

WEEKEND WOODWORKING PROJECTS

NEAT THINGS YOU CAN BUILD IN A HURRY

POCKET WATCH CLOCK

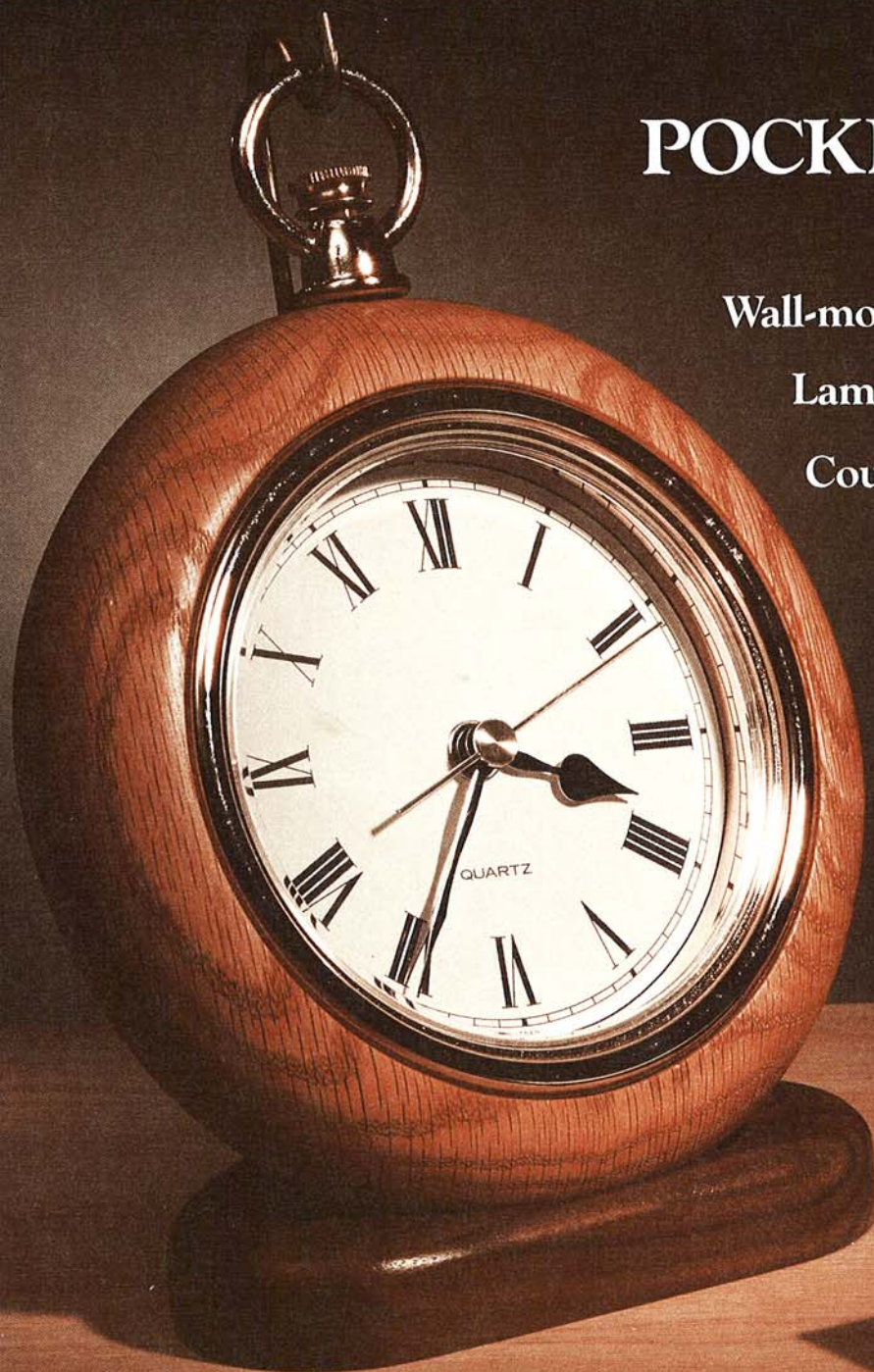
Wall-mounted candle sconce

Laminated carving board

Country-style spice rack

Helicopter pull toy

Jingle bells sleigh



FROM THE EDITORS OF WOOD® MAGAZINE

4 WHIRLYBIRD ON A STRING

Send a child's imagination soaring with this clever cam-action pull toy. Its rotor spins easily with every tug on the string. And with our full-size patterns of all the parts, it's a snap to build one or several.

8 OFF-THE-WALL CUTTING BOARD

Now you can carve your food and serve it, too. And because we designed this laminated hardwood helper using three dense woods—maple, walnut, and padauk—it will serve you well for years to come.



10 "JINGLE BELLS" SLEIGH

Ideally scaled to welcome friends at your front door or to highlight festive dinner tables, this elf-sized project will draw raves from everyone.



**GREAT
GIFT
IDEAS**



14 OLD-THYME SPICE RACK

Busy cooks like having their favorite spices at the ready. This project will let them do just that, whether you station it on the counter or hang it on a wall. The router-cut flower pattern imparts a country flavor.

TERRIFIC PROJECTS



22 POCKET WATCH CLOCK

If you've got 2 hours, you can build this project. We guarantee it! Watch out, though. The good looks of this charming ticker could turn you into an incurable clock-watcher.

18 CLASSIC WALL SCONCE

Searching for an accessory that does more than just occupy space on a wall? This 13"-tall sconce may be the answer. The soft glow of candlelight reflected in its mirror creates a serene mood.



EDITORIAL/ART STAFF

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Larry Clayton

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C.L. Gatzke

Projects Editor

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Design Editor

James R. Downing

Project Builders

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C. Ray Deaton

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OUR PLEDGE TO YOU

Prior to publication, we build every project presented in WEEKEND WOODWORKING PROJECTS step-by-step in our shop. Then, a team of editors reviews each element of each project—directions, illustrations, and bill of materials—to make sure the instructions we provide you are clear, concise, and complete. In short, we do everything possible to “de-bug” each project while it’s being built in our shop so you’ll have smooth sailing (and good results) in yours. Thanks for your support!

Larry Clayton

for the staff of Weekend Woodworking Projects

WHIRLYBIRD ON A STRING



Action toys always have held a fascination for youngsters, and this project continues that tradition in fine style. As the child pulls the toy forward, a drive wheel at the bottom of the rotor shaft spins the main rotor. That special someone will love you even more when you surprise him or her with this great little $6\frac{1}{2} \times 9\frac{1}{2}$ "-long gift.

LET'S START WITH THE BODY

1 Rip and crosscut a $1\frac{1}{2}$ "-thick pine block to $3\frac{1}{2} \times 9\frac{1}{2}$ " for the whirlybird body (A). (We cut ours from a scrap 2×4 .) Cut a second $1\frac{1}{2}$ "-thick block to $3\frac{1}{2} \times 4$ " long for the angled-support block shown at *right*.

2 Lay carbon paper and the body's Side-View Pattern (see page 7) on the larger block, align it, and trace the body pattern, including the hole center points. Using the dimensions on the Front-View Drawing (also on page 7), mark the center point of the $\frac{5}{16}$ " hole for the pull cord.

Measure and mark the dowel hole center points and the main rotor shaft hole center point on the whirlybird bottom, referring to the Body Block Drawing at *right*.

3 Referring to the Making and Using the Angled-Support Block Drawing at *right*, lay out the location of the block's angled notch. To do this, strike a horizontal line $\frac{7}{8}$ " down from the top face of the support. Measure in $1\frac{1}{4}$ " along the line, and mark a point. Mark a second point near the top lefthand corner of the block where shown. Hold a square to the points, with the inside corner of the square directly over the lower point. Now, strike a line along the square's inside edge. Using a band saw, cut the $\frac{7}{8}$ "-deep notch.

4 Rest the body block (A) upside down in the angled support on a drill press table. Using a $\frac{1}{4}$ " bit, drill the four $\frac{1}{2}$ "-deep holes in the body. Remove the support, and drill a $\frac{1}{2}$ "-deep hole for the rear rotor, and a $\frac{5}{16} \times 1$ "-deep hole for the pull-cord pin. Change to a $\frac{7}{16}$ " bit, and drill the vertical hole through the whirlybird body for the main rotor shaft. Switch to a $1\frac{1}{2}$ " hole saw or bit, and cut out the window. Back the body with scrap wood to prevent chip-out.

5 Cut the body to shape, following the pattern line. Sand off any saw marks as well as splinters around the holes.

AND NOW FOR THE LANDING SKIDS

1 Rip and crosscut two $\frac{3}{4} \times 1 \times 6\frac{1}{2}$ " pine blocks for the skids (B).

2 Referring to the Landing Skid Drawing below, lay out the hole center points for both skids. You'll need $\frac{1}{4}$ " holes $\frac{1}{2}$ " deep for the wheel axles, angled $\frac{1}{4}$ " holes $\frac{1}{2}$ " deep for the dowels connecting the skids to the body, and, on the inside left skid only, a centered $\frac{1}{4}$ " hole $\frac{1}{2}$ " deep for the drive-wheel axle. Drill the angled holes, using the angled-support block. Sand the skids smooth.

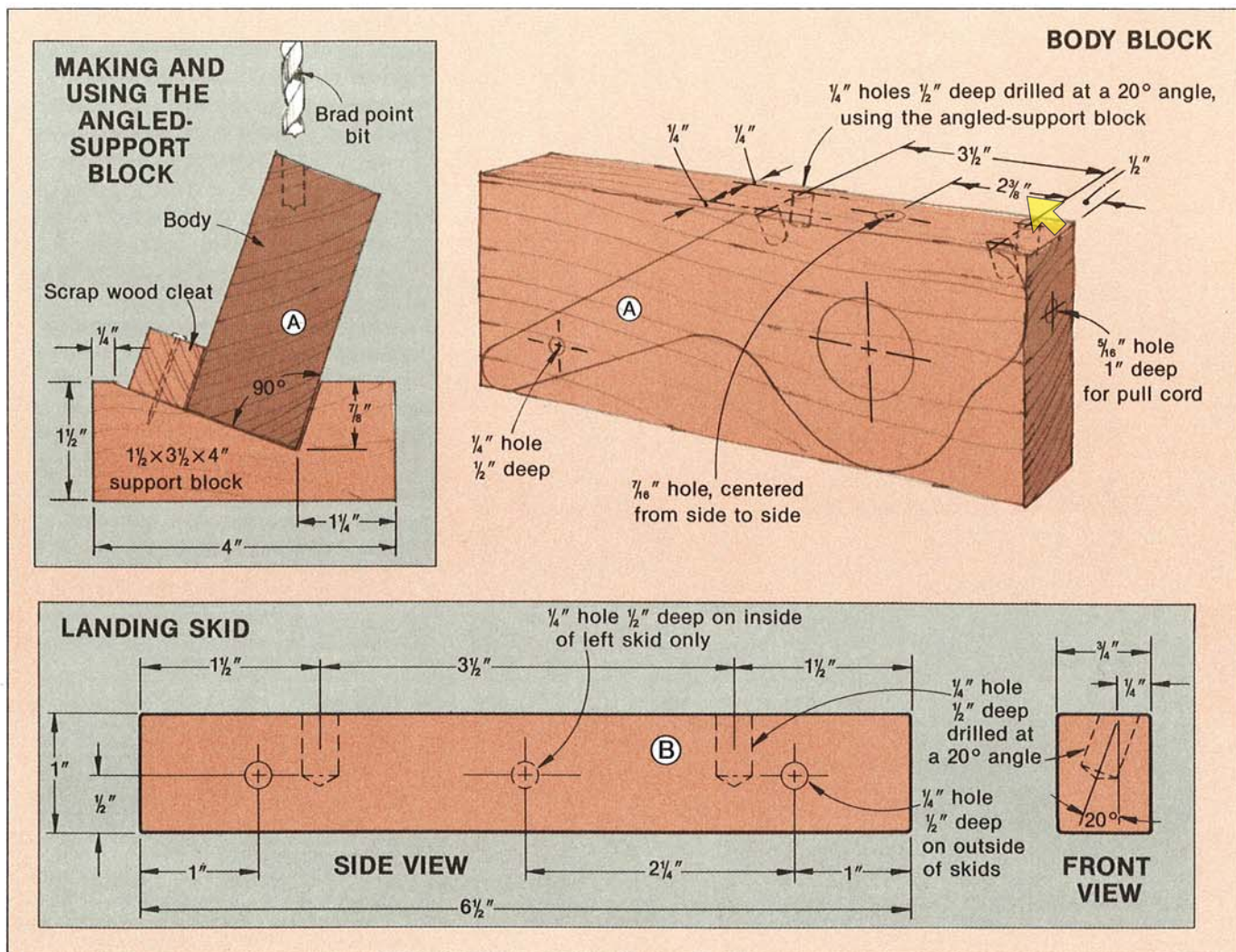
3 Paint the $1\frac{1}{2}$ "-diameter wheels (see the Buying Guide for our source of toy parts). While the paint is drying, cut four $\frac{1}{4}$ " dowels to 2" long. Apply glue to the dowel ends, and insert them into the body block. Now, add the landing skids, checking that the bottoms are parallel.

4 Thread the axle pegs through the five skid wheels, apply glue to their tips, and insert in the skids' remaining holes. (Be careful not to pinch the wheels between the pegs and skids; this would prevent the wheels from turning freely.)

HERE'S HOW TO MAKE AND INSTALL THE ROTORS AND PULL CORD

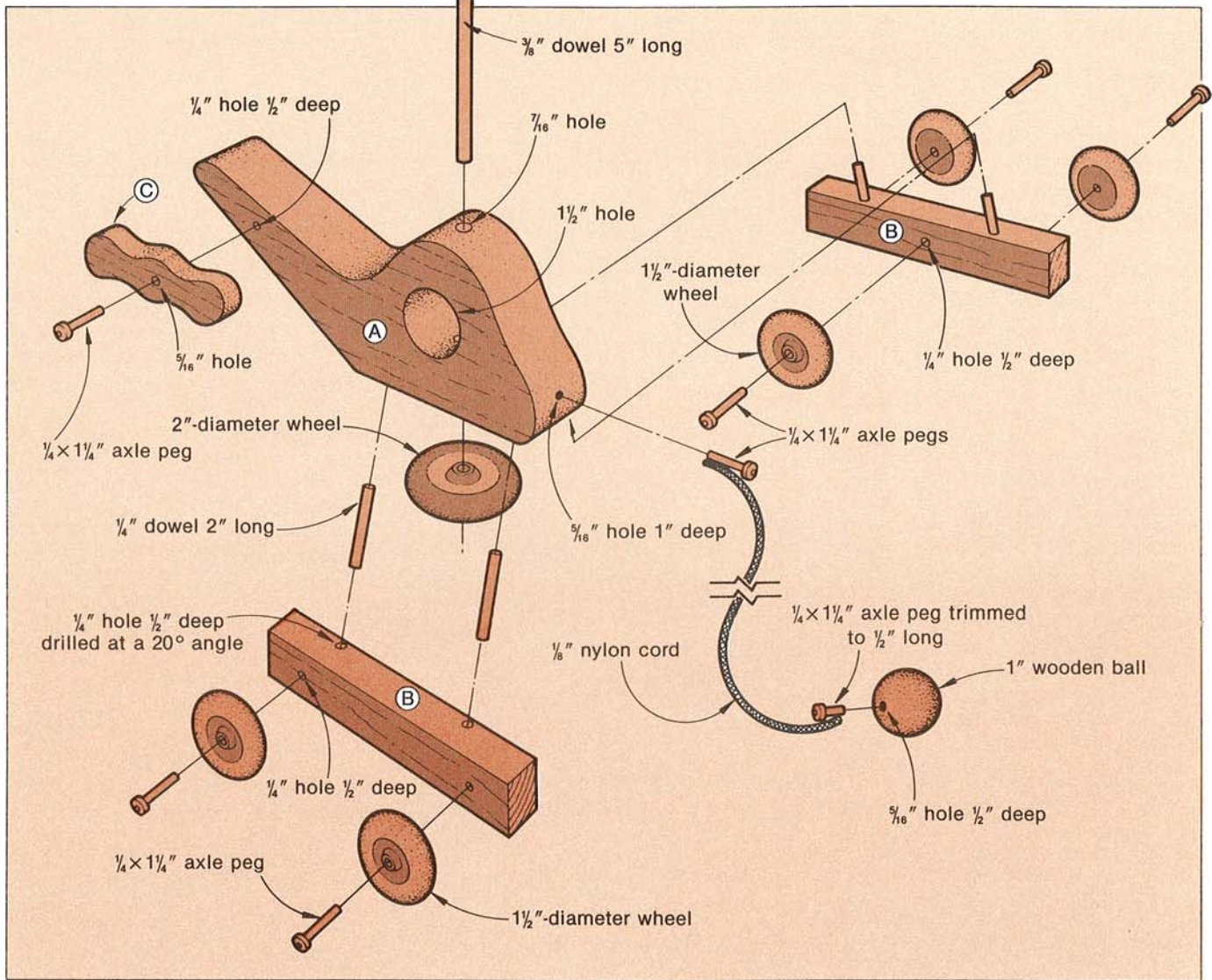
1 Using the full-size half patterns on page 7, trace the tail and main rotors (C, D)—including the dowel hole center points—onto $\frac{1}{2}$ " stock, and cut them to shape on a band saw. Sand the two rotors smooth. (We drum-sanded the curved surfaces and hand-sanded the rest.) Drill a $\frac{5}{16}$ " hole in the tail rotor and a $\frac{3}{8}$ " hole in the main rotor.

2 Paint the rotors and the 2"-diameter main rotor-drive wheel. And while



Continued

WHIRLYBIRD ON A STRING



these dry, cut the $\frac{3}{8}$ " main rotor shaft
dowel to 5 inches.

3 For a smooth-rotating main rotor, apply paraffin to the sections of the rotor shaft dowel that will be in contact with the whirlybird body. Apply glue to one end of the main rotor shaft, and insert it into the hole in the large rotor. Fit the shaft through the vertical hole in the body, add glue to the lower end, and slip on the 2"-diameter wheel.

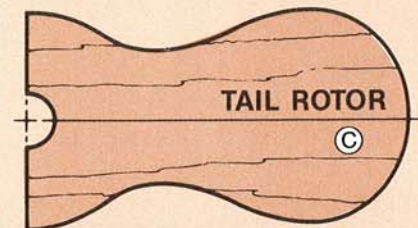
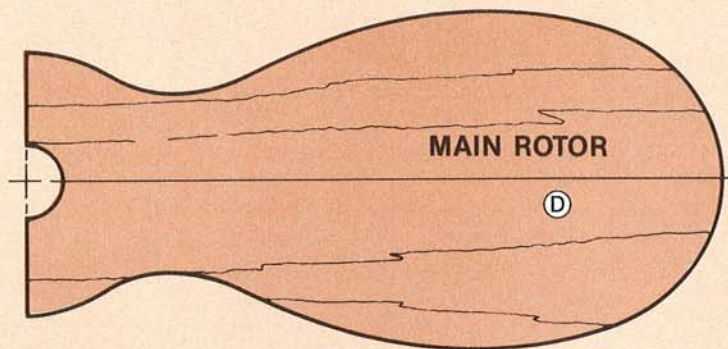
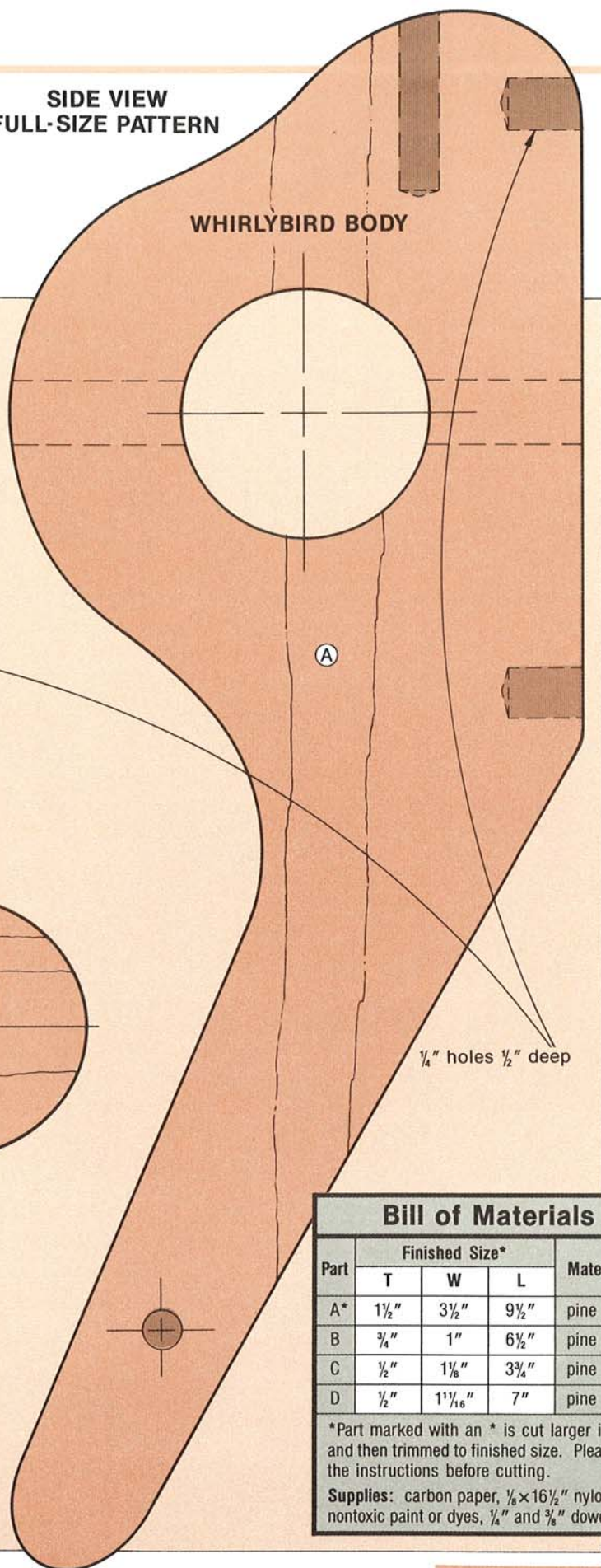
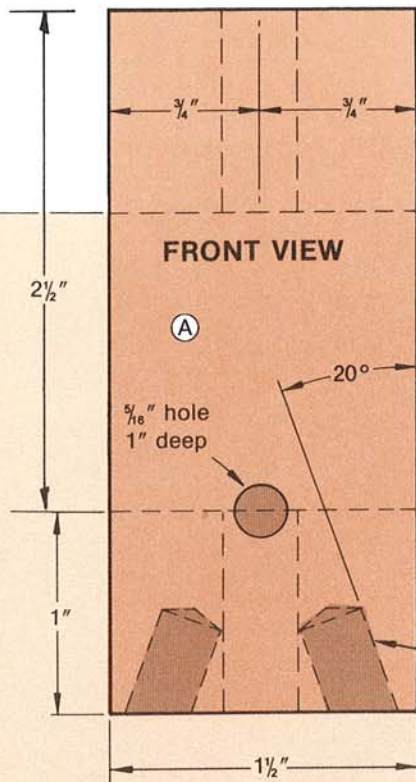
4 Insert the tail rotor's axle through the $\frac{5}{16}$ " hole in the tail rotor, and glue and insert its tip into the appropriate hole in the whirlybird body.

5 Clamp a 1" wooden ball in a wood handscrew, and drill a $\frac{5}{16}$ " hole $\frac{1}{2}$ " deep in it. (We did this on a drill press.) Insert one end of the pull cord in the ball's hole, and secure it with an axle peg glued in place. Secure the cord's other end in the body the same way.

BUYING GUIDE

● **Toy parts.** 5—1½"-dia. wooden toy wheels, catalog no. 13, 30 cents each. 2"-dia. wooden wheel, catalog no. 28, 35 cents. 1" wooden ball, catalog no. 8, 25 cents. 7—axles, catalog no. 2, 15 cents each. ¾×12" dowel stock, 20 cents. ¼×12" dowel stock, 15 cents. Whirlybird-on-a-string parts kit (includes the parts listed above), \$3.50 for parts plus \$2.50 postage and handling from Cherry Tree Toys, P.O. Box 369, Belmont, OH 43718.

**SIDE VIEW
FULL-SIZE PATTERN**



Bill of Materials

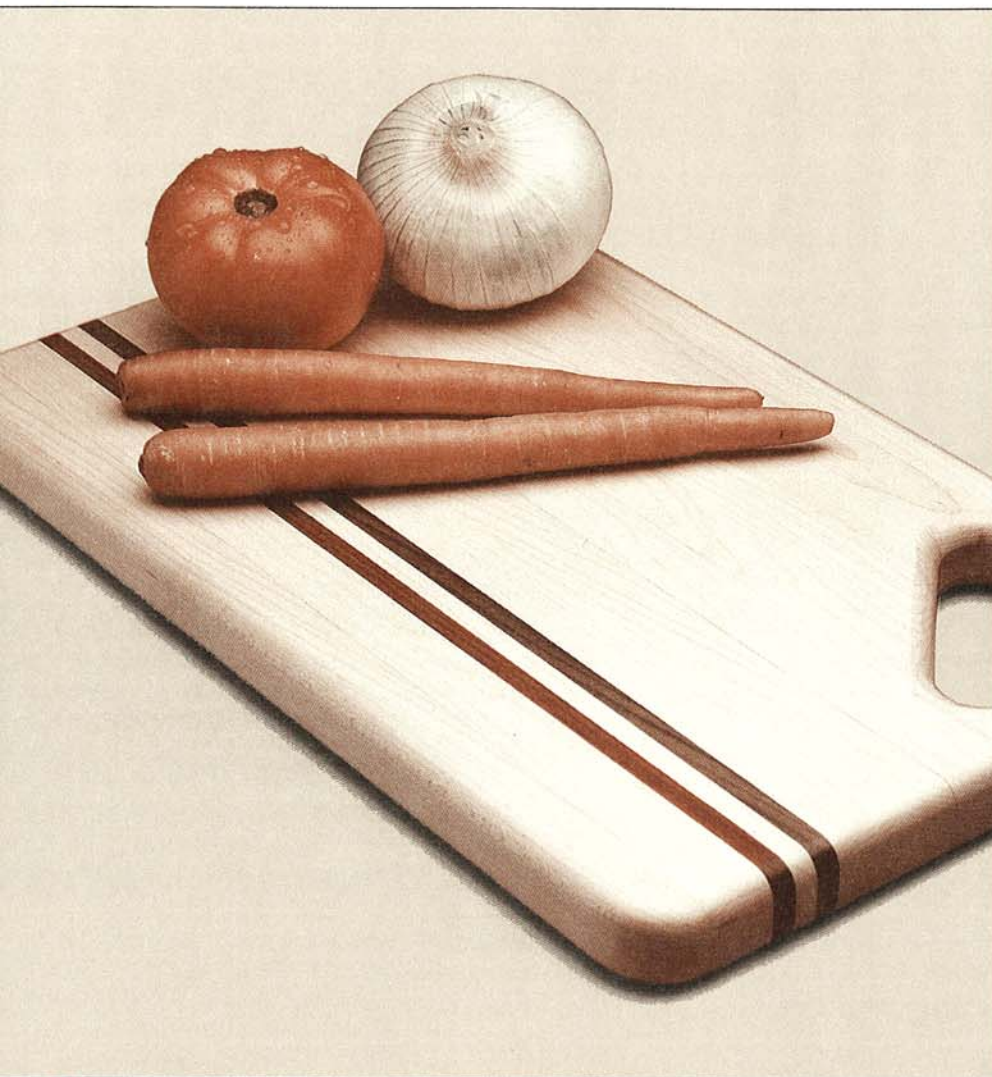
Part	Finished Size*			Material	Qty.
	T	W	L		
A*	1 1/2"	3 1/2"	9 1/2"	pine	1
B	3/4"	1"	6 1/2"	pine	2
C	1/2"	1 1/8"	3 3/4"	pine	1
D	1/2"	1 1/16"	7"	pine	1

*Part marked with an * is cut larger initially, and then trimmed to finished size. Please read the instructions before cutting.

Supplies: carbon paper, 1/8" x 16 1/2" nylon cord, nontoxic paint or dyes, 1/4" and 5/16" dowel stock

OFF-THE-WALL CUTTING BOARD

Create an ideal gift for weddings, housewarmings, and other special occasions with this rock-hard maple cutting board. Accent strips of padauk and walnut and an easy-to-grip handle separate this cutting board from anything you'll find in gift shops. Keep one or more of these eye-catching beauties in reserve, and you'll never be caught groping for a last-minute gift.



CUT AND LAMINATE THE PIECES

1 Rip and crosscut 10 strips of $\frac{3}{4}$ "-thick maple stock to 1×15 " for the A pieces.

2 Now, rip and crosscut one strip each of $\frac{3}{4}$ "-thick maple, walnut, and padauk stock to 1×15 " to form the accent strips (B, C, D). Resaw each of these strips to $\frac{1}{4}$ " thick by 1" wide.

3 Edge-join the pieces (edge grain up), using the pattern shown in the drawing at right, to form a 1"-thick board.

4 Later, sand both surfaces and all edges smooth, and crosscut the lamination to a 14" finished length.

ADD A CONVENIENT HANDLE

1 Lay out the position of the handle and the diagonal cutoff line on the cutting board, using the dimensions on the drawing and a combination square. Drill a blade hole and cut the opening with a scroll saw, or drill a 1"-diameter hole at each end of the handle, and join the holes with a saber saw.

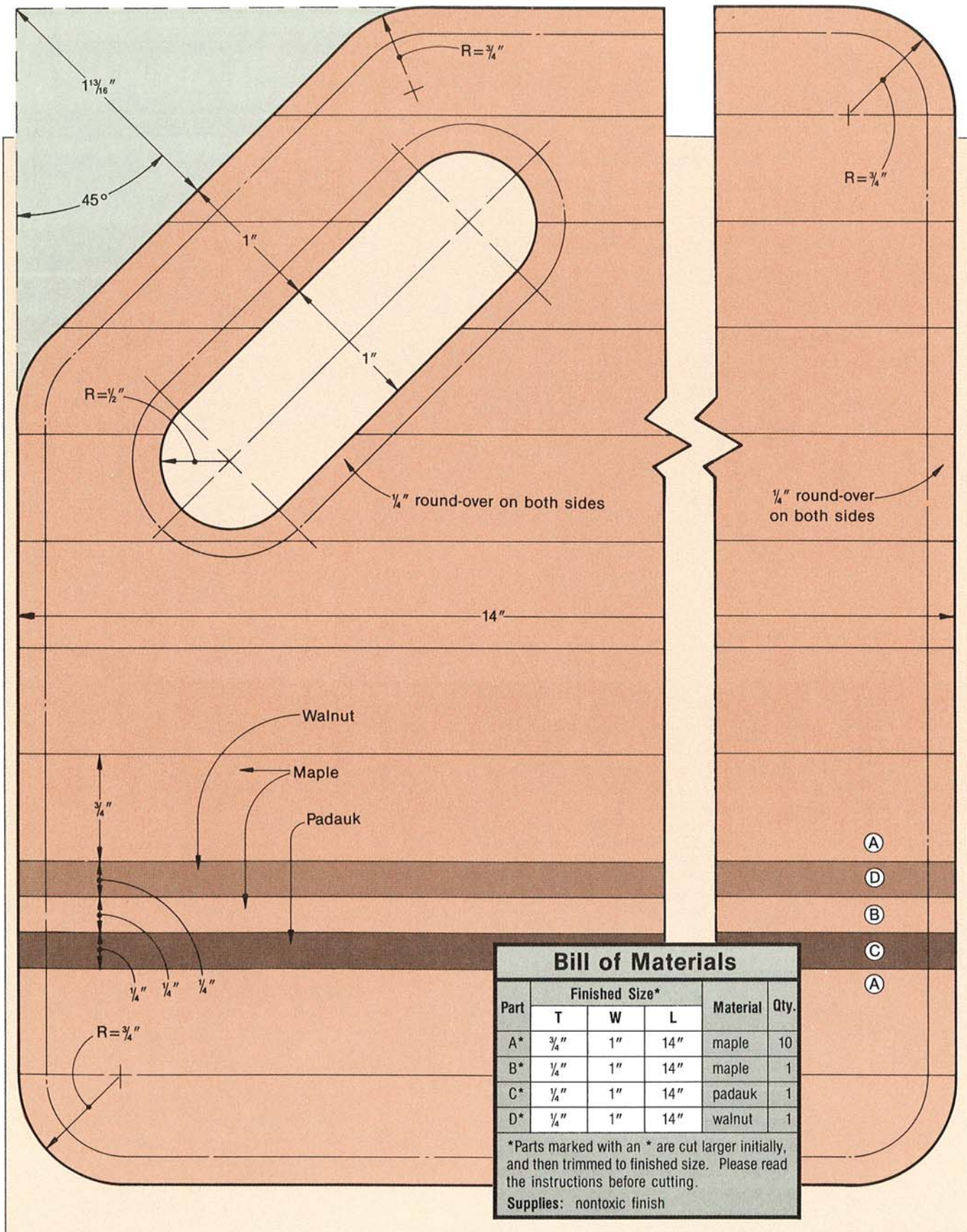
2 Trim the corner along the cutoff line you just drew (we used a radial arm saw). Mark a $\frac{3}{4}$ " radius on each of the five corners, and cut the corners to shape.

3 Sand all edges and the handle opening smooth. Rout a $\frac{1}{4}$ " round-over along all edges and in the opening.

4 Finish-sand all surfaces, and apply a nontoxic finish (see the Buying Guide for our source).

BUYING GUIDE

• **Salad bowl finish.** Nontoxic when dry. One pint, catalog no. B603-00015, \$6.02. One quart, catalog no. B603-00016, \$9.78. Add \$2 for shipping and handling. Wood Finishing Supply Co., 1267 Mary Drive, Macedon, NY 14502, or call 315/986-4517.



"JINGLE BELLS" SLEIGH



Santa would be proud, and so will you when you make this fanciful sleigh. Whether you hang this holiday decoration on your door to welcome guests, use it as a centerpiece for holiday dinners, or give it as a gift, this little charmer fills the holiday bill. And you can make several of them almost as quickly as you can just one.

FIRST, MACHINE ALL THE PARTS

1 Rip and crosscut a length of $\frac{3}{4}$ " material (we used poplar) to $4\frac{1}{2} \times 48$ ". Then, cut a 12" piece off of one end of the board.

2 Using your table saw, resaw the 12" piece to $\frac{1}{2}$ " thick. Also resaw the long piece so that you end up with two pieces of thin stock—one $\frac{1}{4}$ " thick and the other $\frac{3}{16}$ " thick. (Be sure to set up your saw carefully for this operation, and run scrap material through first to make sure the stock is of uniform thickness.)

3 Sand the cut surfaces of the boards. Transfer all full-size patterns on pages 12 and 13 to tracing paper. Using carbon paper, transfer the pattern of the runners (A) to the $\frac{1}{4}$ "-thick piece, the patterns for the decking pieces (B, C) to the $\frac{3}{16}$ " piece, and the pattern for the steering mechanism (D) to the $\frac{1}{2}$ " piece. (Remember to mark the center points for the holes.)

NOW, ASSEMBLE AND FINISH THE SLED

1 Clamp both runners in your woodworker's vise, and lay out the location of the deck supports where shown on the Exploded-View Drawing on page 13.

2 Fasten one of the deck supports in your vise, and using the layout marks you just made, glue and nail one of the runners to the deck support as shown in the sketch at right. (Drill pilot holes in the runners first; we had trouble with the runners splitting when we didn't do this.) Fasten the other runners to the deck supports.

3 Position the decking pieces atop the supports. Align the holes in the

4 With a band saw or scroll saw, cut all the parts to rough shape. Then, sand each part to finished shape with a disc sander as shown in the sketch at *right*. (We also used a drum sander to smooth some of the inside curves. We stuck both runners and both outside deck pieces together with cloth-type double-faced tape; then sanded them in pairs to ensure identical parts.)

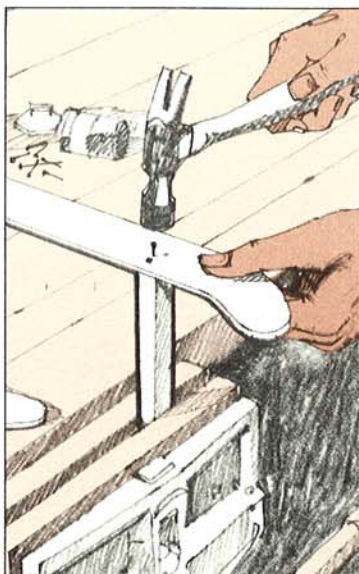
5 Drill holes in the deck pieces and the steering mechanism. Next, fit a $\frac{1}{2}$ " round-over bit in your router (see the detail drawing that accompanies the Exploded-View Drawing for positioning particulars). Rout a partial round-over along the top edge of the steering mechanism.

6 To make the two deck supports (E), rip two $\frac{1}{2}$ "-wide strips from a piece of $\frac{3}{4}$ " scrap stock. Then, crosscut each of the strips to their finished length— $6\frac{1}{4}$ ".



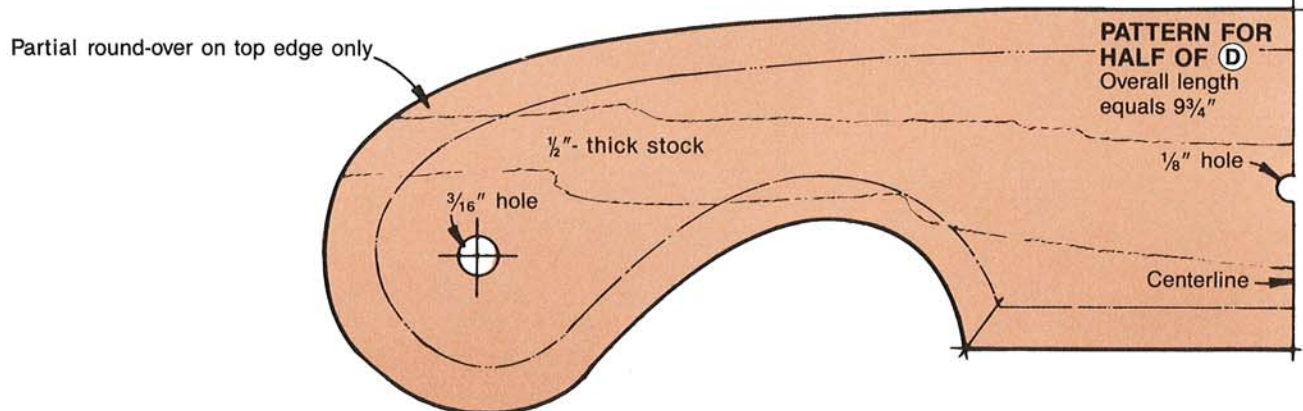
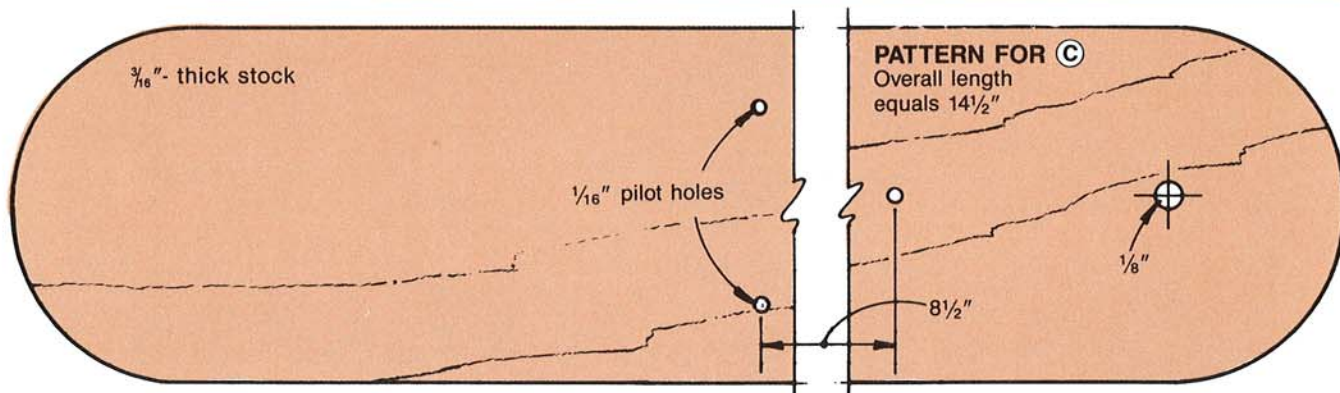
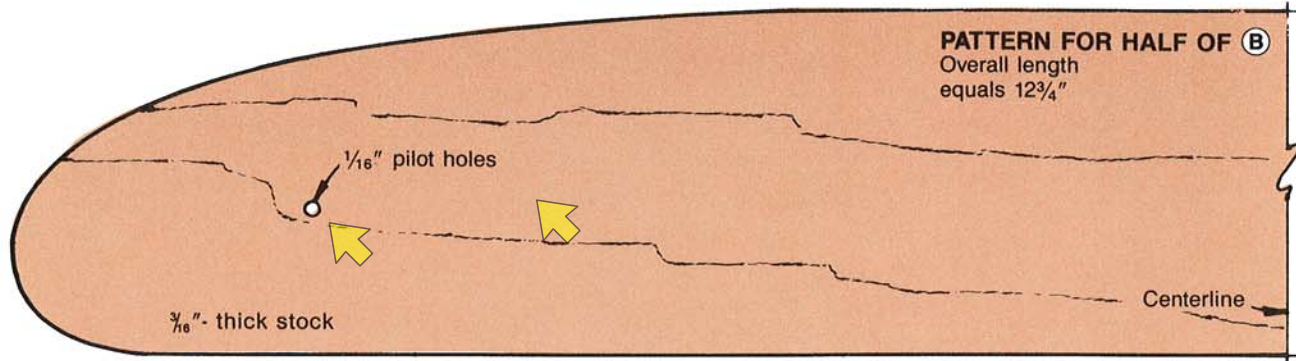
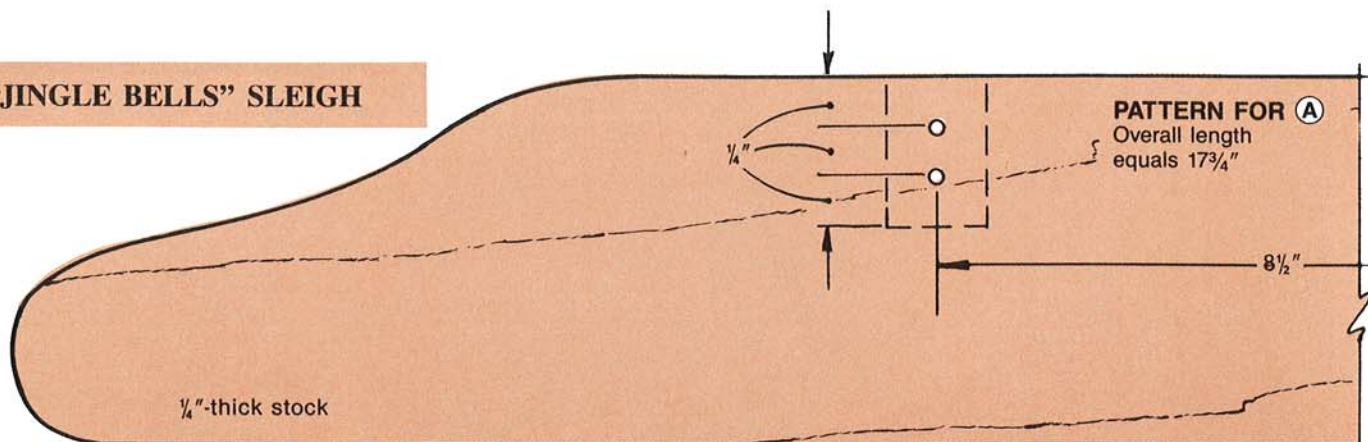
decking over the center of the front support, and center the pieces between the runners. Once you have them arranged correctly, glue and nail the decking to the supports. This project is fragile, so put a support block beneath the supports to help absorb the shock from the hammer blows (see sketch at *far right*).

4 Glue and bolt the steering mechanism to the middle deck board. Then, apply the finish of your choice. And to put the finishing touches on the project, fasten the nylon line to the steering mechanism, secure a bow and some pine cones to the sled, and personalize it with your name or that of one of your friends.

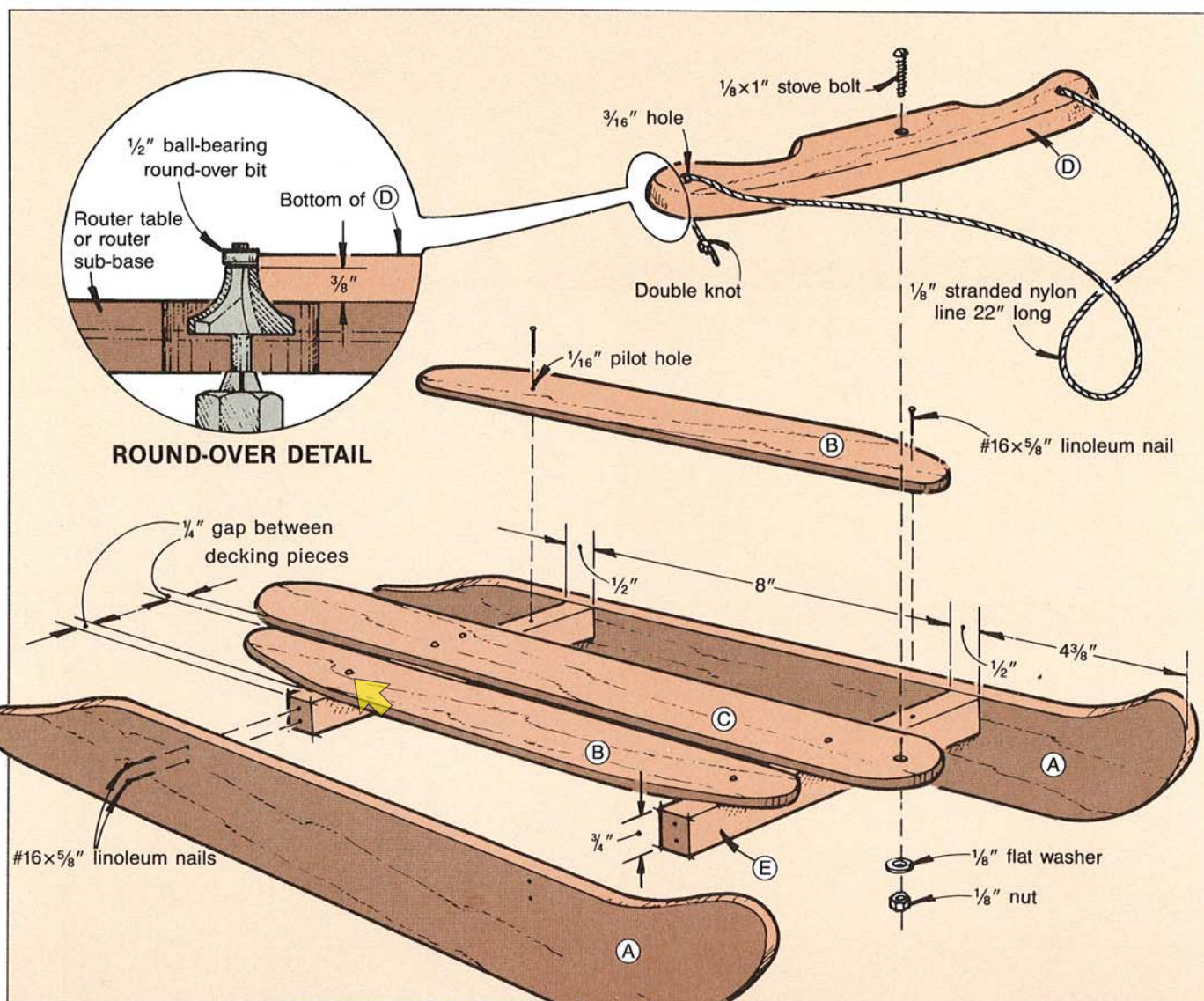


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"JINGLE BELLS" SLEIGH



Illustrations: Bill Zaun; Lippisch Design Inc. Photograph: Bob Calmer



OLD-THYME SPICE RACK

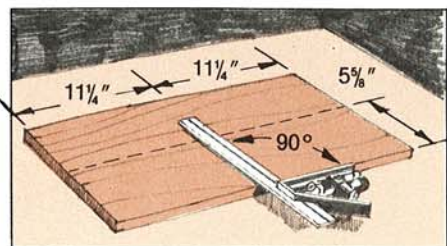
Sure, store-bought spice racks get the job done, but not with the flavor this one does. If you have got a country-style kitchen—or even if you don't—you owe it to yourself to build this charmer.



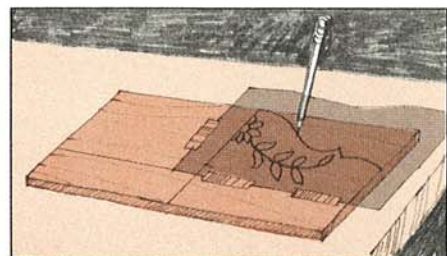
FIRST, CUT AND SHAPE THE PARTS

1 Edge-join pieces of $\frac{3}{4}$ " oak to make up a board that's $12\frac{1}{2}$ " wide for the back (A). Trim it to a length of $22\frac{1}{2}$ ", and sand smooth.

2 Mark a vertical centerline on the oak board with a combination square as shown *below*. Then, mark a horizontal line $5\frac{5}{8}$ " from the board's bottom edge.

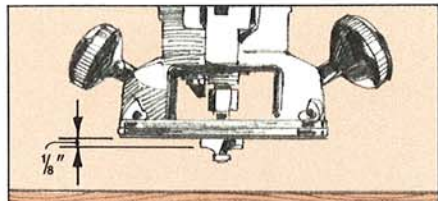


3 Trace the Flower and Top Profile Pattern (see pages 16–17) onto tracing paper. Now, align the tracing paper pattern with the lines you drew on the board, tape it in place, insert carbon paper between the pattern and the board, and transfer the pattern to the board as shown *below*. Flip the pattern over, and repeat the process for the other half of the pattern.



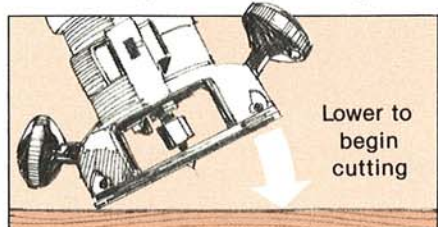
4 Saw the back's top profile to shape, and sand the cut edges smooth. Using a $\frac{1}{4}$ " round-over bit set to the depth shown in the top sketch *next column*, rout the decorative bead along the top.

5 Chuck a V-groove bit into your router, clamp the back to your workbench, and rout a $\frac{3}{32}$ "-deep V-groove to create the flower pattern. We suggest that you practice this technique on scrap stock first to get the hang of it. Remember



to start and stop each of the cuts as shown *below*—you'll have better control of the router this way.

6 Cut the end panels (B) and the shelves (C) to the sizes listed in the Bill of Materials. Transfer the End Panel Pattern (pages 16–17), including all screw hole center points, to the end panels.



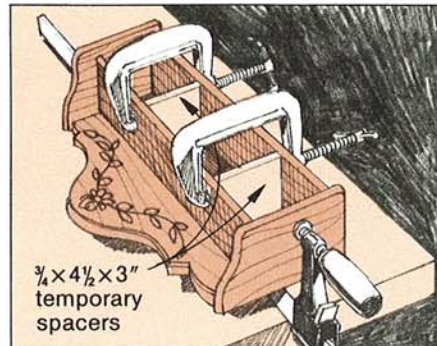
Using a band saw or scroll saw, cut the end panels to their final shape.

7 Again using the $\frac{1}{4}$ " round-over bit set to the depth shown earlier, rout a bead along the front edge of both shelves and the top, front, and bottom edges of the end panels. Sand all pieces smooth.

NOW, ASSEMBLE AND FINISH THE RACK

1 Dry-clamp the back, end panels, and shelves together as shown *above right*. Drill screw and plug holes through the end panels and into the back (A) and shelves (C). The Screw Hole Detail accompanying the drawing *below* shows the sizes and depths.

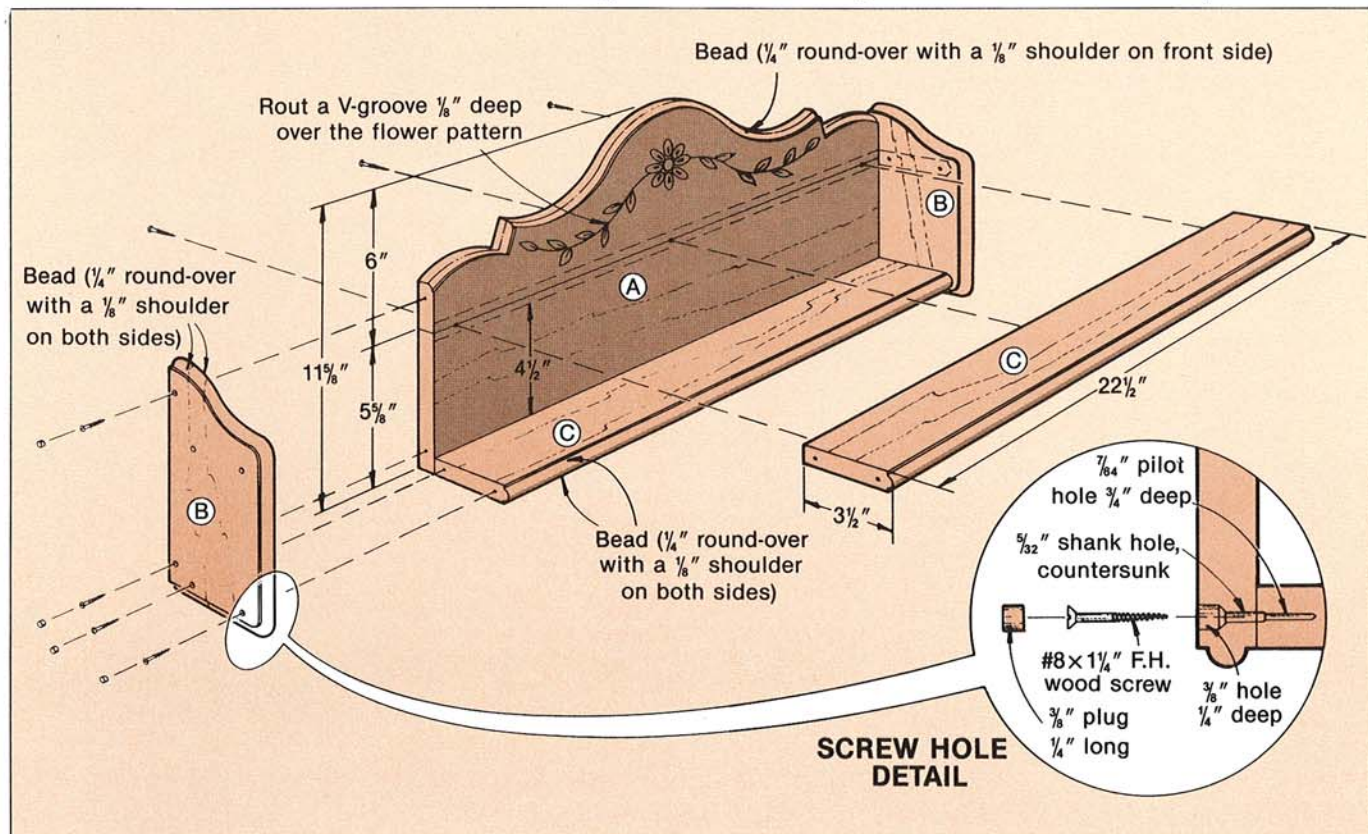
2 Remove the clamps, and apply glue to all mating surfaces. Screw the spice



rack together, and wipe off all excess glue with a damp cloth. Conceal the screwheads with $\frac{3}{8}$ " oak plugs. Later, sand the oak plugs flush.

3 If you intend to hang the rack on a wall, rout a pair of keyhole slots on 16" centers. (We used a Sears key slot cutter to rout the slots.)

4 Finish-sand the spice rack, and apply the stain and finish of your choice.



Continued

OLD-THYME SPICE RACK

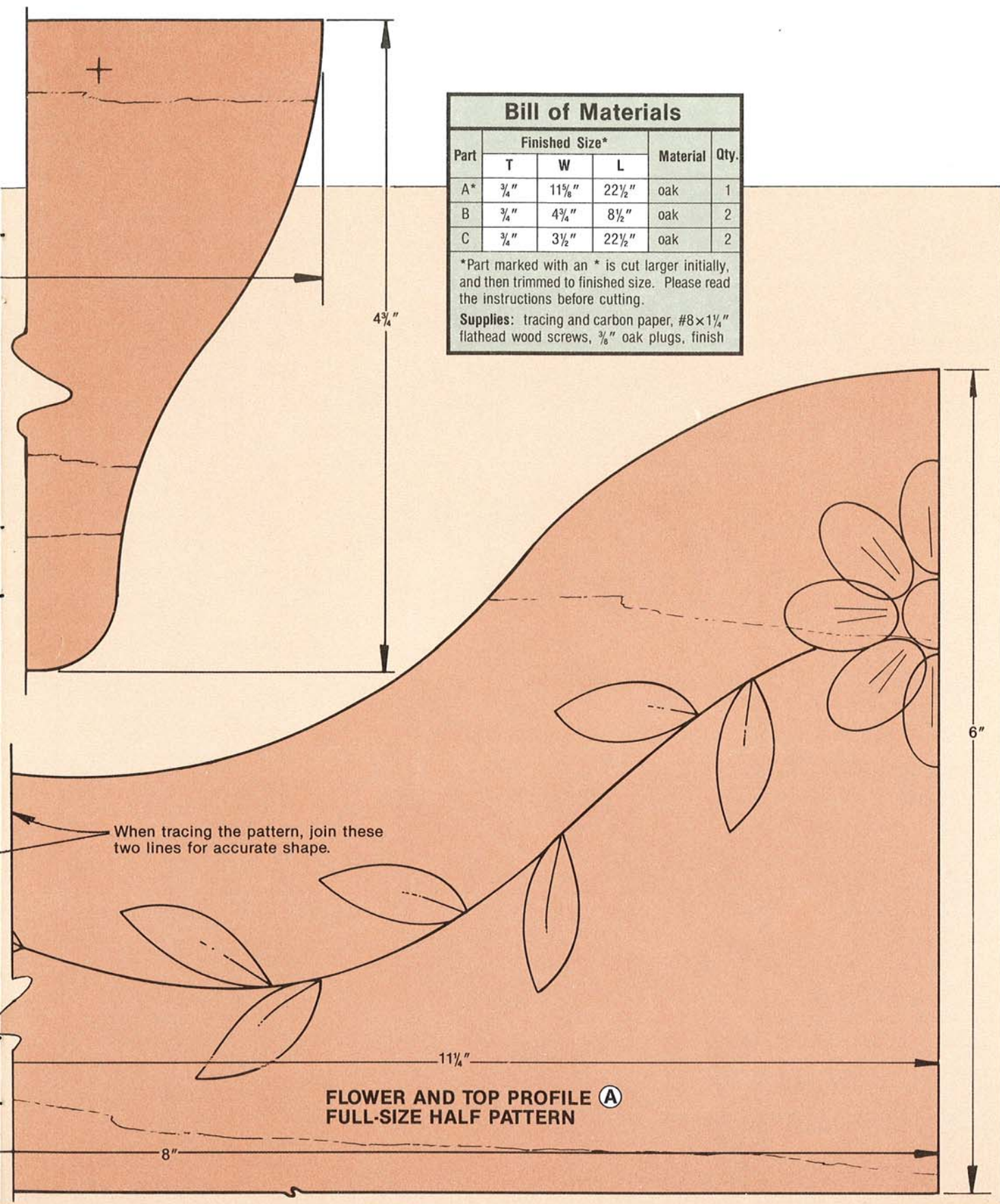
Screw hole center points

8 1/2"

END PANEL PATTERN **B**

Keyhole hanger slots on the
back side spaced 16" center to center

5 5/8" from bottom edge of board



Bill of Materials

Part	Finished Size*			Material	Qty.
	T	W	L		
A*	3/4"	11 5/8"	22 1/2"	oak	1
B	3/4"	4 3/4"	8 1/2"	oak	2
C	3/4"	3 1/2"	22 1/2"	oak	2

*Part marked with an * is cut larger initially, and then trimmed to finished size. Please read the instructions before cutting.

Supplies: tracing and carbon paper, #8x1 1/4" flathead wood screws, 3/8" oak plugs, finish

When tracing the pattern, join these two lines for accurate shape.

**FLOWER AND TOP PROFILE (A)
FULL-SIZE HALF PATTERN**

CLASSIC WALL SCONCE

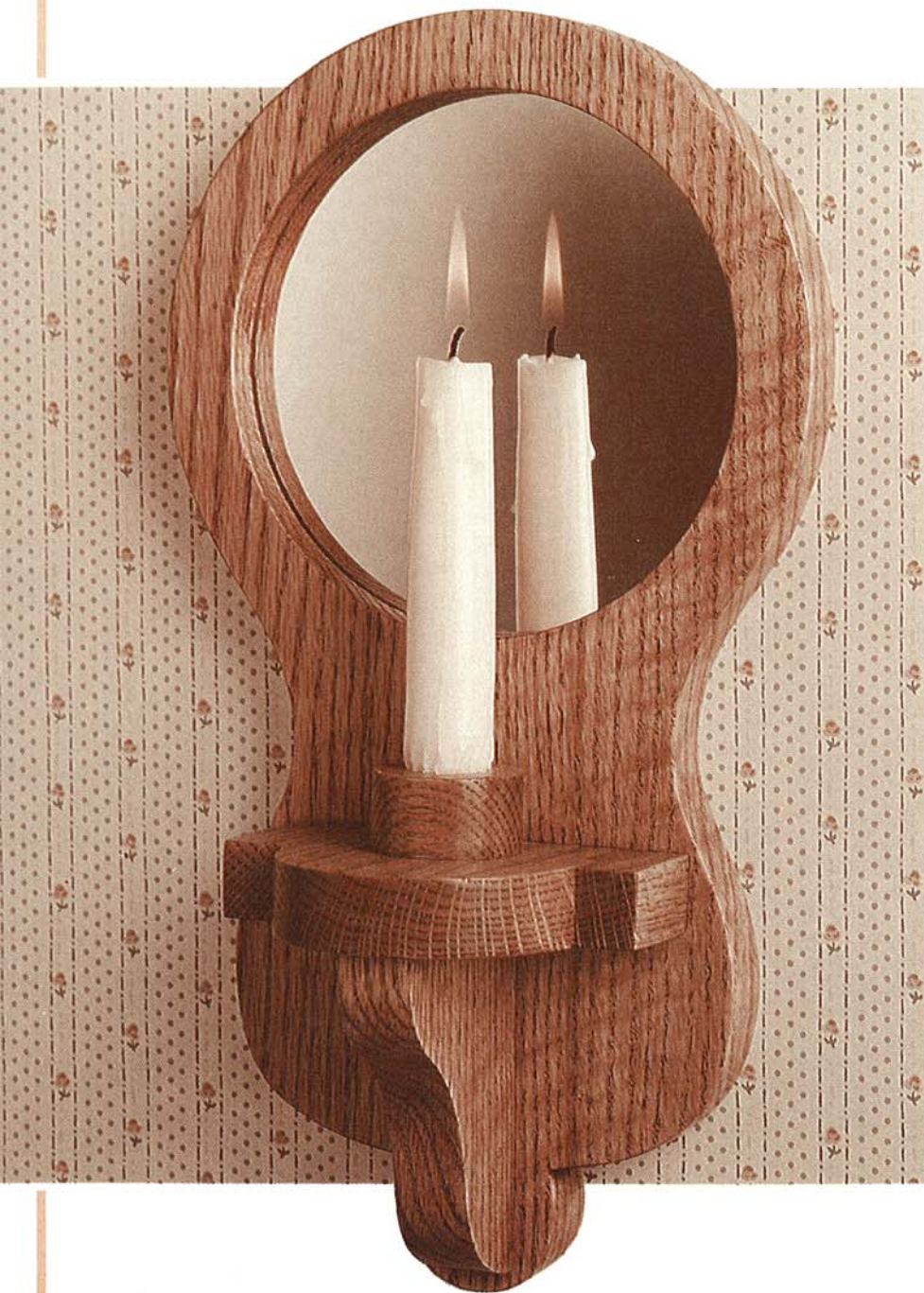
Few light sources cultivate a romantic mood better than candlelight. Borrowing from the past, the mirrored surface in this wall sconce delivers twice the aura with a classic design. You can illuminate a cozy room in a flicker of the time required of old-world craftsmen when you use today's woodworking tools.

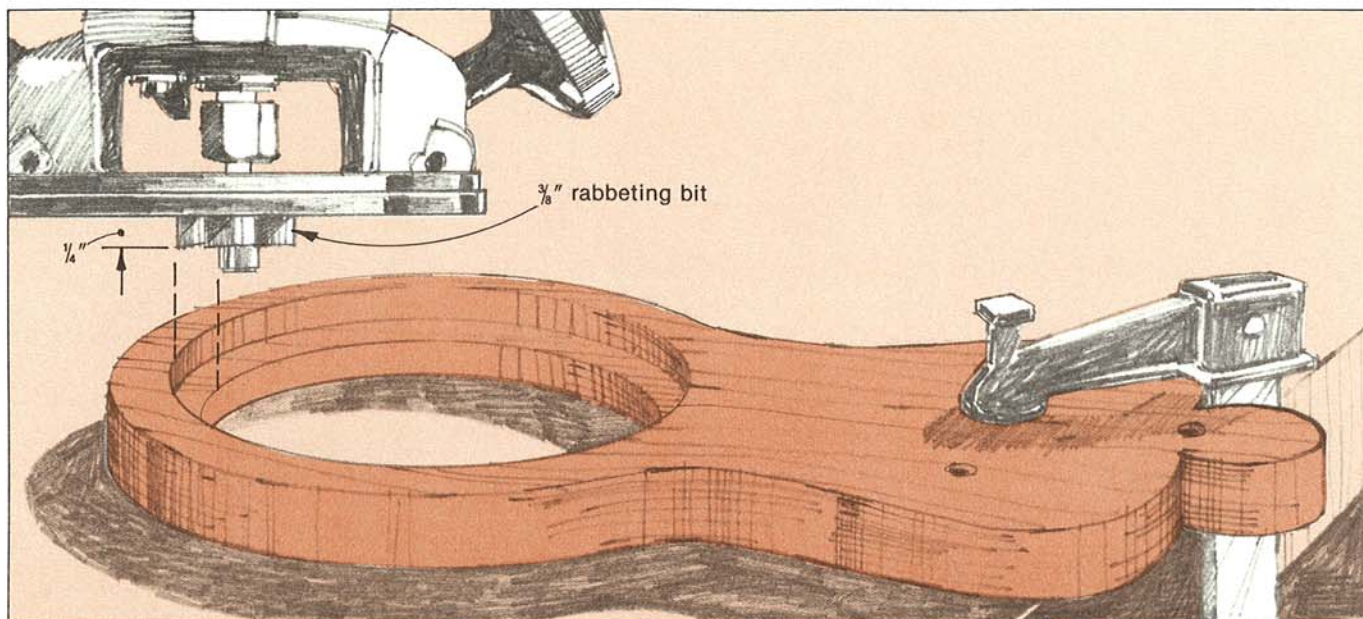
LAYING OUT THE PIECES

1 Rip and crosscut $\frac{3}{4}$ "-thick stock to $7\frac{1}{4} \times 13\frac{1}{4}$ " for the sconce back (A). We used oak, but the project also would look attractive constructed of walnut, maple, or cherry.

2 Transfer the Sconce Back Half Pattern on pages 20 and 21, including all the screw hole center points, the mirror center point, and the shelf and shelf support dotted lines, to a piece of tracing paper. Then, cut a piece of white paper to $7\frac{1}{4} \times 13\frac{1}{4}$ ". Fold the paper in half lengthwise. Then, lay carbon paper on top of the folded paper and the tracing paper Half-Pattern atop the carbon paper. Make sure to align the fold in the white paper with the centerline of the pattern. Transfer the pattern onto the folded paper. With the white paper still folded, cut the marked profile to shape. Unfold the paper template. Apply spray adhesive to the template, and stick it to the sconce back. Mark the center point of the mirror and the four screw-hole center points for the shelf and the shelf support with a sharp awl. Then, mark the outline of the shelf and shelf support by bearing down with a ball-point pen.

3 Cut the sconce back to shape with a scroll saw or band saw. Remove the paper template, and sand off any sticky residue. Next, use a compass to scribe the $2\frac{3}{4}$ "-radius mirror opening. Cut the mirror opening to shape with a circle cutter, or drill a starter hole and cut to shape with a scroll saw.

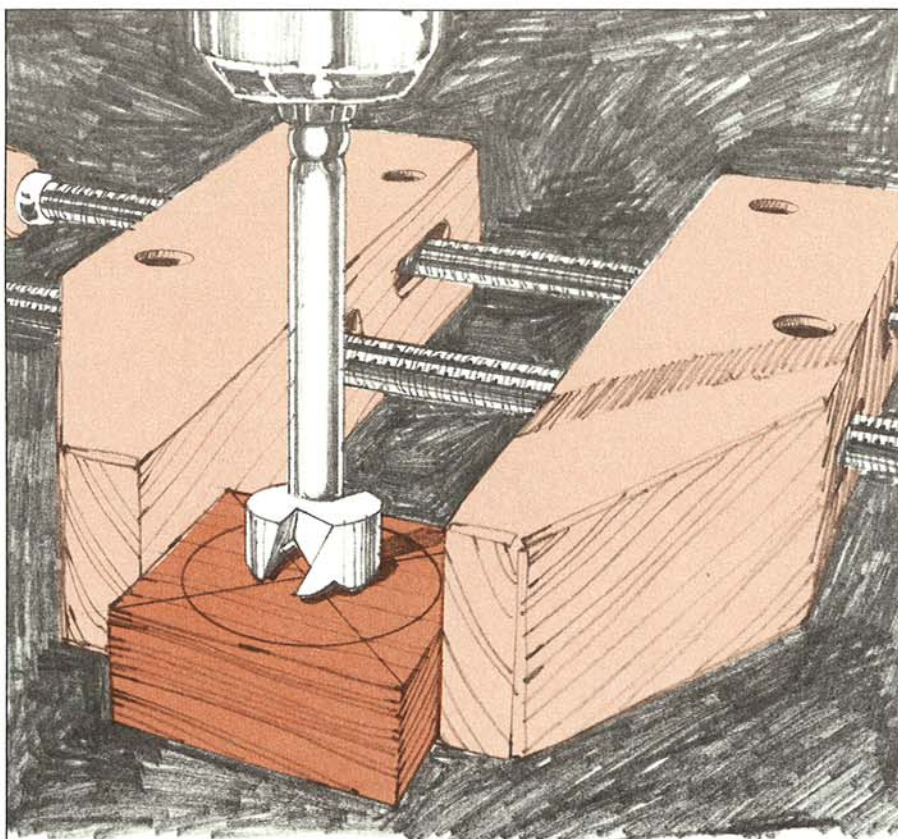




4 Sand the scone back smooth. (We used a drum sander on the curved edges and a palm sander on the surfaces.) Clamp the scone back (facedown) to your workbench as shown in the drawing above. On the back side, rout a $\frac{3}{8}$ " rabbet $\frac{1}{4}$ " deep. Drill the hanger hole angled up where shown in the Rabbet Detail on the Exploded-View Drawing on page 21. Sand the rabbeted scone back smooth.

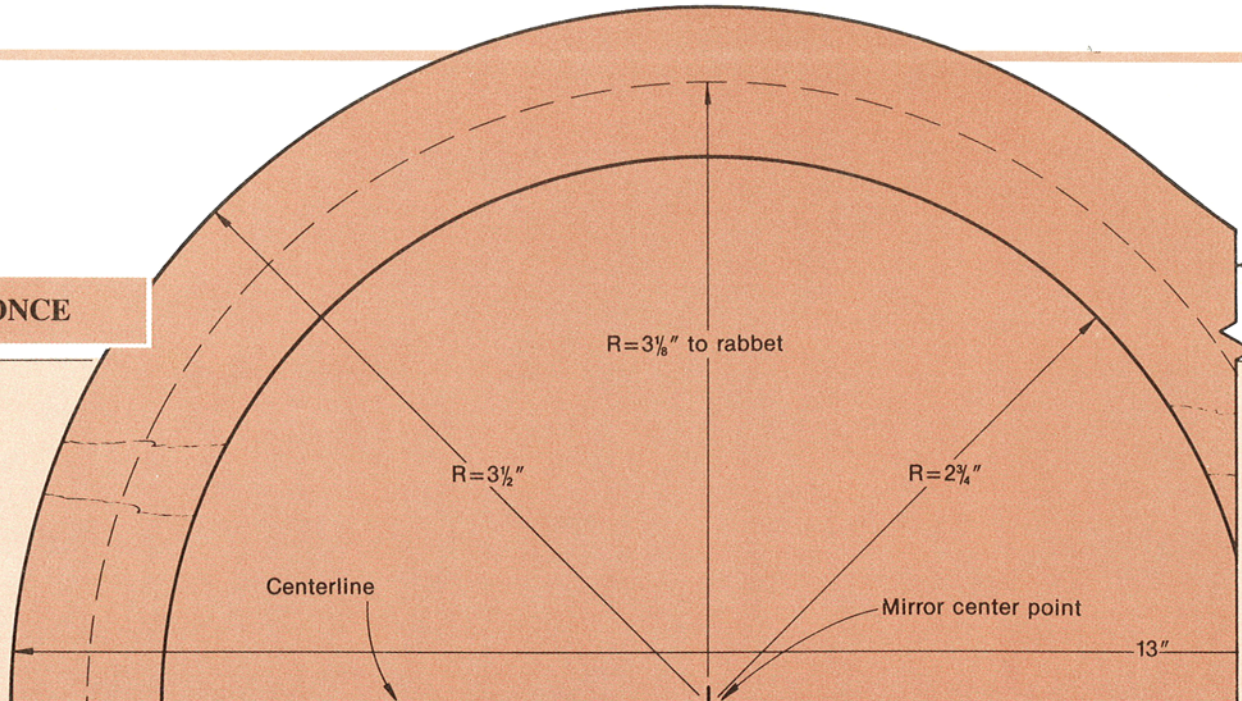
5 Using the full-size patterns on page 20 and carbon paper, transfer the shapes of the shelf (B) and shelf support (C) to $\frac{3}{4}$ " oak stock. Cut the parts to shape, and sand them both smooth.

6 To form the candle holder (D), cut $\frac{3}{4}$ " oak stock to 2×2 ". Mark diagonals to find the center point, then use a compass to mark a $1\frac{1}{2}$ "-diameter circle. Clamp the piece in a handscrew as shown in the drawing at right, and bore a $\frac{3}{4}$ " hole through the center, backing the stock with scrap to prevent chip-out. With a band saw or scroll saw, cut the profile to shape. Sand smooth.



Continued

WALL SCONCE



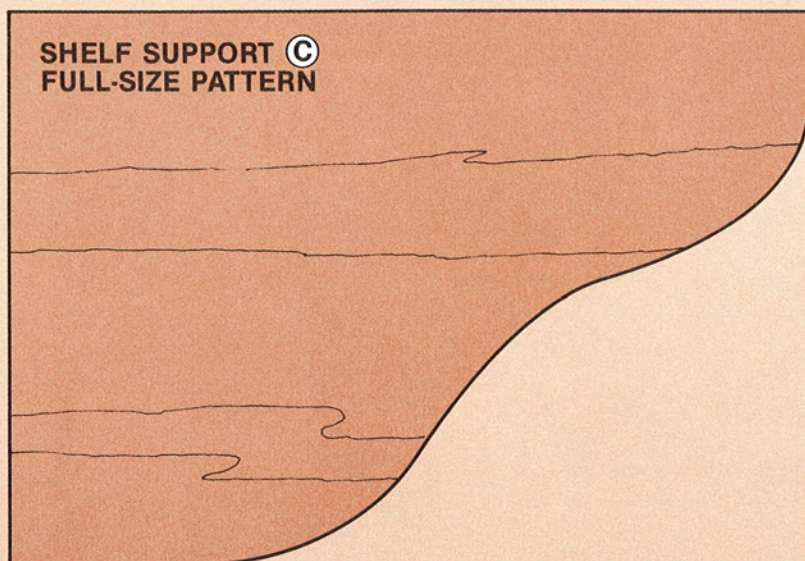
ASSEMBLING THE SCONCE

1 Drill a $\frac{5}{32}"$ hole through the shelf. Clamp the shelf support in a woodworker's vise. Then, with the shelf centered atop the support, and the back edge of both flush, drill a $\frac{7}{64}"$ pilot hole through the shelf and $\frac{1}{2}"$ into the shelf support. Countersink the hole. Glue and screw the shelf to the support, and the candle holder to the shelf where shown on the Shelf Pattern Drawing.

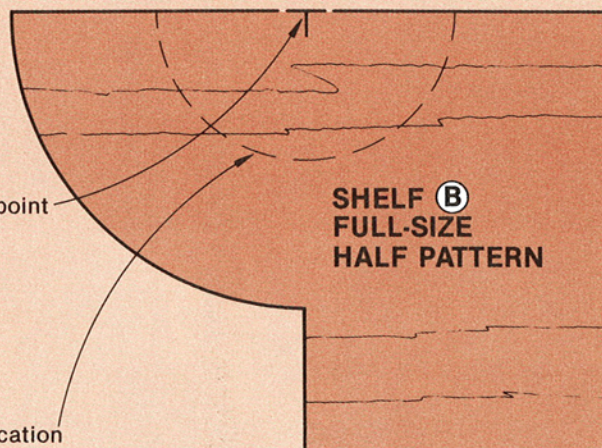
2 Drill four $\frac{5}{32}"$ pilot holes through the sconce front. Position the shelf assembly, and from the back side of the sconce back, drill holes on into the shelf assembly. Glue and screw the assembly to the sconce back.

3 Finish the sconce as desired. Install a custom-cut $\frac{1}{8} \times 6"$ -diameter mirror in the opening. Secure it with silicone.

SHELF SUPPORT C FULL-SIZE PATTERN



SHELF B FULL-SIZE HALF PATTERN



Bill of Materials

Part	Finished Size*			Material	Qty.
	T	W	L		
A*	$\frac{3}{4}"$	7"	13"	oak	1
B*	$\frac{3}{4}"$	$4\frac{3}{8}"$	3"	oak	1
C*	$\frac{3}{4}"$	$2\frac{3}{4}"$	4"	oak	1
D*	$\frac{3}{4}"$	$1\frac{1}{2}"$ -diameter		oak	1

*Parts marked with an * are cut larger initially, and then trimmed to finished size. Please read the instructions before cutting.

Supplies: Carbon paper, spray adhesive, #8 $\times$ $1\frac{1}{4}"$ flathead wood screws, $\frac{1}{8} \times 6"$ -diameter mirror, silicone sealant, stain, polyurethane

When tracing the pattern, join these two lines for accurate shape.

SCONCE BACK (A) **FULL-SIZE** **HALF PATTERN**

Screw hole center points

$\frac{1}{8}$ " hole
 $\frac{1}{2}$ " deep, drilled
at an angle for hanging
to the wall

Silicone
sealant

RABBET DETAIL

$\frac{1}{8}$ " x 6"-diameter mirror

$\frac{3}{8}$ " rabbet $\frac{1}{4}$ " deep

$\frac{1}{4}$ " hole

#8 x $1\frac{1}{4}$ " F.H.
wood screw

#8 x $1\frac{1}{4}$ " F.H.
wood screw

$\frac{5}{32}$ " hole, countersunk
on back side

$\frac{5}{32}$ " hole, countersunk

$\frac{7}{16}$ " pilot hole $\frac{1}{2}$ " deep



POCKET WATCH CLOCK

Old Man Time never looked so good. The handsome oak surround and the optional walnut stand of this clever project hail from the scrap wood pile. Your only purchases include the quartz clock movement, an AA battery, lamp parts for the stem, and a thin brass rod or some chain and a fob.

HERE'S HOW TO BUILD AND SHAPE THE CLOCK CASE

1 Using $\frac{3}{4}$ " stock (we used some scrap red oak), cut two 7" squares. Label one "A" and the other "B."

2 Draw diagonals to find the center of each square. Now, using a compass, scribe circles on squares A and B, following the radii measurements shown on the drawings at *right*.

3 Chuck a circle cutter in your drill press, and adjust it to cut the inner hole ($2\frac{5}{16}$ " radius) in square A. Nail square A (through the corners) to a piece of scrap plywood that's the same size as your drill press table. Center square A on the table directly below the circle cutter, and clamp the plywood firmly to the table. Make your cut. Repeat this process to cut the inner hole ($1\frac{1}{2}$ " radius) in square B.

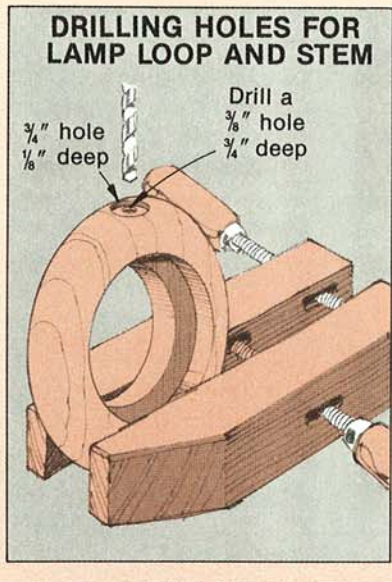
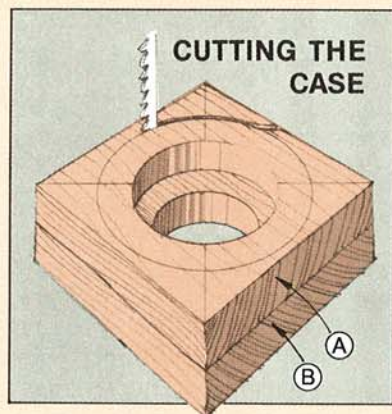
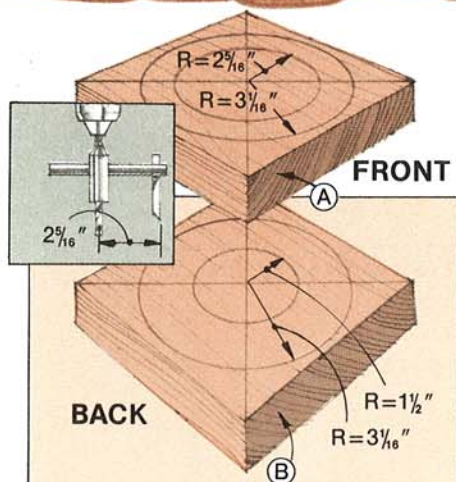
4 Apply woodworker's glue to one surface of A, and adhere it to square B, aligning the edges and grain of both squares. Clamp the pieces together.

5 Cut along the outside $3\frac{1}{16}$ " radius of the laminated squares on a band saw as shown in Cutting the Clock Case Drawing. Sand the outside edge of the clock case smooth on a disc or belt sander.

6 With a router table and a $\frac{1}{2}$ " round-over bit that has a ball-bearing pilot, round over the front and back edges of the case, holding the clock case firmly.

7 Clamp the rounded case in a hand-screw so that the grain runs vertically as shown at *right*. Place the case on your drill press table, and bore a $\frac{3}{4}$ " hole $\frac{1}{8}$ " deep centered at the top. Switch to a $\frac{3}{8}$ " brad-point bit, and bore a $\frac{3}{4}$ "-deep hole centered inside the $\frac{3}{4}$ " hole.

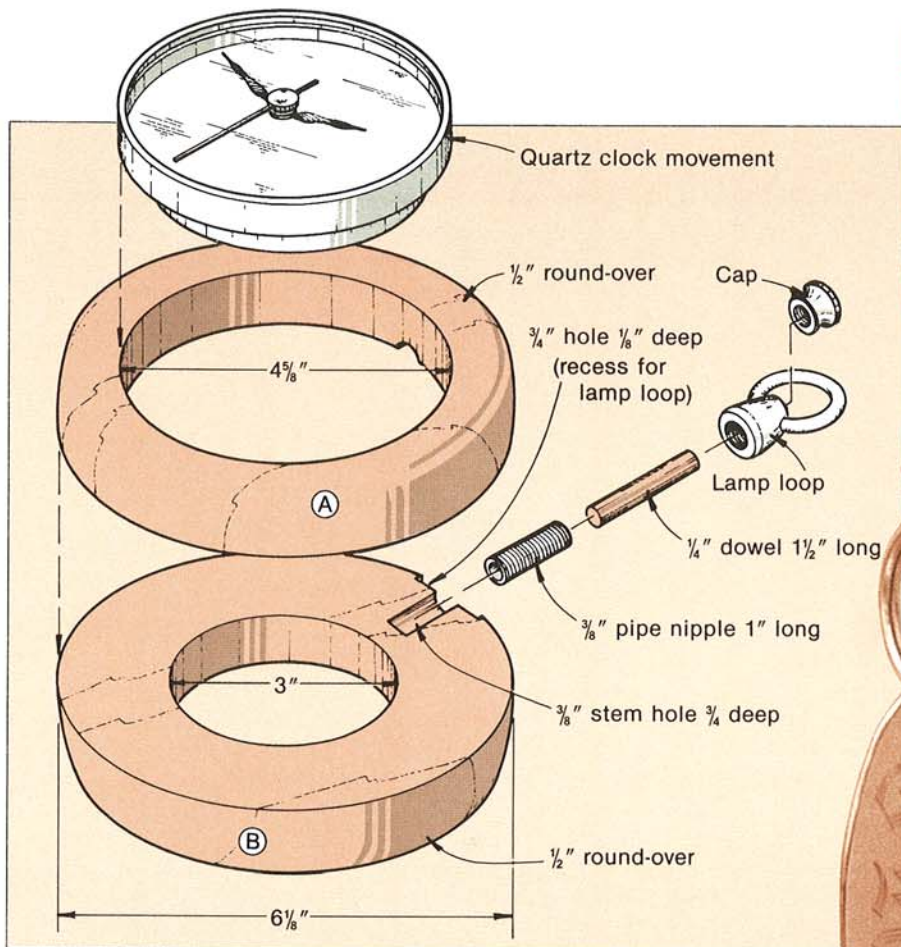
8 Finish-sand the case, and apply the finish of your choice.



FASHION THE WATCH STEM

Note: If you plan to hang this clock on a wall like the one shown in the photo at left, fasten a chain and fob to the stem. For desktop use, though, you'll want to make the walnut and brass stand we show you how to build later.

Project Design: James R. Downing



1 The watch stem consists of a length of $\frac{1}{4}$ " dowel and lamp parts found at lamp stores and some hardware stores. These include a $\frac{1}{2}$ "-diameter lamp loop, a $\frac{3}{8}$ "-threaded pipe nipple, and a screw-on cap. If you can't find these locally, see our Buying Guide. Once you've gathered the parts, cut a $\frac{1}{2}$ "-long piece of $\frac{1}{4}$ "-diameter dowel.

2 Apply quick-set epoxy to the top third of the threads of a 1" piece of threaded nipple. Now, screw the piece into the threaded lamp loop.

3 Apply epoxy to the dowel, and insert it into the nipple, allowing $\frac{3}{16}$ " to protrude past the lamp loop ring. Add epoxy to the cap, and fit it onto the dowel end. Let the epoxy set.

4 Screw the assembly into the hole at the top of the case.

5 (Optional) To add a chain ornament and fob to the pocket watch, hacksaw both end links of a chain, and spread the cut ends with pliers. Hook one link onto the lamp loop and the other onto the fob, and close the spread links.

TO MAKE THE CLOCK STAND

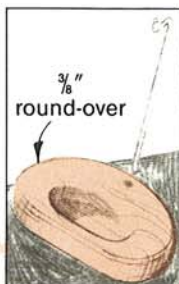
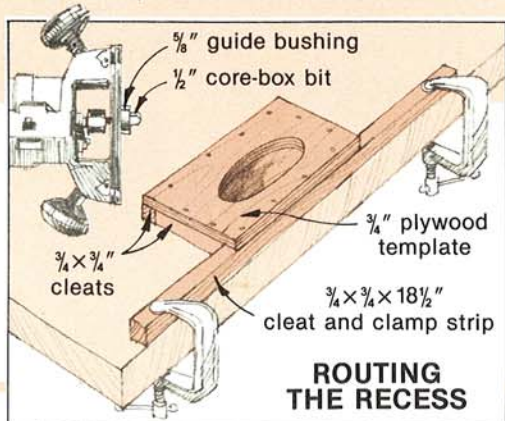
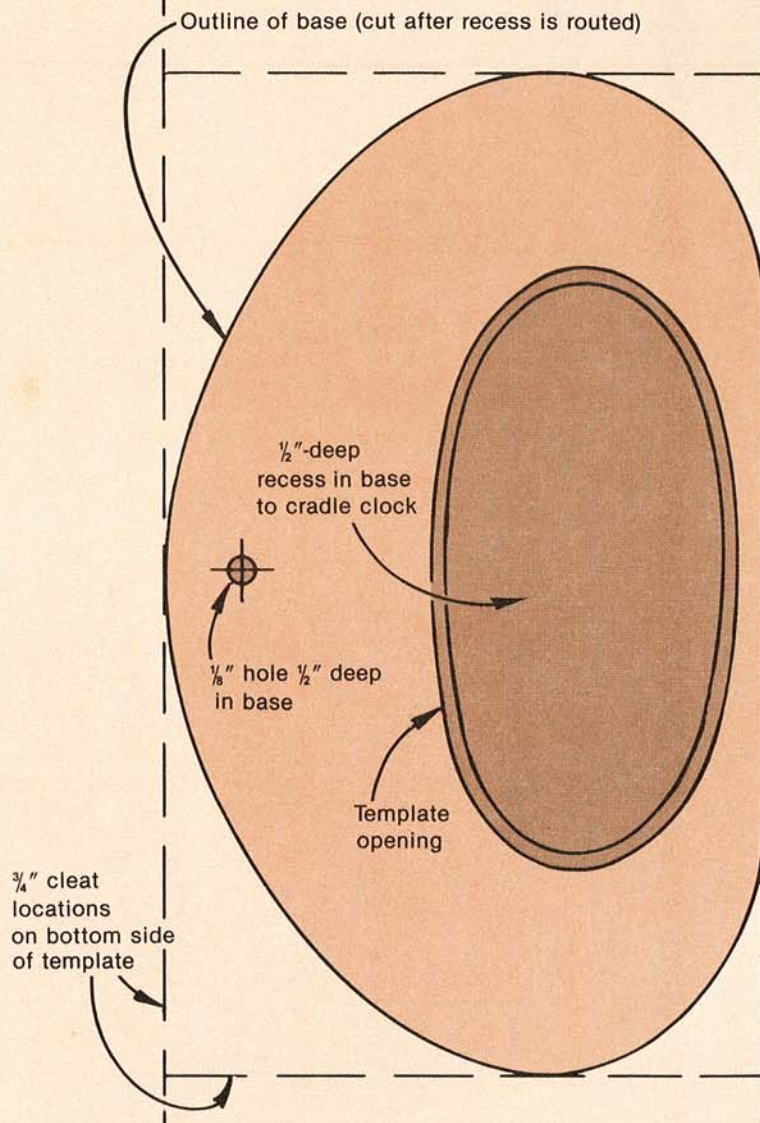
1 From $\frac{3}{4}$ " walnut, cut a 3×5 " blank, and from $\frac{3}{4}$ " plywood, cut a $4\frac{1}{2} \times 6\frac{1}{2}$ " piece for the template. Now, using carbon paper and the template pattern on page 24, trace the template opening onto the plywood. Clamp the plywood to your bench, and drill a hole in the template opening. Insert a scroll saw blade, and cut the opening to shape.

2 With $\frac{3}{4} \times \frac{3}{4}$ " pine cleats, build a rectangular frame along the perimeter of

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POCKET WATCH CLOCK

BASE TEMPLATE FULL-SIZE



ROD FULL-SIZE CLOCK HOLDER

1/8" brass rod

the plywood template. You'll want one of the cleats to extend at least 6" beyond the template at each end. Drop the walnut blank into the 3×5" frame, and secure the two to your workbench as shown in the drawing *bottom left*.

Now, using a 5/8" guide bushing and 1/2" core-box bit, adjust the router depth for a 1/8" cut, and rout the recess in the base. Continue routing in 1/8" increments until you reach a 1/2" depth.

3 Remove the template. Using the template pattern again, trace the outside shape of the clock base and the hole for the clock holder rod. Band-saw the base, and sand all edges smooth.

4 With a table-mounted router and a 3/8" round-over bit, rout a 3/8" round-over on the base where shown *bottom right*. Hold on tight to maintain control.

5 Drill a slightly angled 1/8" hole 1/2" deep for the clock holder rod. Sand the base, and apply the finish.

6 Cut a 1/8" brass rod to 9 1/4" long with a hacksaw. To prevent marring the rod, wrap the jaws of a pair of pliers with electrician's tape. Bend the rod as shown. Epoxy the rod in place.

BUYING GUIDE

● **Brass-plated chain.** Acco #3 machine chain, straight link, 3' long, no. 4603-60318, \$1.21/foot from True Value Hardware.

● **Stem piece parts.** One lamp loop, 1 1/2 × 1 3/4", brass plated, stock no. 50103. One brass cap, stock no. 55007. 3/4 × 1" threaded nipple, stock no. 55248. All three items for \$4.25 ppd. from Albright Lighting, 3029 Ingersoll Ave., Des Moines, IA 50312.

● **Quartz movement.** Brass-finish bezel, convex crystal, second hand, catalog no. 2380D43, \$24.45 ppd. from Craft Products Co., P.O. Box 326, Clintonville, WI 54929, or call 715/823-5101.

Supplies: epoxy, finish