VOL. 2, NO. 3 ISSUE 9

PROTECTIVE WRAP

$4.95

WEEKEND WOODWORKING

PROJECTS™

NEAT THINGS YOU CAN BUILD IN A HURRY

REDWOOD PLANTER/BENCH COMBO

Mancala marble game

Toy oak dining set

Red barn birdhouse

Scrollsawed carousel cutout

Night-light clown

01

14005 14090 6

FROM THE EDITORS OF WOOD® MAGAZINE

WEEKEND WOODWORKING PROJECTS™
VOL. 2, NO. 3 ISSUE 9

GIFT IDEAS FOR KIDS

OUTDOOR PROJECTS IN TIME FOR SPRING

20 SCROLLSAWED CAROUSEL

Recall a happy sight of childhood with this endearing scrollsawed cherry carousel. Or, offer the ornament to a child and watch his or her eyes light up. We displayed ours in a window, but you can easily hang it on a wall or place it on a stand or shelf.

22 NIGHT-LIGHT CLOWN

When you're a child, it's comforting to see a friendly face in the dark. Our plug-in night-light clown offers a glowing smile, and enough illumination for local safe passage. We used ⅛"-thick plywood for the scrollsawed clown parts, painted them with bright child-safe colors, and then mounted them on ⅛"-thick clear plastic. Next, we glued this assembly to a night-light that you can buy at local hardware stores. Learn the details and find the full-sized pattern for the clown face inside.

EDITORIAL/ART STAFF

Editor
Larry Clayton
Managing Editor
Jim Harrold
Projects Editor
Charles E. Sommers
Projects Design Editor
James R. Downing
Art Director
C.L. Gatzke
Graphic Designers
Clint Hansen, Paula Modersohn
Project Builders
Terry Fenimore, Don Wipperman

Editorial Director
Doris Eby
Publisher
Jerry Kaplan
National Advertising Manager
Terry McIntyre
Director, Circulation Marketing
Clem Sevde
Circulation Manager
Bill Reed
Production Services Manager
Steven Johnson
Editorial Research Director
C. Ray Deaton

WEEKEND WOODWORKING PROJECTS™ is published bimonthly in January, March, May, July, September, and November by Meredith Corporation, 1716 Locust Street, Des Moines, IA 50336. Application to mail at second-class postage rates is pending at Des Moines, IA. SUBSCRIPTION PRICES: One year $24.97 in the United States and its possessions. Canada and other countries add $6 per year. POSTMASTER: Send address changes to WEEKEND WOODWORKING PROJECTS™, P.O. Box 10815, Des Moines, IA 50336. To phone, call toll-free 1-800-678-2666.

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 good results.

The Staff of Weekend Woodworking Projects

PLANTER/BENCH COMBO

PERFECT FOR PATIOS AND DECKS

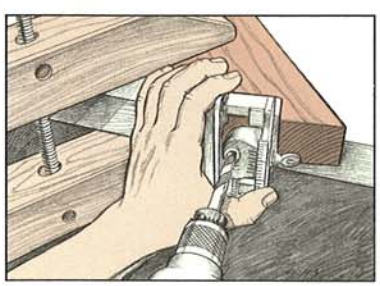
Too often, store-bought patio furniture offers a dull commonplace look; we buy it because there's nothing else around—that is, until now! With our original redwood planter/bench combo, you can add excitement to a drab walk, patio, or deck, especially when the plants reach full bloom. As discussed below, we built the planters first, and then attached the bench. A shelf inside each of the planters provides a floor for potted plants.

CUT THE PLANTER PARTS

1 Rip and crosscut 12 pieces of 1½"-thick stock (we used construction-grade redwood) to 4½ × 13⅜" for the frame pieces (A). Crosscut 30° miters on the ends of the pieces where shown on the Top and Bottom Frames Drawing *opposite.*

2 Rip and crosscut four pieces of 1½" stock to 2¼ × 26¾" to make the parts labeled B.

3 Dry assemble one frame (three A pieces and one B) on a flat surface. Make certain the miters fit, and mark the pieces so you can return

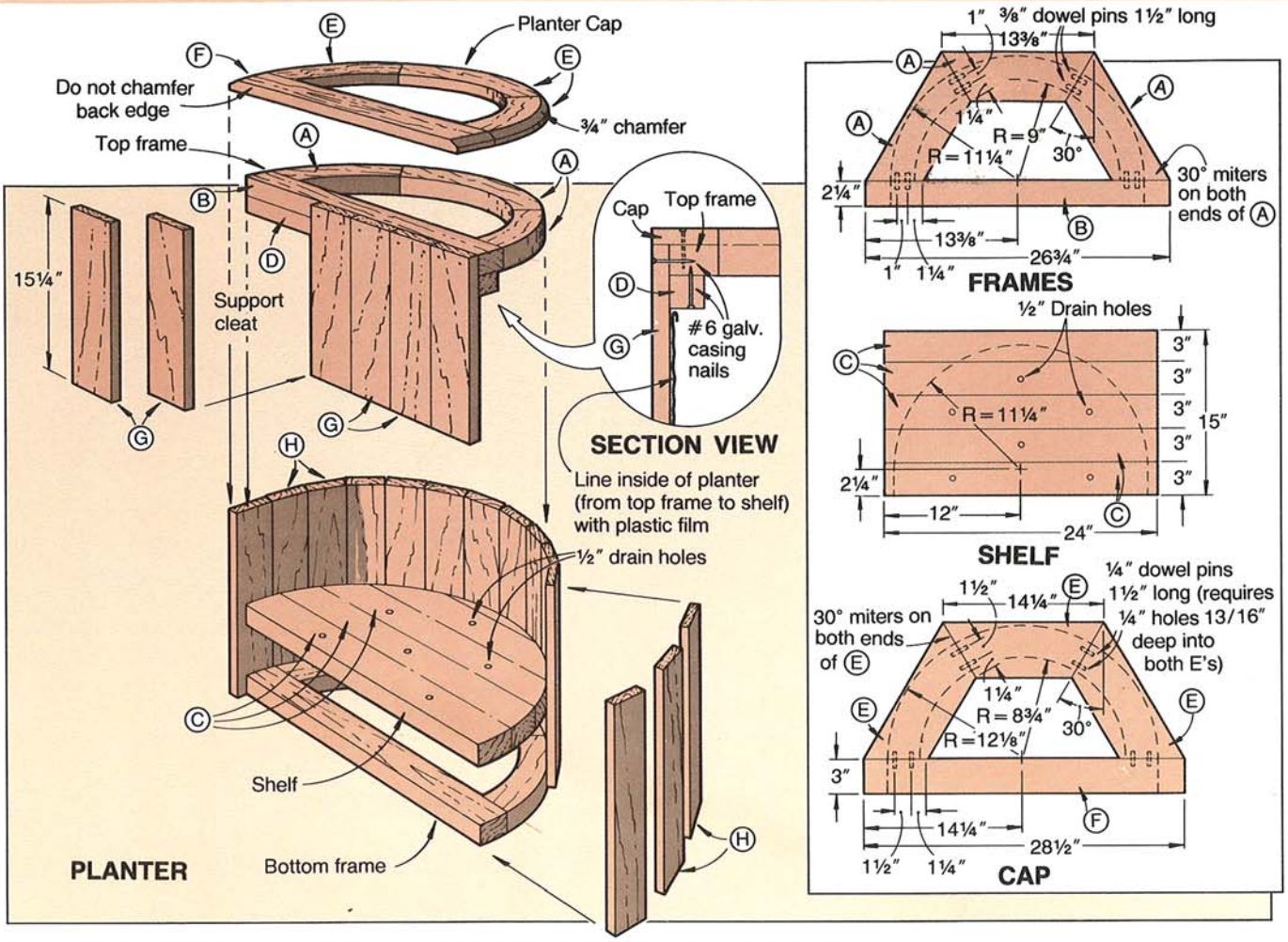


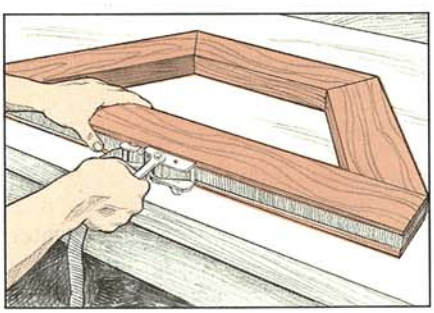
them to their original position. Mark the locations of the dowel pins on adjoining pieces. Using a doweling jig, drill the ⅜" holes into A and B as shown *above.*

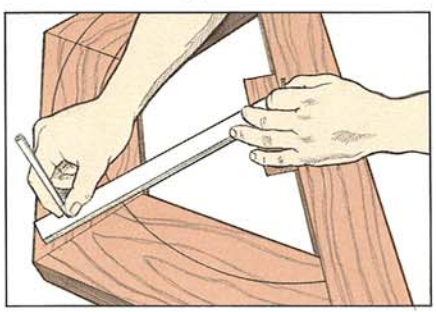
4 Apply a small amount of glue to eight dowel pins (we used waterproof resorcinol glue) and in the holes you drilled in parts A and B. Insert the dowel pins in the holes, assemble the pieces, and clamp as shown at *right*, until the glue dries. (We used a web clamp.)

5 Following the procedures in the previous step, glue, assemble, and clamp the other three frames.

6 After the glue dries, remove the clamps. Next, draw a 9" radius and an 11¼" radius on the face of each frame where indicated by the dotted lines on the Top and Bottom Frame Drawing. If you don't have a large compass, make one from a piece of







¼ × ¾ × 13" wood. Drill a 1/16" hole ½" from one end. From it, measure 9" and 11¼" and drill a ⅛" hole at these two points. Place a brad in the small hole and center it on the centerpoint. Place a pencil through the ⅛" holes and scribe the radii as shown *above right*.

7 To make the shelves, rip and crosscut 10 pieces (C) of redwood 2x4 to 3x24". Assemble the pieces into two groups of five as shown on the Shelf Drawing *middle right*. Apply glue to the adjoining edges, assemble, and clamp. (We used bar clamps.) After the glue dries, remove the clamps, and sand.

8 Next, using the dimensions on the Shelf Drawing, mark the centerpoint for the 11¼" radius on both laminations. Scribe the radii. Drill the ½" drain holes. Saw the frames and shelves to shape with a jigsaw.

9 To make the support cleats (D), rip two pieces of redwood stock to 1½" square, and crosscut them to 22½" long.

10 Make the two planter caps by ripping and crosscutting 6 pieces (E) of ¾"-thick redwood to 5 × 14¼". Miter-cut both ends of each piece to 30°. Next, rip and crosscut two pieces (F) of ¾" redwood to 3 × 28½". Assemble the caps as shown on the Planter Cap Drawing *above*. Use the dimensions on that drawing, and the same procedures for making the top and bottom frames in steps 3 and 4. Take your time cutting and sanding the radii on the caps because these edges show. (We cut just outside the lines, and then sanded to the line.)

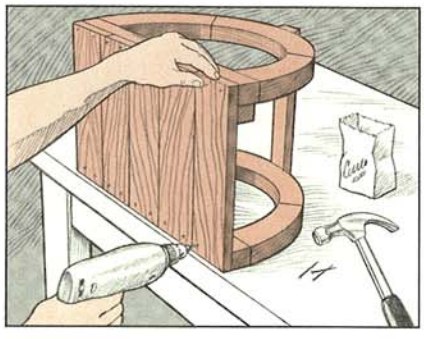
11 From ¾" stock, rip and crosscut 12 slats (G) and 28 slats (H) to the sizes listed on the Bill of Materials. Rip a 1 × 2" scrap piece 15¼" long to use as a support.

Continued

NEXT, ASSEMBLE THE PLANTERS

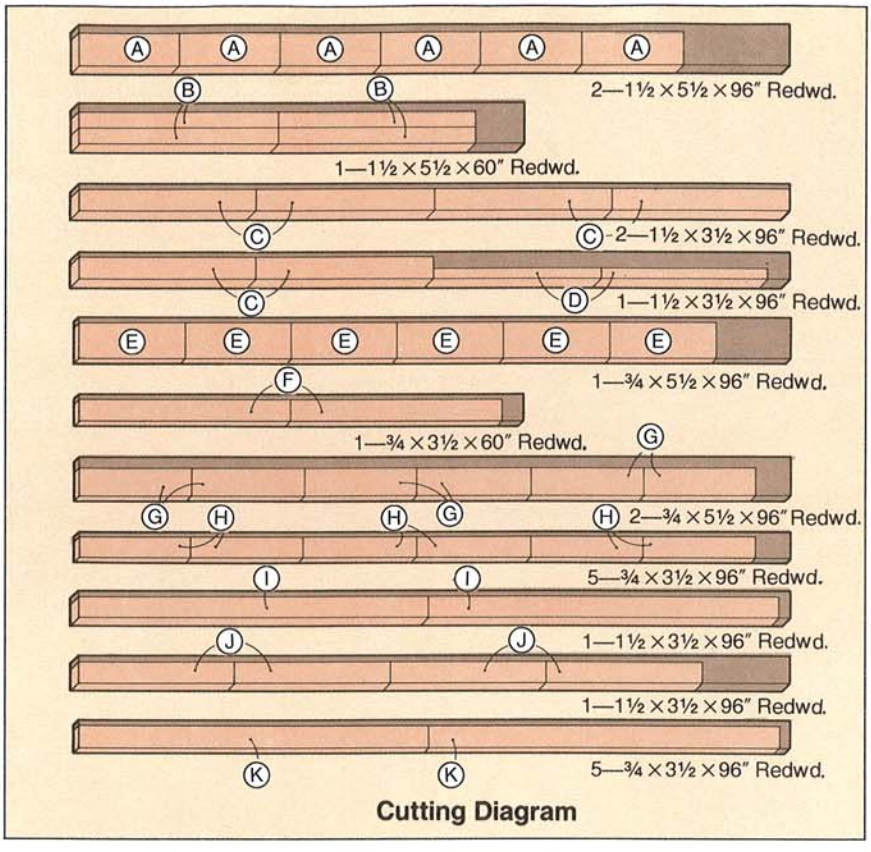
1 Turn the top frames upside down. Align one D along the outside edge and both ends of each B as shown on the Planter Drawing. Nail it in place.

2 Lay one planter top frame upside down on your bench ¾″ in from the edge and clamp it in place. Align a vertical slat (G) at one corner and along the back edge of the top frame. Square the slat to the



frame, and drill two 1/16″ pilot holes through the slat, and 1″ into B. Apply glue to the slat where it contacts B and D, and then nail the slat to the frame with #6 galvanized casing nails. Attach the remaining five slats the same way.

3 Take the 1×2 scrap piece cut earlier and nail one end of it to the outside edge of the top frame at the center of the half circle. Now, remove the clamps and turn the partially assembled planter right side up, letting the scrap piece temporarily support the curved portion of the top frame. Next, lay the bottom frame on the workbench and clamp it. Place the partially assembled planter on the bottom frame and temporarily nail the bottom end of the 1×2 scrap to the center of the curved outside edge of the bottom frame. Now, attach the free ends of the vertical slats to the bottom frame as shown *above*.



Cutting Diagram

4 Determine the height for the shelf and mark its position on parts G and the 1x2 support. (In our planters, we placed the shelves 8″ from the top. If you prefer to fill the planter with soil, you may choose another shelf level. For soil we recommend lining the planter with plastic film and stapling it in place.) Next, tighten wood-screw clamps on the outside G parts and 1½″ below your shelf level marks. Add a third clamp at the same location on the 1×2 brace. Now, rest the shelf on the clamps, and drive a nail through the scrap and into the shelf. Nail the shelf to the slats. Finally, remove the clamps.

5 Starting at one side, begin attaching the vertical slats (H) around the planter. When you reach the 1×2 support, remove it. Continue attaching the slats until you have four left. Check their fit in the remaining space. If you need to narrow up the pieces, sand or plane a small amount off the edges of all four pieces rather than from just one. Attach the remaining slats.

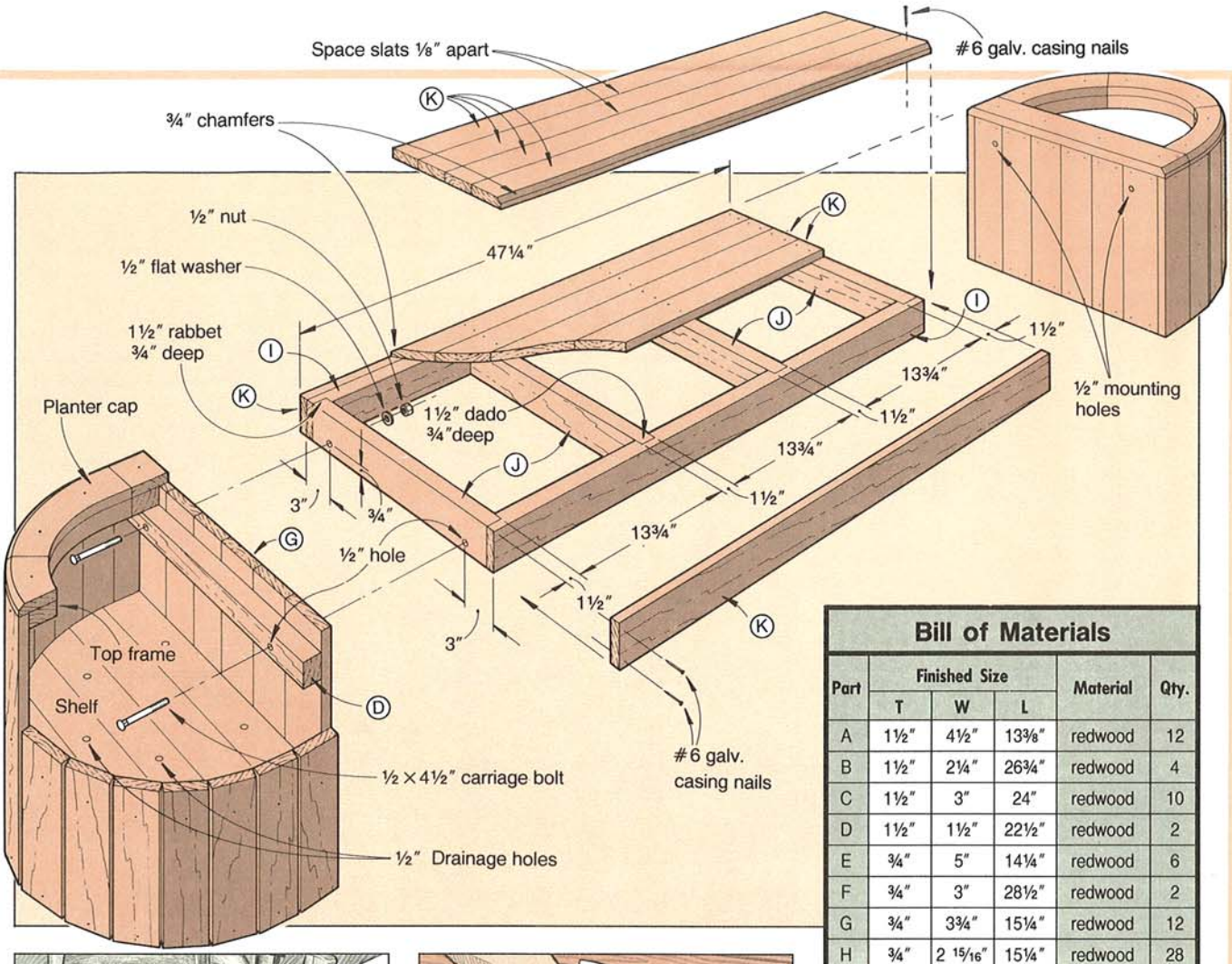
6 Position the cap on top of the assembly. Align the straight edges of pieces B and F, and nail the cap to the top frame as detailed in the Section view on the Planter Drawing.

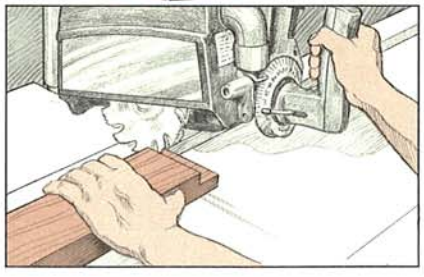
7 Assemble the second planter following the same procedures.

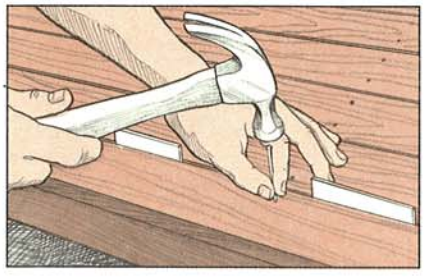
NOW, MAKE THE BENCH

1 Rip and crosscut two redwood 2×4s to 3×47¼″ for the bench-beams (I), and four to 3×21″ for the cross beams (J). Using the dimensions on the exploded-view drawing *opposite*, dado and rabbet both bench beams.

2 Rip and crosscut 10 pieces of ¾″ redwood to 2 15/16×47¼″ for the bench slats (K).







Bill of Materials

Part	Finished Size			Material	Qty.
	T	W	L		
A	1½"	4½"	13⅜"	redwood	12
B	1½"	2¼"	26¾"	redwood	4
C	1½"	3"	24"	redwood	10
D	1½"	1½"	22½"	redwood	2
E	¾"	5"	14¼"	redwood	6
F	¾"	3"	28½"	redwood	2
G	¾"	3¾"	15¼"	redwood	12
H	¾"	2 15/16"	15¼"	redwood	28
I	1½"	3"	47¼"	redwood	2
J	1½"	3"	21"	redwood	4
K	¾"	2 15/16"	47¼"	redwood	10

Supplies: #6 Galvanized casing nails, 32—⅜ × 1½" dowel pins, 16—¼ × 1½" dowel pins, 4—½ × 4½" carriage bolts, 4—½" flat washers, 4—½" nuts, plastic lining (optional), finish, nail caulk or putty.

3 Layout the bench frame on a flat surface. Apply glue to the ends of the four cross beams, and nail the parts together. Glue and nail a slat to each side of the frame.

4 To nail the slats to the top of the bench frame, first mark the center on top of both end cross supports. Next, place a mark 1/16" to the side of the centerpoint at both ends. Align the edge of the first slat with these marks, flush the ends with the frame, and nail it in place. Cut two ⅛"-thick spacers from scrap hardboard or plywood. Now, nail the remaining slats to the frame, using the spacers as shown *above*.

5 To complete the assembly, turn the planters and bench upside down. Align the bench between the two planters, and place a web clamp around the entire unit to temporarily hold it together. (We combined two web clamps in order to reach around it.) Using the dimensions on the exploded-view drawing, locate and drill the ½" bolt holes through parts D, G, and J where shown. Insert the carriage bolts, and carefully turn the assembly over. Next, reverse the bolts, attach the washers and nuts, and then tighten the nuts. Remove the web clamps and blocks.

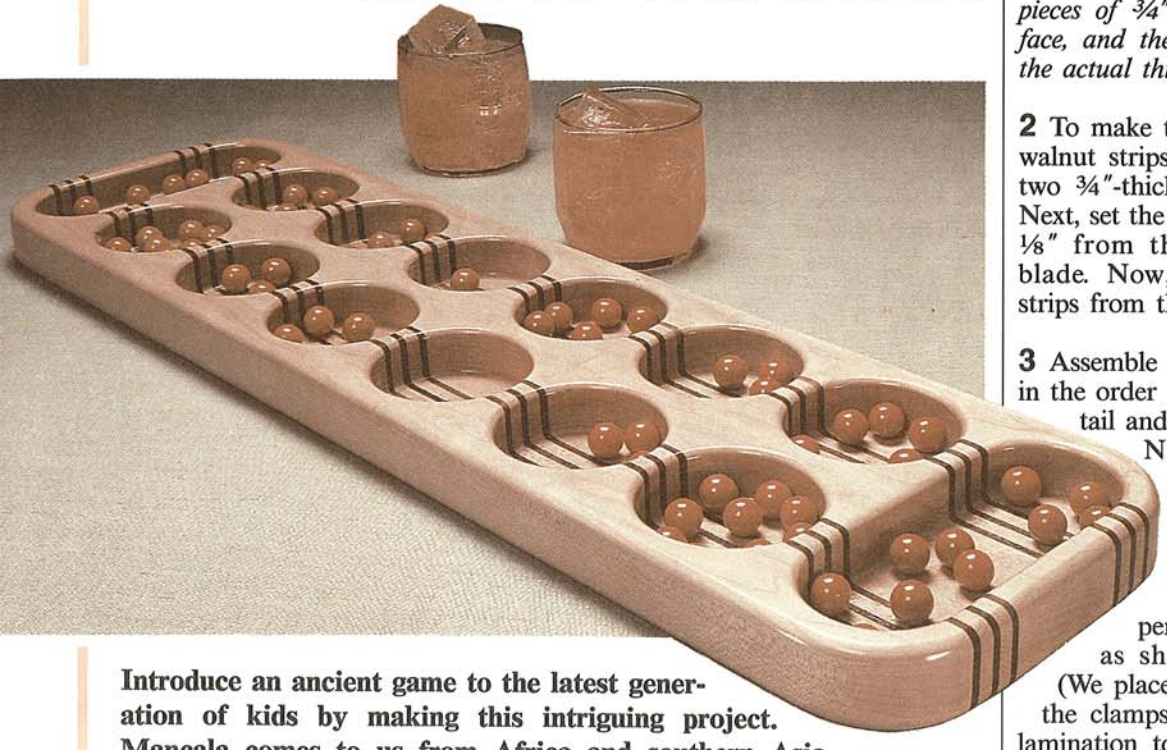
6 Rout a ¾" chamfer along the entire top edge on the planters and bench where shown on the exploded-view drawing.

7 Set all nails, and fill the nail holes. Finish if desired. Left unfinished, redwood weathers gray. (We applied two coats of Flood's CWF Clear Wood Finish. Call 800/321-3444 for the name of a dealer near you. In Canada, call 216/650-4075.)

Project Design: James R. Downing Illustrations: Kim Downing; Ode Designs Photograph: Bill Hopkins

MANCALA MARBLE GAME

IT'S A WINNER



Introduce an ancient game to the latest generation of kids by making this intriguing project. Mancala comes to us from Africa and southern Asia and was originally played with shells or pebbles in pockets scooped out of the earth. Our version features a stripped walnut and maple laminated board with routed pockets. We even tell you how to play.

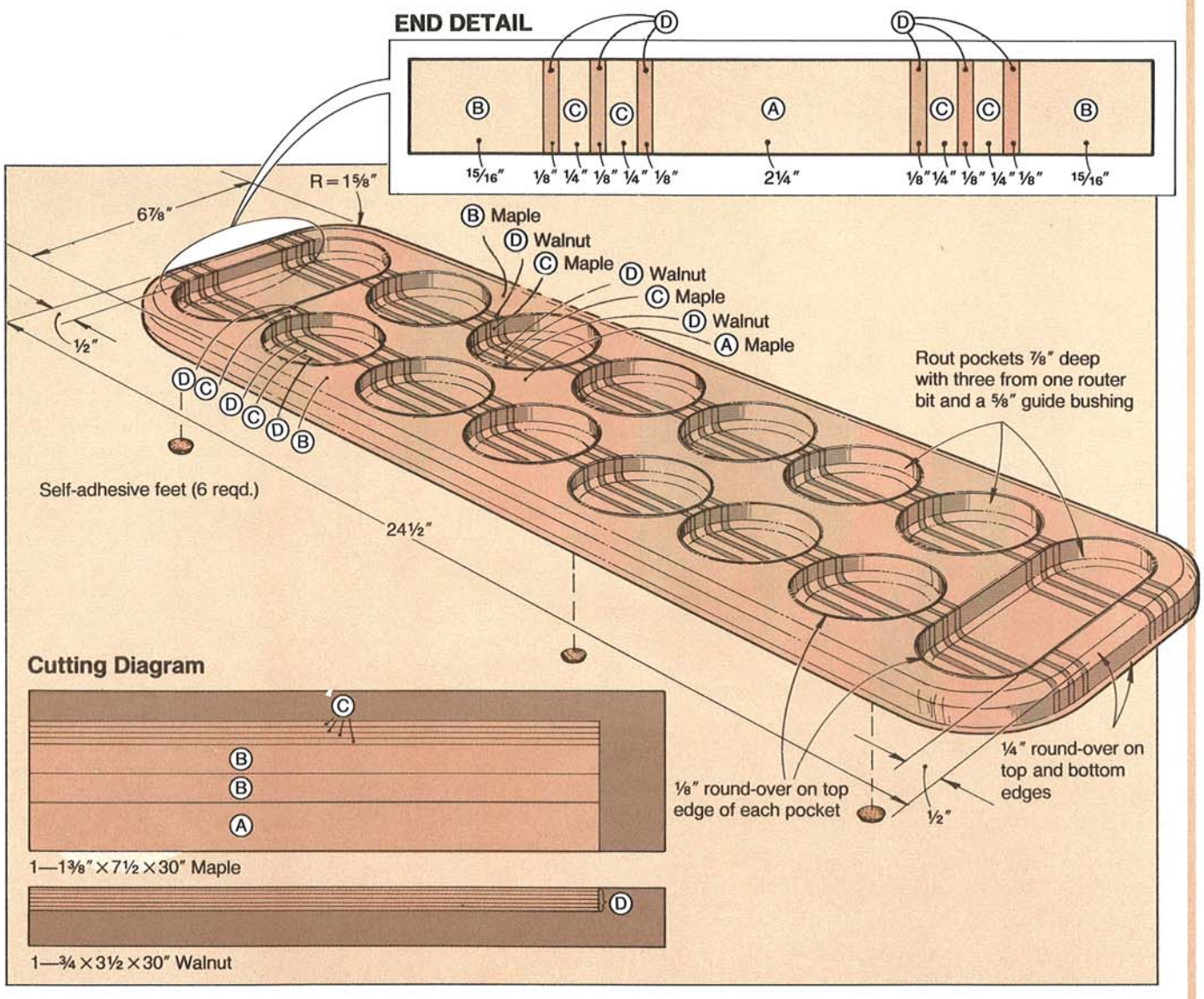
LAMINATE THE BOARD

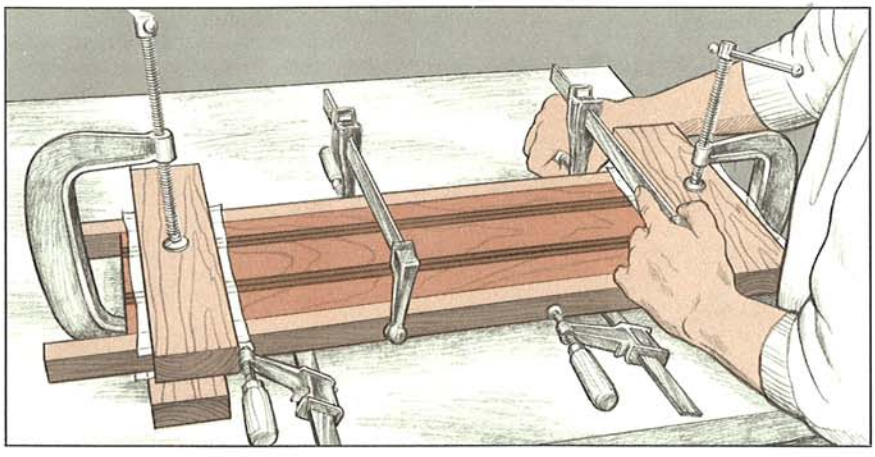
1 From 1 5/16"-thick (6/4) stock (we used maple), rip and crosscut one piece to 2¼ × 27" (A), and two pieces to 1 7/16 × 27" (B). Now, rip and crosscut four pieces to ¼ × 27" (C). (See the Cutting Diagram, the assembly drawing, and the End Detail on the *opposite* page.)

Note: *If you don't have 1 5/16"-thick stock available, you can laminate two pieces of ¾" stock together face to face, and then plane or resaw it to the actual thickness needed.*

2 To make the decorative ⅛"-wide walnut strips (D), rip and crosscut two ¾"-thick pieces to 1 5/16 × 27". Next, set the fence on your tablesaw ⅛" from the inside of the saw blade. Now, resaw six ⅛"-thick strips from the two walnut pieces.

3 Assemble pieces A, B, C, and D in the order shown on the End Detail and the assembly drawing. Next, apply glue (we used white woodworker's glue) to the adjoining surfaces, assemble the pieces on a length of waxed paper, and clamp the board as shown *opposite bottom*. (We placed scrap strips between the clamps and the edges of the lamination to prevent marring. We then clamped wood strips crosswise [sandwiching waxed paper between the cross strips and the lamination] on the top and bottom of the lamination to even the surfaces while the glue set.) Wipe off any glue squeeze-out. If you find it difficult to glue a lamination with this many pieces, subassemble the left and right thirds (B, C, D) separately.





Bill of Materials

Part	*Initial Size			Material	Qty.
	T	W	L		
A	1 5/16"	2 1/4"	27"	Maple	1
B	1 5/16"	1 7/16"	27"	Maple	2
C	1 5/16"	1/4"	27"	Maple	4
D	1/8"	1 3/8"	27"	Walnut	6

*All parts in the lamination are cut larger initially, and then trimmed to finished size. Please read the instructions before cutting.

Supplies: 4—#4x1/2" F.H. wood screws, 1/4" hardboard, white woodworker's glue.

continued

NEXT, PREPARE THE ROUTER TEMPLATE

1 Rip and crosscut one piece of ¼" hardboard or plywood to 6⅞ × 26". Using the dimensions on the Router Template Drawing *opposite*, carefully layout and mark all of the hole and screw centerpoints onto the face of the hardboard.

2 Drill, and then countersink the four ⅛"-screw holes in each corner of the hardboard where marked.

3 Chuck a circle cutter in your drill press, and clamp a large piece of scrap to the drill press table. Next, clamp a fence to the scrap table top 1⅞" from the center of the circle cutter's pilot bit. Now, adjust the circle cutter's arm to cut a 1 7/16"-radius (2⅞"-diameter) circle.

4 Place one edge of the hardboard against the fence, and align the centerpoint of one of the large inside circles under the pilot bit. Clamp the hardboard securely to the drill press table, and cut the circle. Now, repeat the procedure to cut the other 11 inside circles in the hardboard as shown *below*.

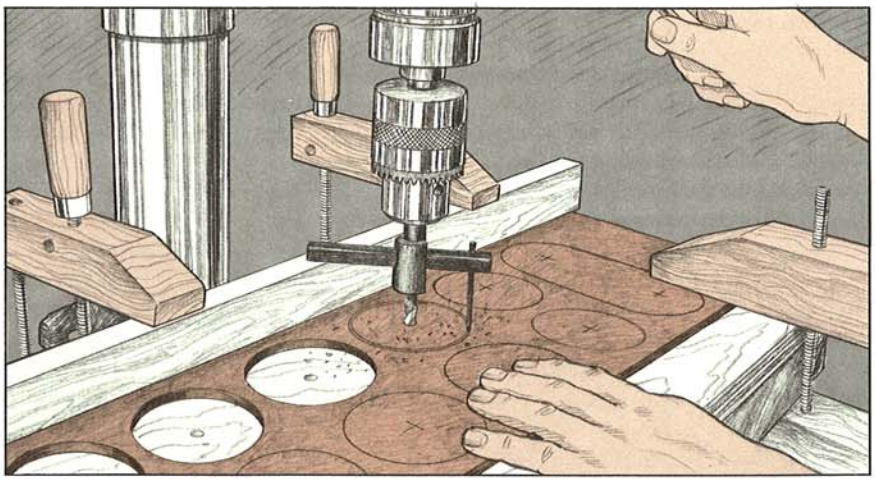
5 To cut the circles for the elongated openings at the ends, reset your circle cutter to cut a 1 3/16"-radius (2⅜"-diameter) circle. Move the fence 1⅝" from the pilot bit's centerpoint. Now, cut the four end circles where indicated by the centerpoints. Finally, use a scrollsaw to saw away the material between the paired circles, and sand the cutlines straight. (We sanded ours with a 1"-diameter drum sander mounted to the drill press.)

SIZE THE BOARD AND ROUT THE POCKETS

1 Remove the clamps from the laminated board. Scrape or sand off any glue squeeze-out. Now, plane or sand the board to 1¼" thickness, and crosscut it to 26" length.

2 Place strips of double-faced tape on the underside of the template. Next, place the template on the top surface of the board, carefully aligning the edges and ends of the template with those on the lamination. Drill 1/16" pilot holes ⅜" deep into the board for the four corner screws. Now, screw the template to the laminated board with #4 × ½" flathead wood screws. The screw holes in the board will be cut off when you round the corners later.

3 Mount a ⅝" guide bushing on your router and chuck a 3 from 1 bit in the collet. (See the Buying Guide for our bit and guide bushing source.) Set the bit to cut ⅛" deep, and start routing the 14 pockets in the board as shown *opposite top*. (We clamped the board to our benchtop to keep it from moving while routing.) Increase the router's cutting depth in ⅛" increments until you have cut all pockets ⅞" deep as shown in the routing detail drawing *opposite bottom*. During the last cutting pass, thoroughly clean the bottom of each pocket to form a smooth, level bottom. Remove the template when finished.



4 Trim the lamination to 24½" length by crosscutting ¾" from each end of the board. Once you've squared the board, turn it over and scribe a 1⅝" radius on each corner. Using a bandsaw, cut the corners to shape, and sand. (We sawed just outside the line, and then sanded to the line using our disc sander.)

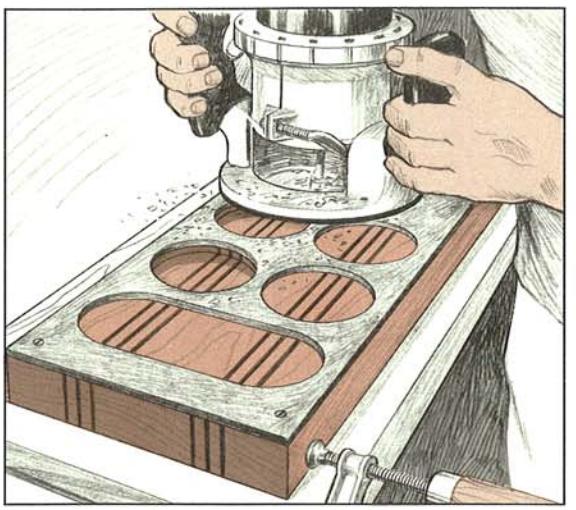
5 Remove the ⅝" guide bushing and the bit from your router, and chuck a ¼" round-over bit in the collet. Round over the edges of the board. Now, switch to a ⅛" round-over bit and carefully round over the edges of the pockets. If you don't have a ⅛" round-over bit, use the ¼" bit.

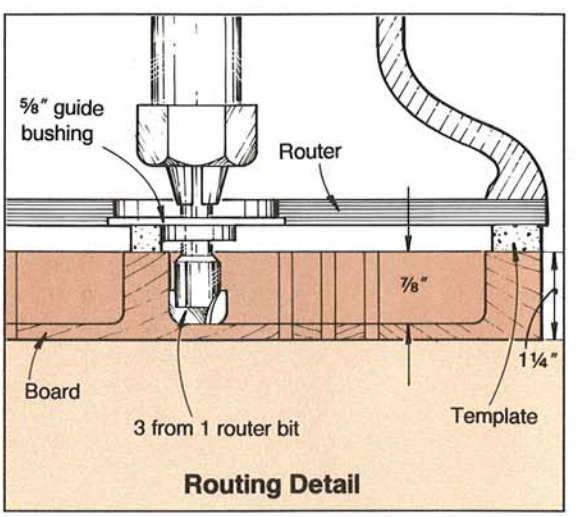
6 Finish-sand the game board. Apply the finish of your choice. (We sprayed on three coats of varnish, sanding lightly between coats.)

7 After the finish has dried, adhere six self-adhesive rubber feet (available at most hardware and lumber supply stores) to the bottom of the game board. Add the marbles (see the Buying Guide for a source). Now, find an opponent for your first game.

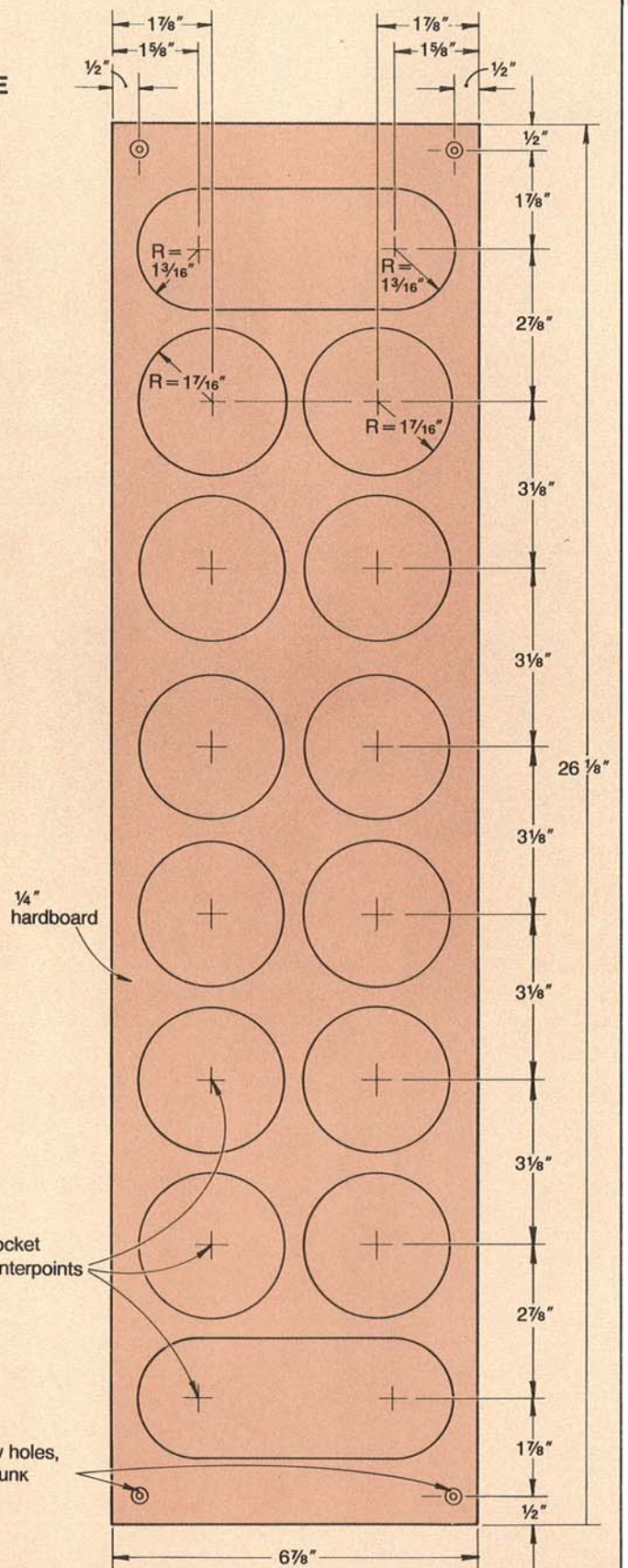
Note: *For instructions to play mancala, see the flap inside the back cover of this issue.*

ROUTER TEMPLATE





Routing Detail



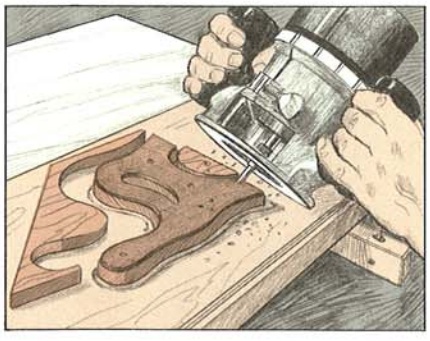
Buying Guide

- **3 from 1 router bit.** 1/4" shaft, catalog no. 06V22, $18.50 ppd. From: Woodcraft, 41 Atlantic Ave., P.O. Box 4000, Woburn, MA 01888. Phone: 800/225-1153.
- **Router guide bushing set.** Includes a universal router base plate; 5/16", 7/16" short and long lengths, and a 5/8"-diameter bushing. Catalog no. 11V12. Price: $13.90 ppd. Woodcraft, address above.
- **Marbles.** 75 glass marbles in cloth bag. Price: $4.00 plus $1.50 postage. From: The Marble Man, Box 4302, Woodbridge, VA 22194. Phone: 703/491-8729.

Project Design: James R. Downing Illustrations: Bill Zaun; Ode Designs Photograph: Jim Kascoutas

TEA-FOR-TWO DINING SET

We let a wide-eyed girl of seven years try our table and chairs to entertain a few of her stuffed animals. A little later, we had to beg her to return the dining set in order to photograph it. We fashioned the set from oak and applied a pleasing honey-colored finish. Use our full-sized patterns for quick, quality results.



Note: *We used ½-thick oak. One table and one chair requires three 7¼×36″ boards. Add a second 7½×24″ board and scrap piece for each additional chair. You can plane thicker stock, or purchase it. (See the Buying Guide for our source.)*

BEGIN WITH THE CHAIR

1 Using a photocopier or carbon paper, make three copies of the full-sized chair and table patterns on page 14. Include the centerpoints for the pegs and dowels.

2 Adhere the Chair Side Pattern (A) to a piece of ¼″ hardboard. Cut the hardboard to shape (we used a scrollsaw), sawing just outside the line, and then sanding to the line.

Note: *We cut the chair sides to shape with a router. If you prefer to cut out the parts with a scrollsaw, adhere or trace the pattern directly onto the ½″ stock, and then saw the parts to shape. Stack-cut and sand the parts.*

3 Drill the four ⅛″ holes in the chair side template, and countersink two of them. Lay the template on your ½″-oak stock, and, using a self-centering punch, mark the four holes. Drill the ⅛″ holes.

4 Drive two 1¼″-long drywall screws through the countersunk holes in the template, the ½″ oak, and into a piece of scrap plywood that can be clamped to a bench.

5 Mount a 5/16″ guide bushing and a ¼″ straight bit to your router. Adjust the router so it cuts through the ½″ oak in two passes. Rout the chair side and arm opening, as shown *above right,* letting the guide bushing follow the template. Remove the screws and template, and enlarge the ⅛″ holes to ¼″.

6 To make the second chair side, repeat steps 3, 4, and 5. If you want more than one chair, make the required number of sides at this time.

MAKE THE REMAINING CHAIR PARTS

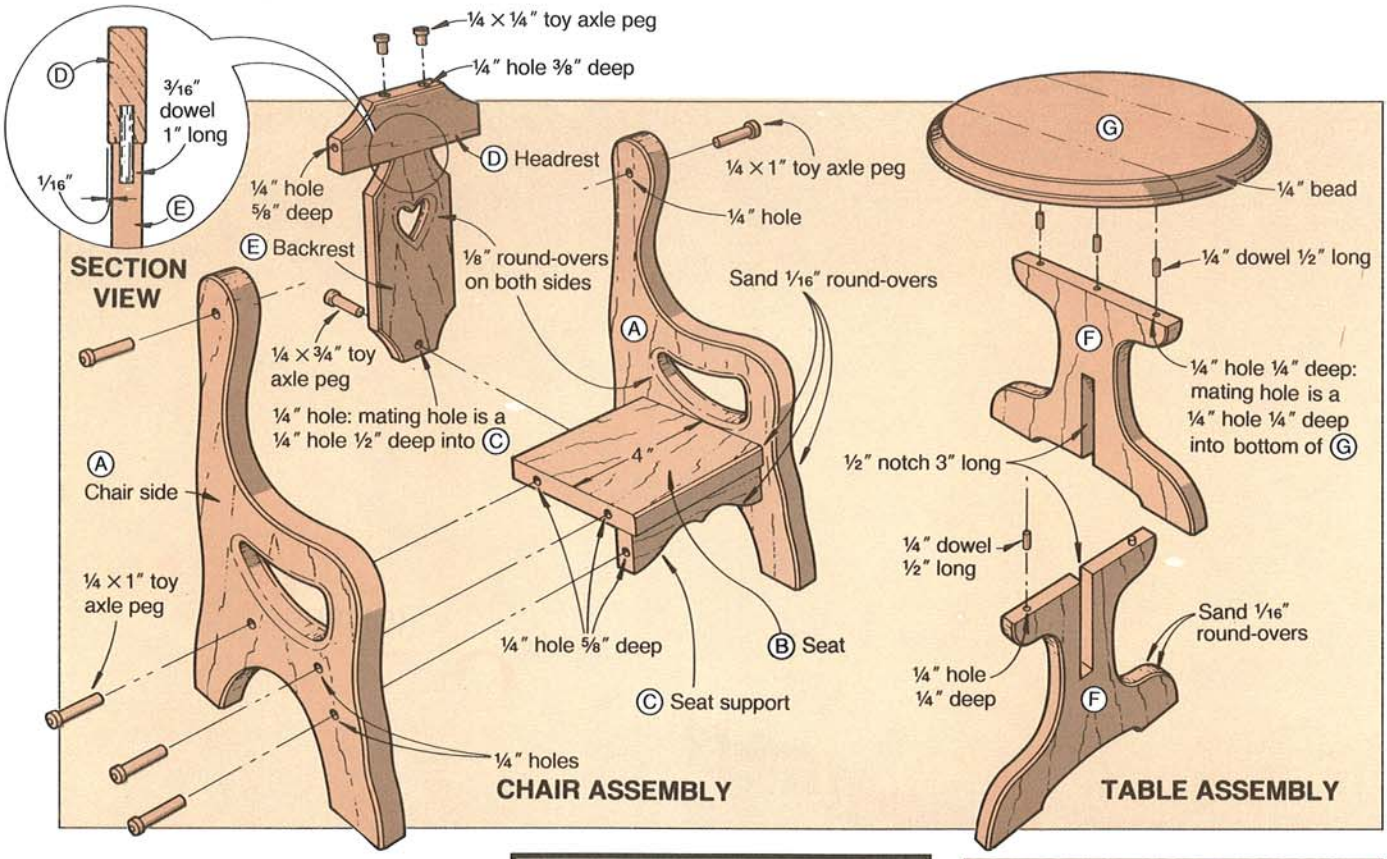
1 To make the chair seat (B), seat support (C), and headrest (D), rip and crosscut a piece of ½″ oak to 4×7½″. (See the Cutting Diagram.)

2 From this, rip one chair seat 3½×4″; one seat support 1×4″; and one headrest 1½×4″.

3 Next, apply the patterns to the seat support and headrest.

4 For the chair's backrest (E), trace the full-sized pattern and the heart opening onto a piece of ⅜″-thick oak stock.

5 Cut the parts (C), (D), and (E) to final shape on a scrollsaw. Cut wide of the line, and sand to the line with a drum sander. Drill a pilot hole through the heart opening in the backrest, thread the scrollsaw blade through the hole, and cut the heart opening to shape.



6 Using the dimensions on the full-sized patterns and the exploded-view drawing for the chair, mark the locations of all the screw holes on each piece. Next, drill all of the holes. (We used a self-centering doweling jig to ensure the holes would be drilled straight.)

7 Chuck a ⅛" round-over bit in your table-mounted router and round over both edges of the heart in the chair back, and the opening in the chair sides. Hand-sand slight round-overs along the edges on the other chair parts. Finally, finish-sand all parts.

ASSEMBLE THE CHAIR

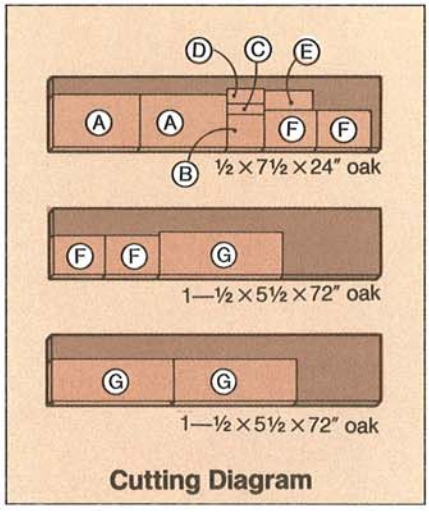
1 Dry-assemble the chair to make certain parts fit. Apply glue (we used white woodworker's glue) to the holes in the seat, position it between the chair sides, and then insert the 1"-long toy axle pegs through the two holes in each side and into the holes in the seat.

Bill of Materials

Part	Finished Size T	W	L	Material	Qty.
A	½"	5⅝"	9⅜"	oak	2
B	½"	3½"	4"	oak	1
C	½"	1"	4"	oak	1
D	½"	1½"	4"	oak	1
E	⅜"	2¼"	5⅝"	oak	1
F	½"	8"	6"	oak	2
G	½"	12" dia.		oak	1

Supplies: 11—¼ × 1" toy axle pegs, 3/16" dowel, ¼" dowel, ¼" hardboard, finish.

2 Follow the same procedure to add the seat support and headrest. Clamp to squeeze the chair assembly together. (We used bar clamps.) Wipe off any glue squeeze-out. Glue the 3/16" dowel in the headrest, position the backrest, and glue the horizontal toy axle peg in the bottom. Cut the shafts on two toy axle pegs to ¼" long. Glue them in the top holes of the headrest.

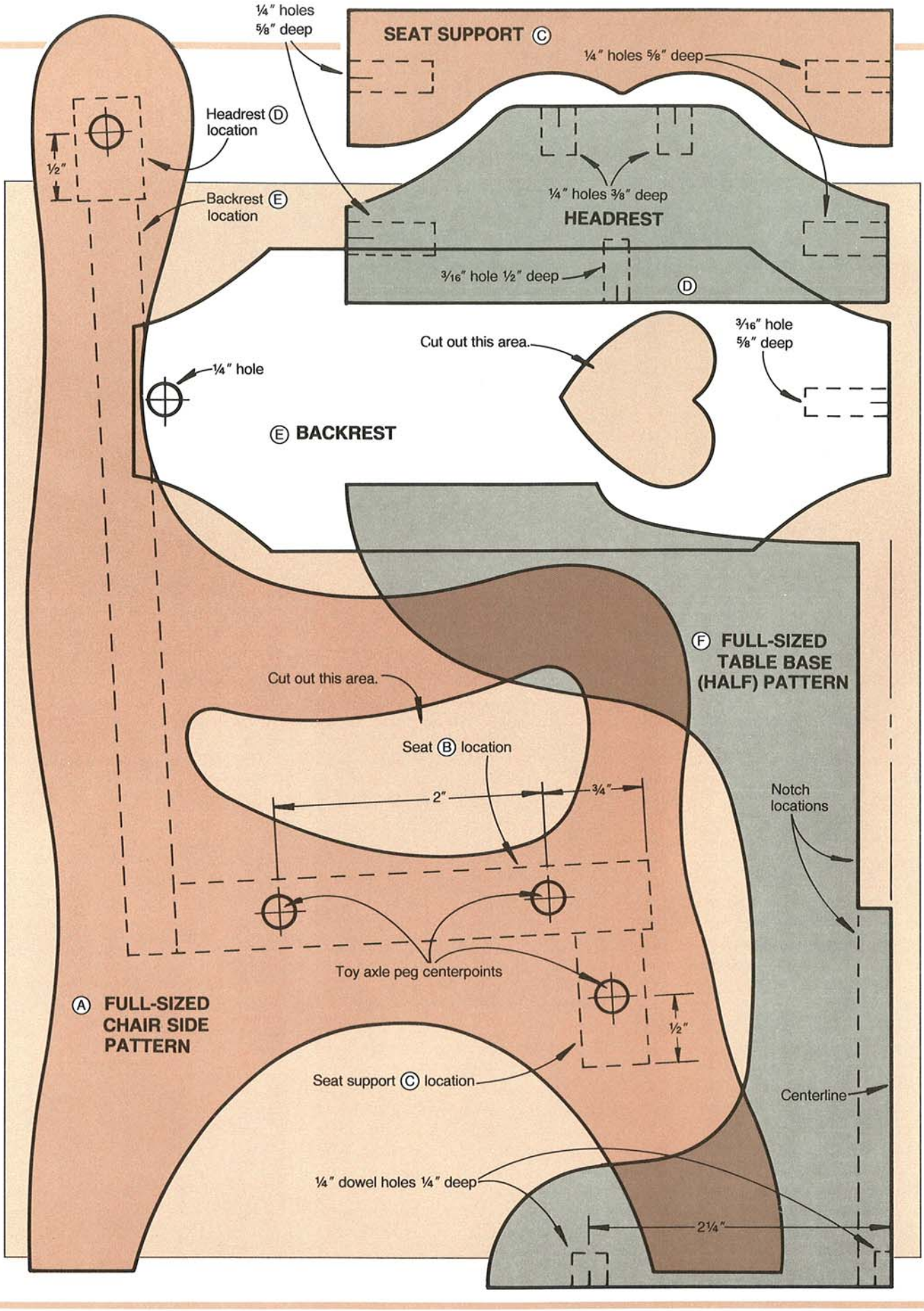


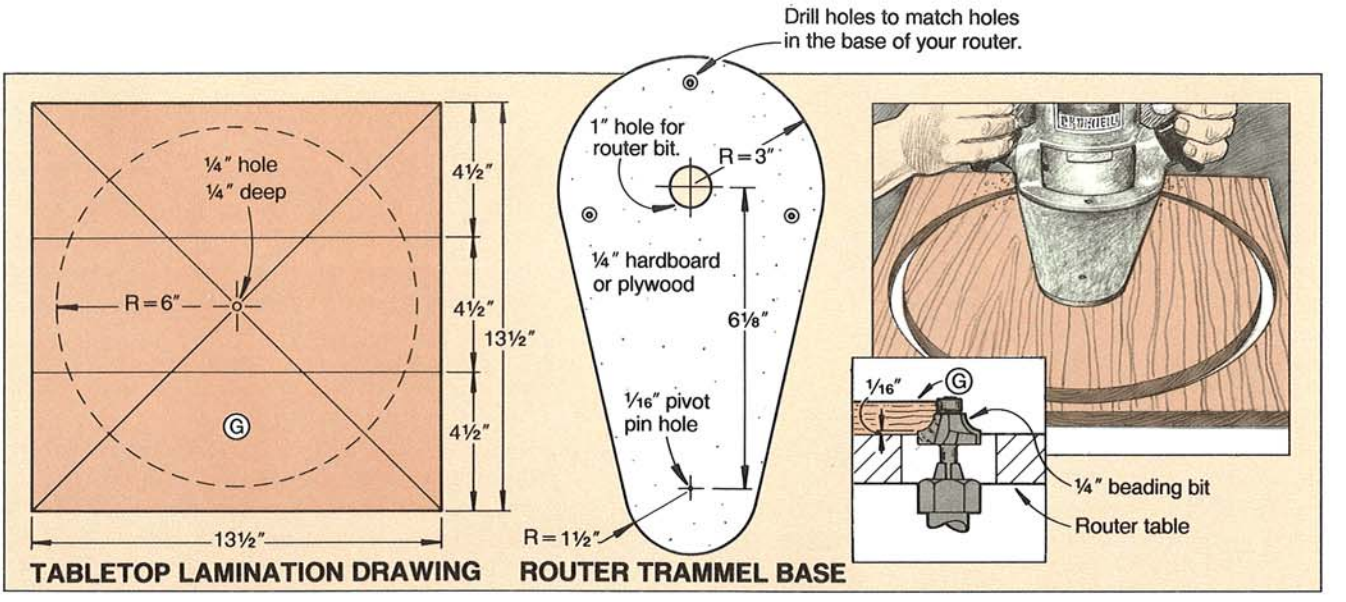
Cutting Diagram

Buying Guide

- **Oak stock.** Three pieces ½x7¼x36", catalog no. 5LU274, $14.10 per piece. Shipping and handling, $5.50 for orders from $30 to $49.99. From: Constantine, 2050 Eastchester Rd., Bronx, NY 10461, 1-800/223-8087, in New York call 1-800/822-1202.

Continued


¼" holes
⅝" deep
SEAT SUPPORT Ⓒ
¼" holes ⅝" deep
Headrest Ⓓ
location
½"
Backrest Ⓔ
location
¼" holes ⅜" deep
HEADREST
⅜16" hole ½" deep
Ⓓ
⅜16" hole
⅝" deep
Cut out this area.
¼" hole
Ⓔ BACKREST
Ⓕ FULL-SIZED
TABLE BASE
(HALF) PATTERN
Cut out this area.
Seat Ⓑ location
2"
¾"
Notch
locations
Toy axle peg centerpoints
Ⓐ FULL-SIZED
CHAIR SIDE
PATTERN
½"
Seat support Ⓒ location
Centerline
¼" dowel holes ¼" deep
2¼"



TURN TO THE TABLE

1 For the table base, rip and crosscut two pieces (F) from ½" oak to 4¼ × 13". (See the exploded-view drawing on page 13.) Glue the edges making one 8½ × 13" lamination. Crosscut the lamination in half to form two 6⁷⁄₁₆"-long pieces. Place double-faced tape on the face of one piece, and then stack the second on top of it. Align the edges. Next, trace the Full-Sized Table Base Half-Pattern on the top piece. Flip the pattern over and trace the other half of the table base to make a complete pattern. Using a scrollsaw, saw the base parts to shape, cutting outside of the line, and then sanding to the line. (We used a drum sander on the drill press.) Separate the pieces, and remove the tape.

2 Lay out the 3"-long notches in the table base pieces. Cut one in the bottom-half of one piece (solid line on pattern), and one in the top-half (dotted line on pattern) of the other base piece. (We used a scrollsaw.) Finish-sand the two parts.

3 To make the tabletop (G), rip and crosscut three pieces of ½" oak to 4½ × 13½". Glue-join the pieces edge to edge as shown in the Tabletop Lamination Drawing *above left*. Clamp (we used bar clamps). Once the glue dries, scrape off any squeeze-out, and sand.

4 Draw diagonal lines on the underside of the lamination to find the centerpoint. Drive a #4 finish nail part way through the lamination at the centerpoint. Clip off the head of the nail leaving about ¾" exposed. (The finish nail serves as the pivot point for the trammel.) Next, using ¼"-thick hardboard and the dimensions on the trammel drawing *above*, make a trammel to fit your router. Now, mount the trammel to your router, and, using a ¼" straight bit, rout the disc to a 12" diameter as shown *above right*. (We increased the cutting depth in ¼" increments.) Remove the nail from the disc, and drill a ¼" hole ¼" deep at the centerpoint.

5 Mount your router to a router table, and chuck a ¼" beading bit in the collet. Now, rout a bead along the top edge of the table top as shown in the routing detail insert *above right*. (The surface with the ¼" hole in the center should be the underside of the tabletop.) Finish-sand the tabletop.

6 Using the dimensions on the Table Base Pattern, mark and drill the ¼" dowel holes ¼" deep into the tops of the two base pieces. (We used a doweling jig.) Sand a slight round-over only on the edges of the base parts where indicated on the exploded-view drawing. Finally, assemble the base. Cut five ¼" dowels ½" long and glue them in the holes in the top of the base.

7 Turn the tabletop upside down (¼" hole up). Lay a straightedge across the center of the hole, lightly draw a line, and mark a centerpoint 2¼" on both sides of the center hole. Next, using a square, mark a second line perpendicular (90°) to the first, and mark centerpoints 2¼" from the center on both sides. Drill the four ¼" holes ¼" deep in the tabletop.

8 Test assemble the table for fit. Now, apply glue in the dowel holes, insert the dowels in the base into the holes in the top, and lightly tap until the top sets flush on the base.

9 Apply the finish of your choice. (We applied a light oil stain, and then three coats of polyurethane, sanding lightly between coats.)

Project Design: James R. Downing Illustrations: Kim Downing; Ode Designs Photograph: Jim Kascoutas

OLD McDONALD'S BARN BIRDHOUSE

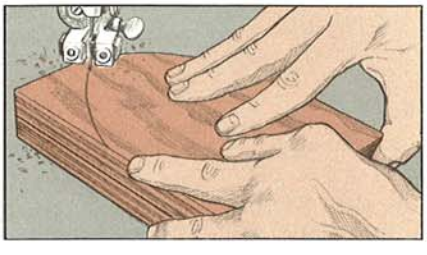
"And on his farm he had some birds." These may not be the exact words in the song, but it's doubtful that Old McDonald would object. We engineered our handsome barn birdhouse to include small openings along the bowed roof for ventilation, and drain holes inside to prevent moisture from collecting. We also screwed the base to the sides, allowing you to unscrew it to clean out the birdhouse come next spring.

FIRST, FRAME THE BARN

1 Cut the barn front and back (A), and the sides (B), to the sizes listed in the Bill of Materials from ¾"-thick exterior plywood. (See the exploded-view drawing *opposite* for reference.) From the same stock, cut the base (C) to size.

Note: *We used exterior-grade plywood instead of solid wood because of its ability to endure the weather, and because it doesn't bow as solid wood does when kerfed.*

2 With double-faced tape, tape the front and back pieces together face to face. Using carbon paper, transfer the full-sized pattern on page 18 to the top piece. Mark the centerpoint for the 1¼" entrance hole. Bandsaw or scrollsaw the end pieces to shape as shown *above right*. Sand the cut edges with a disk sander, and separate the pieces. Remove the tape.

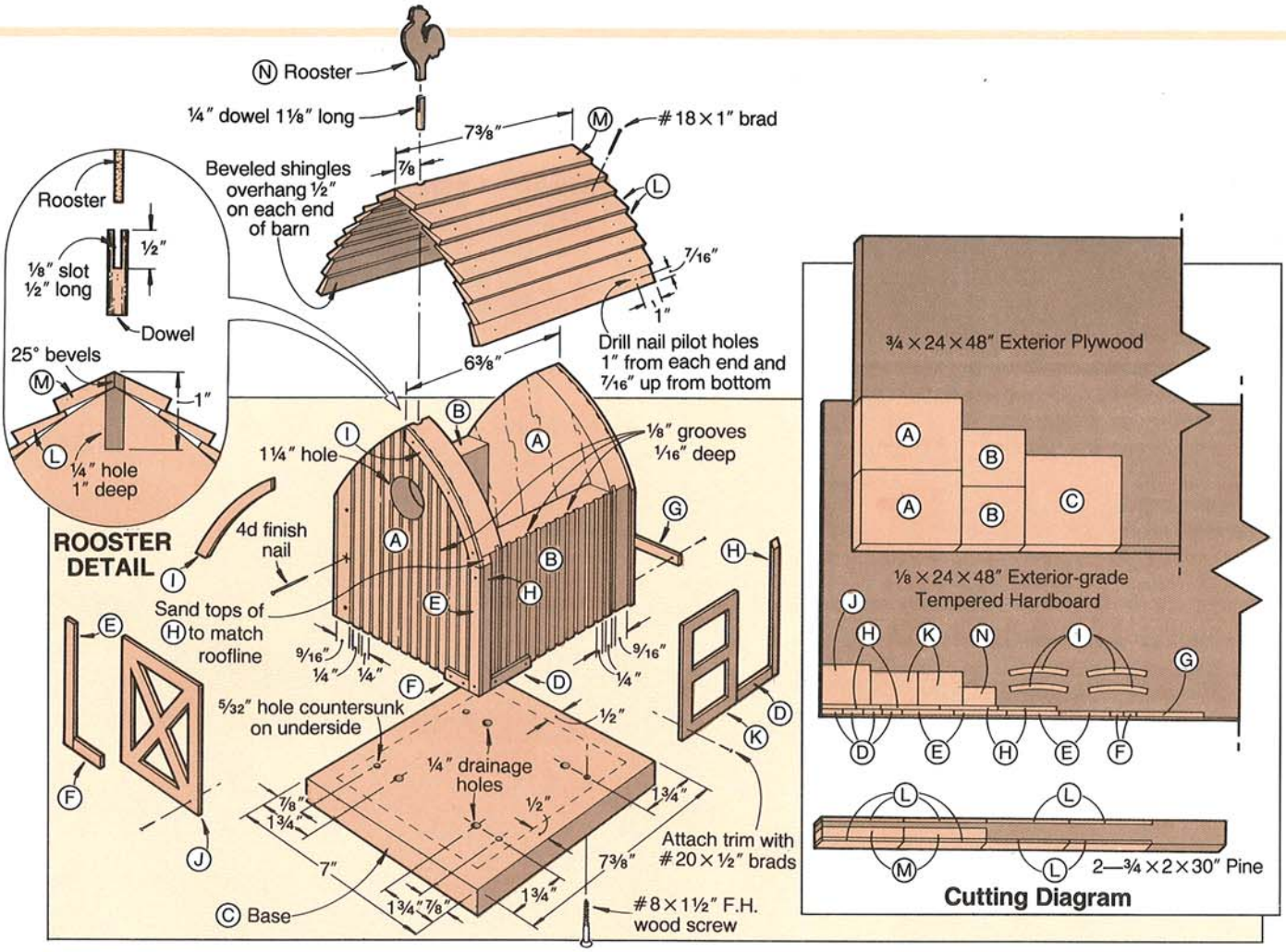


3 Now, drill the 1¼" entrance hole in the barn front. (We used a spade bit mounted in a drill press.)

4 With the edges and ends flush and the good sides of the plywood facing out, glue and nail the barn sides between the front and back pieces. (We used resorcinol, a waterproof glue suited for outdoors.)

NEXT, CUT THE KERFS

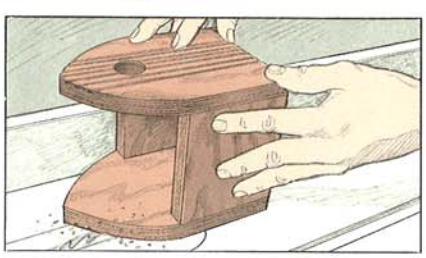
1 Raise your tablesaw blade 1/16" above the surface of the saw table. Find the exact center of the front piece, and align it with the saw

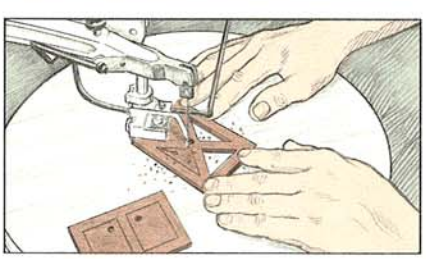


blade. Lock the saw's fence against the front piece. Cut a kerf along the centers of the barn front and back pieces as shown at *right*. Move the fence ⅜" further away from the blade, and cut a kerf on each side of the first kerf on both pieces. (See the full-sized pattern for kerf locations.) Reposition the fence ⅜" farther and cut another pair of kerfs in each piece. Continue the process to cut 13 kerfs in both pieces.

2 Repeat the procedure in step 1 to cut the decorative kerfs in both side pieces. Note that the last side kerfs actually are cut into the edges of the front and back pieces.

3 Prime the outside (leave the inside unfinished) of the barn assembly and base with an exterior primer. Next, paint the outside of the barn sides with exterior red; the base with exterior green.





CUT AND ADD THE TRIM

1 Rip two ⅜"-wide strips from a 24×48" piece of ⅛" exterior-grade tempered hardboard. From these, crosscut trim pieces D, E, F, and G, using the dimensions on the Bill of Materials. Rip a ¼"-wide strip from the same piece of hardboard and crosscut the trim pieces labeled H.

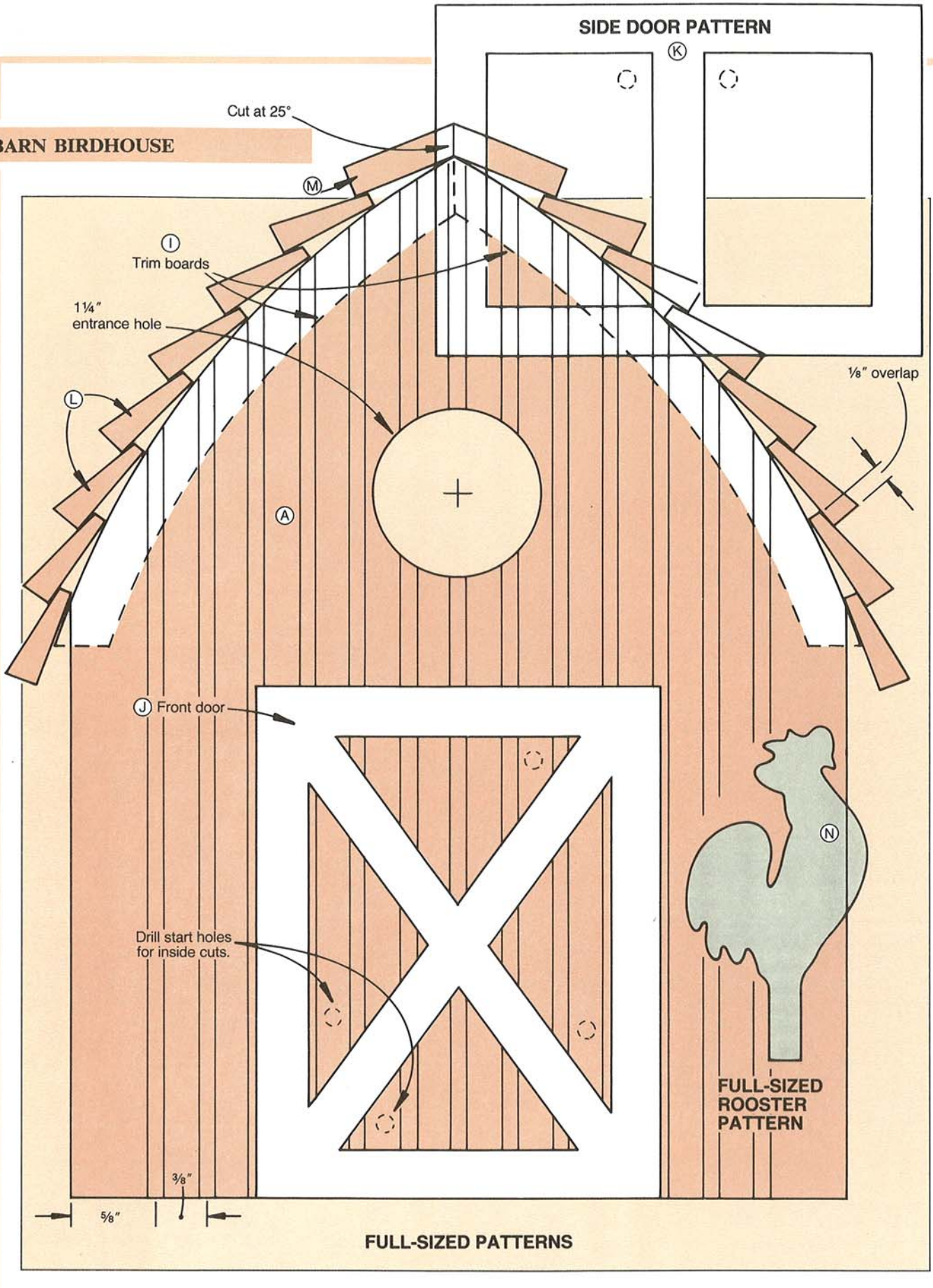
2 Using carbon paper, transfer the full-sized patterns (page 18) of the four curved trim pieces (I), the front door (J), the two side doors (K), and the rooster (N) onto the remaining hardboard. Cut the pieces to shape using a bandsaw or scrollsaw. (We made the inside cuts by drilling starter holes, and then sawing as shown *above*.)

3 Prime and paint the trim and door pieces white.

4 After the paint dries, glue and nail on the trim and doors where shown on the exploded-view drawing. (To drive the nails into the hardboard trim, we clipped the head off a 4d finish nail. Then, we chucked the nail in a hand drill and used it to drill the pilot holes.)

Continued

BARN BIRDHOUSE



RAISE THE ROOF!

1 For the beveled shingles, first cut two pieces of ¾ × 2 × 30″ pine and square the edges on both. Tilt your tablesaw blade 10° from vertical. Position the saw fence 3/32″ away from the bottom of the blade as shown in the detail *below*. Next, carefully bevel-rip each edge on the two pieces to make four beveled strips. Now, crosscut 14 pieces (L) to 7⅜″ long from the strips.

2 To make the two top roof boards (M), first square the edges on one of the remaining pine pieces you bevel-cut in step 1 *above*. Next, set the saw's fence ¼″ from the side of the blade. Turn the piece on edge and resaw a ¼″-thick strip from it. Now, tilt the saw blade 25° from center. Adjust the saw fence so you bevel-rip the strip to ⅞″ final width. Finally, crosscut two 7⅜″-long roof pieces from the strip.

3 Prime, and later paint the roof boards brown. Next, using the full-sized pattern as a positioning guide, glue and nail (we used 1″ brads and drilled pilot holes to avoid splitting) the shingles to the barn assembly. (Laying the assembly's front, and then back, on the pattern, we first marked the start location for the shingles on the bowed edges as shown *below*. Then, we attached the shingles beginning with the bottom course.) Set the nails, fill the holes, and retouch with the roof paint.

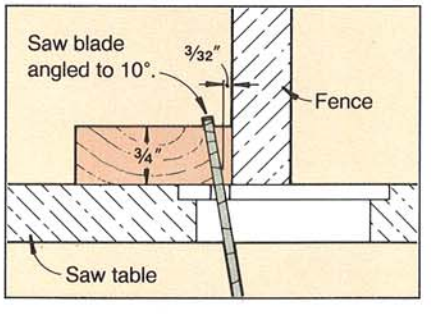
ADD THE ROOSTER AND PIPE FLANGE

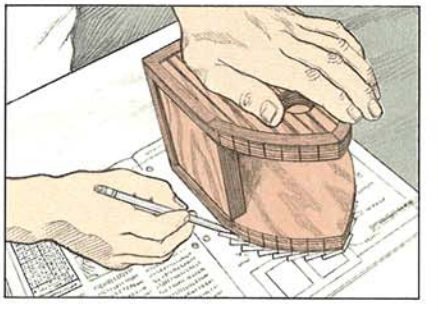
1 Cut a ¼″ diameter dowel to 1⅛″ length. Cut a ⅛″-wide slot ½″ deep in one end. Glue the rooster—cut earlier—in the slot. Prime the rooster and dowel; later, paint it red.

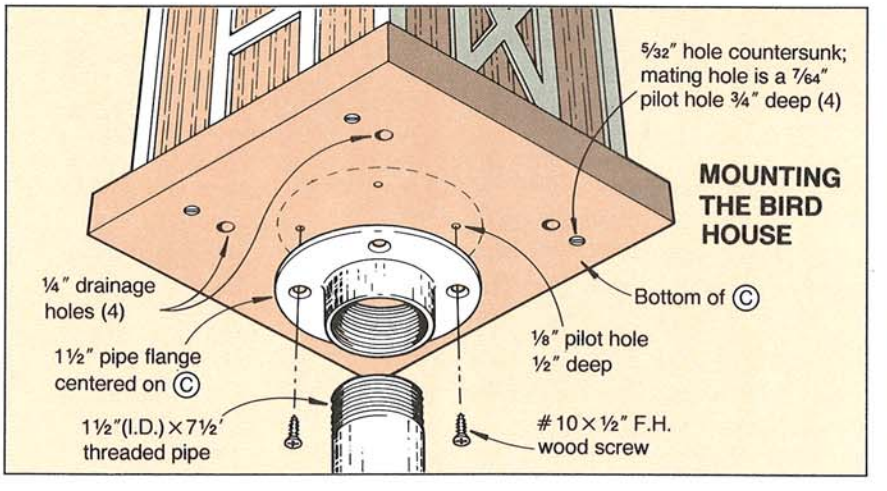
2 Drill a ¼″ hole 1″ deep through the center roof boards and into the barn front where shown on the exploded-view drawing. Glue the rooster-dowel assembly in the hole.

3 Referring to the exploded-view drawing and the Mounting the Birdhouse drawing *below*, drill four ¼″ drain holes through the base. Next, drill and countersink the four screw holes for attaching the barn to the base. Finally, screw, but do not glue, the barn to the base.

4 Center, drill the pilot holes, and then screw a 1½″ threaded pipe flange to the underside of the base. Sink a 1½″ pipe that's threaded at the top end into a posthole in the ground so that 5′ of the pipe extend above the ground and another 2½′ extend below. Plumb the pipe, and then set it in concrete. After the concrete cures, screw on the birdhouse and keep an eye out for your first feathery occupants.







Bill of Materials

Part	Initial Size			Material	Qty.
	T	W	L		
A	¾″	5¾″	7¾″	ex. plywood	2
B	¾″	4⅜″	45⁄8″	ex. plywood	2
C	¾″	7″	7⅜″	ex. plywood	1
D	⅛″	⅜″	1½″	t. hardbrd.	4
E	⅛″	⅜″	4⅛″	t. hardbrd.	4
F	⅛″	⅜″	1⅛″	t. hardbrd.	2
G	⅛″	⅜″	5⁹⁄16″	t. hardbrd.	1
H	⅛″	¼″	4⁷⁄16″	t. hardbrd.	4
I	⅛″	¾″	4¾″	t. hardbrd.	4
J	⅛″	3″	3¹³⁄16″	t. hardbrd.	1
K	⅛″	2⅝″	3⅝″	t. hardbrd.	1
L	7/32″	¾″	7⅜″	pine	14
M	¼″	⅞″	7⅜″	pine	2
N	⅛″	1⅜″	2½″	t. hardbrd.	1

Supplies: double-faced tape, carbon paper, 4d finish nails, #18×1″ brads, #20×½″ brads, 1½″ I.D. pipe 7½′-long threaded at one end, 1½″ pipe flange, 4—#10×½″ flathead wood screws, 4—#8×1½″ flathead wood screws, ¼″ dowel.

Project Design: Kim Downing Illustrations: Kim Downing; Ode Designs Photograph: Jim Kascoutas

CHERRY CAROUSEL

A SCROLLSAWER'S DELIGHT

Who can forget those merry visits to the local carnival—the organ music, the flashing colored lights, the laughter? Our ornamental carousel brings back these happy moments, both when you make it, and, again, when you share the project with a friend. We used ⅜″ cherry to create a delicate look, and hung the carousel in a window with a small brass screw eye. A drill hole in the project's backside lets you hang it on a wall from a nail, or, if you prefer, you can display the carousel on a small tripod.

PREPARE THE PATTERN AND WOOD BLANK

1 Photocopy, or trace using carbon paper, the full-sized carousel pattern *opposite*. If tracing, also mark the centerpoints for the drill holes in each of the areas to be cut out.

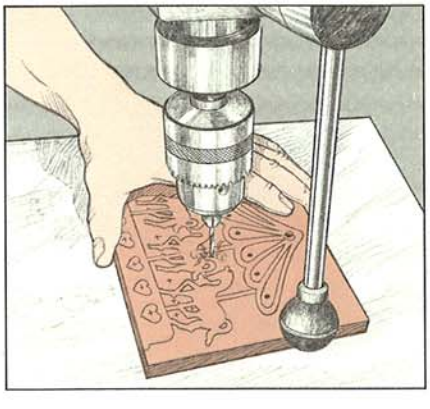
2 Using scissors, cut the pattern from the sheet of paper. (We cut along the bottom line but left a ½″-paper margin around the rest of the carousel pattern.)

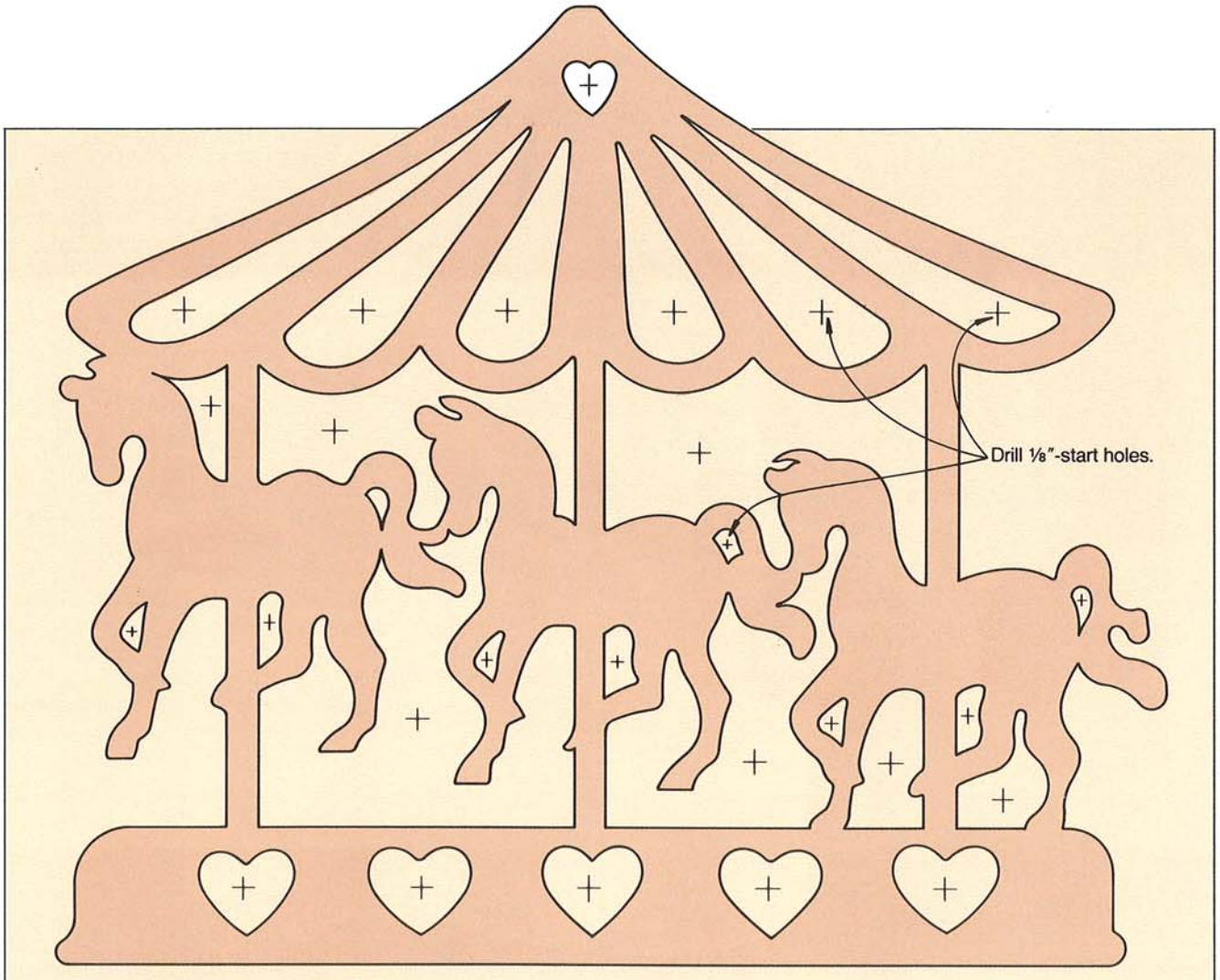
3 Rip and crosscut a piece of ¾″-thick stock (we used cherry) to 6×12″ long. Plane the piece to ⅜″ thickness. (Should you want to start with ⅜″ cherry, see our Buying Guide for a source.) Now, crosscut a 6½″ length from the piece. Finish-sand the blank.

4 Spray adhesive to the back of the paper pattern, and then adhere it to one face of the wood blank. (We oriented the pattern so the wood grain ran crosswise. Also, we aligned the bottom of the pattern with the bottom of the blank to reduce the amount of sawing.)

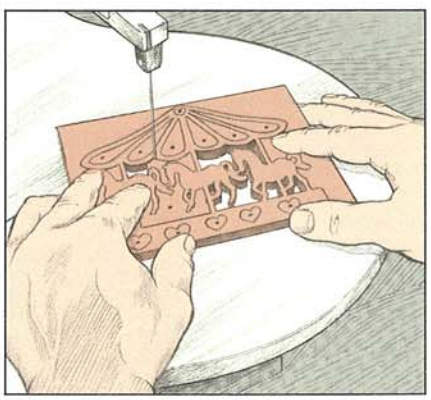
NEXT, SHAPE THE CAROUSEL

1 Chuck a ⅛″ drill bit in your drill press, and place a piece of scrap wood on the drill press table. Now, drill a start hole through each of the 28 inside areas as shown *below*.





FULL-SIZED PATTERN



2 Thread the scrollsaw blade (we used a fine blade with 18 teeth per inch) through one of the drilled holes and sawed the area to shape as shown at *left*. Repeat the process to cut out the remaining 27 inside openings. (When sawing, we cut on the line.)

3 Now, saw around the outside of the pattern to finish cutting the carousel to shape.

4 Remove the paper pattern. Use lacquer thinner to remove any adhesive residue. Lightly sand the cut edges, using 220-grit sandpaper.

5 Finish the carousel. (We applied two coats of tung oil.)

6 If you wish to hang the carousel, carefully drill a 1/16" pilot hole for a small screw eye at the peak of the roof. Apply a dab of epoxy glue to the screw eye and screw it into the pilot hole. Let the glue dry.

Buying Guide

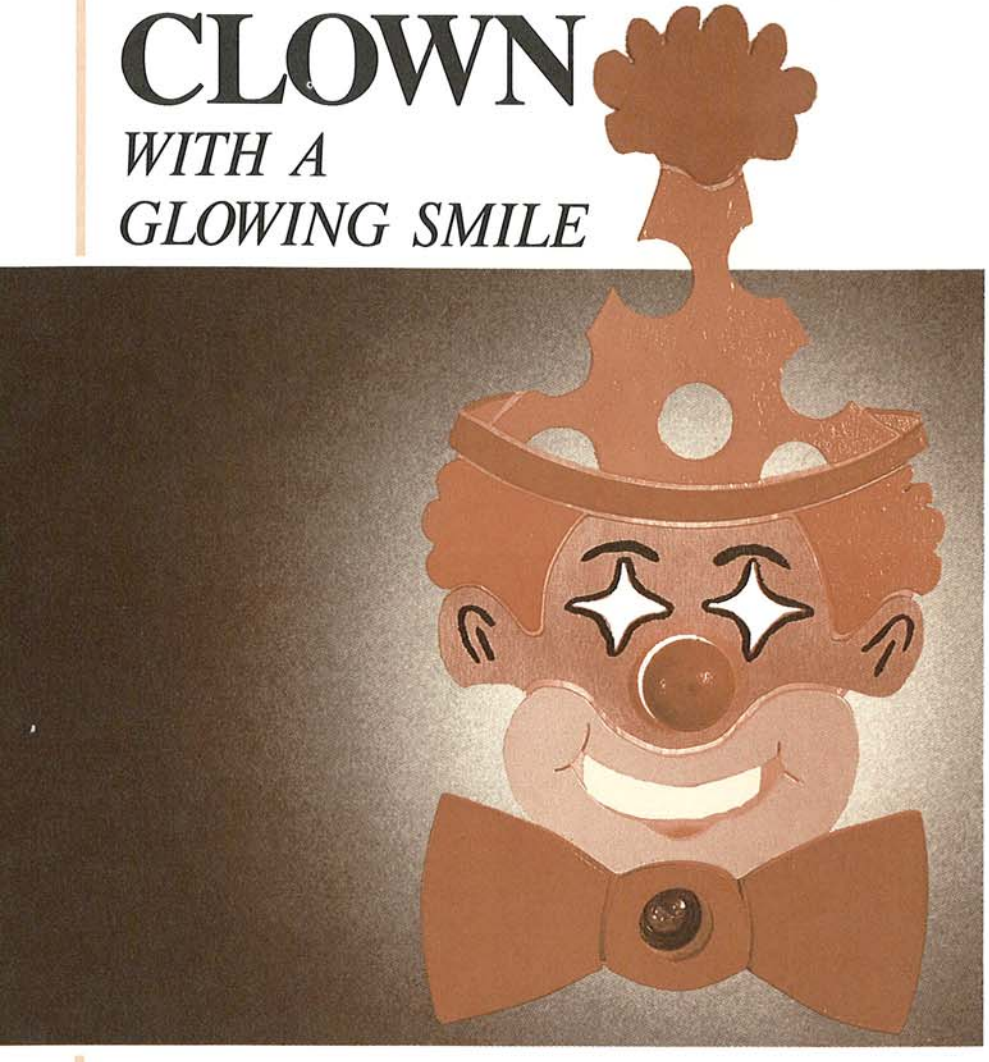
- **⅜" cherry.** Catalog no. A6203-38, one 6"x12" piece, $4.20 (minimum order $10). Include $3.50 for shipping. Specify piece must be at least 6" wide. From: The Woodworkers' Store, 21801 Industrial Boulevard, Rogers, MN 55374-9514.

Supplies: Tracing paper, brass screw eye, epoxy, spray adhesive.

Project Design: John and Nancy Clavier, Villa Rica, Ga. Illustrations: Ode Designs Photograph: Jim Kascoutas

NIGHT-LIGHT CLOWN

WITH A GLOWING SMILE



When it's bedtime for little ones, it's worktime for Bozo, our nifty night-light clown shown *above*. This delightful scrollsaw project uses a night-light that automatically switches on in the dark. Note in this nighttime photo how the light filters through the outlines of the clown's face and causes his eyes and mouth to glow. Our full-sized pattern lets you build one just like it.

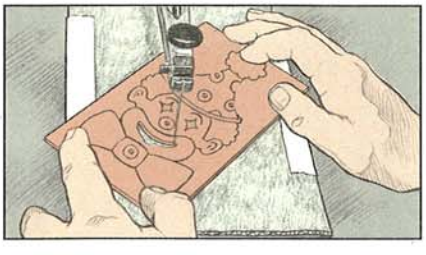
FIRST, PREPARE THE CLOWN CUTOUT

1 Photocopy or trace with carbon paper two copies of the full-sized clown pattern *opposite*. Put one pattern copy aside for now.

2 Apply double-faced tape to cover the back of the pattern, and adhere it to a piece of ⅛"-thick craft plywood that measures 4×7". (You can find thin plywood at hobby and crafts shops or use ⅛"-thick tempered hardboard.) The tape holds the pattern on the wood surface, and reduces chip-out when sawing.

3 Chuck a ½" bit (we used a brad-point bit) in your drill press, back the workpiece with scrap, and drill the ½" holes in the bow tie and hat. Drill ⅛"-start holes for the saw blade in the eyes and mouth. Switch to a ⅝" bit and drill the nose hole. You'll cut out the incomplete circles with a scrollsaw later.

4 Cut an auxillary top (we used cardboard) for your scrollsaw, and tape it to the tabletop. Poke or drill a 1/16" hole through it for the blade. This will keep the small parts from falling through the table's slot. Now, scrollsaw the eyes and mouth openings as shown *below* by threading the saw blade through the ⅛" holes you drilled in these areas.



5 Next, scrollsaw the clown parts to shape, including the incomplete circles in the hat. Lightly sand the bottom of each part. Peel off the pattern and tape, and wipe off any tape residue with lacquer thinner.

NEXT, PAINT THE CLOWN

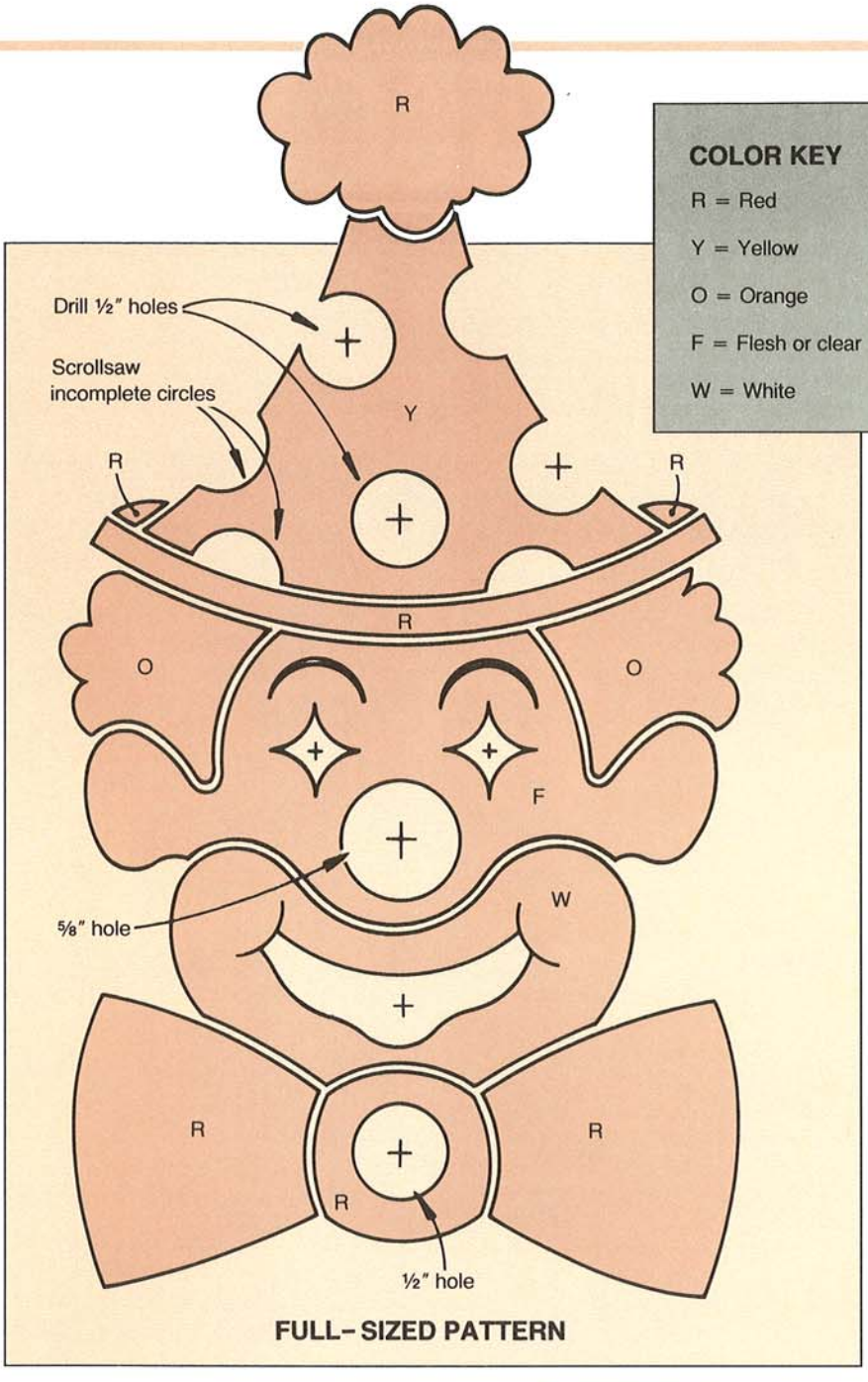
1 Cover a work board (plywood or cardboard) with double-faced tape. Place the clown parts on the tape, face-side up just as you would view them in the finished project. (We did not paint the face piece. Instead, we applied three coats of clear lacquer to it for a natural flesh color. We outlined the eyes, ears, and eyebrows with black paint.)

2 Spray the other clown parts with a light coat of primer/sealer paint. (We used Tru-Test Supreme X-O Stain Primer/Sealer Stain Killer [white] available at True Value hardware stores.) On hardboard, seal with sanding sealer.

3 Next, brush-paint the parts. You may want to experiment on the paper pattern with crayons or felt markers to visualize what parts to paint, or to select your own color scheme. (For paint, we used Pactra Odds 'n' Ends, a brand of nontoxic fast-drying enamel paints available at True Value stores. See the pattern for our color choices.) Paint the edges on each piece also.

ASSEMBLE THE CLOWN AND NIGHT-LIGHT

1 Tape your second copy of the clown pattern to the underside of a sheet of ⅛"-thick acrylic measuring 5x7". (You can buy acrylic at hardware stores and home centers).



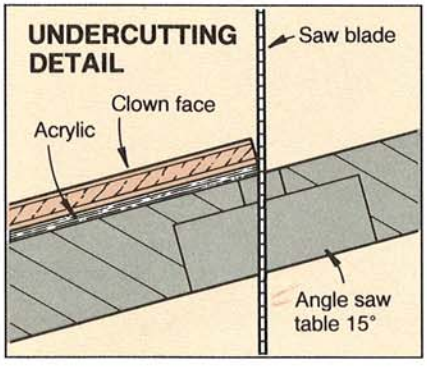
FULL-SIZED PATTERN

2 Begin assembling the clown by first applying one or two drops of adhesive to the back of the flesh-colored face piece. (We used Hot Stuff-Super T, a form of cyanoacrylate [super-glue] adhesive and sprayed it with Hot Stuff accelerator to speed the curing of the glue. A general-purpose cement such as Duco or epoxy, also works.) Position the part on the acrylic directly over the pattern's face. (We sprayed the glue from the side again with accelerator.) Now, glue the other parts in position one by one, using a paper clip to gauge the spacing between the parts as shown at *right*.

3 To undercut the acrylic, angle the table on your scrollsaw to 15° from horizontal as shown on the Undercutting Detail Drawing on page 24. Next, place the assembled clown on the saw table face up. Start cutting the acrylic following the clown's shape. Keep the part of

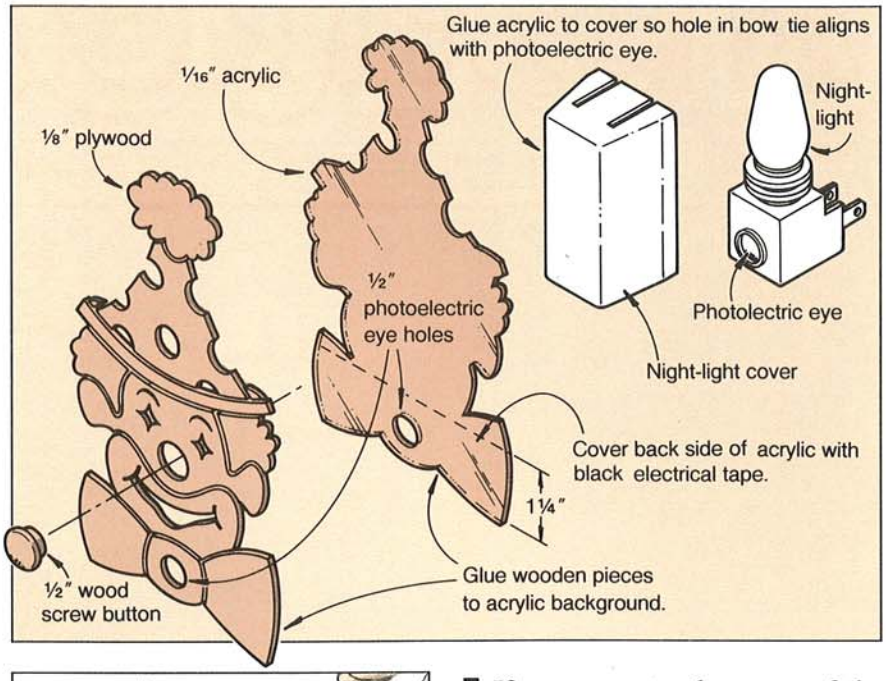
Continued

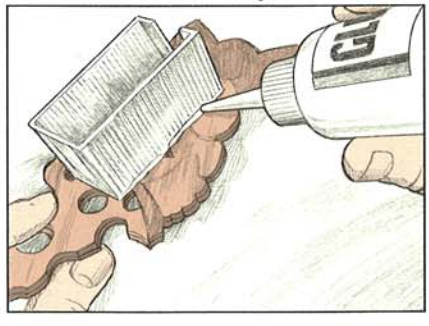
the clown being sawed on the downhill side of the blade, as shown *below bottom,* letting the bottom edge of the clown guide the blade as you undercut the acrylic. (We found the acrylic cuts better when we fed the work slowly so the blade did not heat up and melt the acrylic.)



Note: *For the night-light, we used Novo Light model NL 301 available at True Value hardware stores. It has a photoelectric eye that automatically turns on the light when darkness sets in. It also features a rectangular-shaped plastic cover with a flat, straight front surface that's ideal for mounting the clown assembly to.*

4 To prevent light from the unit reflecting into the photoelectric eye (and causing the light to flicker on and off at high speed), cover the backside of the bow tie with black electrical tape where shown on the exploded-view drawing *top right.*





5 To join the clown and light assembly, place the night-light in a wall receptacle. Hold the clown in front of the light, center the hole in the bow tie over the photoelectric eye, and center the face vertically. Use masking tape to hold it in place. Next, remove the assembly from the receptacle and place it on a flat surface, clown face down. Now, apply several fillets of glue along the edge of the night-light cover where it meets the acrylic as shown *above.* Spray the glue with accelerator to speed its curing.

6 Apply a drop of adhesive to the end of a ½" screw hole button. Now, center it in the nose hole.

7 If necessary, touch up any of the outside edges of the clown you may have scraped with the saw when cutting the acrylic. Use the matching color of paint.

8 Place the night-light in an electrical receptacle. You can test the light by temporarily covering the light sensor in the bow tie hole.

Buying Guide

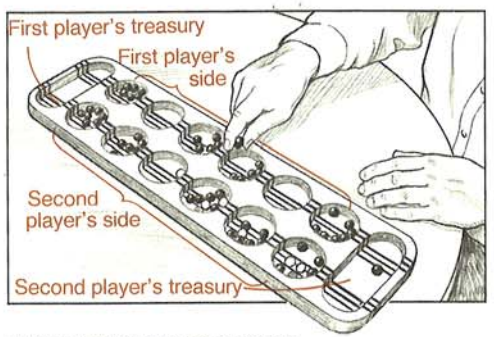
- **⅛" plywood.** Poplar, 3-ply, ⅛ × 9¼ × 11⅜" sheet. Catalog no. 7546. Price: $1.25 per sheet (1-9 sheets), plus $3.50 shipping. $25 minimin order. From: Meisel Hardware Specialties, P.O. Box 70, Mound, MN 55364-0070.
- **Cyanoacrylate adhesive.** "Hot Stuff-Super T", 2-oz. bottle gap-filling adhesive. Catalog no. 08X31. Price: $10.95 postage paid. "Hot Shot" accelerator, 3 oz. spray bottle. Catalog no. 08X41. Price: $4.50 ppd. From: Woodcraft, 41 Atlantic Ave, P.O. Box 4000, Woburn, MA 01888. Phone: 800/225-1153.

Supplies: Double-faced tape, masking tape, primer paint, enamel paints, spray lacquer, ⅛"-thick acrylic, paper clips, 1—½" screw hole button.

Project Design: Jim Boelling Illustrations: Kim Downing; Ode Designs Photograph: Jim Kascoutas

PLAYING THE GAME

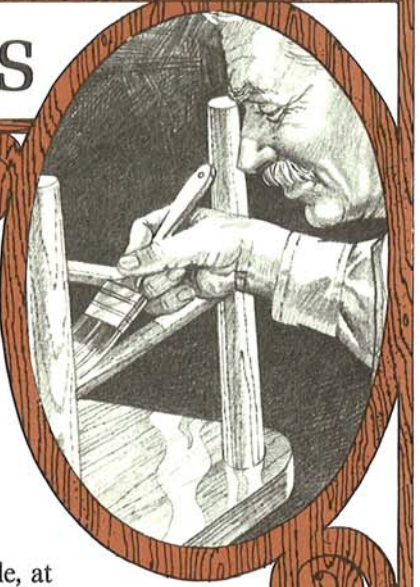
The starting player (player one) picks up all of the marbles in one of the pockets on his or her side of the board. Moving counter-clockwise, player one drops a marble in each pocket (opponent's too), including his or her treasury, but not in the opponent's treasury. After dropping the last marble, this player gathers up the marbles in that pocket and continues play until he or she drops the last marble in hand into an empty pocket. At that point, player two starts play from his or her side. If a player's last marble drops into his or her treasury, that player continues from any of the pockets on his or her side. The game ends when all marbles have been deposited in the two treasuries.



THE FINER POINTS

Playing strategies should become obvious as you gain experience. For example, when starting a turn, it usually works best to start at the pocket with the largest number of marbles. When possible, count ahead so that your last marble in hand goes into your treasury. Also, select a starting pocket containing enough marbles to allow you to avoid ending in an empty pocket which will end your turn.

From Our Shop to Yours



Print this article

Dear Reader,

From time to time, readers ask us how they can modify a woodworking design they have found in their travels or in a magazine and still end up with a successful project.

This concern touches home with me because I'm a woodworker who frequently alters an existing project design. And more than once, I found a design of mine following close on the heels of a project included in WEEKEND WOODWORKING PROJECTS or our parent publication WOOD magazine.

To get to the heart of the matter, I solicited the wisdom of our first-class Projects Design Editor Jim Downing, shown *below*, during one of those late-afternoon chats that swell with philosophy. Jim speaks from experience, and I think you'll find his views on the subject worth tucking away.

MEET THE MAN WITH THE PLAN

I asked Jim to count the ways we can modify a project design, such as the projects found here. "Well," he said, his face wrinkled in thought, "You should always build to match your style. The easiest way lies in changing the wood species or stain color. Or, you can paint the project. Deleting, adding, or altering moldings to match your furnishings works, too. In general, it's best to use less fanciwork for country or contemporary designs. Another option includes changing the hardware to suit your tastes."

"Anything else?" I pressed. "Yeah," he said. "You must build to match your needs. Increase or downsize the project scale and patterns. Or change the configuration."

"Look, for example, at the planter/bench [our cover]. By building another bench, and a planter for the corner, you create a nice L-shaped unit."

At this point, I contemplated several projects in the magazine, turning them inside out, and every which way but loose. That can be Jim's effect. I've never met a guy who could offer more approaches to a project design. But, then, that's why he is who he is, and why we're so glad he's working for us.

Jim Harrold
Managing Editor

CHECK OUT THESE GREAT TIPS

Note: To find the tips quickly, turn to the above pages and look for the tinted step numbers.

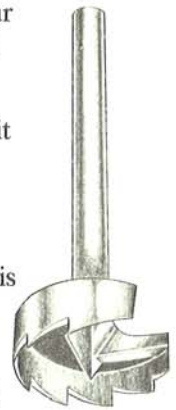
READER'S CORNER

Print this article

Because this is your magazine, it's important that you have an opportunity to sound off. Here, you can register your suggestions, criticisms, and, if you wish, a kind word or two. We may not be able to publish every letter, but we'll get in what we can. Send your letters to:

Reader's Corner
***WEEKEND WOODWORKING PROJECTS*™**
1716 Locust St.
Des Moines, IA 50336.

FORSTNER FOR THE FERRIS WHEEL



I have a question concerning your Ferris Wheel featured in volume 1, issue 6. On page 15, you illustrate boring the 15/16" seat holes with a Forstner bit. This bit is the right choice, but where in the world is one available? I've never seen a Forstner bit in a multiple other than 1/8".

Incidentally, your publication is really good, and I enjoy it even more, now that I have grandchildren. Keep it up.
--Howard Ryan, Hamilton, Mont.

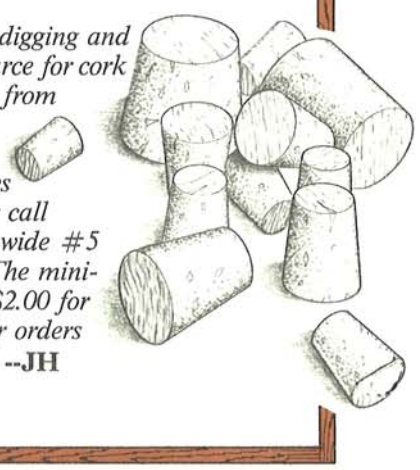
Howard, we sure appreciate the compliment. Even though you could bore the seat holes you're referring to with a commonly-available spade bit, it seems we both agree that a Forstner-type bit would provide cleaner holes. Unlike spade bits, it doesn't splinter wood when boring holes. For our source, write to Puckett Tools and Fasteners, 841 11th Street, Des Moines, Iowa 50309. Or call 800/544-4189. Ask for Greenlee's Multi-Spur Forstner bit, catalog number 111-035. Include a check for $20.45 to cover the bit cost, postage, and handling your order .

FOR THE RECORD

For those of you who save back issues of WEEKEND WOODWORKING PROJECTS in ring binders or some other way, we need to make you aware of an issue designation change. For the record, Vol. 1, issue 7 is now Vol. 2, No.1 Issue 7. You'll note that this change is in effect on the succeeding cover of issue 8, and, of course, on this issue. (Check the cover's top left-hand corner.)

CORKS FOR POPPING AND STOPPING

Recently I made 50 sets of the salt and pepper shakers you featured in volume 1, issue 4. When I visited my local hardware store for the #5 cork stoppers, I found that they only had 6 corks of this size, though they had plenty of the #4 and #6 corks. Do you know where I can buy more?
--Larry Titus, Jeromesville, Ohio



Larry, I've done a little digging and have come up with a source for cork stoppers in sizes ranging from 1/4 to 2 1/4". Write to Miller's Hardware, Inc., 1300 Harding Road, Des Moines, Iowa 50314. Or call 515/283-1724. The 5/8"-wide #5 cork costs 12¢ for one. The minimum order is 10. Add $2.00 for postage and handling for orders less than 100 corks. **--JH**

HOW TO PLAY MANCALA

There are many ways to play mancala using the game board featured on pages 8-11. We'll describe a simple version. We also suggest you research and try other interesting or more challenging versions of this game, too.

PREPARING THE BOARD

To play, you need an opponent, the board, and 72 marbles, seeds, or shells. Place the board between you and your opponent. Now, looking at the game board, the six pockets along the front belong to you, and the elongated pocket at your right serves as your treasury. The six pockets on the opposite side and remaining treasury pocket belong to your opponent. (See the *back* of this page.) Place six marbles in each round pocket. Your objective: to accumulate more marbles in your treasury than your opponent collects. In one version, play continues until the winner collects all of the marbles.