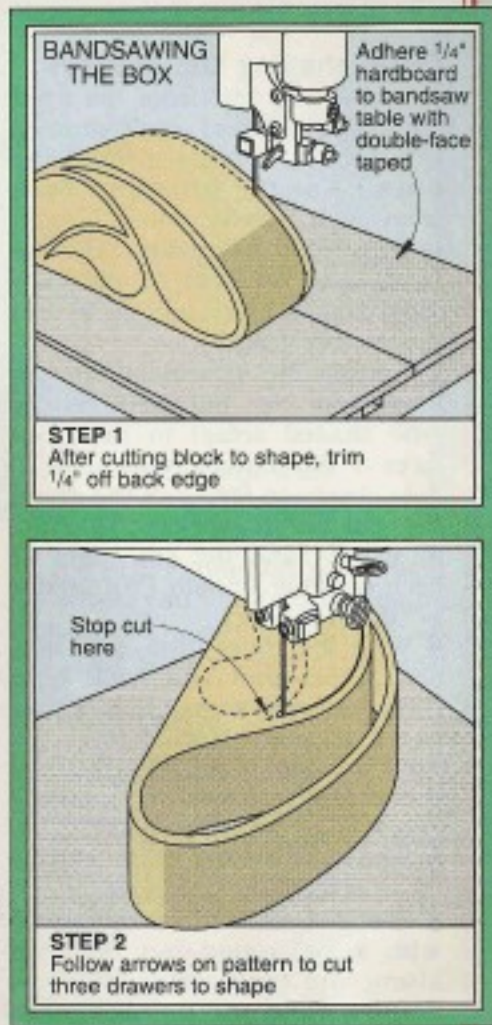
8 Transfer the 1"-hole center-points from the full-sized pattern to the box back. Bore the 1" holes. (We used a Forstner bit.) Rout $\frac{3}{16}$ " round-overs around the perimeter of the 1" holes on the *outside* face of the back piece. Then,

sand the bandsawed surfaces of both pieces smooth.

Bandsaw the drawers and openings

1 Switch to a $\frac{1}{8}$ " 14-TPI bandsaw blade, and cut Drawer A to shape, following the path of Cut 1 on the pattern. After you've completed cutting the drawer, stop the cut where shown on the pattern, and turn the saw off, holding the block still. Carefully work the blade out through the kerf where you started the cut. Remove the drawer from the block.

2 To cut Drawer B, push the non-moving blade through the kerf left by Cut 1 to the start point of Cut 2. Start the saw, and begin Cut 2 where shown on the pattern. Stop Cut 2 at the pointed end of the drawer. See Step 2 of



the multistep drawing for reference. After the blade has stopped, back the blade out the kerf. With the machine still off, back the blade into the entrance kerf for Cut 1, start Cut 3, and finish cutting Drawer B to shape. Stop the machine at the pointed end of the drawer, and back the blade out the kerf of Cut 3. Remove the drawer from the block.

3 To cut Drawer C to shape, make your entrance cut where shown for Cut 4, and exit out the same kerf. Remove the drawer.

4 Inject and spread glue along the mating surfaces at the entrance kerf for Cut 1 and the kerf between Drawers A and B. Glue the kerfs closed. Large spring clamps work best to close the kerfs. Repeat for the kerf used to start Cut 4. Leave clamped overnight.

Continued

Finish shaping the drawers

1 Mark a line $\frac{3}{16}$ " from the front and back edge of each drawer. (We used a compass to mark the lines.) Cut the front and back from each drawer where shown in Step 3 of the drawing. Sand the bandsawed surfaces of the $\frac{3}{16}$ "-thick drawer fronts and backs and the drawer cores.

2 Transfer the drawer-cutout outlines from the full-sized pattern (the shaded areas) to the front faces of the drawer cores.

3 As shown in Step 4 of the drawing, cut the drawer-core interiors to shape. Sand the cut edges of each opening smooth (we used a $\frac{3}{4}$ " drum sander).

4 With the edges flush, glue and clamp the front and back onto each drawer as shown in Step 5 of the drawing. (Notice how we used a scrap block to distribute the pressure across the pointed end.) Wipe off excess glue.

5 Sand each drawer exterior to remove remaining saw marks.

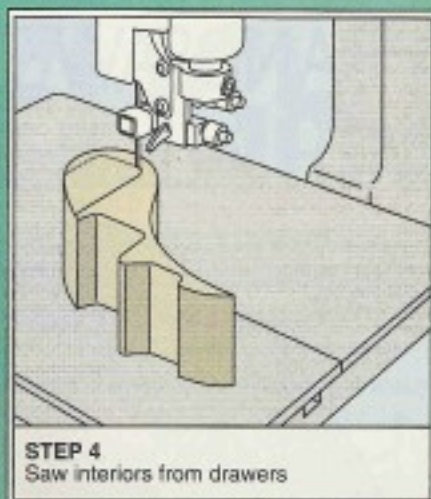
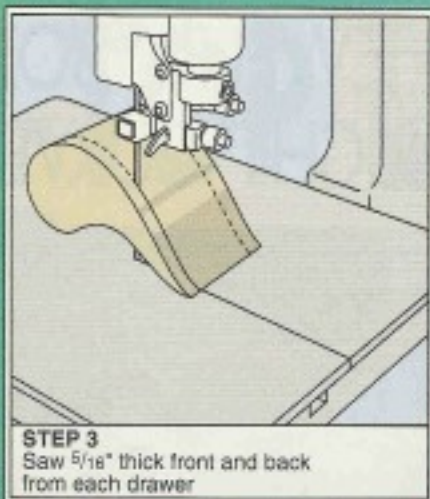
6 Using a table-mounted router with a $\frac{3}{16}$ " round-over bit, rout along the front edge of each drawer. Sand the pointed front corner of each drawer slightly to break the sharp point.

Next, prepare the box for the drawers

1 As shown in Step 6 of the drawing, glue and clamp the $\frac{1}{4}$ " back onto the box core.

2 Mark a line $\frac{1}{4}$ " from the front edge of the box. Bandsaw the front from the box where shown in Step 7 of the drawing. Doing this allows the drawers to protrude $\frac{1}{4}$ " beyond the front of the box. Sand the cut edges smooth.

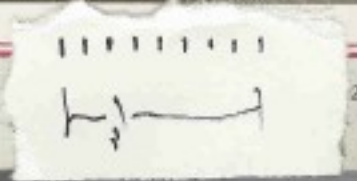
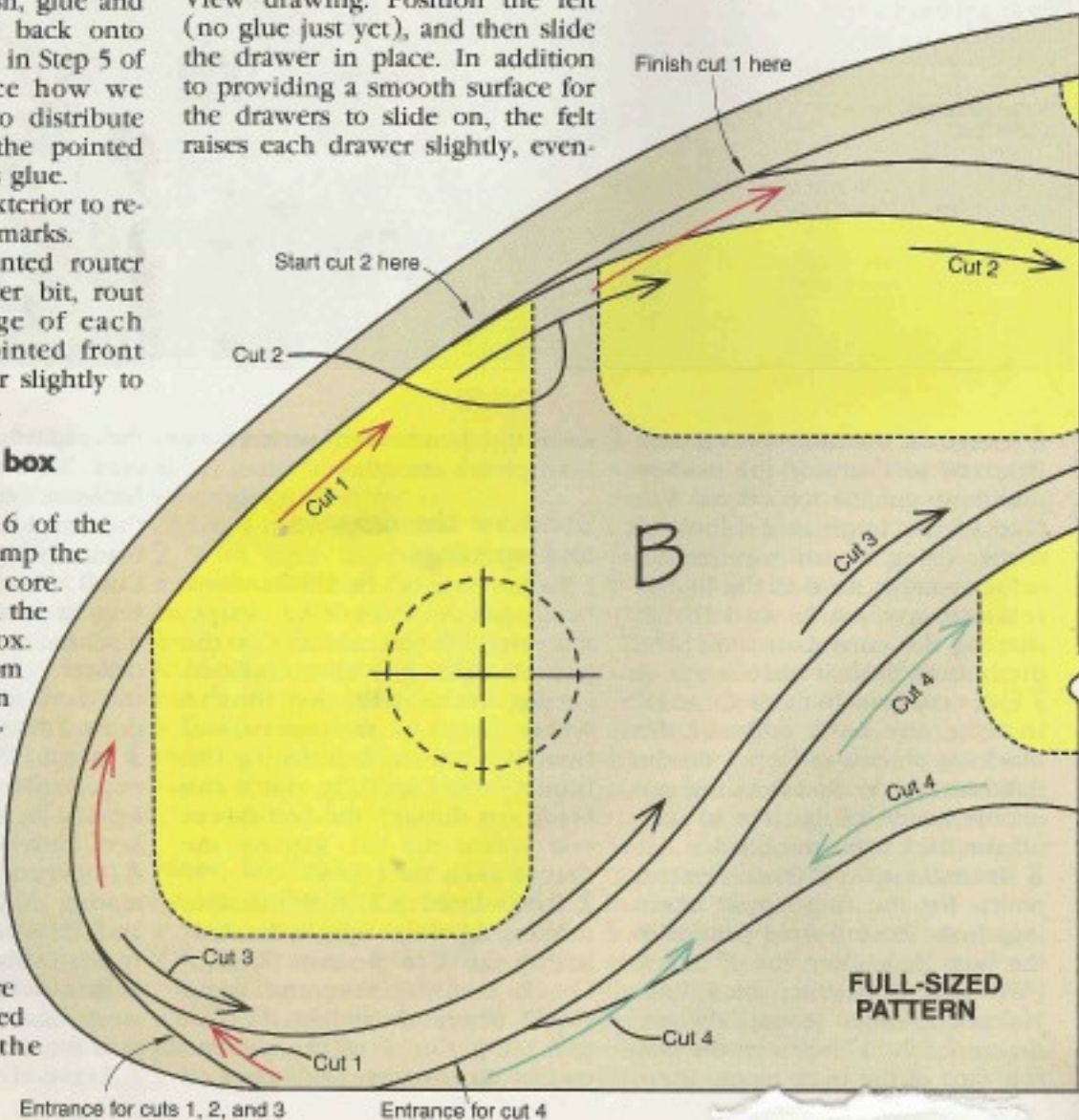
3 Rout $\frac{1}{4}$ " round-overs along the front and back outside edges of the box where shown on the Exploded View. Finish-sand the box and drawers.

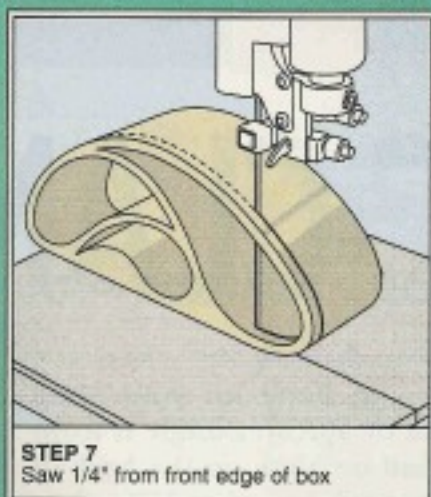
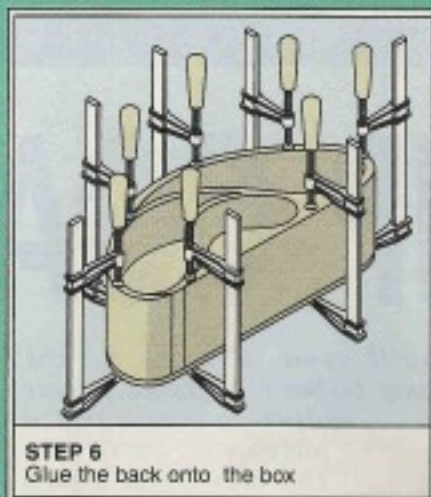


Add the felt and the finish

1 Cut the three felt pieces to the sizes shown on the Exploded-View drawing. Position the felt (no glue just yet), and then slide the drawer in place. In addition to providing a smooth surface for the drawers to slide on, the felt raises each drawer slightly, even-

ing the kerf gap between the top and bottom of the drawer and the opening. If the drawers fit too





tightly, sand them slightly until they slide easily. Remove the drawers and felt from the box.

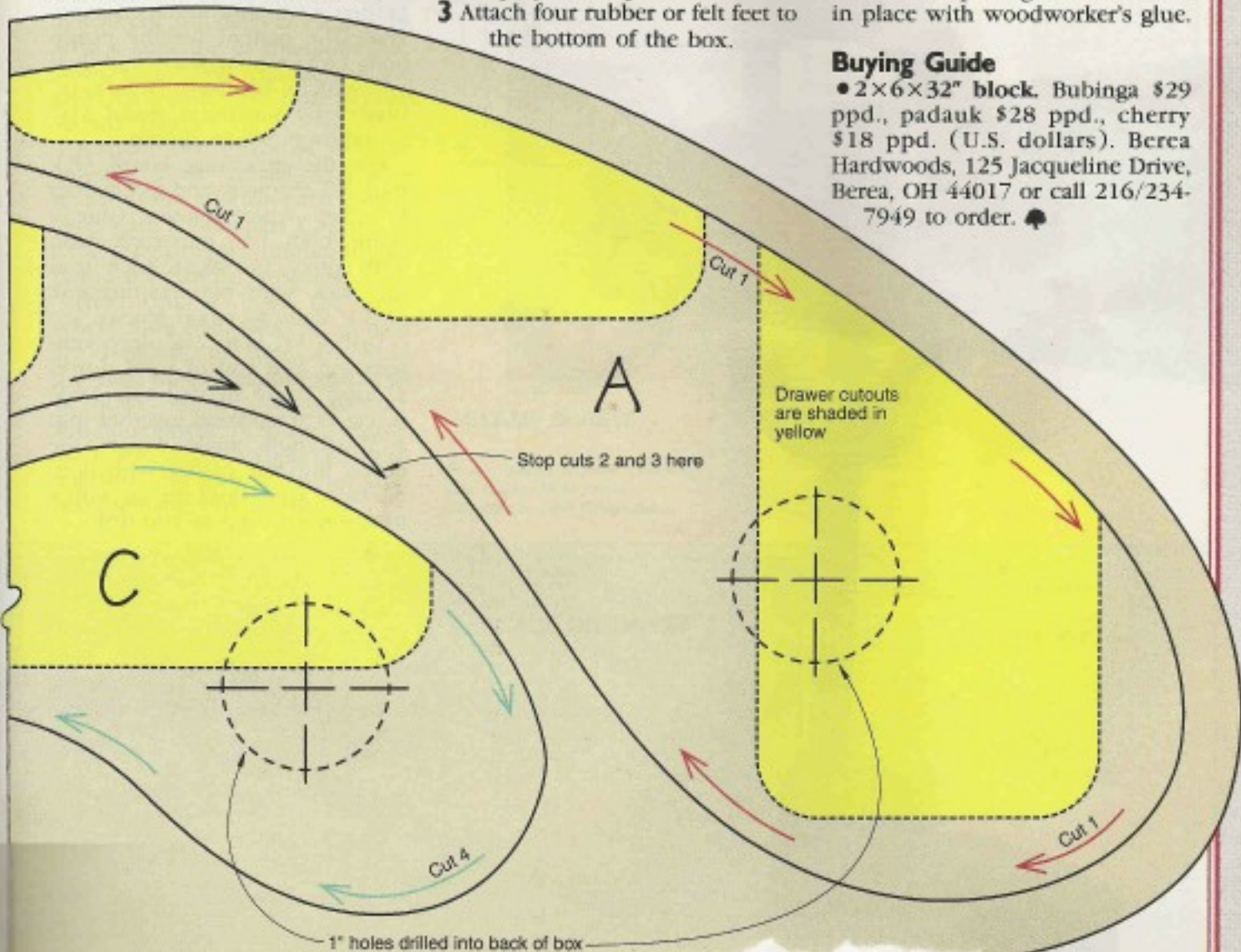
2 Apply finish to the box (inside and out) and drawers. (We used Deft spray-on lacquer.)

3 Attach four rubber or felt feet to the bottom of the box.

4 For better adhesion, sand slightly where you will be applying the felt in the openings. Glue the felt in place with woodworker's glue.

Buying Guide

• **2×6×32" block.** Bubinga \$29 ppd., padauk \$28 ppd., cherry \$18 ppd. (U.S. dollars). Berea Hardwoods, 125 Jacqueline Drive, Berea, OH 44017 or call 216/234-7949 to order. ♣



C-CLAMP COATRACK

What do you do when it's time to hang up your shop coat or apron? Dangle it from a nail or hook on the back of the workshop door? Here's a better solution—a C-clamp coatrack that's right at home in a woodworking shop.

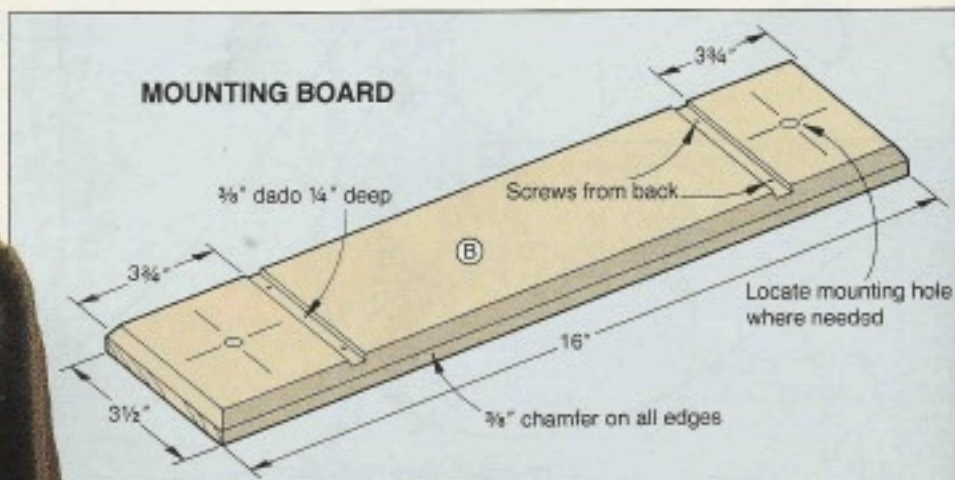
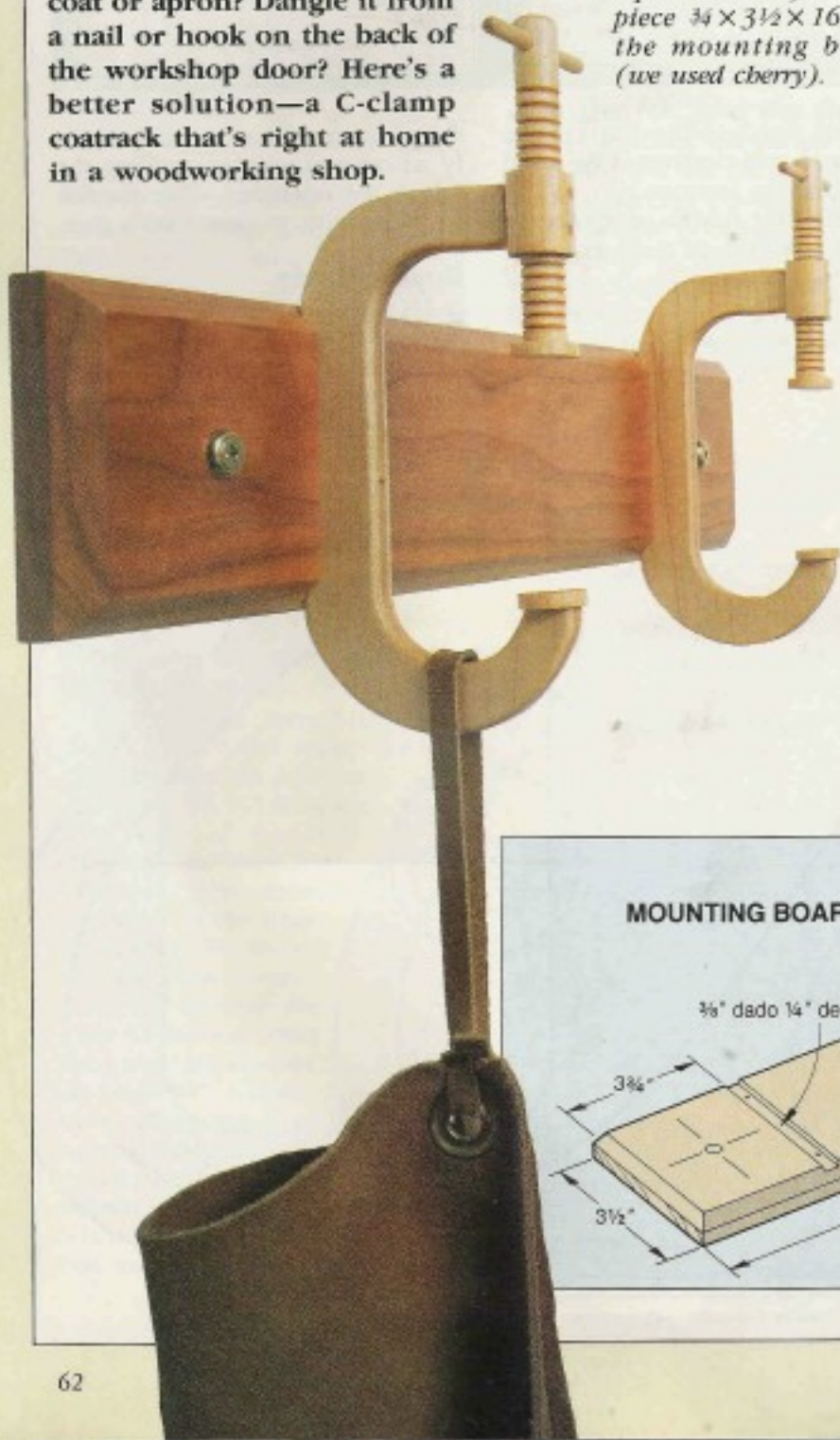
You'll need 1/8" stock for the clamp bodies (we planed thicker maple to size) and a piece 3/4" x 3 1/2" x 16" for the mounting board (we used cherry).

From 1/8" stock 4" wide, crosscut four 8" lengths and four 4" lengths. Build two 3/8"-thick laminations, each with two 4" pieces laid edge to edge between two 8" pieces. Run the grain in the center layer at a right angle to the grain on the sides. Glue with epoxy, and clamp.

Stack the two laminations together with double-faced tape. Trace the pattern for the clamp body (A) onto the stack, and then cut with a bandsaw (use a 1/8" blade) or scrollsaw. Sand 1/16" round-overs where shown.

For the mounting board (B), rout 3/8" chamfers and 3/8" dadoes 1/4" deep where shown. Glue a clamp body (A) into each dado with epoxy, and secure each from the back with two countersunk #6 x 1" flathead wood screws.

Drill a 1/2" hole 2 1/8" deep centered on one end of a 3/4" dowel 3" long. To do so, nail two 2 x 3" pieces of scrapwood together into a 3"-tall right angle. Secure the dowel into the corner with double-faced tape. Hold the jig with a handscrew clamp as you drill.



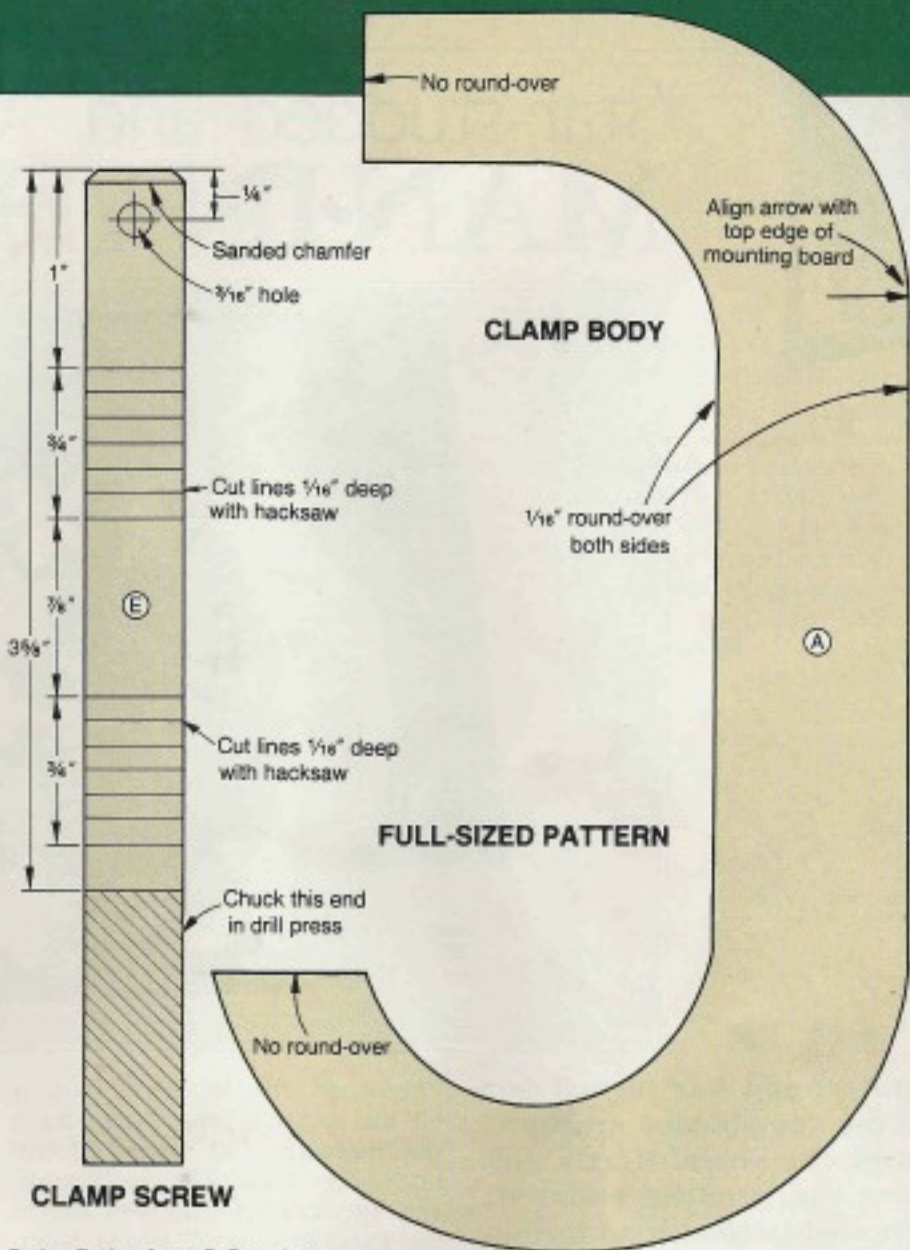
ANOTHER GREAT PROJECT FROM THE IDEA SHOP

Bandsaw or scrollsaw two $\frac{7}{8}$ " lengths of the drilled-out dowel for parts C. Sand a $\frac{3}{8}$ "-wide flat side on each. Glue parts C to parts A where shown.

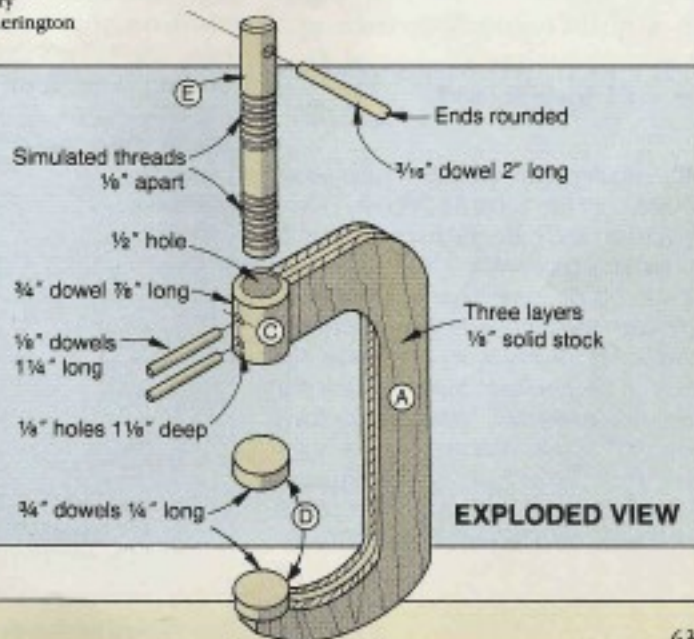
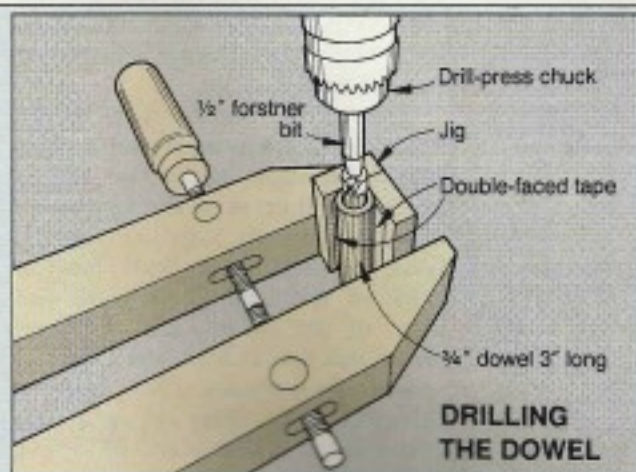
On two 5" lengths of $\frac{1}{2}$ " dowel, mark the simulated thread lines for parts E where shown on the full-sized pattern. Chuck each length into your drill press. Run the machine at its slowest speed as you cut $\frac{1}{16}$ " deep at each mark with a hacksaw or triangular file. Then, sand a $\frac{1}{16}$ " chamfer on the end. Drill the $\frac{3}{16}$ " hole where shown. Trim to $3\frac{3}{8}$ ".

Round the ends of two 2" lengths of $\frac{3}{16}$ " dowel, and glue one into the hole on each part E. Glue part E into part C, with 1" extending from the bottom of part C and the handle crosswise.

Next, drill $\frac{1}{8}$ " holes $1\frac{3}{8}$ " deep where indicated. Glue $\frac{1}{8}$ " dowels $1\frac{1}{4}$ " long into the holes, and sand the ends flush. Cut four pieces of $\frac{3}{4}$ " dowel $\frac{1}{4}$ " long for pads (D), and glue them in place. Finish-sand, and apply a clear oil finish followed by two coats of satin polyurethane varnish. 🌲



Project Design: James R. Downing
Illustrations: Mike Henry
Photograph: John Hetherington





Star-studded and "Gee" rated MAN-IN-THE-MOON



Hollywood has turned out some star-studded creations over the years. Here's one you can produce yourself. Our whimsical man-in-the-moon clock looks just right in a child's room; grown-ups who appreciate flights of fancy will love it, too.

We made our clock from basswood. Pine would work, too, since it will be painted. You'll need a piece $\frac{3}{4}$ " x 7" x 8" for the clock body, one that's $\frac{3}{8}$ " x 5" x 7" for the moon and star overlays, and a $1\frac{1}{2}$ " x $1\frac{1}{2}$ " x 6" piece for the base. (We planed thicker stock for the $\frac{3}{8}$ " material, and laminated two $\frac{3}{8}$ "-thick pieces together for the $1\frac{1}{2}$ " base.) A #7 scrollsaw blade, .043 x .016" with 12 teeth per inch, will handle the cutting.

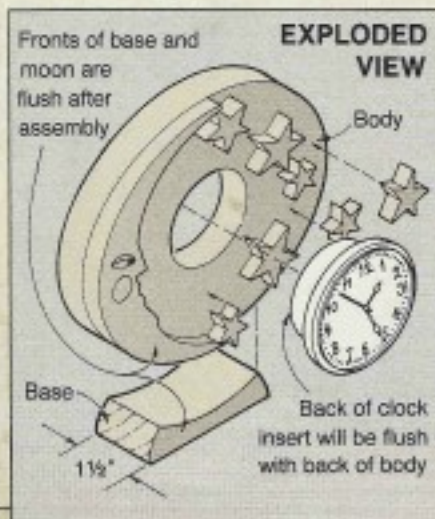
Photocopy the full-sized pattern on the *opposite page*. Now, trace the outside oval shape of the body, the clock-hole centerpoint, and the circled numbers inside the stars onto the $\frac{3}{4}$ " board. Next, trace the moon and the stars (including the circled numbers) onto the $\frac{3}{8}$ " material, and the base outline onto your $1\frac{1}{2}$ " stock.

Saw around the body outline, and cut out the base. Then, cut out the moon and star shapes. Notice that star no. 1 connects to the moon—cut them as one piece.

Bore the $2\frac{3}{8}$ "-diameter hole for the clock insert with a Forstner bit or holesaw chucked into a drill press. Whichever you use, be sure to back the workpiece with scrapwood, and clamp it firmly to the drill-press table.

Position the moon on the body, attaching it temporarily with double-faced tape. Sand the edges flush, and then sand the body and base so they fit together tightly. Glue the base to the body. Set the front of the base flush with the front of the moon, and then remove the moon from the body.

Sand all surfaces. Then, redraw the circled numbers on the body, and number the stars on their backs to help position them.



SHELF CLOCK

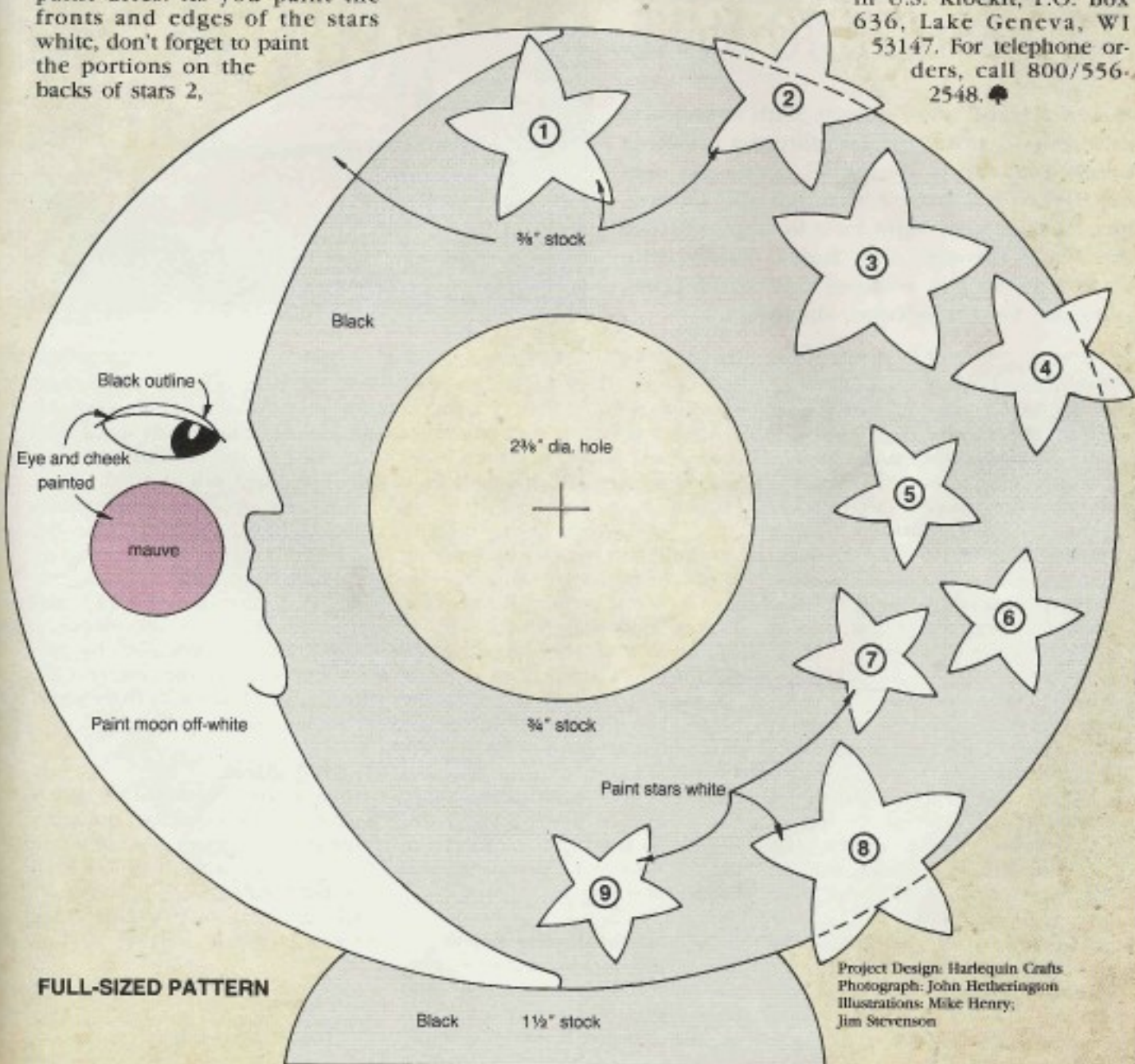
Paint the body and base black (we used artist's acrylics). Don't paint the circled numbers and the area where the moon will be glued on. Paint the front and edges of the moon off-white. Add the cheek and eye details after the paint dries. As you paint the fronts and edges of the stars white, don't forget to paint the portions on the backs of stars 2,

4, and 8 that extend past the edge of the body. When dry, glue the moon and stars into place.

Later, spray on a semigloss clear finish to protect the paint and add a bit of luster. After the finish dries, install the clock insert.

Buying Guide

Clock insert. Ready-to-install unit with quartz movement, black case and bezel, and black face with white hands and numerals; runs on one type N battery (included). Order item no. 71165, \$12 ppd. in U.S. Klockit, P.O. Box 636, Lake Geneva, WI 53147. For telephone orders, call 800/556-2548. ♣



FULL-SIZED PATTERN



OLD-WORLD WINDMILL

IT'S A BREEZE TO MAKE

Here's a scrollsawed plaque with something different—depth. Cutouts mounted on three levels make this windmill scene an eye-catcher. You'll breeze through the cutting, too, because you won't have to stop to thread the blade through tiny holes. You'll complete this project *without* any inside cuts, not even for the window openings.



You'll need a $\frac{1}{8} \times 8 \times 10'$ piece of Baltic birch plywood (available at bobby shops) and a $12'$ piece of 1×12 rough-sawn cedar. Designers Roy King and Scott Kochendorfer recommend cutting the pattern with a #2/0 scrollsaw blade (.022 \times .010" with 28 teeth per inch). For smoothest sawing, overlay your saw's table with a piece of smooth plywood with a zero-clearance blade hole.

Photocopy the full-sized patterns, opposite page, and adhere them to the plywood with spray adhesive. Cut out the parts.

When cutting the windmill building (A), start at the upper left window where shown. Cut the four window panes, leaving the muntins attached at the right side of the window.

Back out of the window entry cut, and saw down the left side until you reach the next window entry. Cut as before, back out, and continue around the building,

cutting the door and the other window as you come to them.

After you've cut out the entire piece, saw the horizontal lines. Saw in along each line, and then carefully back out.

Cut the open areas on the windmill support (B) by entering on the lines shown along the top. Scrollsaw the windmill sails (C), cutting each long detail line as you come to it. Then, go back and cut the short detail lines.

Change to a heavier scrollsaw blade. Tilt the saw table to 30° , and saw a freeform edge on the 1×12 plaque, maintaining an $8\frac{1}{2} \times 8\frac{1}{2}$ " area in the center. With the rough side up, keep the plaque on the high side of the table as you saw. Install a wall hanger on back of the plaque.

Now, assemble the scene

After removing the patterns, glue the windmill building (A) and large cloud (G) where indicated on the Plaque Layout drawing.

Add the path sides (D and E) and the spacer (K). Next, glue the single tree (I) and double tree (J) to the back of the ground line (H), aligning them as indicated.

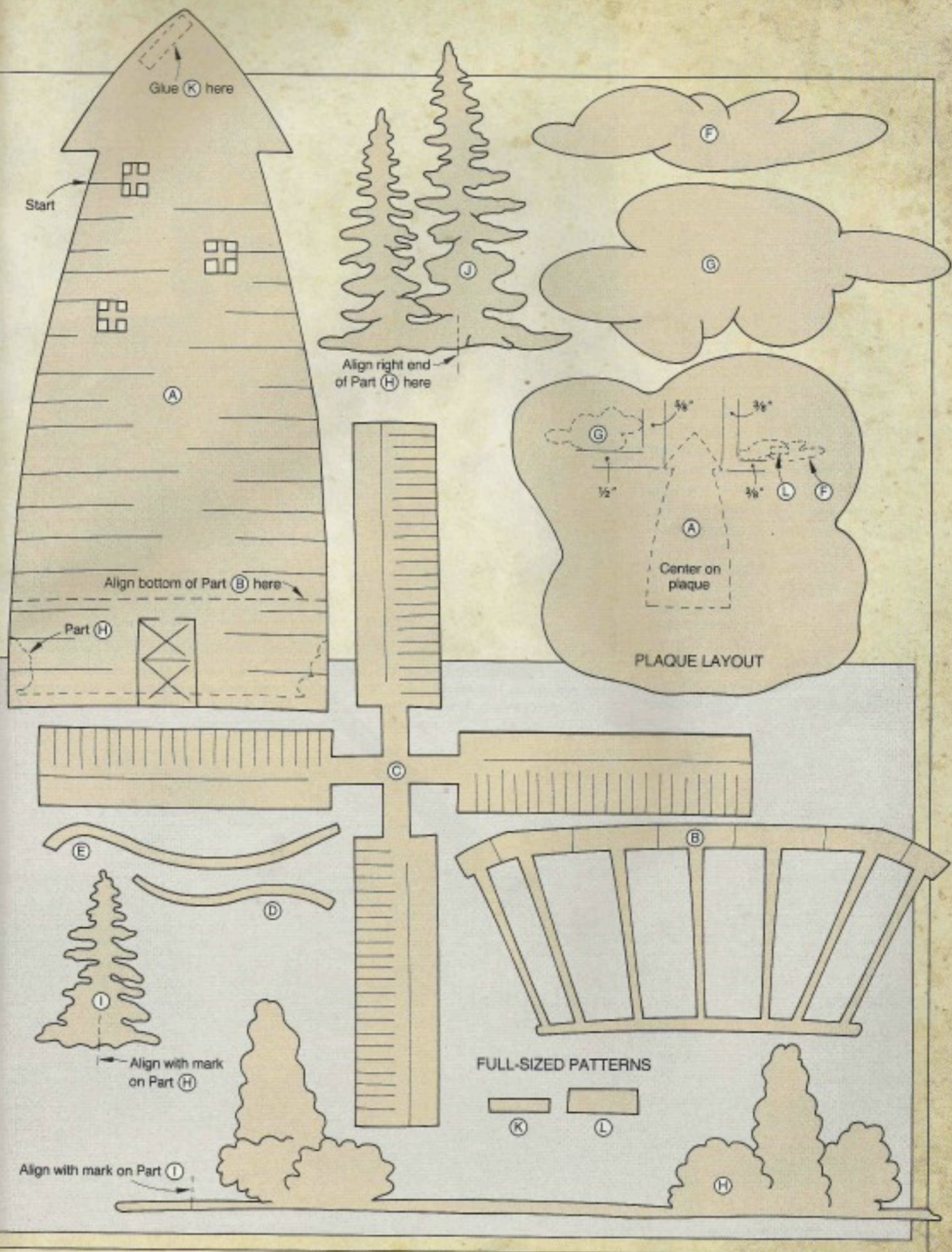
Glue the ground line and trees into position, and then glue the windmill support (B) to the building. Glue spacer (L) to the back of the small cloud (F), and glue these pieces to the plaque.

Complete the assembly by gluing the sails to the spacer (K). Spray on a clear finish from several angles, covering all edges.

Buying guide

More patterns. Scroller offers many patterns in various difficulty ratings. For a catalog, send \$1.50 for postage and handling to Scroller Catalog, 9033 S. Nashville, Oak Lawn, IL 60453. No phone orders, please. ♣

Project Design: Scroller, Roy King and Scott Kochendorfer
Illustrations: Mike Henry
Photograph: Wm. Hopkins





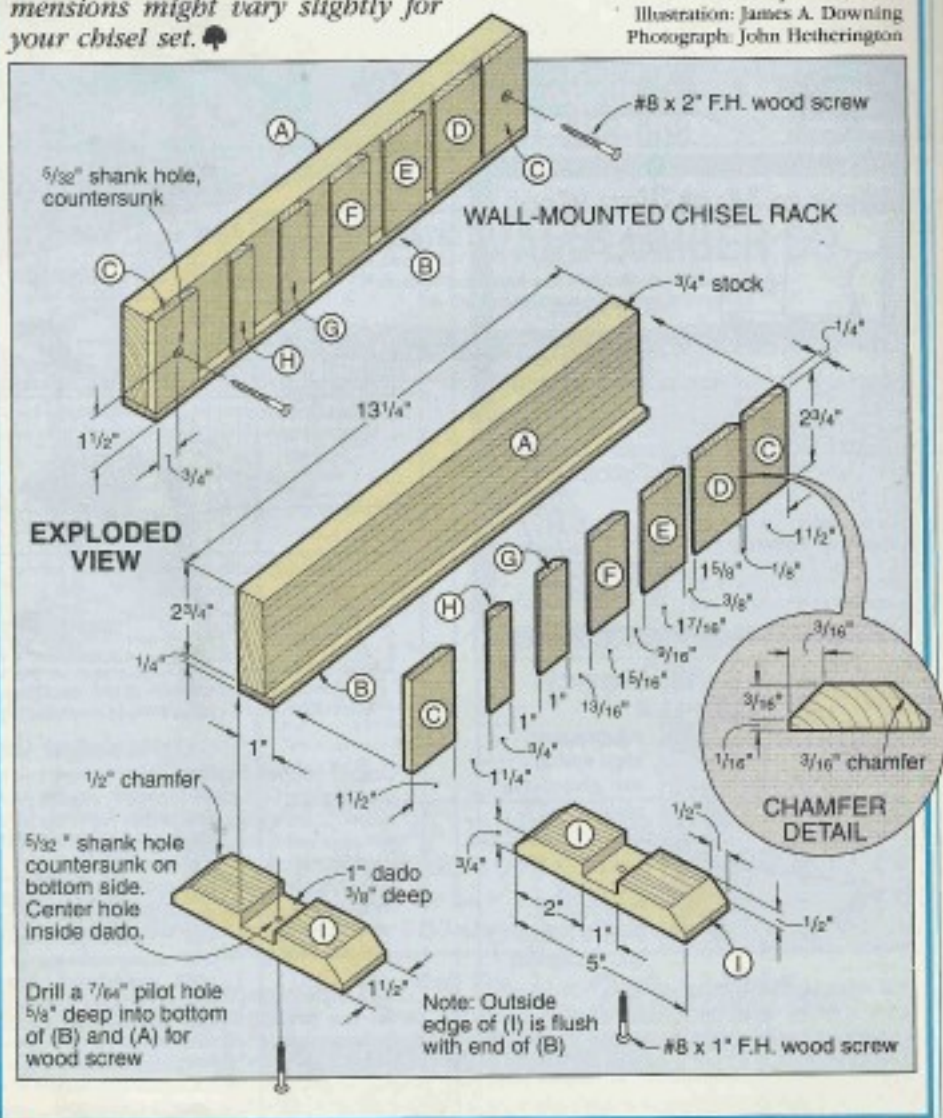
SAFE-AND-SOUND CUSTOMIZED CHISEL RACK

When *WOOD* magazine reader Richard Baker sent in this design a few months ago, we liked it immediately. In fact, we think it's so neat we included it in the *IDEA SHOP*. You can use it as a free-standing unit, or remove the feet and fasten it to your workshop wall. Either way, this nifty project displays your chisels proudly and protects their finely honed ends.



Note: We built our rack for a set of Stanley no. 60 chisels. The dimensions might vary slightly for your chisel set. ♣

Project Design: Richard Baker
Hilltop Lakes, Texas
Illustration: James A. Downing
Photograph: John Hetherington



BEDROOM STORAGE NEVER LOOKED SO GOOD

SHAKER-STYLE

Elegantly simple in design and straightforward in construction, this handsome project reflects a much simpler time when craftsmanship and practicality reigned supreme.

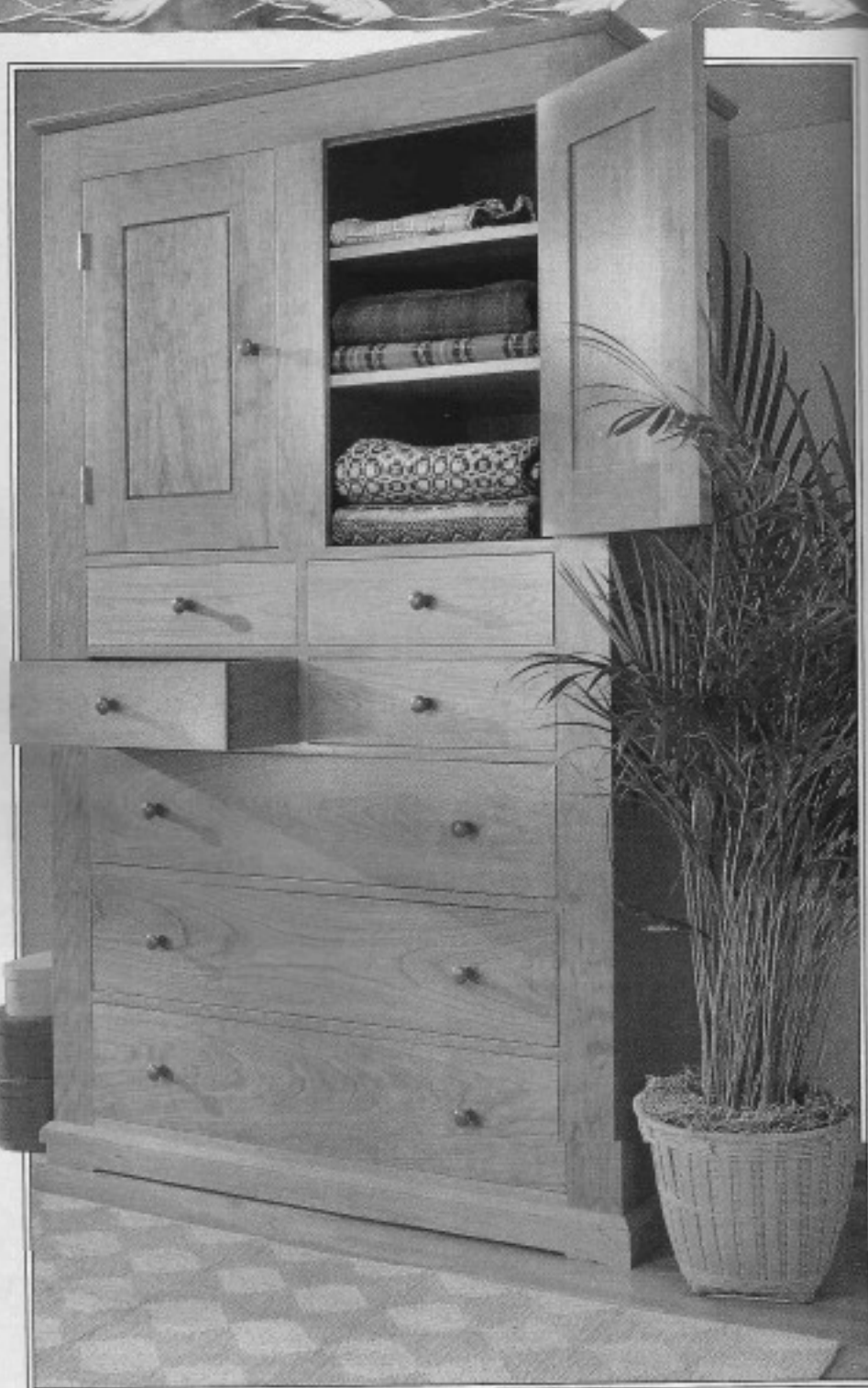
The adaptation you see here has its roots in a classic Shaker project, the upright cupboard. Loaded with drawers and a convenient cabinet for storing shirts and sweaters, this tall chest replaces the more common form of Shaker bedroom storage—drawers built into the walls.

Solid construction starts with the carcass

1 Rip and crosscut the dresser sides (A), fixed shelves (B, C), divider (D), top (E), and adjustable shelves (F) to the sizes listed in the Bill of Materials from $\frac{3}{4}$ " cherry plywood. For ease in laying out and cutting, see the Cutting Diagram for our layout.

2 Cut or rout all the rabbets and dados in pieces A, D, and E where dimensioned on the Exploded View and Divider drawings. (We applied pieces of masking tape to each piece, marking the good face, top, bottom, and back edges where necessary. This helped prevent us from dadoing or rabbeting the wrong face and proved helpful later when assembling the cabinet.)

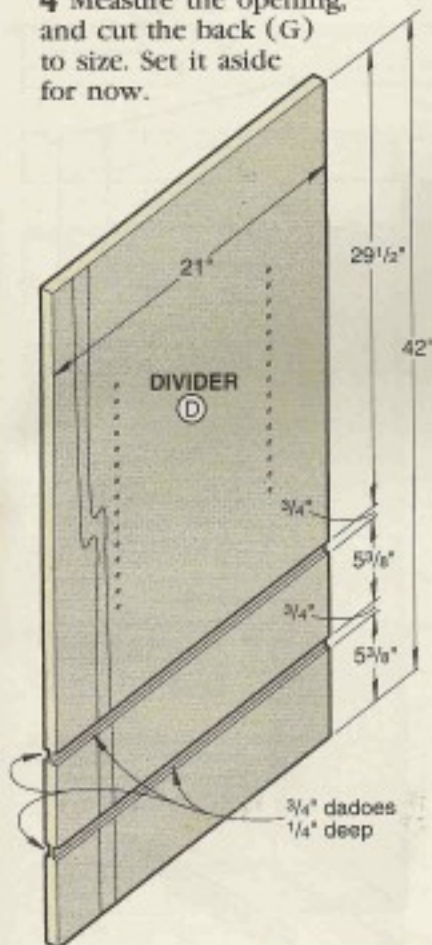
3 Dry-clamp the pieces, (except for the adjustable shelves) to check the fit. The interior parts (B, C, D, E) set $\frac{3}{8}$ " back from the front edge of the side pieces (A). The back edges of B, C, and D should be flush with the shoulder of the rabbet along the back edges of parts A and E. Trim if neces-



TALL CHEST

sary. Now, glue and clamp the pieces, checking to make sure they are square.

4 Measure the opening, and cut the back (G) to size. Set it aside for now.



Add the solid-cherry face frame

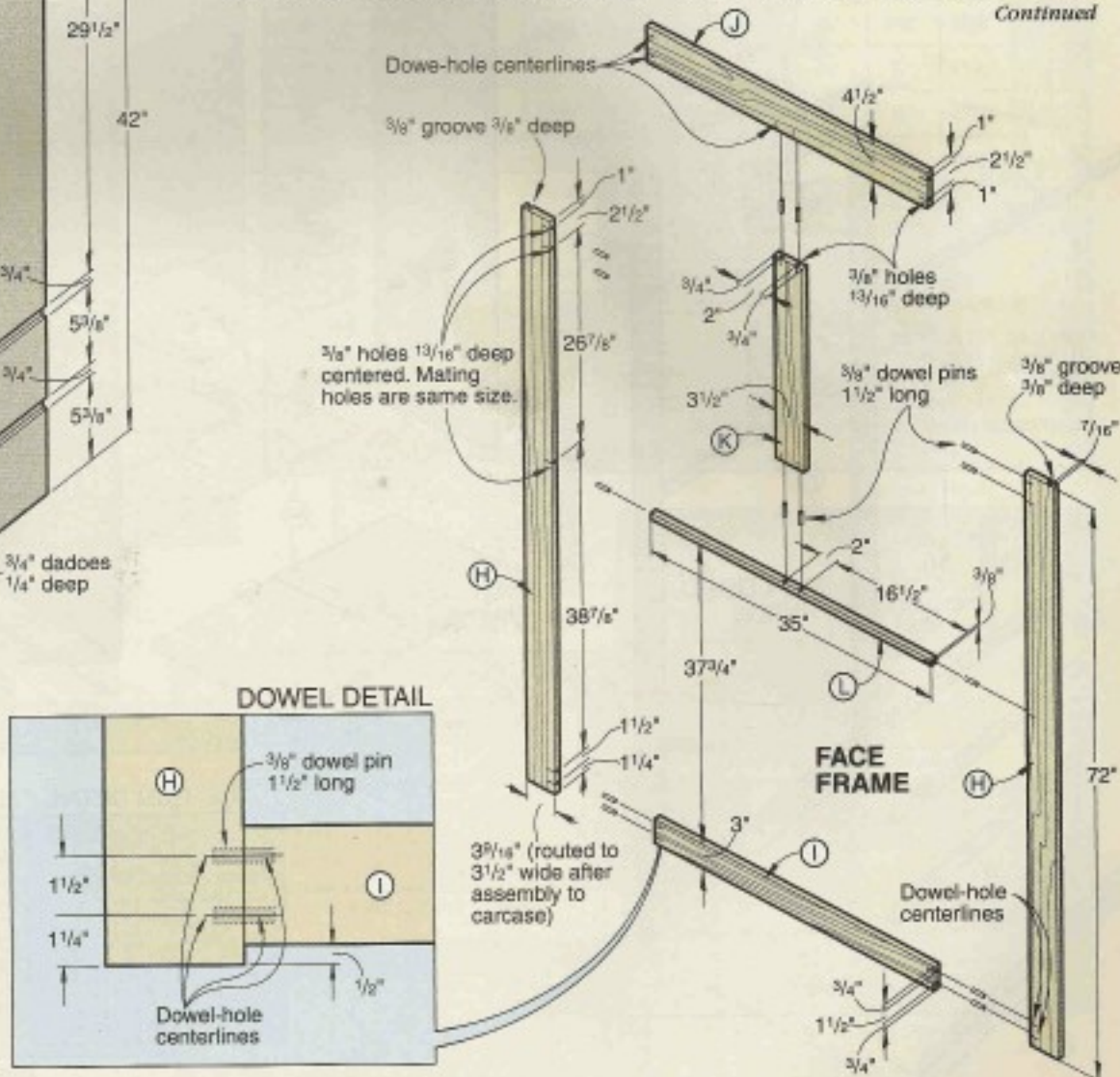
1 From solid $\frac{3}{4}$ " cherry stock, cut the face frame stiles (H) to the sizes listed in the Bill of Materials plus $\frac{1}{16}$ " extra in width. (We cut them extra wide so we could rout them flush with the sides of the carcass later.) Cut or rout a $\frac{3}{8}$ " groove $\frac{3}{8}$ " deep along the back side of each stile where shown on

the Face Frame drawing and Rabbit detail accompanying the Exploded View drawing.

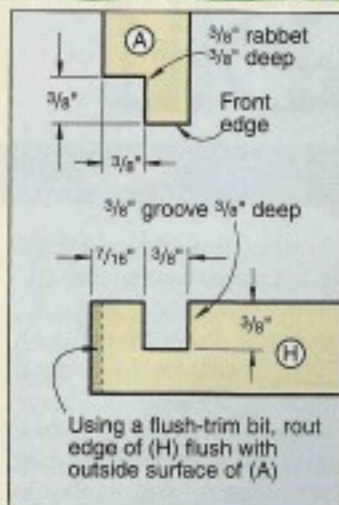
2 Now, cut the bottom rail (I), top rail (J), mullion (K), and middle rail (L) to size.

3 Dry-clamp (no glue) the face frame together. Using a helper, set the cabinet carcass on its back. Then, position the clamped-up face frame on the front of the

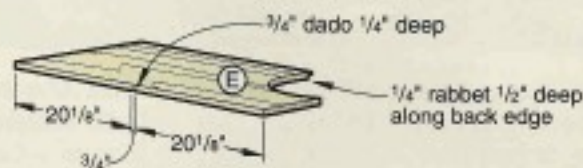
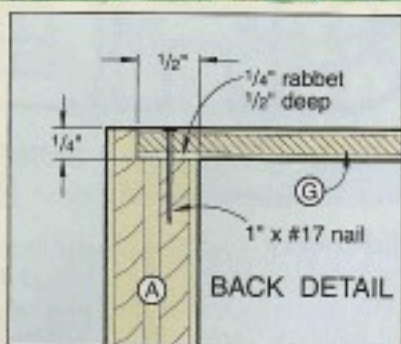
Continued



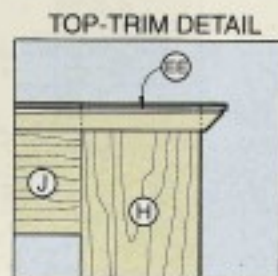
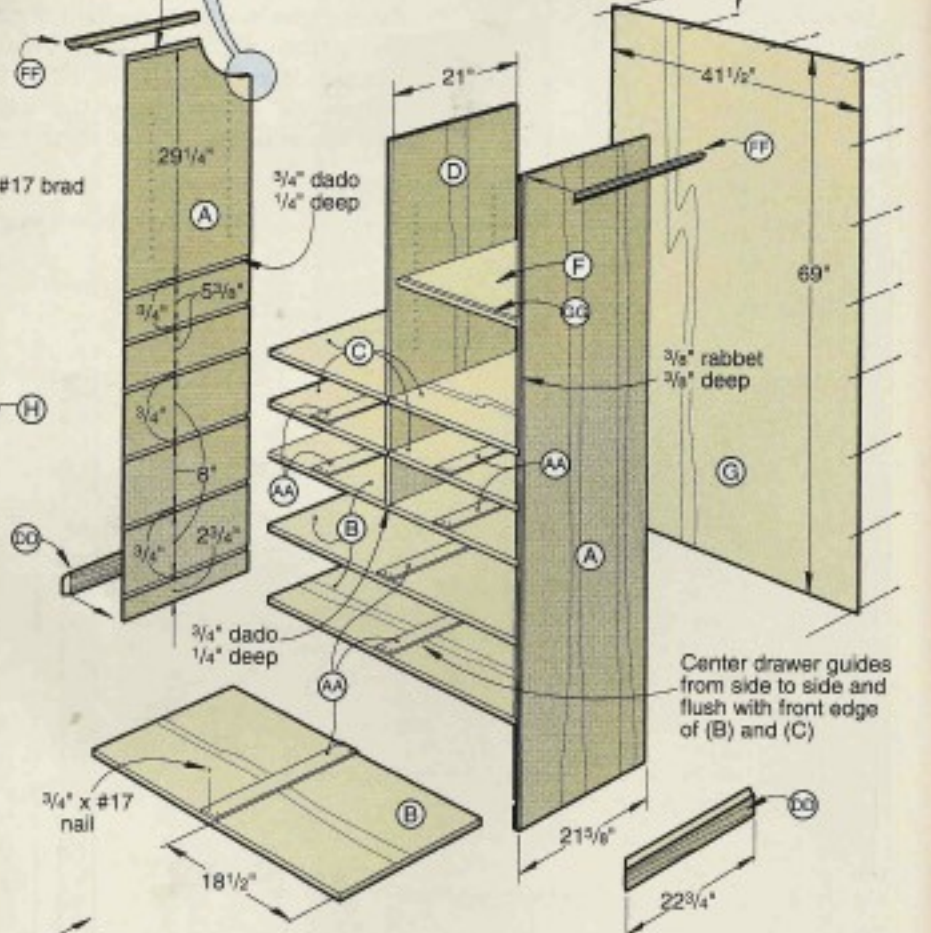
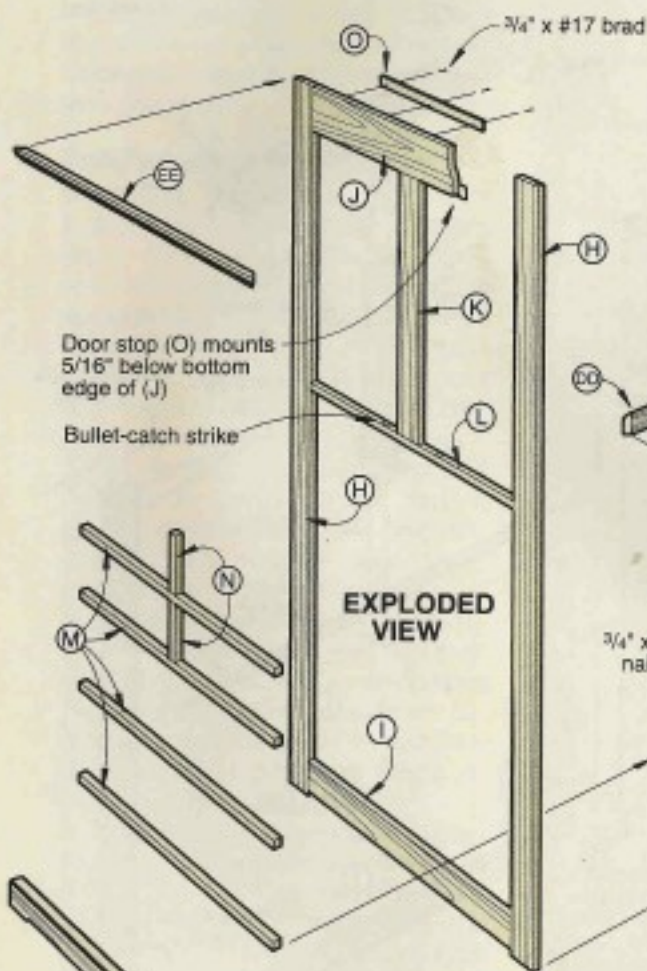
TALL CHEST



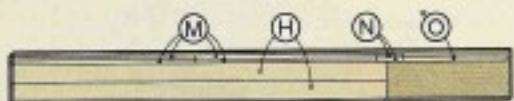
RABBET DETAIL



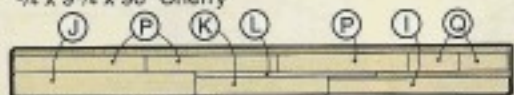
3/4" rabbet 1/4" deep



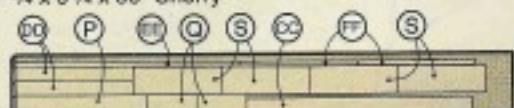
CUTTING DIAGRAM



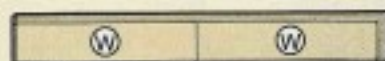
3/4 x 9 1/4 x 96" Cherry



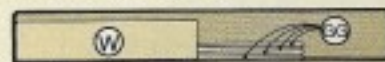
3/4 x 9 1/4 x 96" Cherry



3/4 x 11 1/4 x 96" Cherry

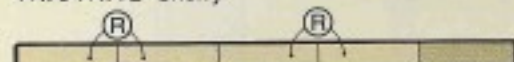


3/4 x 9 1/4 x 72" Cherry

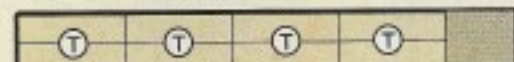


*Plane or resaw to size stated in Bill of Materials

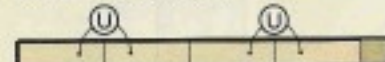
3/4 x 9 1/4 x 72" Cherry



1/2 x 5 1/4 x 96" Cherry



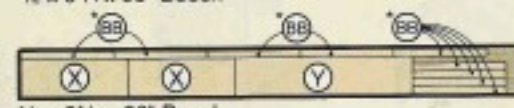
1/2 x 11 1/4 x 96" Beech



1/2 x 5 1/2 x 72" Beech



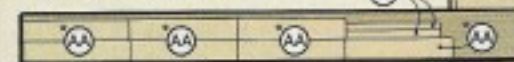
1/2 x 9 1/4 x 96" Beech



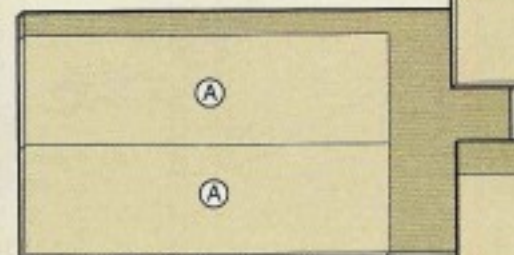
1/2 x 9 1/4 x 96" Beech



1/2 x 9 1/4 x 72" Beech

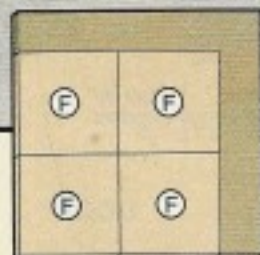


1/2 x 9 1/4 x 96" Beech

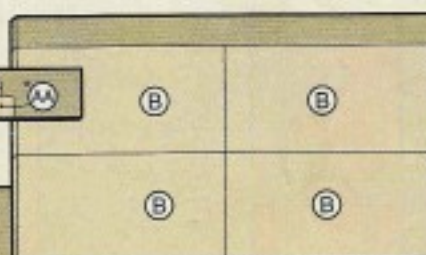


3/4 x 48 x 96" Cherry plywood

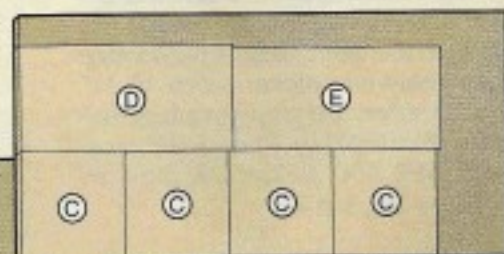
Bill of Materials											
Parts	Finished Size			Matl.	Qty.	Parts	Finished Size			Matl.	Qty.
	T	W	L				T	W	L		
CARCASE						SMALL DRAWERS					
A sides	3/4"	21 1/4"	72"	CP	2	S fronts	3/4"	5 5/8"	17"	C	4
B shelves & bottom	3/4"	21"	41"	CP	4	T sides	1/2"	5 5/8"	20 1/8"	B	8
C shelves	3/4"	21"	20 3/4"	CP	4	U backs	1/2"	4 3/4"	16 1/2"	B	4
D divider	3/4"	21"	42"	CP	1	V bottoms	1/4"	18 1/2"	16 1/2"	CP	4
E top	3/4"	21 1/4"	41"	CP	1	LARGE DRAWERS					
F shelves	3/4"	20"	19 1/4"	CP	4	W fronts	3/4"	7 1/4"	34 3/4"	C	3
G back	1/4"	41 1/2"	69"	CP	1	X sides	1/2"	7 1/8"	20 1/8"	B	6
FACE FRAME						Y backs	1/2"	7 3/4"	34 3/4"	B	3
H* stiles	3/4"	3 1/2"	72"	C	2	Z bottoms	1/4"	18 1/2"	34 3/4"	CP	3
I bottom rail	3/4"	3"	35"	C	1	GUIDES, SLIDES, AND TRIM					
J top rail	3/4"	4 1/2"	35"	C	1	AA guides	1/4"	4"	21"	B	7
K mullion	3/4"	3 1/2"	25 1/2"	C	1	BB slides	1/4"	1 1/2"	18 1/4"	B	14
L rail	3/4"	3/4"	35"	C	1	CC* bottom front	3/4"	2 3/4"	43 1/2"	C	1
M rails	3/4"	3/4"	35"	C	4	DD* bottom sides	3/4"	2 3/4"	22 3/4"	C	2
N mullions	3/4"	3/4"	5 3/4"	C	2	EE* top front	3/4"	3/4"	43 1/2"	C	1
O door stops	1/4"	1"	19 1/4"	C	2	FF* top sides	3/4"	3/4"	22 3/4"	C	2
DOORS						GG* shelf fronts	3/4"	3/4"	19 1/4"	C	4
P stiles	3/4"	3 1/2"	25 1/4"	C	4	*Initially cut parts marked with an * oversized. Then, trim each to finished size according to the how-to instructions.					
Q rails	3/4"	3 1/2"	9 3/4"	C	4	Material Key: CP—cherry plywood, C—cherry, EJC—edge-joined cherry, B—beech, BP—birch plywood					
R* panels	1/2"	9 3/8"	19 1/8"	EJC	2	Supplies: 1/8" dowel pins 1 1/2" long, 1/4" x #17 nails, 3/4" x #17 brads, 1" x #17 nails, clear finish.					



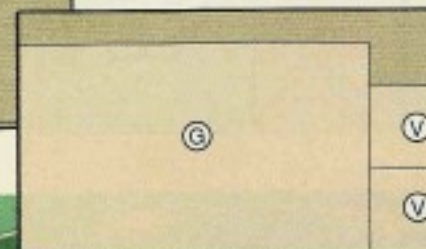
3/4 x 48 x 48" Cherry plywood



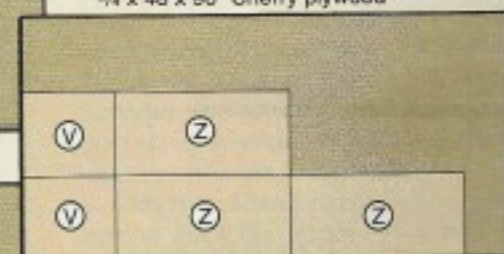
3/4 x 48 x 96" Cherry plywood



3/4 x 48 x 96" Cherry plywood



1/4 x 48 x 96" Cherry plywood



1/4 x 48 x 96" Cherry plywood

TALL CHEST

cabinet to verify the tongue on the front edge of the sides (A) fits into the grooves in the back faces of the stiles (H). Then check that the center rail (L) sits directly over the front edge of the middle shelf (B). Adjust if necessary.

4 With the assembly still clamped together, use a square to mark the dowel-hole centerlines across each joint where shown on the Face Frame drawing.

5 Using a doweling jig and the marked centerlines, drill $\frac{3}{8}$ " holes to the depths marked on the drawing for the dowel pins.

6 Glue, dowel, and clamp the face frame, checking for square. Later, remove the clamps and excess glue. Sand the front and back of the face frame smooth.

7 Glue and clamp the face frame to the cabinet with the ends flush.

8 Later, remove the clamps. Mount a flush-trim bit in your router, and rout the protruding edges of the stiles (about $\frac{1}{16}$ ") flush with the outside faces of the cabinet sides (A). See the Rabbet detail for reference.

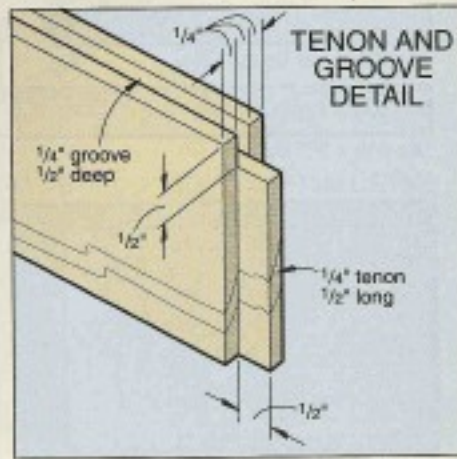
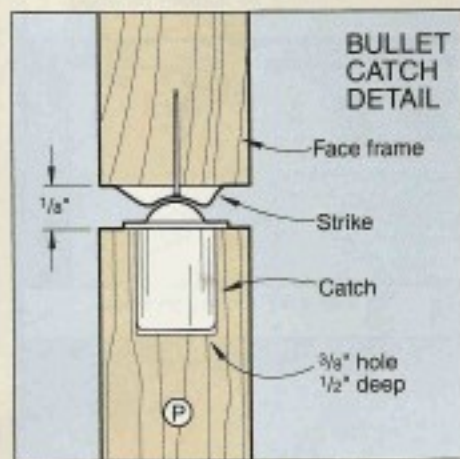
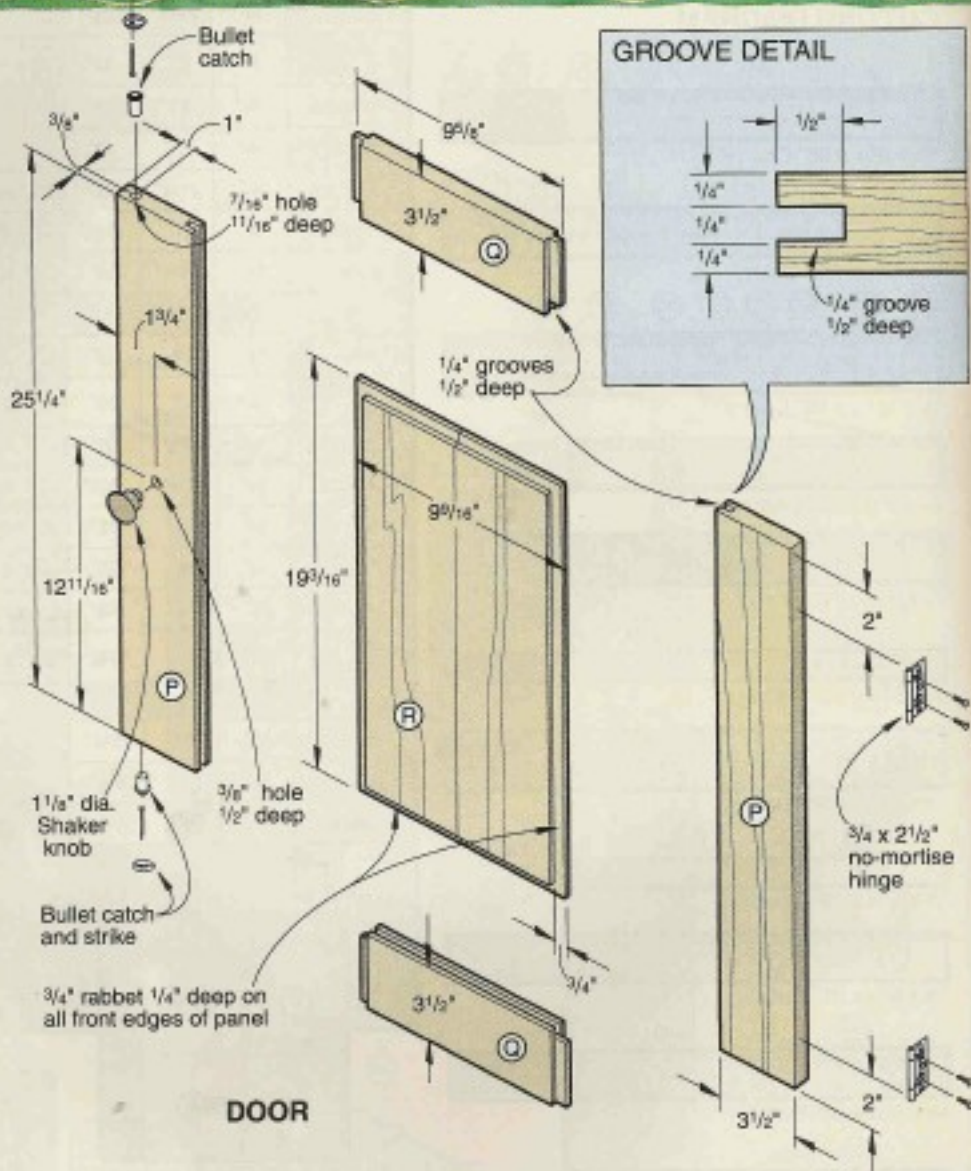
9 Cut the remaining rails and mullions (M, N), and, using bar clamps, clamp them to the front of the cabinet where shown on the Exploded View drawing.

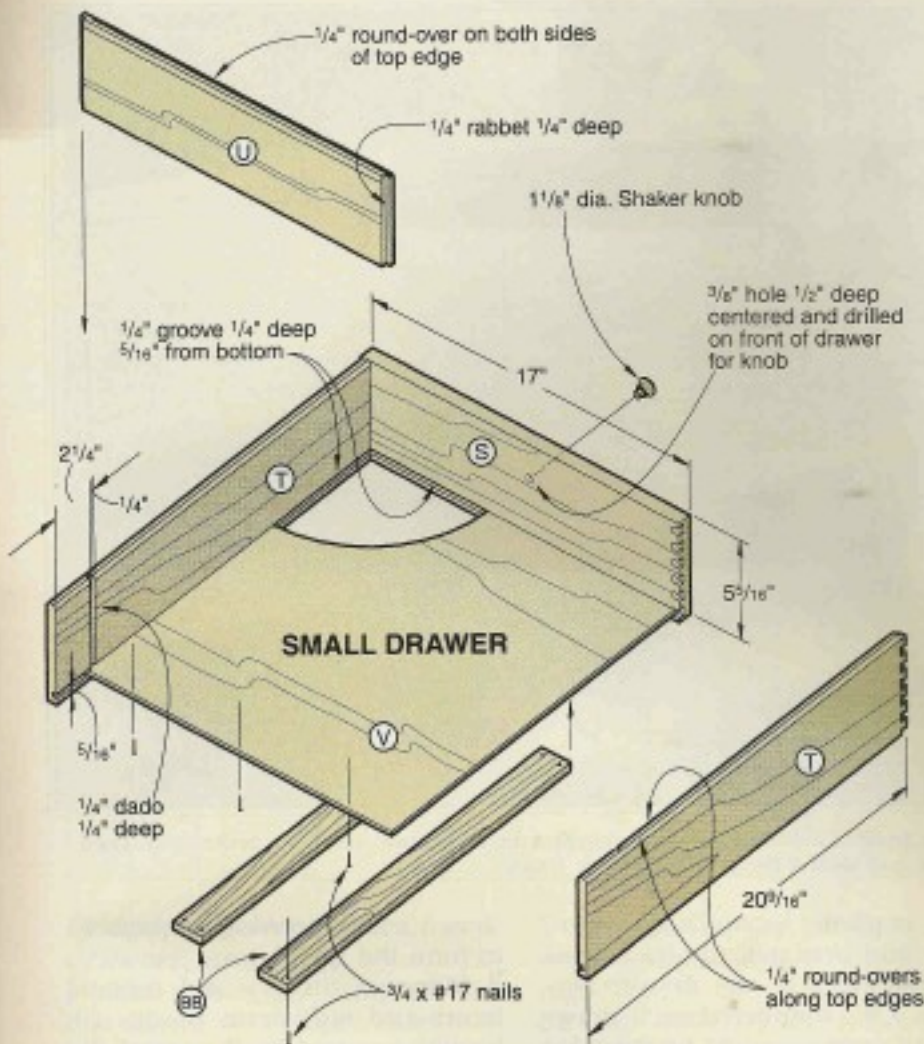
10 Cut the door stops (O) to size (we resawed thicker stock to $\frac{1}{4}$ " thick). Glue the stops in place behind the top rail (J) so the stop protrudes $\frac{1}{16}$ " below the bottom edge of the top rail.

The frame-and-panel doors come next

1 Cut the door stiles (P) and rails (Q) to size. Cut or rout a $\frac{1}{4}$ " groove $\frac{1}{2}$ " deep along one edge of each stile and rail where shown on the Door drawing and accompanying Groove detail at right.

2 Cut a $\frac{1}{4}$ " tenon $\frac{1}{2}$ " long across each end of each rail. (We mounted a dado blade to our





Cut a 1/4" tenon 1/2" long across the ends of the door rails. Clamp a stop to the miter-gauge fence for consistent lengths.

tablesaw and an auxiliary fence to our miter gauge. Then, we raised the blade 1/4" above the saw table, clamped a stop to the miter-gauge auxiliary fence, and cut the ends to form the tenons as shown in the photo above.)

3 To achieve the wide width for the door panels (R), edge-joint stock to form two 1/2 x 10 x 20" pieces. Then, trim each panel to finished size, keeping the joint line centered from side to side. We prefer to edge-joint narrower stock for pieces this wide to diminish the chances of warpage.

4 Cut 3/4" rabbets 1/4" deep along the front edges of each panel as shown on the Door drawing.

5 Test-fit the door pieces. The panels should be 1/16" undersized

Continued

