

WEEKEND WOODWORKING

PROJECTS™

NEAT THINGS YOU CAN BUILD IN A HURRY

Turned eggs and bowl

Blue-heron wall clock

Pineapple bookends

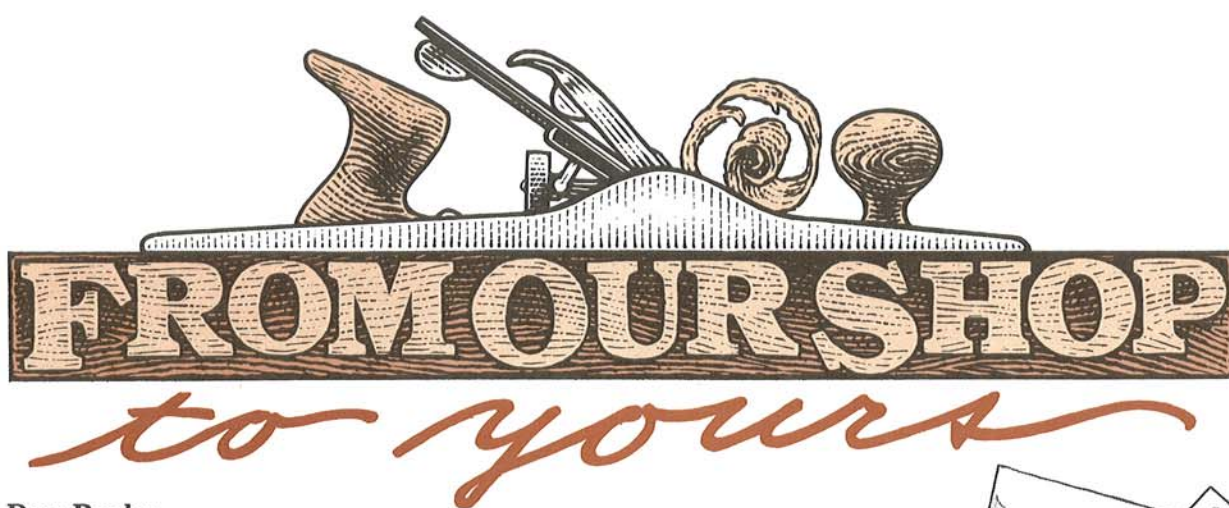
Rubber-band dragster

Oak plate rack



COUNTRY WOOD QUILT

FROM THE EDITORS OF WOOD MAGAZINE



FROM OUR SHOP to you

Dear Reader,

CHANGES FOR THE BETTER

You may have noticed a few changes in the magazine over the last few issues. Let me take a moment to tell you about them.

To begin with, we're slowly but perceptibly growing. When we started, we were a 28-page publication from cover to cover. Then, we included two abbreviated pages at the front of the magazine for our Editor's Column and Reader's Corner, and two abbreviated pages at the back for tips.

With issue 10, all four pages became full-sized, allowing us more room for more information and patterns. We're now a bona fide 32-page magazine!

You may also have noticed in issue 10 and this issue the redesign work on the Editor's Column and Reader's Corner. We did this to accommodate the new full-sized pages and allow for more editorial flexibility. Too, we feel the redesign makes us look better.

Altogether, these changes spell added value, but the bargain doesn't stop here.

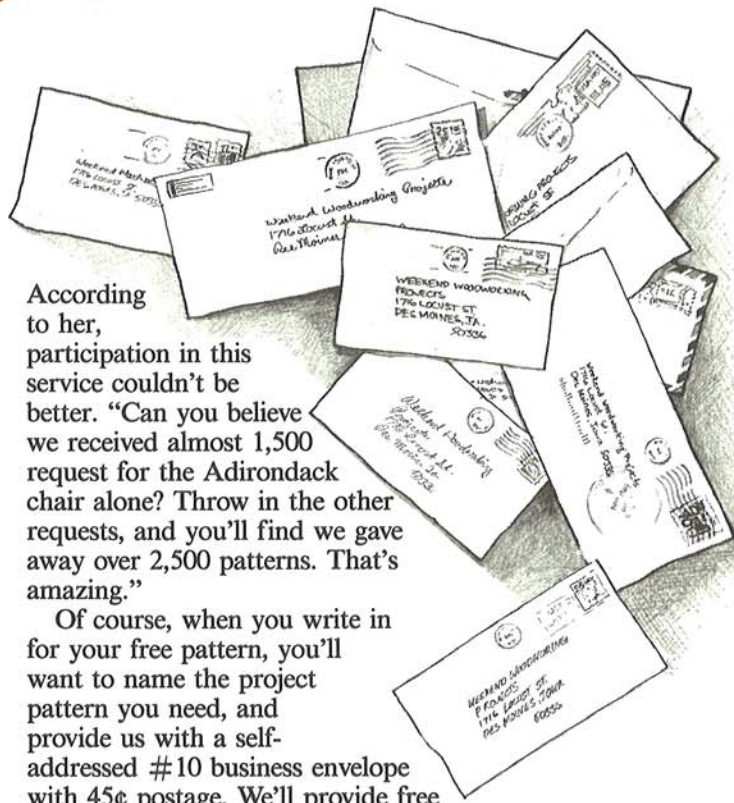


PATTERNS FOR THE TAKING

Since day one, we've prided ourselves on offering full-sized patterns for projects in the magazine.

Before long, however, we were faced with a few

terrific projects with part patterns that were too large to fit across two pages. We then decided to create a mail-order fulfillment service, allowing you to write in for the larger full-sized patterns free of charge. We gave this labor-intensive task to our trusty Administrative Assistant, Linda Fitzgibbon, *above*.



According to her, participation in this service couldn't be better. "Can you believe we received almost 1,500 request for the Adirondack chair alone? Throw in the other requests, and you'll find we gave away over 2,500 patterns. That's amazing."

Of course, when you write in for your free pattern, you'll want to name the project pattern you need, and provide us with a self-addressed #10 business envelope with 45¢ postage. We'll provide free patterns for up to 6 months after the publication of a project.

Consider this service just one more way we aim to please.

Jim Harrold

Jim Harrold
Managing Editor

CHECK OUT THESE TIPS AND JIGS

- Tablesaw jig for cutting parallelogram-shaped pieces—page 6.
- Using cardboard for a spacer—page 8.
- Sanding wheels for toys—page 17.
- Jig for sanding wood eggs—page 24.

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

Reader's Corner

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.

BISCUIT CUTTER BUSINESS

First, let me compliment you on your very interesting projects.

Second, I'd like to tell you about a safer method for holding onto material that you are parting off from a lathe. I'm talking about the procedure described in your Biscuit Cutter story in issue 8 of volume 2, the one where you're parting the body from the waste.

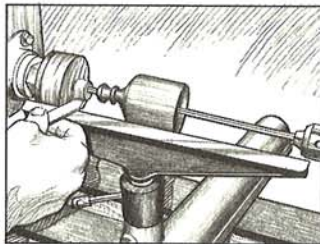
There are actually two ways to address the problem. In one way, you leave the drill bit in the hole that runs through the body for the biscuit cutter's push rod and push plate. The skew will simply push the drill a tad off center as the last cut is made.

The other way requires a steel rod of lesser diameter than that of the drilled hole. Like the drill bit, you insert this into the drill hole. [See the drawing below.]

The advantages of this method are many. To begin with, no helper's hands are endangered. The method works great for all small pieces that are parted in this manner. And finally, the parted piece is held captive. It can't go forward or fly off.

Herb Yallop,
Homeland, Calif.

Herb, I especially like your second idea and am sharing it with our woodturning readers. In fact, we tried it out on our shop lathe and the parted biscuit cutter body slipped easily onto the steel rod. I hope our illustration does your idea justice. Readers, note that we used a key chuck mounted on the tailstock to hold the steel rod in place during the parting operation.



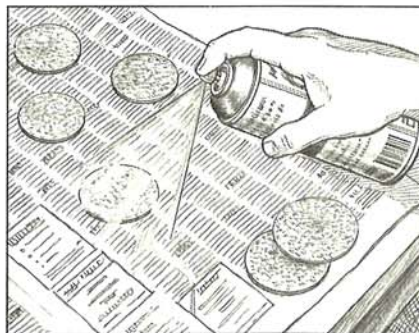
SAWING AND LOVING IT AT AGE 12

I am 12 years old and I just love WOOD and WEEKEND WOODWORKING PROJECTS magazines. When I come home from school every day, I make things out of your magazines instead of watching TV. I have a scrollsaw and a bandsaw, and my dad has many more tools. Thanks, and keep up the good work!

Joe Ridenour, Peculiar, Mo.

Joe, it's a treat for us to hear from a woodworker as young as yourself. As you grow older, you'll find your woodworking abilities will serve you well in so many ways. I would also like to compliment you on your choice of saws. The scrollsaw is perhaps the safest stationary power saw, and certainly the right one to start out on.

With your skills and interest in woodworking, you may also want to join a 4-H woodworking club. Membership here will provide you with opportunities to show off your talent and participate in woodworking competitions.



CURING THE COASTERS OF BLACK MARKS

A few readers have called and told us that the self-adhesive cork discs used in the Catchy Coasters project in issue 8 turn black if exposed to moisture. One reader complained of black rings on the cork discs resulting from the moist bottoms of beverage glasses.

We have a quick solution for this problem. Before installing the discs (and with the protective cover still on the self-adhesive side), spray the top surface of each as shown above with several coats of a clear polyurethane finish. (We used Def.) Let the finish dry between coats. This seals the discs and preserves them for a long life. —JH



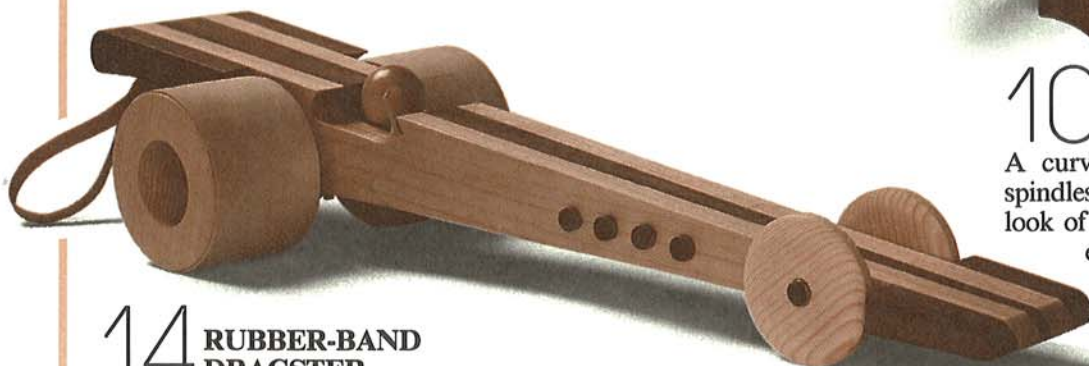
6 COUNTRY WOOD QUILT

Colorful quilts add richness to a home's interior. If country decorating describes your style, our framed wood quilt design, measuring 22½" square, will bring new life to a drab wall while sparking lively conversation among guests.



10 PICTURE-PERFECT PLATE RACK

A curved railing and store-bought spindles give this oak plate rack a look of traditional elegance. A routed groove running the length of the shelf offers safe support for your favorite collector's plate.



14 RUBBER-BAND DRAGSTER

Car lovers and woodworkers alike get a charge out of this fast-track vehicle. Simply loop the rubber band over the pin on the rear axle, wind up the wheels, and you're ready to spring into action. We used strips of maple and walnut for the stripped body, and pine for the dragster wheels.



18 BLUE-HERON WALL CLOCK

Capture a moment of natural beauty with this walnut wall clock. We give you the full-sized pattern for the heron cutout; you provide the colored fabric backing to match your home's decor. For added styling, we inserted ash plugs for the numbers and installed brass hands.

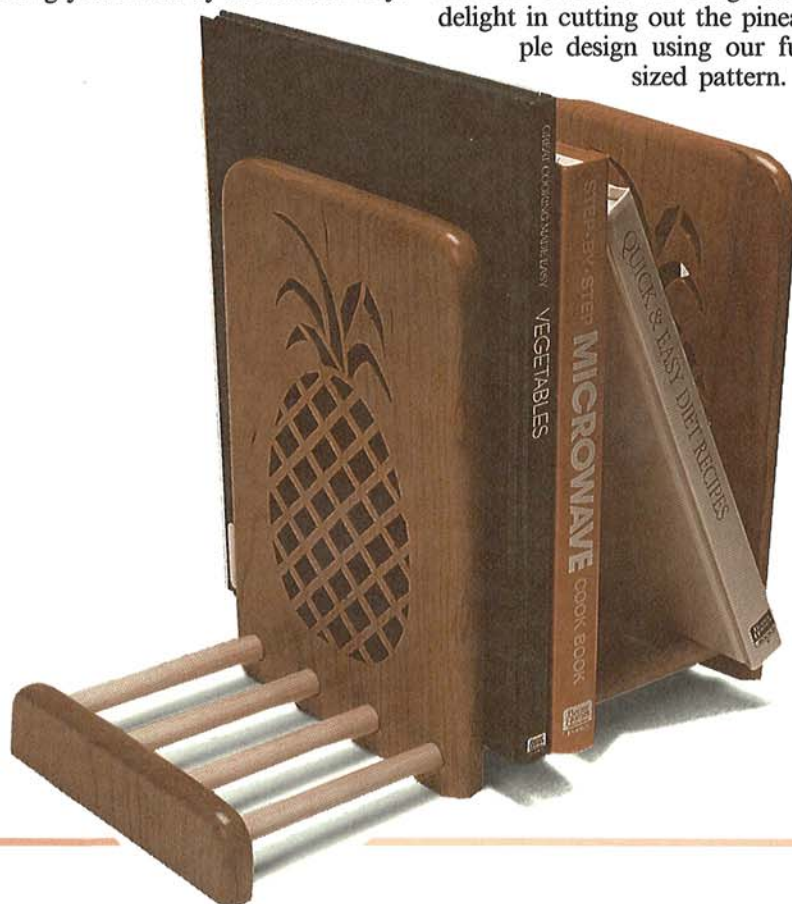


22 EGGS AND BOWL CENTERPIECE

This distinctive tabletop project combines two separate turning assignments. But our templates and egg-shaping jig ease the workload, letting you finish by the second day.

26 PINEAPPLE BOOKENDS

Show the family cook a little appreciation by giving him or her this kitchen organizer. Made from cherry, our bookends measure 10" tall and 12" long. You'll delight in cutting out the pineapple design using our full-sized pattern.



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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 wood project—directions, illustrations, and bill of materials—to make sure the instructions we provide you are clear, concise, and complete.

The Staff of Weekend Woodworking Projects

COUNTRY WOOD QUILT PIECE IT TOGETHER IN NO TIME



A total of 240 small pieces make up the captivating wood quilt design *above*. But that doesn't mean it takes forever to make. With our precision jig, you can knock out the needed number of pieces in less than 30 minutes. We painted the pieces prior to applying them, creating colorful contrasts. We then surrounded the pattern with an attractive mat and frame, and prepared it for mounting on the wall.

OUR JIG MAKES IT EASY

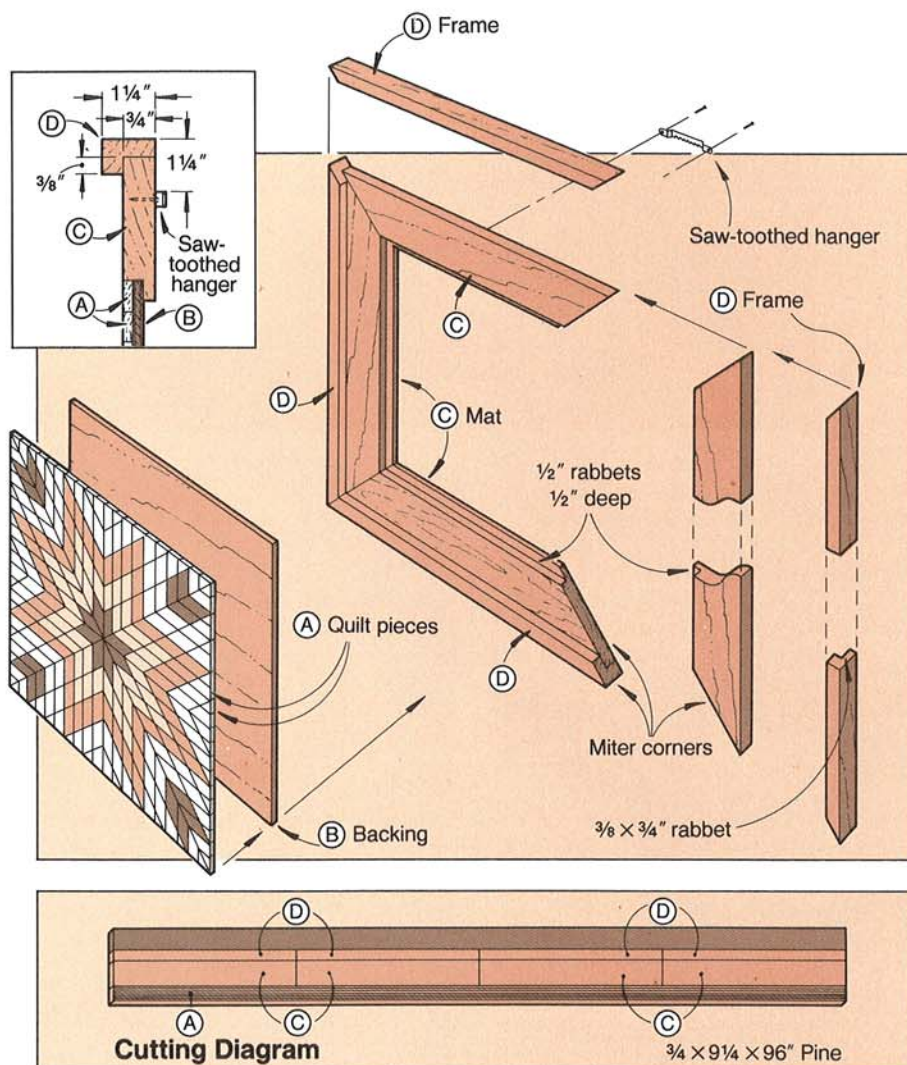
1 To make the individual parallelogram-shaped pieces (A) used in forming the quilt pattern, construct the jig shown on the Jig Drawing on page 8. To make the jig, first saw the $\frac{3}{4}$ " plywood base to size. Next, cut a $\frac{3}{4} \times \frac{3}{4} \times 21$ " piece of scrap wood. Saw one 11"-long length from it, miter cutting both ends at 45° . Next, attach one end of the strip to the base where shown on the drawing. Now, using an adjustable triangle or combination square, angle the piece 45° to the right edge of the base, and secure the free end with glue and small nails to form the diagonal support. Cut the rear jig support from the remaining $\frac{3}{4} \times \frac{3}{4}$ " piece and attach it to the base.

2 Cut the jig's glide (on the underside) to fit in the miter gauge slot on your saw's table. Next, attach the glide to the underside of the jig's base. (We first positioned the rip fence $2\frac{5}{8}$ " from the blade, put the glide in the table's slot, and then placed the jig against the fence and on top of the glide. Finally, we drove small nails through the base and into the glide.)

3 To safely hold the small pieces when sawing, attach a hold-down clamp to the jig where shown. (See the Buying Guide for our source.) Now, with your saw blade raised 1" above the saw table, run the jig into the saw, stopping when the blade begins to cut the diagonal support. Stop the saw. Now, cut a triangular-shaped stop block from scrap, and glue and nail it $1\frac{1}{8}$ " from the saw kerf where shown on the drawing.

NEXT, CUT THE QUILT PIECES

1 From $\frac{3}{4}$ " pine stock, rip about 42 linear feet of $\frac{1}{4}$ "-wide strips. (We used a 24-tooth steel chisel blade to intentionally rough-cut the face of the strips.)



Buying Guide

● **Horizontal clamp.** Low-profile clamp, 1/2" movement, 2 1/2" long, with rubber tip. Catalog no. GH225D. \$8.95 plus \$3.95 shipping (\$10 minimum order). Trendlines, 375 Beacham St., Chelsea, MA 02150.

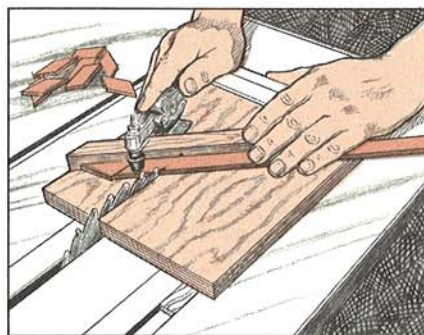
Bill of Materials

Part	Finished Size			Material	Qty.
	T	W	L		
A	1/4"	3/4"	2 5/16"	pine	240
B	1/4"	16"	16"	plywood	1
C	3/4"	3 1/2"	24"	pine	4
D	3/4"	1 1/4"	24"	pine	4

Supplies: Acrylic paints (4 colors), saw-toothed hanger.



2 Mount a fine crosscut blade on your table saw. Place the jig in cutting position on the saw table, and position the rip fence against it. Raise the saw blade 1" above the table top. Place one of the 1/4"-thick pine strips in the jig along the side of the diagonal support with the end of it against the stop. Holding the strip in place with your left hand and the clamp, push the jig forward into the blade just enough to cut off the end of the strip. Pull the jig back, release the clamp, and remove this waste piece. Now, begin cutting the parallelogram-shaped pieces as shown at right, following the same procedure. Always push the 1/4" strip firmly against the stop block each time before clamping it in place and making the cut. (To com-



plete our pattern as shown, you'll need 240 pieces, but we suggest you cut about 20 extras.)

3 Select your pattern colors (see the Quilt Pattern on page 9), and then paint enough pieces of each color (plus a few extras) to complete the design. (We used Delta brand acryl-

ic paints bought at a local crafts supply store, and thinned them slightly with water. We then dipped the pieces into the paint to coat them thoroughly, and wiped off the excess with a cloth.)

PREPARE THE BACKING AND FORM THE PATTERN

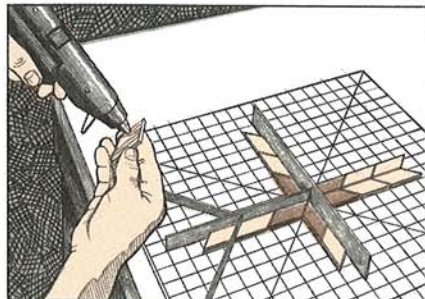
1 For the quilt backing (B), cut a 1/4"-thick piece of plywood to 16" square. Using a straightedge and square, and the pattern as a guide, divide the surface of the square into four equal quadrants. Next, draw lines diagonally from corner to corner. Now, using a 24"-long length of 1/4"-wide strip, draw horizontal and vertical lines every 3/4" on the backing to make a grid pattern as shown above. (We used the grid to help

Continued

WOOD QUILT

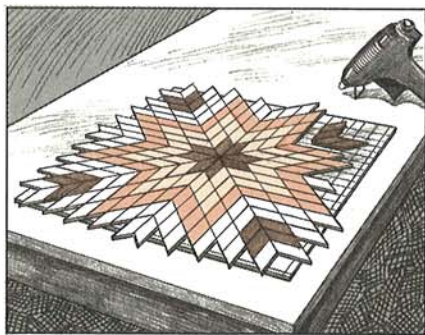
position and align the individual quilt pieces.)

2 Starting at the center of the pattern, begin placing parallelogram-shaped pieces on the backing to form the center star. Place the pieces along the vertical and hori-

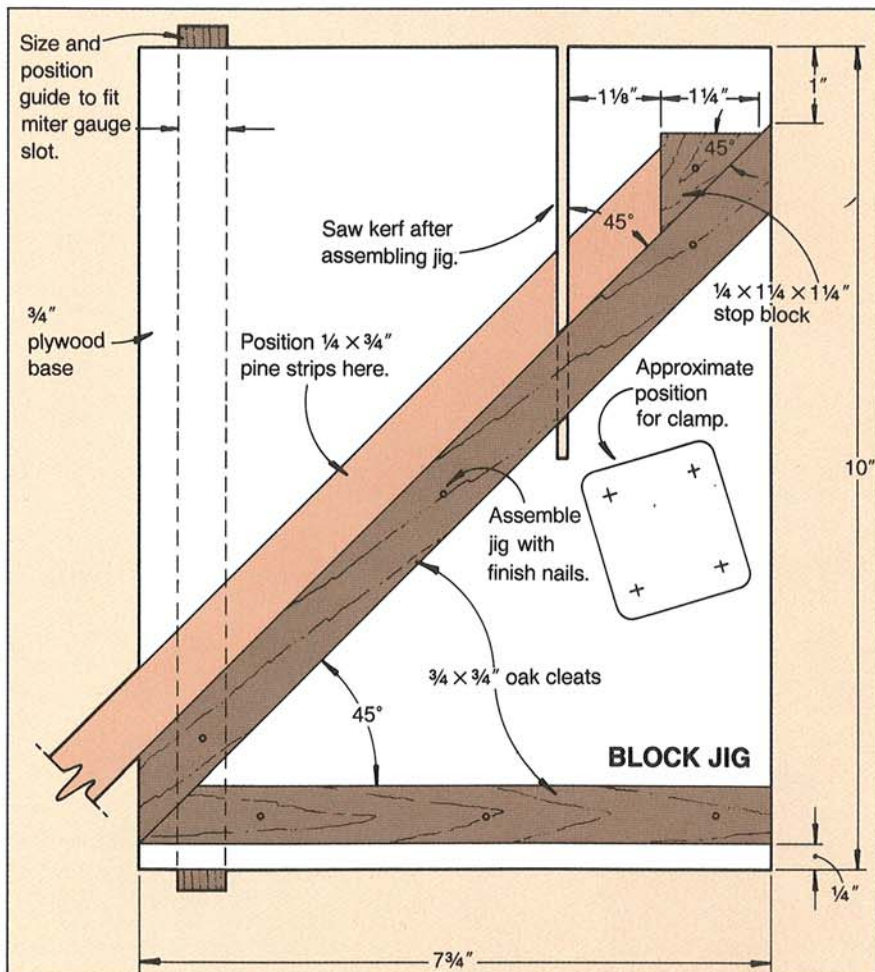


zontal lines radiating out from the center. Follow these lines to keep the pattern square. Next, apply a small bead of hot-melt glue to the underside of the pieces as shown above, and then position them on the plywood base. (To space the pieces uniformly, we placed strips of cardboard [from the back of a writing tablet] between the pieces.)

3 Position the next row, making sure the colors of the pieces used



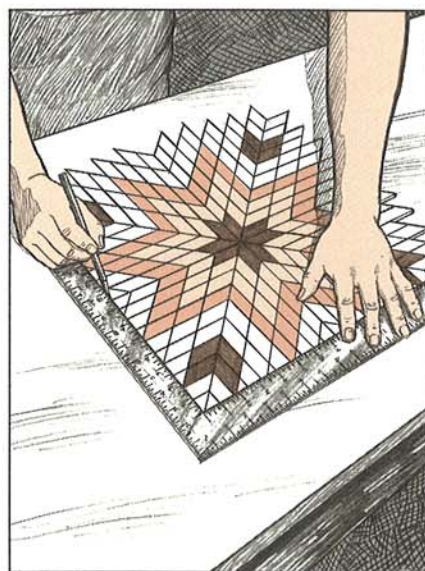
match the pattern. Glue them to the board, spacing each with the cardboard. Work out from the center, filling in the pattern within the entire quadrant. Let the outside pieces run past the edge of the plywood for now—you'll saw them off later

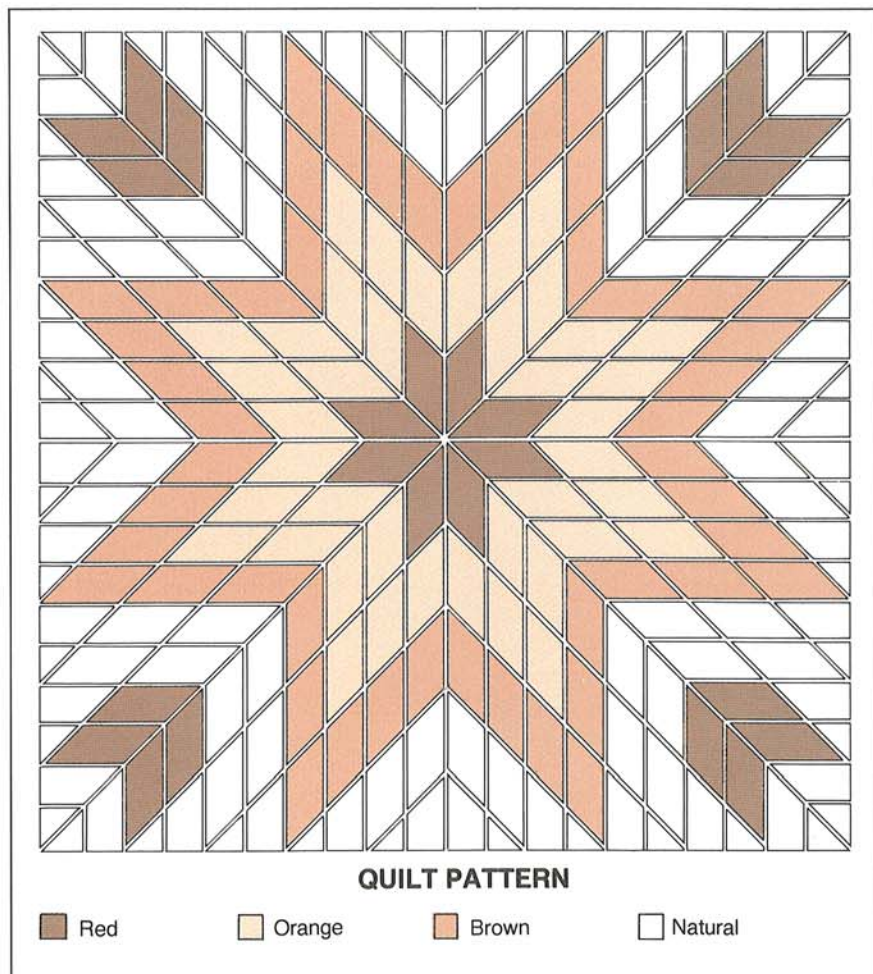


when you size and square the quilt board. Repeat these steps on the other three quadrants to fill in the pattern as shown at left.

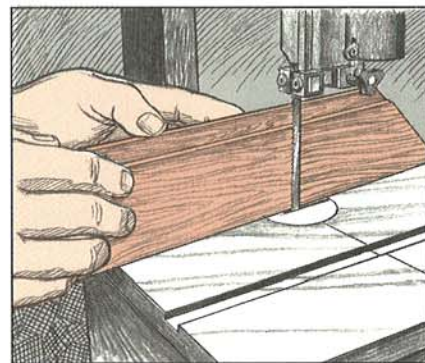
Note: By changing the orientation of the pieces and colors, you can create patterns different from the one used with our quilt. Simply develop the pattern you prefer in one of the quadrants, then repeat that pattern in the other three.

4 To trim the quilt board, place a framing square along one edge of the board as shown at right, and scribe a line for the finished outside edge. Mark all four edges, squaring them with each other. (We used the





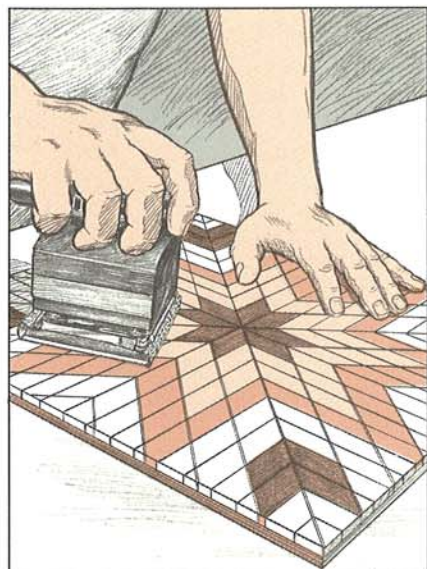
2 Stand the $3\frac{1}{2}$ "-wide piece on edge against the bandsaw blade, as shown *below*. Place the fence against the back of the piece and clamp it in place. Turn on the saw, and pull the piece through the saw. This scratches the board's face, giving it a rough-sawn look. Next, crosscut the board into four pieces, miter-cutting the corners to 45° so they fit snugly around your trimmed quilt. Now, apply glue to the miters and assemble the mat pieces. Clamp the mat with a band clamp; check for square. Later, remove the clamp, and paint the mat.



3 For the outside frame (D), rip an 8' length of $\frac{3}{4}$ "-thick pine to $1\frac{1}{4}$ " wide. Cut a $\frac{3}{8} \times \frac{3}{4}$ " rabbet (we used a router) on one edge as shown on the exploded-view drawing. Next, miter-cut four pieces from this length that will fit snugly around the mat. Test the fit as you go. Now, place the pieces on a flat surface. Glue, apply a band clamp, and square the frame. After the glue dries, remove the clamp, and paint the frame.

4 To assemble, glue and nail the quilt board in the rabbet of the mat. Next, glue and nail that assembly in the rabbet in the outer frame.

5 Attach a saw-toothed hanger to the backside of the quilt. Now, mount the quilt on a prominent wall, and enjoy your handiwork.



tips on the four corner arrows as the cutoff points.) Next, using your tablesaw or bandsaw, saw to the lines. Finish by sanding the edges on your disc or belt sander.

Note: After trimming the quilt pictured on page 6, we lightly sanded it with a pad sander, as shown at left, to give it a weathered look.

NOW, FRAME THE QUILT

1 To make the mat (C), which is actually part of the frame, rip an 8' length of $\frac{3}{4}$ "-thick pine stock to $3\frac{1}{2}$ " wide. Next, cut a $\frac{1}{2} \times \frac{1}{2}$ " rabbet along one edge of the piece (we used a router), where shown on the exploded-view drawing, on page 7.



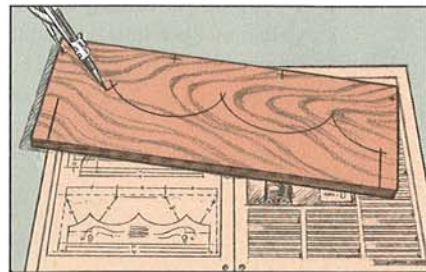
PICTURE-PERFECT PLATE RACK



Give your favorite hand-painted or commemorative plate center stage by displaying it on this decorative oak plate rack. Though the model shown measures 11¾" long, you can continue the pattern out and make a three- or four-foot-long rack for several plates. A centered groove running the length of the rack's shelf allows the plate to stand securely at just the right angle. Spindles and molded edges create an elegant traditional look.

SHAPE THE SHELF BACK

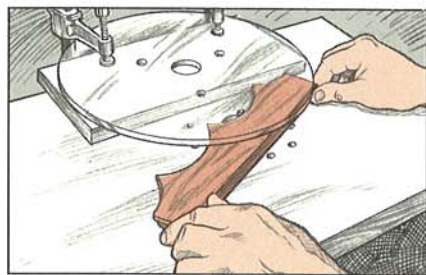
1 Rip and crosscut a ¾ × 4½ × 13" piece of oak for the shelf back (A). (See the Cutting Diagram.) Using the dimensions on the Shelf Back Drawing on page 11, mark the centerpoints for the partial circles making up the scalloped bottom edge



and the shelf ends on the front of the piece. Now, using the centerpoints and a compass as shown *above*, scribe the arcs for the scallops. Turn the piece over and mark the keyhole slots and screw hole centerpoints.

2 Bandsaw the scalloped edge. (We cut outside of the line, and then sanded to the line with a drum sander.) Cut the ends of the shelf back to length.

3 Chuck a 5/32" Roman Ogee bit into your table-mounted router (see the Molding Detail in the exploded-view drawing). Rout the end and bottom edge of the piece as shown *below*. (We used a Bosch no. 85270 M Roman Ogee; a Sears no. 9 R 25532 1¼" Classic router bit produces an equally attractive edge.)



NEXT, MAKE THE SHELF AND RAIL

Note: The shelf and rail measurements listed in the Bill of Materials below may vary slightly from the measurements on your project due to the router bit used. For this reason, use your routed shelf back to determine the final length of the shelf.

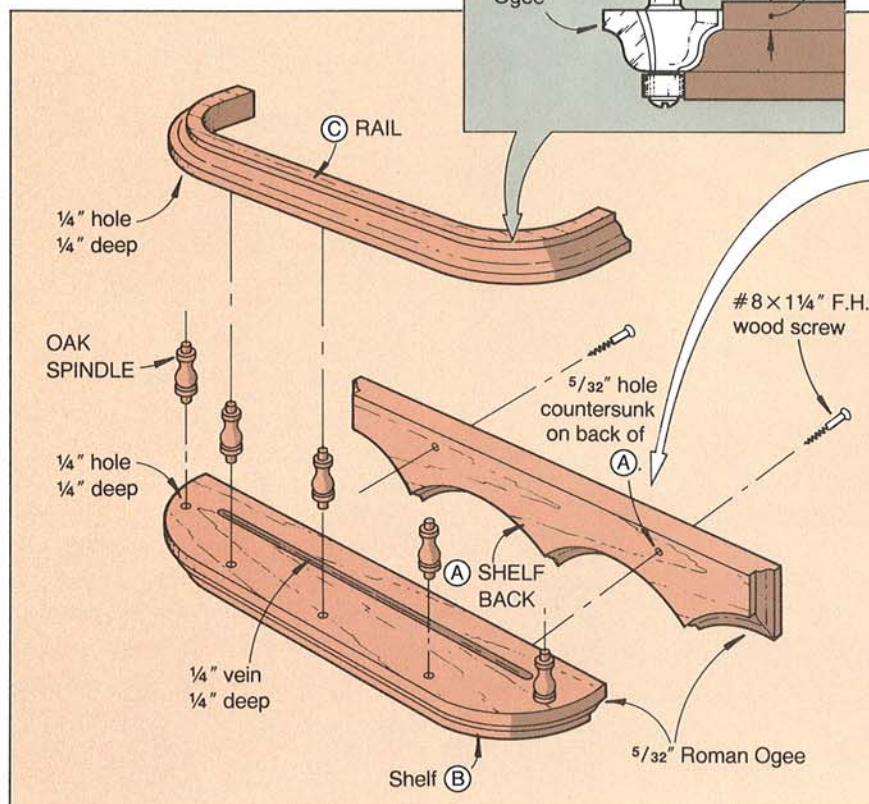
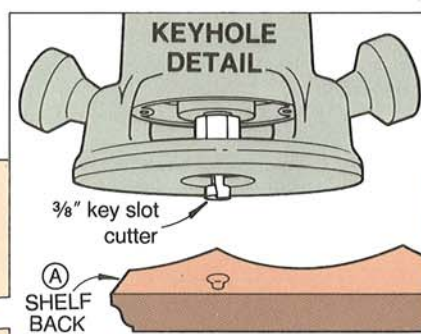
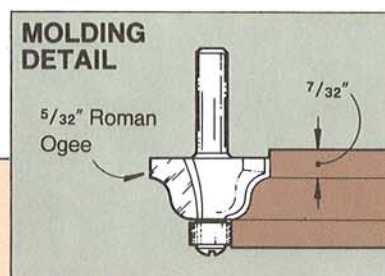
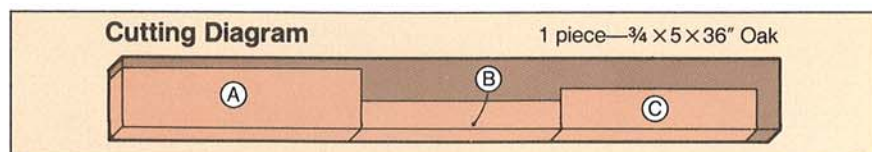
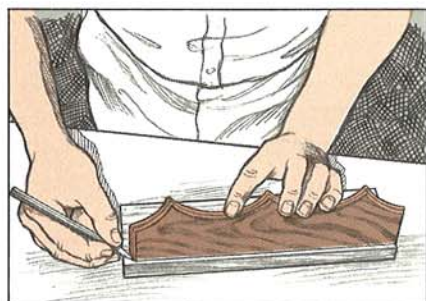
1 Rip and crosscut one piece of $\frac{3}{4}$ "-thick oak to $2\frac{3}{4} \times 11\frac{1}{8}$ " for the shelf (B), and a second piece to $3\frac{1}{2} \times 11\frac{1}{8}$ " for the rail (C). Put the

rail piece aside temporarily. Place the shelf back (A) on the shelf piece as shown below left. Mark the point of the top edge of the molding on the shelf piece. Using that mark, trim the shelf piece to its final length. Now, cut the rail piece to the same length as the shelf.

2 Using the dimensions on the scaled Shelf Drawing on page 11, and a compass, scribe the two radii on both ends of the shelf piece. Also, mark the locations of the hole

centerpoints and the $\frac{1}{4}$ " cove on the top face of the shelf. Now, using the scaled Rail Drawing on page 11, scribe both radii on the top of the rail piece. Mark the hole centerpoints for the spindles on the bottom face of the rail.

3 Bandsaw the shelf to shape, and then bandsaw the outside radii of the rail piece. (We sawed the inside curves on the rail piece after we had routed the outside edge—see step 6 on page 10 for the procedure.)



Bill of Materials					
Part	Initial Size			Material	Qty.
	T	W	L		
A	$\frac{3}{4}$ "	$4\frac{1}{2}$ "	13"	oak	1
B	$\frac{3}{4}$ "	$3\frac{1}{2}$ "	$11\frac{1}{8}$ "	oak	1
C	$\frac{3}{4}$ "	$2\frac{3}{4}$ "	$11\frac{1}{8}$ "	oak	1

Supplies: 2—#8 x $1\frac{1}{4}$ " flathead wood screws, glue.

Buying Guide

● **Oak gallery spindles (elite).** $\frac{9}{16} \times 1\frac{1}{2}$ ", catalog no. 107-O oak, minimum order 12. \$6.10 ppd. Other species available. Cherry Tree Toys, Inc., 408 South Jefferson Street, Belmont, OH 43718.

Continued

PLATE RACK

4 Using the Roman Ogee bit, rout along the shelf edge where shown on the exploded-view drawing. Now, rout the top edge of the rail piece the same way.

5 Chuck a $\frac{1}{4}$ " brad-point bit in your drill press and drill the $\frac{1}{4}$ "-deep holes in the shelf and rail where marked for the spindles. (We clamped a temporary fence to the drill-press table $\frac{3}{8}$ " from the bit's centerpoint to help ensure alignment of the parts when drilling.)

6 Bandsaw the rail to final shape, cutting just outside the cutlines for the inside curves, and then sanding to the line.

7 Remove your router from the router table and chuck a $\frac{1}{4}$ " veining bit in it. (We used Sears veining bit catalog no. 9 HT 25594.) Set the bit to cut $\frac{1}{4}$ " deep. Next, build a simple router jig like the one shown at *right*. Include on it a fence and a stop block at each end. Use your router and the marked shelf as guides when locating these jig parts. Center the veining bit over the cove location, and position the stop blocks so the bit will stop $1\frac{3}{8}$ " from the shelf ends. Next, place the shelf in the jig, hold the router against the fence and tilted. Turn it on, and slowly lower the bit into the wood. Machine the cove.

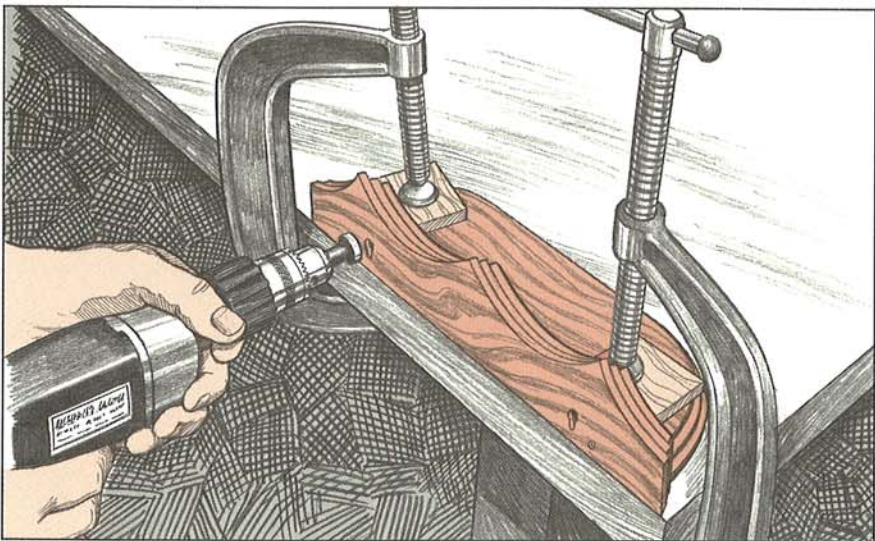
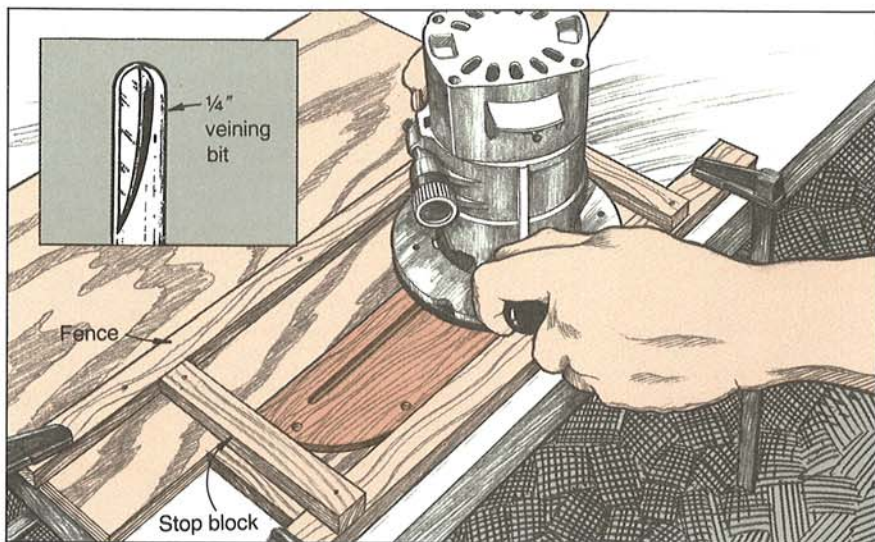
8 Chuck a $\frac{3}{8}$ " key slot cutter in your router. (We used a Sears, catalog no. 9 HT 25548.) Next, clamp one end of the shelf back facedown to your workbench. Place your router on the shelf back, align the bit with the keyhole centerpoint, and tilt the base plate. Turn the router on and slowly lower the bit into the wood, moving it $\frac{3}{16}$ " toward the top edge. (See the Keyhole Detail on page 9.) Stop, clamp the opposite end, and rout the remaining keyhole slot.

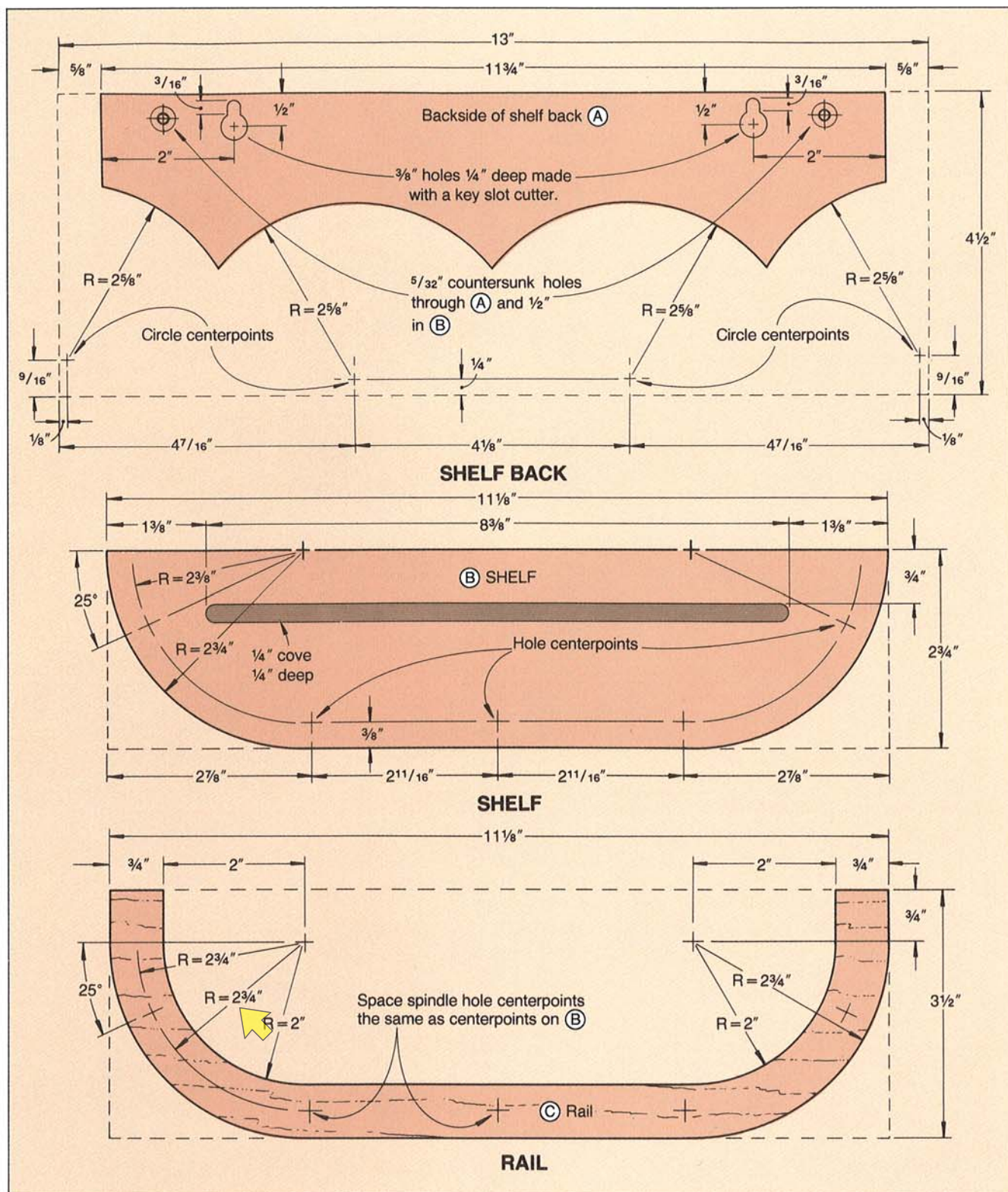
ASSEMBLE THE RACK

1 Clamp shelf (B) upside down on your workbench with the back edge $\frac{3}{4}$ " in from the front edge of your workbench. Apply glue (we used yellow woodworker's glue) along the shelf edge. Next, center the shelf back upside down and against the back edge of the shelf. Using a countersink bit in an electric drill, drill the screw holes you marked earlier for the $\#8 \times 1\frac{1}{4}$ " flathead wood screws. (See *bottom* drawing.) Drive the screws. Remove any glue squeeze-out with a damp cloth.

2 Test-fit the turned spindles in the $\frac{1}{4}$ " holes in the shelf and rail. (See the Buying Guide for our spindle source.) Sand the tips if necessary to fit the holes, and then apply a moderate amount of glue in the holes. Now, insert the bottoms of the spindles in the shelf, the tops in the rail, and clamp the assembly together. Remove any glue squeeze-out.

3 Finish-sand the plate rack and apply your choice of finish. (We applied a medium walnut stain and three coats of spray lacquer.)

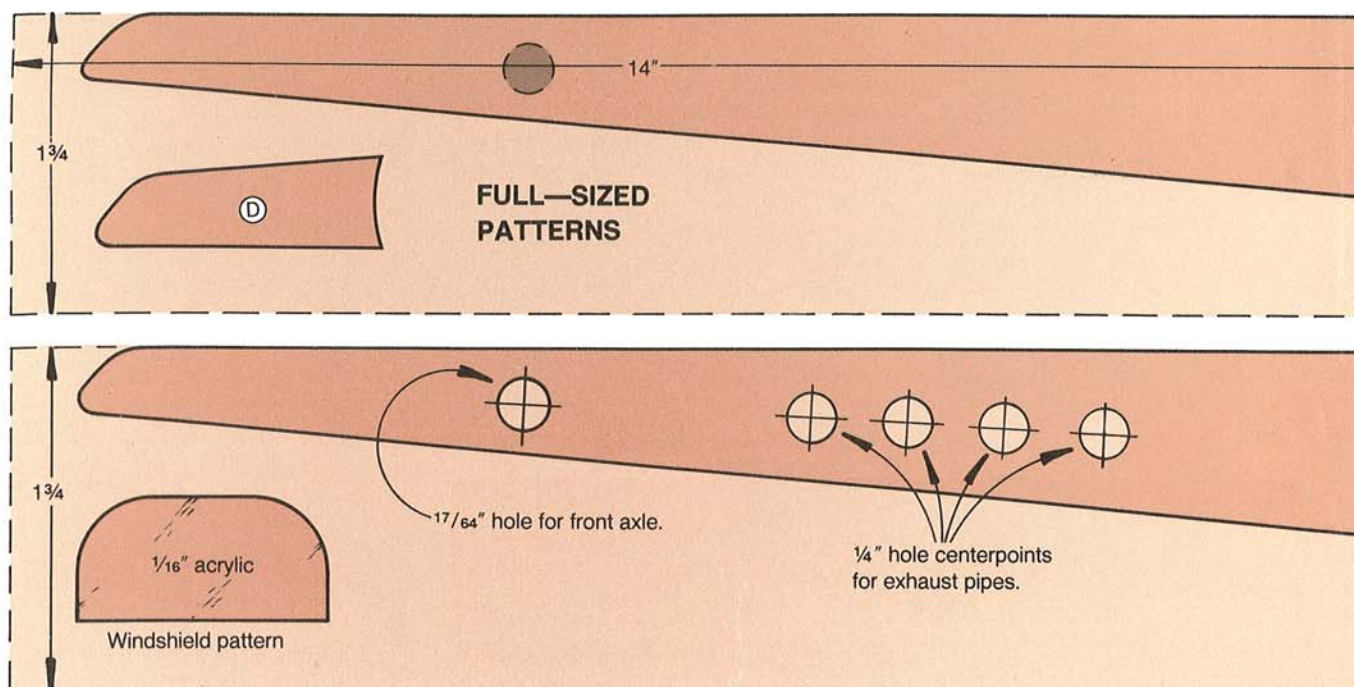
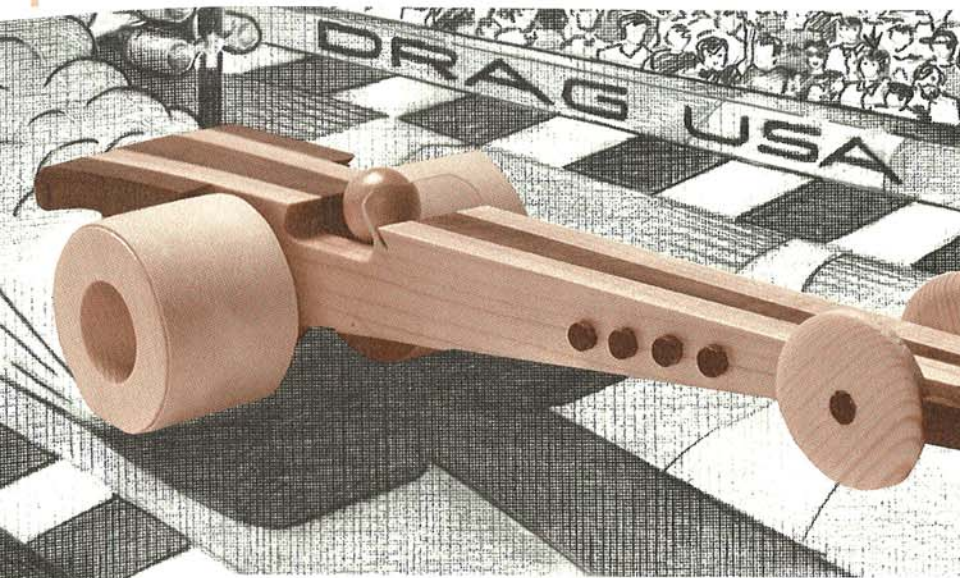




RUBBER-BAND DRAGSTER

IT'S A SNAP TO MAKE

Zoom into the winner's circle with this exciting action toy designed for race-car buffs of all ages. Rubber-band powered, our striped dragster digs in from the start, thanks to two 1½"-wide rubber-band treads on the slick-like rear wheels. For the best results though, race the cars on smooth surfaces such as vinyl, wood, or concrete flooring.



LETS MAKE THE BODY

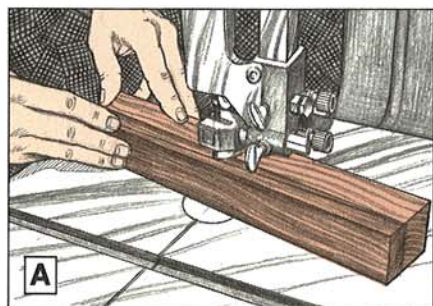
1 Rip and crosscut two $\frac{3}{4}$ "-thick pieces of walnut to $1\frac{3}{4} \times 14$ " for parts A, C, and D, and two $\frac{3}{4}$ "-thick pieces of maple to $1\frac{3}{4} \times 14$ " for the B parts. (See the Cutting Diagram on page 16.)

2 Using double-faced tape, attach a $1\frac{1}{2} \times 1\frac{1}{2} \times 14$ " piece of scrap to the face of one of the $\frac{3}{4}$ "-thick walnut pieces. Align the bottom edges of the two pieces flush. To make the tapered body part A (see the Top-View Drawing), mark $\frac{1}{8}$ " in from one corner on the top edge of the walnut piece. Scribe a line from this point along the length of the edge to

the opposing diagonal corner. Now, bandsaw just outside the line as shown in drawing A, below. Sand the piece to the line. (We used a stationary belt sander as shown in drawing B, holding the piece with the scrap.) Separate the scrap from the tapered walnut piece.

3 Using the same technique, and the dimensions on the Wedge-Block Drawing on page 16, cut a second tapered piece from scrap. Set it aside until needed later.

4 Now, resaw or plane the second $\frac{3}{4}$ "-thick piece of walnut and the two $\frac{3}{4}$ "-thick maple pieces to $\frac{3}{8}$ ".



5 Photocopy the full-sized patterns for parts A, B, C, D, and windshield shown below. Cut along the

Buying Guide

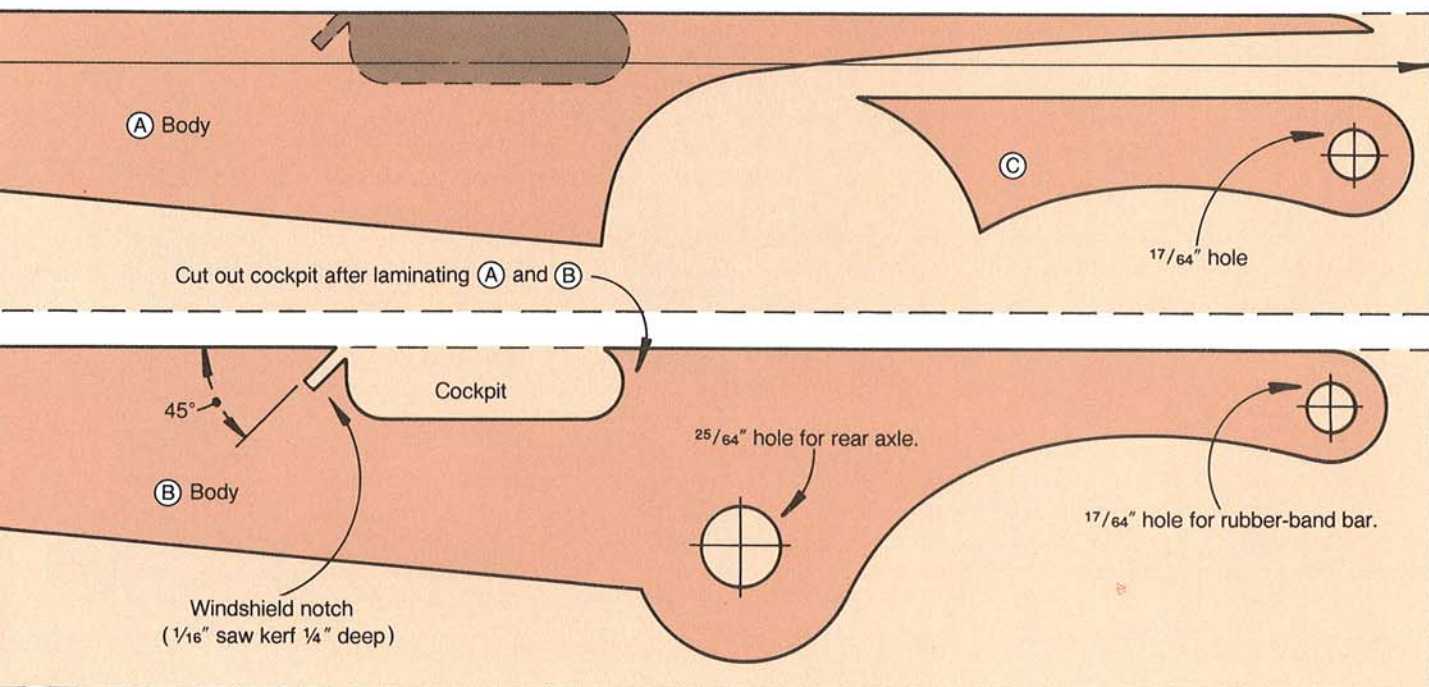
• **Traction rubber bands.** $1\frac{1}{2}$ "-wide rubber bands, catalog no. 7338, \$4.35 postage paid for 10 (send check only). Meisel Hardware Specialties, P.O. Box 70, Mound, MN 55364-0070.

Bill of Materials

Part	Finished Size*			Material	Qty.
	T	W	L		
A	$\frac{3}{4}$ "	$1\frac{3}{4}$ "	14"	walnut	1
B	$\frac{3}{4}$ "	$1\frac{3}{4}$ "	14"	maple	2
C	$\frac{3}{4}$ "	$1\frac{3}{4}$ "	3"	walnut	2
D	$\frac{3}{8}$ "	$1\frac{3}{4}$ "	2"	walnut	2
E*	$1\frac{1}{2}$ "	2" Dia.		pine	2
F*	$\frac{1}{4}$ "	$1\frac{1}{2}$ " Dia.		pine	2

*Parts marked with an * are listed in finished size.

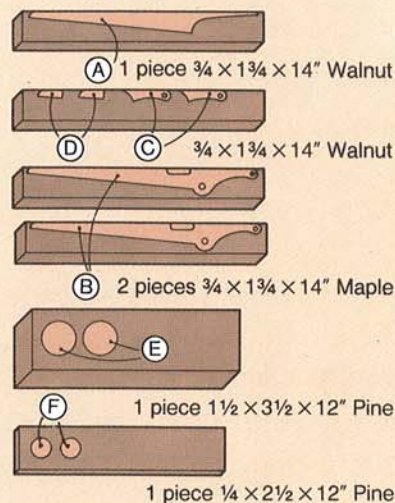
Supplies: 1— $\frac{3}{4}$ "-diameter maple wood ball; 1— $\frac{1}{8}$ " birch dowel; 1— $\frac{1}{4}$ " walnut dowel; 1— $\frac{3}{8}$ " walnut dowel; $\frac{1}{16}$ "-thick acrylic; 2— $\frac{1}{4}$ " and $\frac{3}{8}$ " flat washers; $\frac{1}{4} \times 3\frac{1}{2}$ " rubber band.



Continued

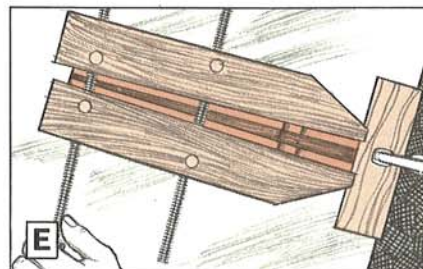
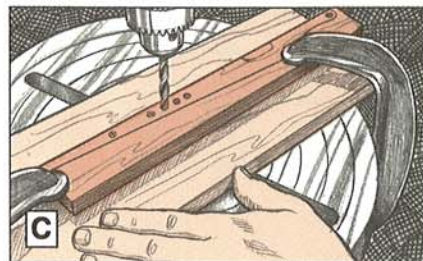
DRAGSTER

Cutting Diagram



top edges of each pattern and separate them. Using spray adhesive, adhere pattern A to the side of the tapered piece of walnut, aligning the pattern's top with the top of the piece, and locating the dragster's front on the narrow end of the piece. Stick the two maple pieces together with double-faced tape, and adhere pattern B to the side of one piece. Next, cut the remaining piece of $\frac{3}{8}$ "-thick walnut into two equal lengths, and stack them, again, using double-faced tape. Apply patterns C and D to the top piece.

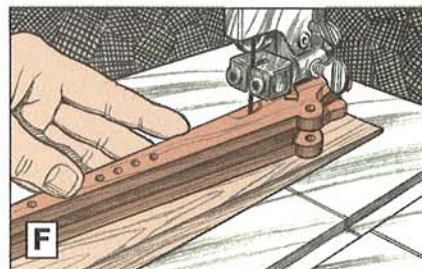
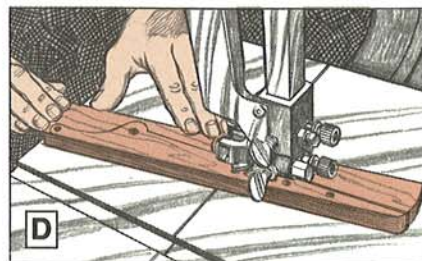
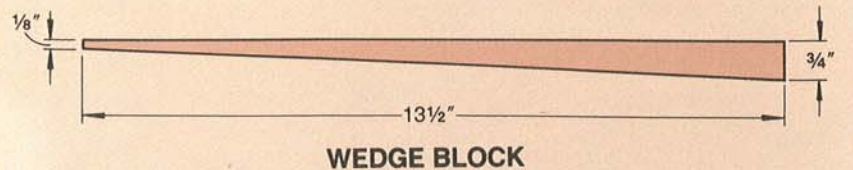
6 Chuck a $\frac{1}{4}$ " brad-point bit in your drill press and bore the exhaust pipe holes shown on the pattern through the joined maple pieces. See drawing C. (We backed the pieces with scrap to prevent splintering.) Change bits and drill the $\frac{17}{64}$ " holes through the maple pieces for the front axle and rubber-band bar. Also, drill the $\frac{17}{64}$ " hole in part C. Change bits again and drill the $\frac{25}{64}$ " rear axle hole through the maple pieces. (Drilling the axle holes now allows for precise alignment, but you will need to re-drill the front axle hole again, once you glue-join body parts A and B.)



7 Now, cut the body parts to shape as shown in drawing D, and sand the edges smooth. (We used a drum sander and a stationary belt sander.) Remove the patterns from parts A, C, and D, and separate all tape-joined parts. (We removed adhesive residue with lacquer thinner.)

8 Clamp a scrap wood block to the edge of your workbench. Next, apply glue (we applied a moderate amount of yellow woodworker's glue) to both sides of part A. Using the Top-View Drawing as a guide, position part A between the two Bs. Place this assembly on your workbench, top side down. With one end against the block, align the pieces, and clamp the assembly as shown in drawing E. (We placed a sheet of waxed paper under the car to keep glue off the benchtop.)

9 After the glue dries, remove the clamp. Next, tape one side of the partially assembled body to the tapered scrap piece with double-faced tape. Locate the wide end of the taper beneath the narrow end of the car. This should level the side of the body with the work surface. Saw out the cockpit and the windshield

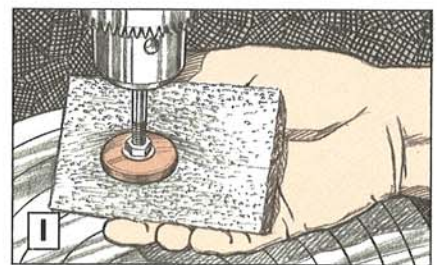
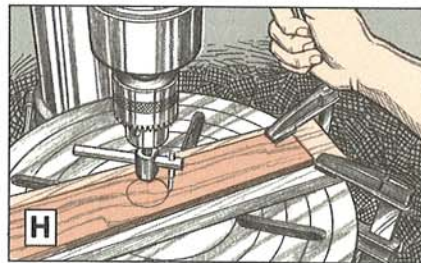
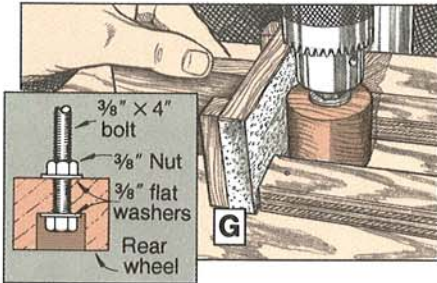
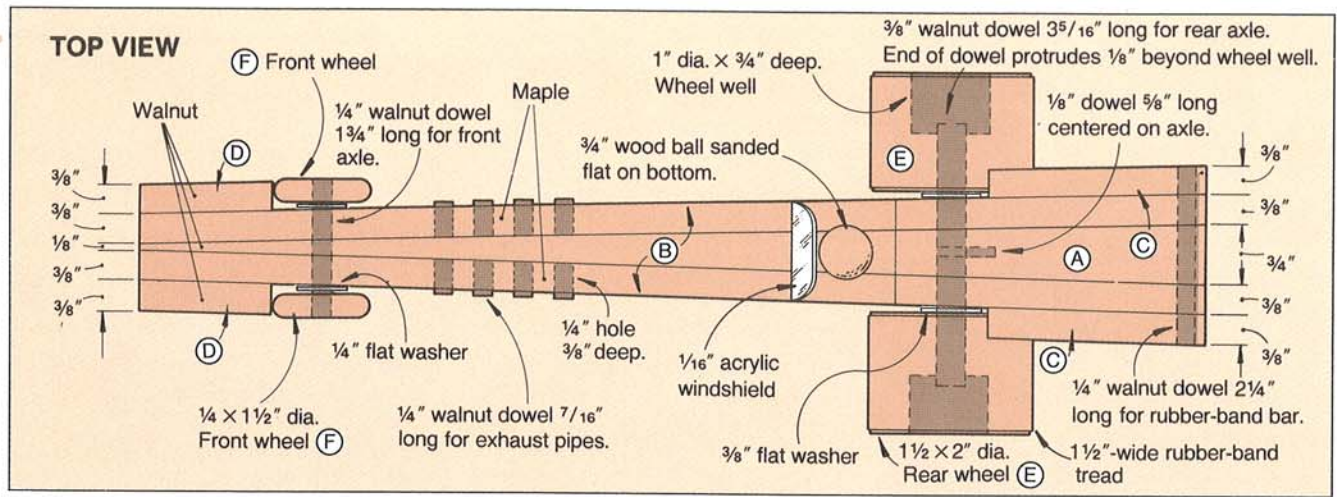


notch. (We used a bandsaw as shown in drawing F.) Next, drill the $\frac{17}{64}$ " front axle hole.

10 Peel off the tapered scrap piece, remove the patterns, and clean off any remaining adhesive. Apply glue to the joining surfaces of trim parts C, align them on the front of the body, and clamp them in place using the Top-View Drawing as a guide. Next, cut a $2\frac{1}{4}$ "-long $\frac{1}{4}$ " dowel. Glue parts D to the car body where shown on the Top-View Drawing. Insert the $\frac{1}{4}$ " dowel through the holes in parts B and C to help align them. Clamp parts D until the glue dries. Finally, remove the clamps and sand the body.

NOW, MAKE THE WHEELS

1 Chuck a $\frac{3}{8}$ " brad-point (or twist) bit in your drill press. Measure 4" in from each end of a 12"-long 2×4 and strike lines at these locations across the width. Find the center of these lines and scribe a 2"-diameter-circle on each with a compass. Place the 2×4 on an equally long piece of scrap, and clamp both to your drill press table, centering the bit over one of the circle centerpoints. Drill through the 2×4 . Next, change to a



1" Forstner bit and drill a hole $\frac{3}{4}$ " deep. If you use a spade bit, drill the 1" hole, and then the $\frac{3}{8}$ " hole. Repeat these operations for the other circle.

2 Saw the rear wheels (E) to shape on a bandsaw, cutting just outside the line. Thread a $\frac{3}{8}$ " bolt through the rear wheels as shown in the insert detail of drawing G, above, and chuck it into your drill press. Now, sand the wheels to the finished diameter. (We used the sanding jig shown in drawing G, starting with 60-grit aluminum oxide cloth. A support holds the block at 90°. Two parallel wood strips—one on each side of the wheel—extend exactly 1" beyond the wheel's centerpoint.)

3 To make the front wheels (F), set a circle cutter with a $\frac{1}{4}$ " drill bit to cut a $1\frac{1}{2}$ "-diameter circle, and mount it in your drill press. Cut a $\frac{3}{4} \times 2\frac{1}{2} \times 12$ " piece of pine, and re-saw or plane it to $\frac{1}{4}$ " thickness. Measure 4" in from each end and strike lines across the width. Place the wood on a piece of scrap, and clamp both to your drill-press table, centering the circle cutter over one of the two lines. Now, cut one

wheel. Reposition the piece with the other line centered under the circle cutter. Cut out the second wheel as shown in drawing H, above.

4 Mount a front wheel to your drill press, this time using a $\frac{1}{4}$ " bolt, washers, and nut. Using a hand-held sanding block, round over the wheel's edges as shown in drawing I. Round over the other wheel.

YOU'RE NEARING THE FINISH LINE

1 Cut eight pieces of $\frac{1}{4}$ " walnut dowel to $\frac{7}{16}$ " long. Add glue to one end and insert the dowels in the exhaust pipe holes so they extend $\frac{1}{16}$ ". Next, cut one piece of $\frac{1}{4}$ " walnut dowel to $1\frac{3}{4}$ " for the front axle. Now, cut one piece of $\frac{3}{8}$ " walnut dowel to $3\frac{5}{16}$ " for the rear axle, and drill a $\frac{1}{8}$ " hole through the center of it. Finally, cut one piece of $\frac{1}{8}$ " dowel to $\frac{5}{8}$ " long.

2 Sand a flat spot on a $\frac{3}{4}$ " wood ball (available at craft supply stores), and glue it in the cockpit where shown on the Top View.

3 Apply a finish of your choice to the body and wheels. (We sprayed

on four coats of clear gloss lacquer, sanding lightly between applications with 220-grit sandpaper.)

4 Insert the front axle through the body, add $\frac{1}{4}$ " flat washers, and glue on the front wheels. (We lubricated both axles with paste wax before adding them to the car.)

5 Insert the rear axle through the body, and glue in the $\frac{1}{8}$ " dowel pin. Next, add the $\frac{3}{8}$ " flat washers, and then glue on the wheels as shown in the Top-View Drawing.

6 Using the windshield pattern (on page 14), cut a piece of $\frac{1}{8}$ "-thick acrylic to shape. (We used a scroll-saw.) Apply glue in the bandsawed slot, and then insert the windshield in the slot.

7 Slip the rubber-band treads on the rear wheels (see the Buying Guide for a source). Loop or tie one end of a $\frac{1}{4} \times 3\frac{1}{2}$ " rubber band around the rear bar. To operate the car, loop the other end of the rubber band onto the $\frac{1}{8}$ " pin on the rear axle, turn the wheels clockwise or backwards, set the dragster on a smooth surface, and let it roll!



BLUE-HERON WALL CLOCK



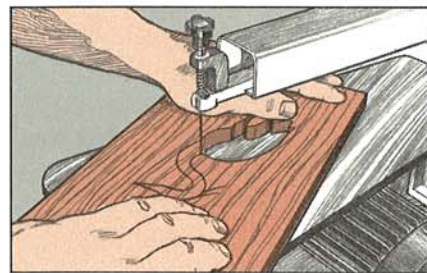
Two key elements combine to make this rich walnut wall clock a success. They include the contrasting ash plugs that serve as the clock's numbers, and the refined scrollsaw cut-out of a blue heron. To remain true to the bird's dark color and to create a silhouette effect, we backed the cutout opening with midnight-blue cloth mounted on hardboard.

FIRST, MAKE THE CLOCK FACE

1 Crosscut a piece of $\frac{3}{4} \times 7\frac{1}{4}$ " walnut to 18" long (see the Cutting Diagram *opposite*), and then plane it to $\frac{3}{8}$ " thickness for the clock face (A). (If you prefer to order thin stock see the Buying Guide on page 19.) Now, rip and crosscut the piece to $6\frac{1}{2} \times 17$ ".

2 Using carbon paper or a photocopier, make a copy of the full-sized clock-dial template *opposite*, and the heron pattern on page 20. Set the clock-dial template aside. Trace the heron pattern or adhere the copy of it to the clock face, centering the bird from side to side with the vertical centerline, and locating the bird's toes $1\frac{3}{4}$ " from the bottom.

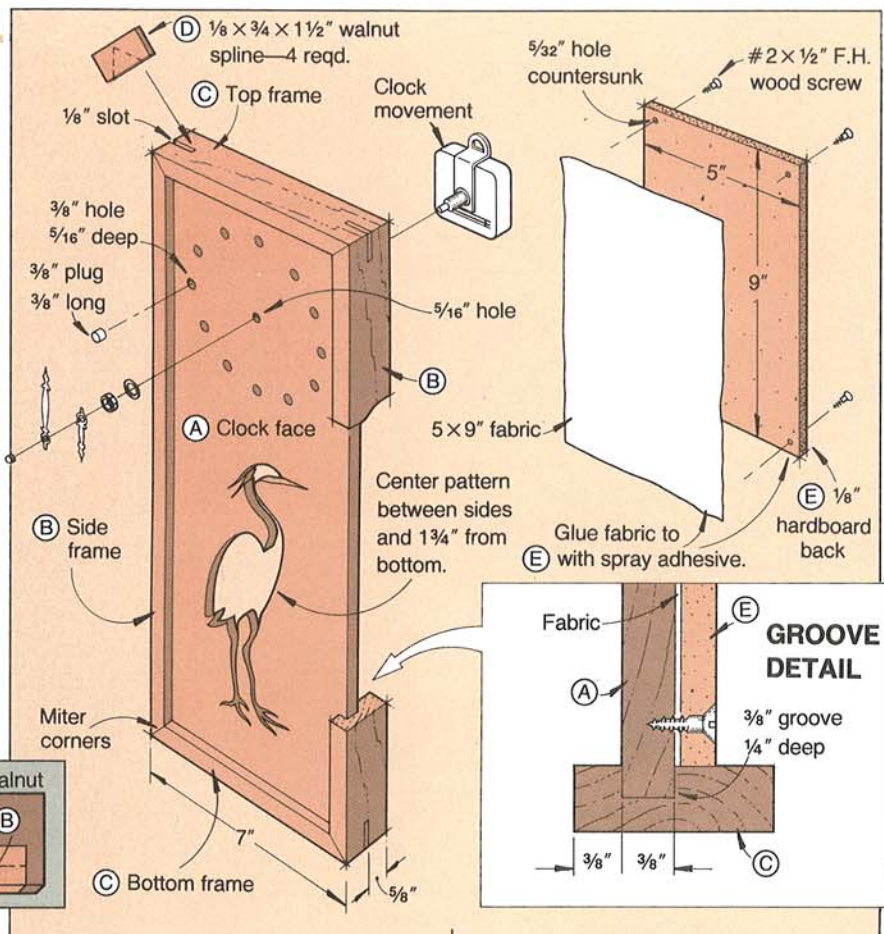
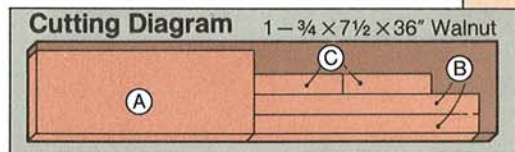
3 Drill a $\frac{1}{4}$ "-diameter start hole through the board within the bird's outline. Insert a scrollsaw blade through the hole while attaching it to your scrollsaw. (We used a $16\frac{1}{2}$ -tooth-per-inch, $.039 \times .015$ blade.) Now, as shown *below*, cut the bird's profile to shape.



4 Locate the center of the clock dial by placing a try square $3\frac{1}{4}$ " in (or centered) on the top edge of the clock face. Scribe a vertical line 6" down from the top. Next, measure down $3\frac{3}{8}$ " along one side, and strike a horizontal line intersecting the centered vertical line. Using an awl, punch a hole where the lines intersect. Insert the awl's tip through the center hole in the dial template, and apply spray adhesive

to the template's back. Now, place the tip of the awl in the centerpoint on the clock face, align the vertical line on the template with the vertical line on the face, and press the template onto the clock face.

5 Using the awl, mark the 13 hole centerpoints. Remove the template and any remaining adhesive (we used lacquer thinner). Chuck a $\frac{3}{8}$ " bit in your drill press. Drill the 12 hour holes $\frac{5}{16}$ " deep in the clock face. Switch bits and drill the $\frac{5}{16}$ " center hole through the piece. (We backed the piece with scrap to prevent chip-out.)



Buying Guide

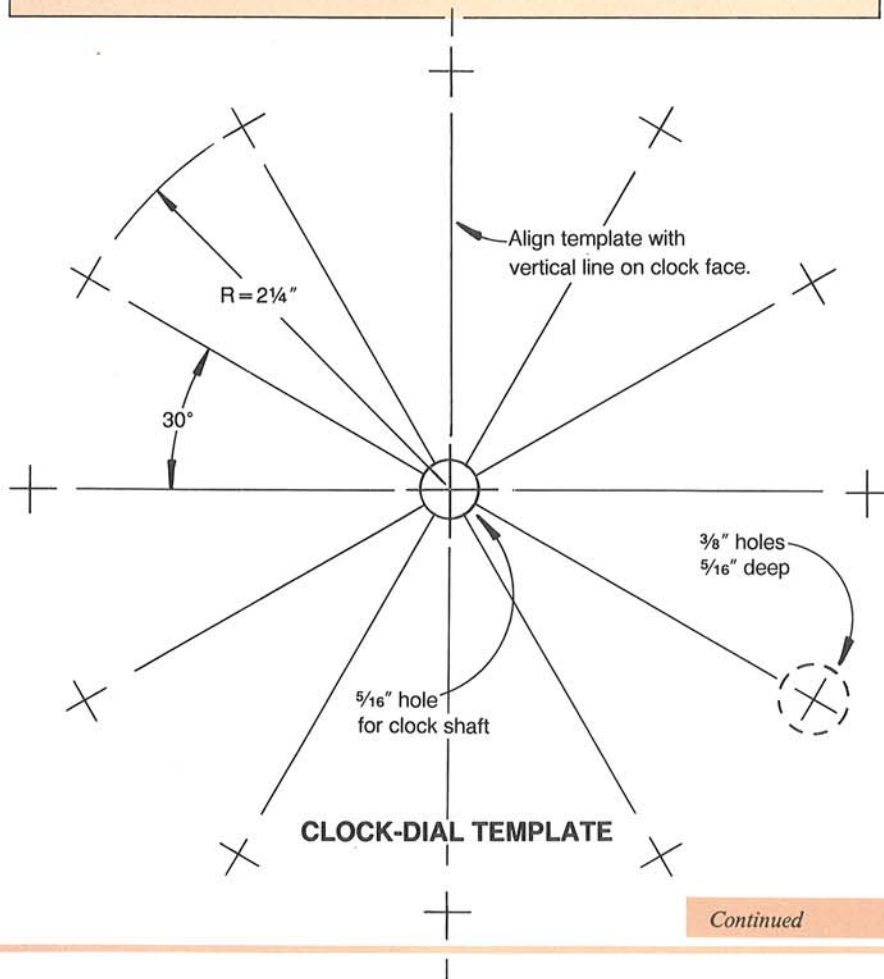
● **Heron clock wood.** One $\frac{3}{8}$ x $7\frac{1}{4}$ x 18" and one $\frac{1}{2}$ x 6 x 18" piece. Specify walnut, cherry, oak, or poplar. \$9 ppd. Canadian readers send \$11.50 U.S. funds. Educational Lumber Company, Inc. P.O. Box 5373, Asheville, North Carolina, 28813. Phone: 704/255-8765.

● **Clock movement.** Quartz movement, for dials up to $\frac{3}{8}$ " thick, catalog no. 10003H, and brass hands catalog no. 66933H, \$5.40 each PPD. Klockit, P.O. Box 636, Lake Geneva, WI 53147. Phone 1-800-556-2548.

Bill of Materials

Part	Finished Size			Material	Qty.
	T	W	L		
A	$\frac{3}{8}$ "	$6\frac{1}{2}$ "	17"	walnut	1
B	$\frac{1}{2}$ "	$1\frac{3}{8}$ "	$17\frac{1}{2}$ "	walnut	2
C	$\frac{1}{2}$ "	$1\frac{3}{8}$ "	7"	walnut	2
D	$\frac{1}{8}$ "	$\frac{3}{4}$ "	$1\frac{1}{2}$ "	walnut	4
E	$\frac{1}{4}$ "	5"	9"	hardboard	1

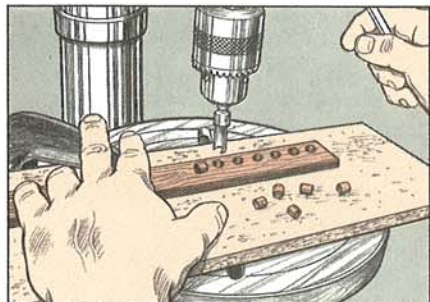
Supplies: $\frac{3}{8}$ " ash plugs, 5x9" background fabric, 4—#2 x $\frac{1}{2}$ " flathead wood screws.



Continued

WALL CLOCK

6 Cut 12— $\frac{3}{8}$ "-long plugs from a $\frac{3}{4}$ "-thick scrap piece of contrasting wood using a $\frac{3}{8}$ " plug cutter as shown *below*. (We used ash). Glue the plugs (we used yellow wood-worker's glue) into the 12 hour holes in the clock face. After the glue dries, sand the plugs flush. Finish-sand the entire piece.

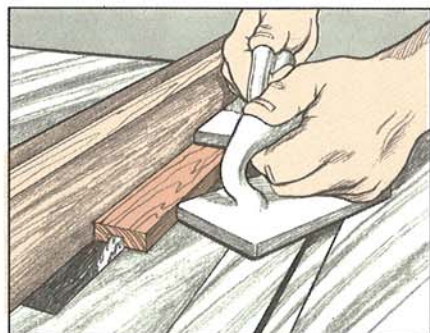


7 Apply finish to the clock face. (We left the wood natural and sprayed on three coats of lacquer, letting the lacquer dry thoroughly, and sanding lightly between coats.)

NEXT, CUT AND ASSEMBLE THE FRAME

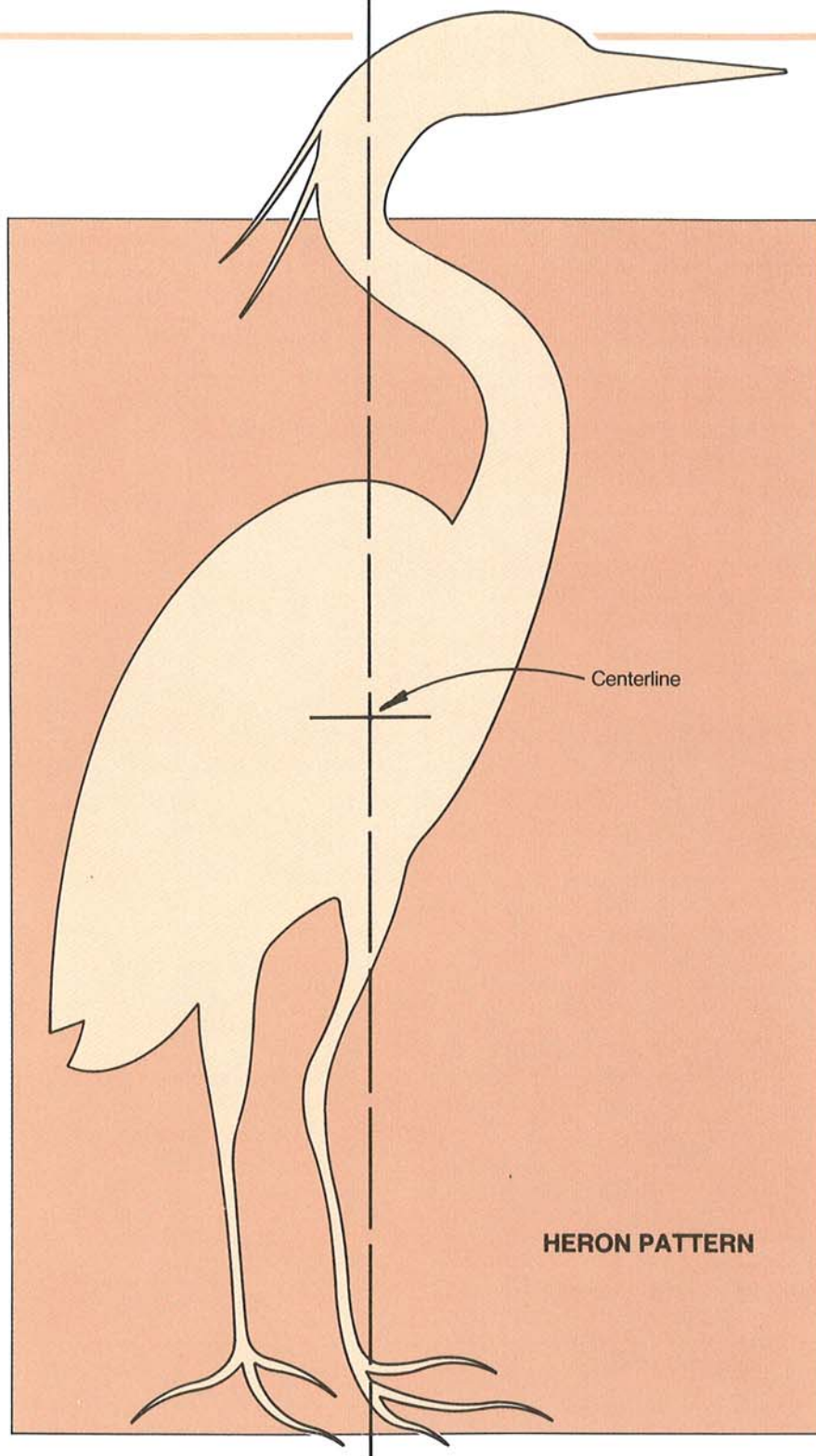
1 To form the clock frame (B, C), plane a $\frac{3}{4} \times 5\frac{1}{2} \times 18$ " piece of walnut to $\frac{1}{2}$ " thick. From it, rip three $1\frac{3}{8}$ "-wide strips.

2 Mount a $\frac{3}{8}$ " dado to your table-saw, raise it $\frac{1}{4}$ " above the table, and set the fence $\frac{3}{8}$ " from the blades. (See the Groove Detail on the exploded-view drawing, on page 19.) Now, dado a groove in the three frame strips as shown *below*.



3 Mount a fine-tooth saw blade on your tablesaw, and angle it 45° from vertical. (We used an adjustable triangle to set the angle.) Using a miter gauge, crosscut 45° miters on the ends of two dadoed strips, cutting them to a final length of $17\frac{1}{2}$ " long point to long point.

4 To make the top and bottom frame pieces (C), miter the ends of the third dadoed strip, and then measure in 7" from both ends (for the long points) and cut the remaining miter at each 7" mark you just made as shown *top right*. Finish-sand the four frame pieces.



5 Test-fit the frame pieces around the clock face, and trim the face if necessary. The clock face should move freely in the frame to allow for expansion. Apply glue sparingly to the mitered ends of the frame pieces. Next, arrange the frame pieces around the face, inserting the edges of the clock face in the grooves. Clamp the assembly with a band clamp as shown *below right*. Check the frame for square and adjust if necessary. Do not glue the clock face in the frame. Wipe off any glue squeeze-out.

6 To cut the spline grooves in the four corners, build the jig shown *bottom left*. (We cut the parts from scrap $\frac{3}{4}$ " plywood and a 2×4, and

then assembled it with 4d finishing nails and glue.) Size and space the tablesaw glides on the bottom of the jig to fit the miter-gauge slots on your saw's table.

7 Mount a $\frac{1}{8}$ "-thick carbide-tooth blade on your tablesaw, and raise it $1\frac{1}{4}$ " above the saw's table. Place the jig on the table with the glides in the miter-gauge slots. Turn on the saw and push the jig over the blade (see detail *below center*) just far enough to cut a kerf in the face of the jig. Stop the saw, and scribe a pencil line on the jig $\frac{5}{8}$ " to the left of the kerf (as you look at the front of the jig). Now, place the assembled clock frame in the jig as shown *bottom right*, with the front edge of

the frame against the line. Push the jig across the blade to saw the spline groove. Cut the other grooves.

Note: We sized the corner splines (D) to fit slots cut by a $\frac{1}{8}$ "-thick carbide-tipped saw blade. If you use a blade of a different thickness, size the splines to match the blade width.

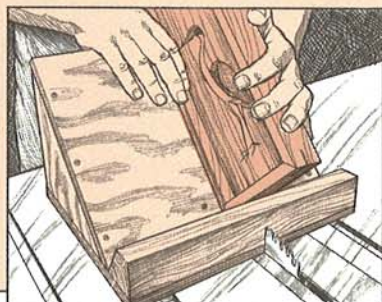
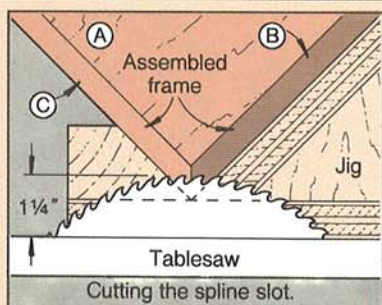
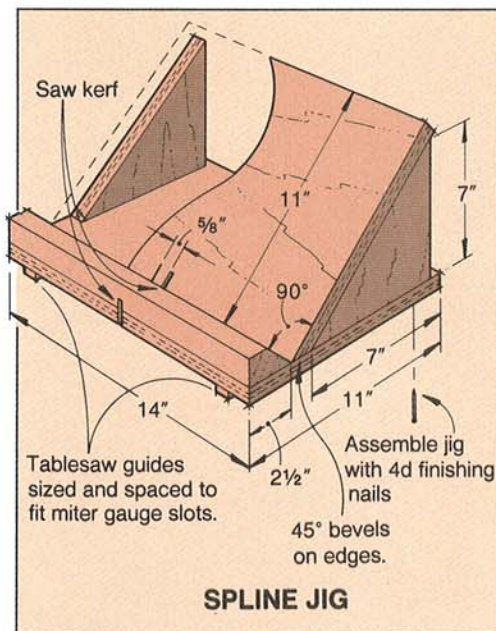
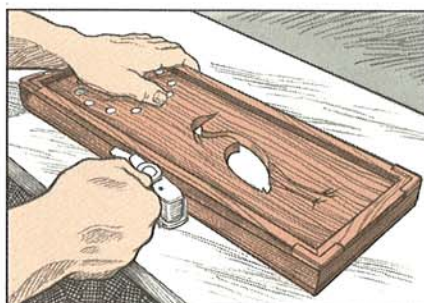
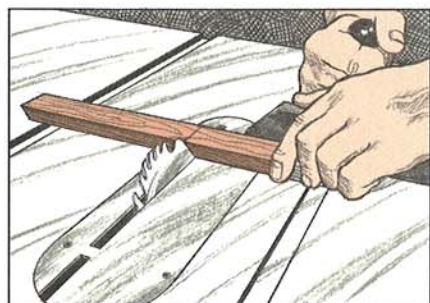
8 Rip a $\frac{1}{8}$ "-thick strip from a piece of $\frac{3}{4}$ "-thick walnut that's at least 12" long. Crosscut four $1\frac{1}{2}$ " lengths from the $\frac{1}{8}$ " strip.

9 Apply a small amount of glue in the four grooves and insert a spline in each of the grooves. After the glue dries, sand the splines flush with the frame. (We used a belt sander.) Finish-sand the frame.

10 Using a tack cloth or compressed air, remove all sanding dust from the clock. Finish the frame. (We used the same finish and procedures as used on the clock face.)

11 Rip and crosscut a 5×9" piece of $\frac{1}{8}$ " hardboard. Countersink $\frac{5}{32}$ " screw holes in each corner of the hardboard. Select and cut a piece of background fabric to the same size. Apply spray adhesive to the hardboard. Place the fabric over the hardboard right side up, pressing it flat with your hands. (We used a piece of dark blue silk, but you may want to use a different type or color of fabric to match your room's decor.) As shown on the exploded-view drawing, attach the hardboard to the back of the clock face with #2× $\frac{1}{2}$ " flathead wood screws.

12 Install the clock movement (see the Buying Guide for our source) as shown on the exploded-view drawing. (We attached the mounting bracket supplied with the movement to use as the clock's hanger.) Mount your clock on the wall and stand by for the compliments.



BOWL AND EGGS

A COUNTRY STILL LIFE



A Wyeth painting comes to mind when you stare upon the still beauty of our bowl and eggs project. We designed a pair of templates to help you make both, as well as a special sanding jig for shaping the ends of the eggs.

START WITH THE BOWL LAMINATION

1 From $\frac{3}{4}$ "-thick walnut, rip and crosscut four 8"-square pieces for the bowl and three 5"-square pieces for the bowl base. See the Bowl Lamination Drawing on page 23.

2 To make the lamination, spread a thin, even coat of glue on the mating surfaces of the 8" squares. Clamp them together with the edges and ends flush. Glue and clamp the 5" squares the same way.

3 Draw diagonal lines from corner to corner on each lamination to locate the centers. With a compass, mark a $2\frac{1}{2}$ " radius (5" diameter) circle on the smaller lamination, and a 4" radius (8" diameter) circle on the larger.

4 With a $\frac{1}{4}$ " blade on your bandsaw, cut just outside the marked lines to saw the two laminations round.

5 Center, glue, and clamp the smaller lamination to the larger one. (We centered the smaller lamination by aligning its corners with the diagonal lines on the surface of the larger lamination.)

NEXT, TURN THE BOWL

1 Using the full-sized bowl and egg patterns on page 23 as a guide, make cardboard templates of the bowl and egg. Set the templates aside. We'll return to them later.

2 With $\frac{3}{4}$ " screws (we used sheet metal screws), fasten a 3" faceplate to the center of the 5"-round bottom of the bowl base. Mount the entire assembly to your lathe headstock. Slide the tailstock in position next to the lamination for support.

3 Set the lathe speed at 400 to 600 rpm. Position the tool rest $\frac{3}{8}$ " away from the lamination and start the

BUYING GUIDE

● **2×2×12" turning squares.** Cherry \$2.30, maple \$1.40, bubinga \$3.40, mahogany \$2.45, padauk \$2.90, zebrawood, \$4.75, purpleheart \$2.95, East Indies rosewood \$6.95. You'll need two 12" pieces for eight eggs. Minimum order \$10. For shipping and handling, add \$3.30 for shipping of orders under \$15, add \$4.40 for orders from \$15 to \$30. Constantines, 2050 Eastchester Road, Bronx, NY 10461.

Bill of Materials

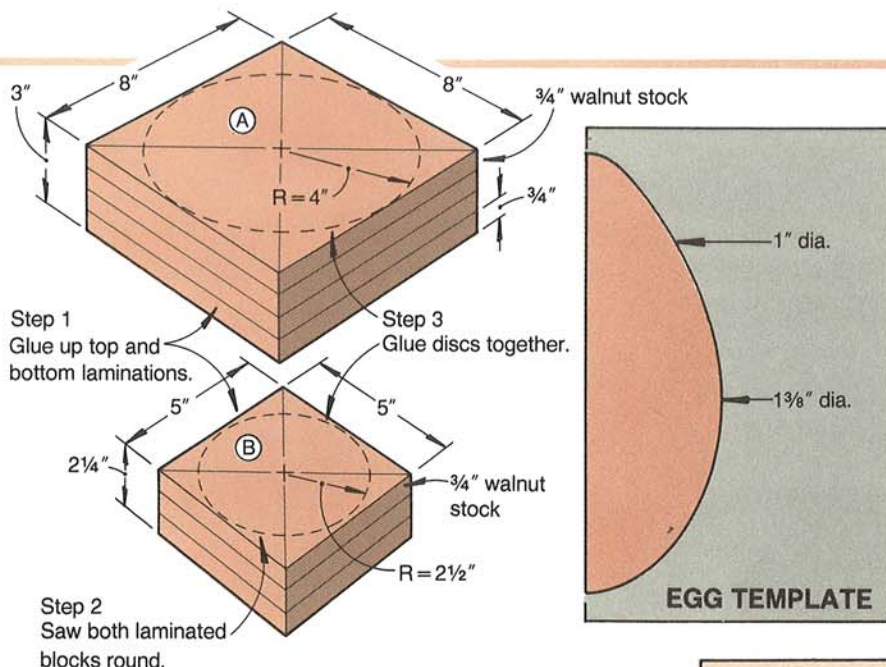
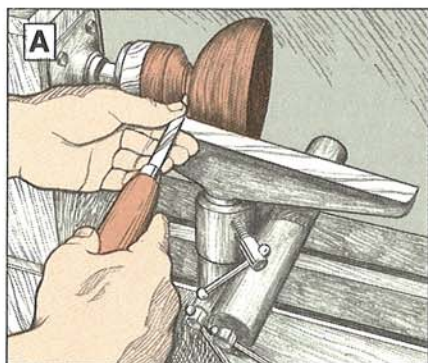
Part	Finished Size*			Material	Qty.
	T	W	L		
A	¾"	8"	8"	walnut	4
B	¾"	5"	5"	walnut	3
C*	2"	2"	12"	maple /cherry	2

*Four eggs can be made from one 12" long turning square.

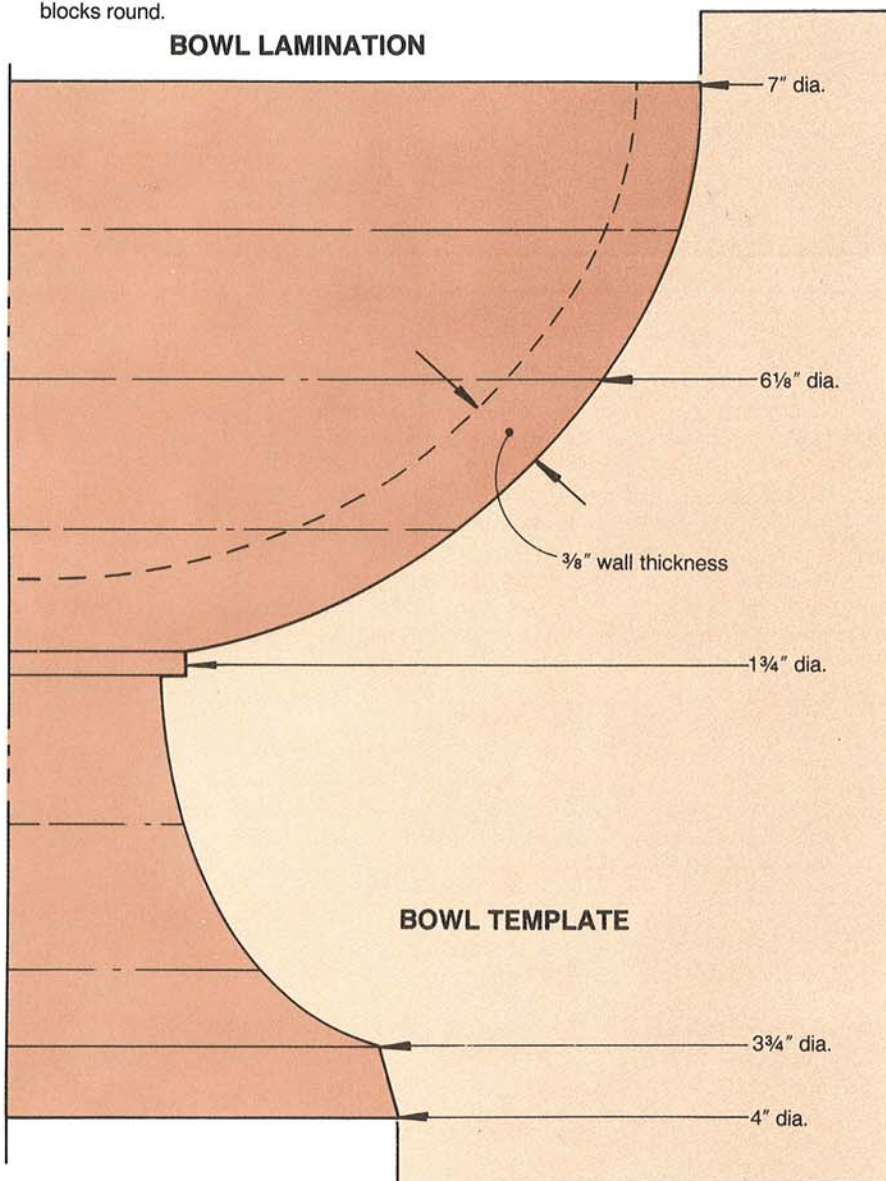
Supplies: ½" plywood and ¾" pine scraps for jig, 4—2½" drywall screws.

lathe. With a gouge, true up each cylindrical portion.

4 Increase lathe speed to about 1,000 rpm, and start rough-shaping the outside of the bowl. To keep the lamination strong, turn the narrowest portion last. (We turned the top bowl portion first, the bottom of the base second, and the narrow portion at the top of the base last. We used a ½" gouge for most of the shaping, and switched to a parting tool, as shown in drawing A below, when forming the flat area for the 1¾" diameter.) Again, check the developing bowl shape against the template as shown in drawing B on page 24.



BOWL LAMINATION



Continued

EGGS AND BOWL

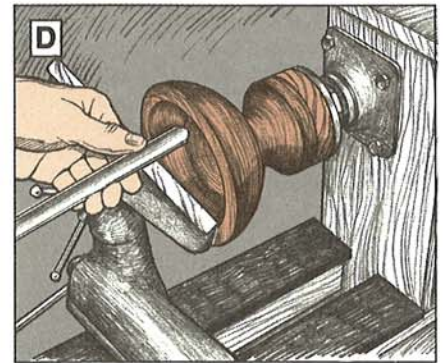
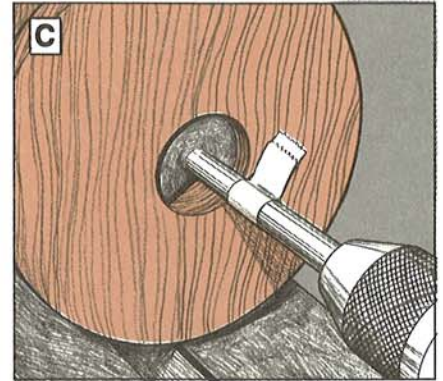
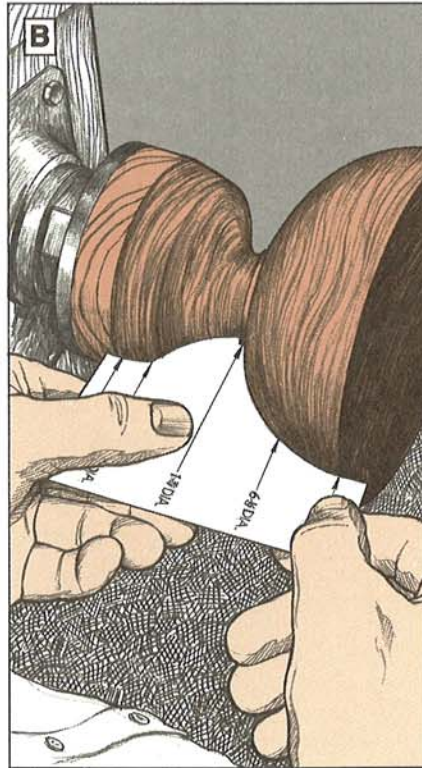
5 Insert a $\frac{3}{4}$ " or 1" Forstner bit into your key chuck (commonly called a Jacobs chuck) mounted to your lathe tailstock. Wrap a piece of tape around the shank of the bit $2\frac{1}{4}$ " from the tip. With the lathe turning at its slowest speed, slowly bore into the center of the bowl as shown in drawing C, *right*. Stop the lathe frequently and back the bit out to clear the shavings and cool the bit. Drill to the depth of the tape. You'll use this hole as a depth gauge in the next step when forming the bowl interior. Slide the tailstock away and remove the chuck and bit.

6 To turn the bowl's interior, position the tool rest next to the end of the bowl. Using a $\frac{1}{2}$ " gouge, hollow the interior as shown in drawing D, *right*. Turn the bowl wall to $\frac{3}{8}$ " thick, checking for an even wall thickness with an outside caliper. Turn $\frac{1}{4}$ " deeper than the drilled hole to remove the spur mark and to form the concave bottom shown on the Bowl Pattern Drawing.

7 Remove the tool rest and increase the speed to about 1,500 rpm. Now, sand the inside and outside of the bowl smooth. (We wrapped sandpaper around felt to keep from burning our fingers when sanding.)

8 Finish the bowl. (We applied three coats of spray lacquer, sanding lightly between coats with 0000 steel wool.) Use a tack rag to remove any dust or steel wool particles before applying the next coat of finish.

9 Remove the bowl faceplate assembly from your lathe. Set the bowl upside down on a cloth to prevent marring the finish on the rim. Separate the faceplate from the bowl. Sand the bottom of the bowl. (We filled the screw holes with glue, and then sanded over the holes to fill them with fine walnut dust. We repeated the process until each hole



was filled and nearly invisible.) Finally, finish the bottom of the bowl.

LET'S TURN THE EGGS

1 Mark diagonals on both ends of two pieces of 2" turning squares 12" long to establish centers. (We used cherry and maple turning squares for our eggs, but you'll find other species in our Buying Guide.)

2 Mount a turning square between centers on your lathe. Position the tool rest about $\frac{1}{2}$ " from the stock. Set the lathe to run at 500 to 700 rpm, start the lathe, and use a $\frac{3}{4}$ " or 1" gouge to turn the stock to $1\frac{7}{8}$ " in diameter. Increase the speed to about 1,000 rpm, switch to a flat-nosed scraper or skew, and further reduce the diameter to $1\frac{3}{4}$ ".

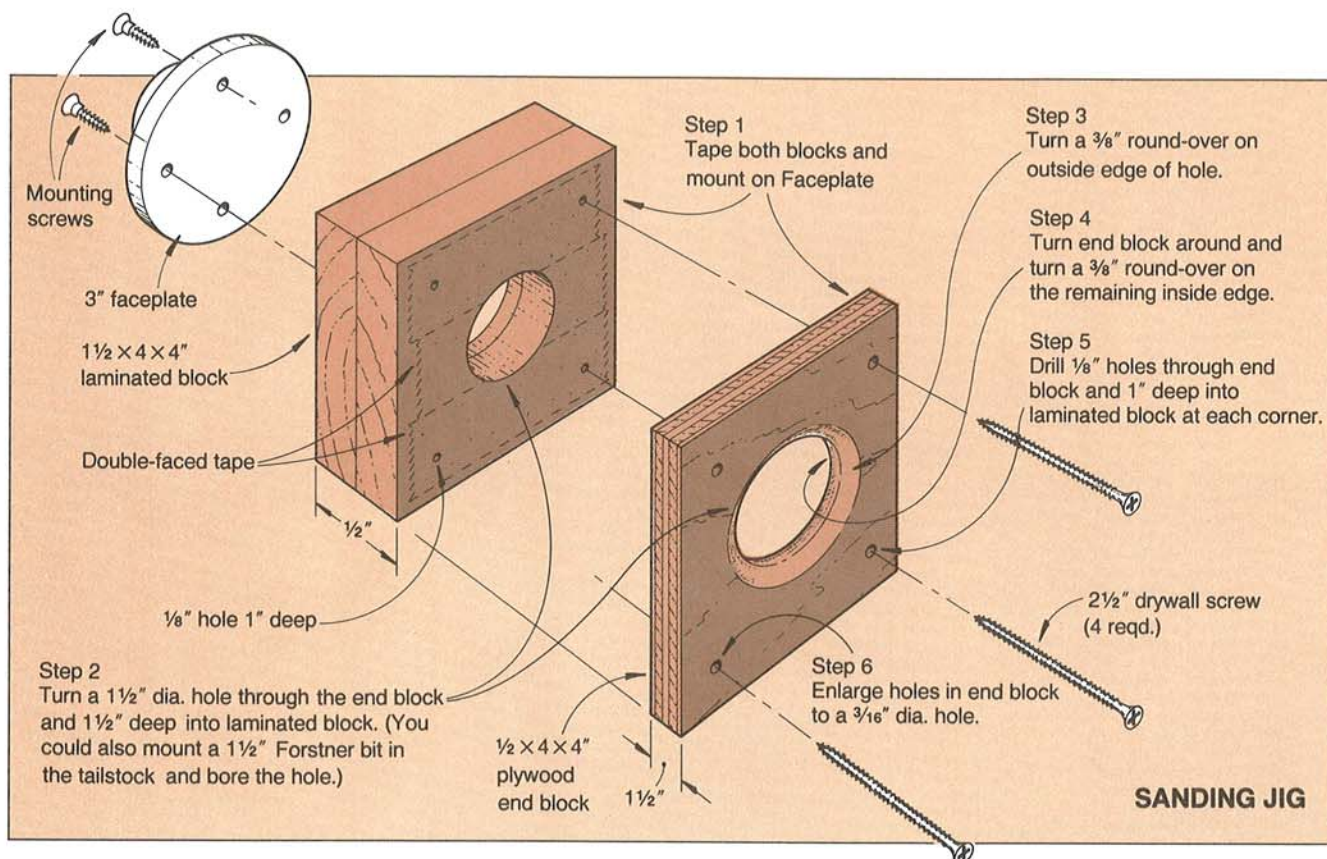
3 With the lathe turning at its slowest speed, measure and mark reference lines on the turned stock where shown in drawing E, page 25.

4 Using a parting tool, turn the area between the eggs to a $\frac{3}{4}$ " diameter (see drawing F, page 25).

5 With a skew or spear-point scraper, start turning the eggs to shape as shown in drawing G, page 25. Frequently check the shape of the egg being turned with the egg template. For stability, leave $\frac{3}{8}$ " of solid stock between each egg. Sand each egg with 100-, 150-, 220-, and finally 320-grit sandpaper.

6 Slowly reduce the diameter of the shaft between the eggs to about $\frac{1}{4}$ " while maintaining the contour of each egg. Carefully remove the turned stock from the lathe, and cut the area between the eggs with a dovetail saw.

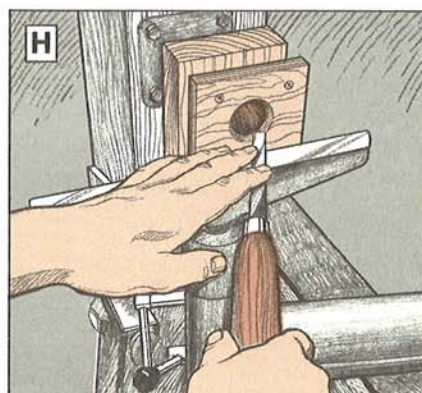
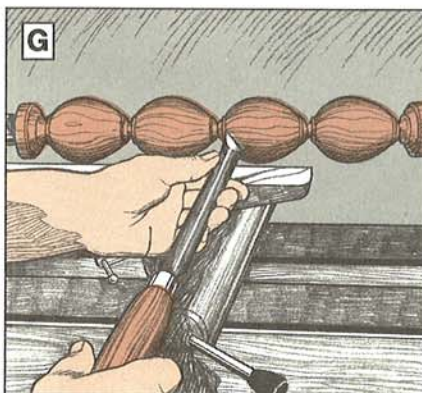
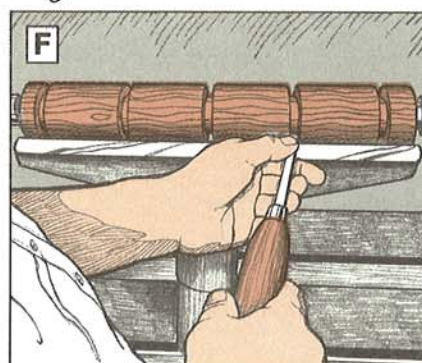
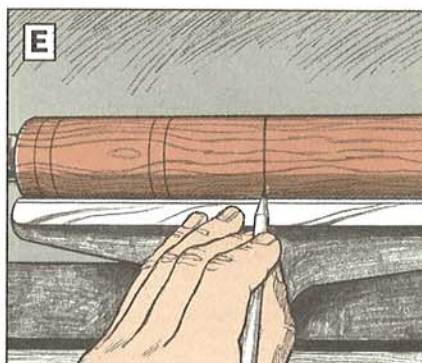
7 Make the sanding jig from scrap, using the dimensions and construction steps on the Sanding Jig Drawing *top*, page 25. Now, screw your



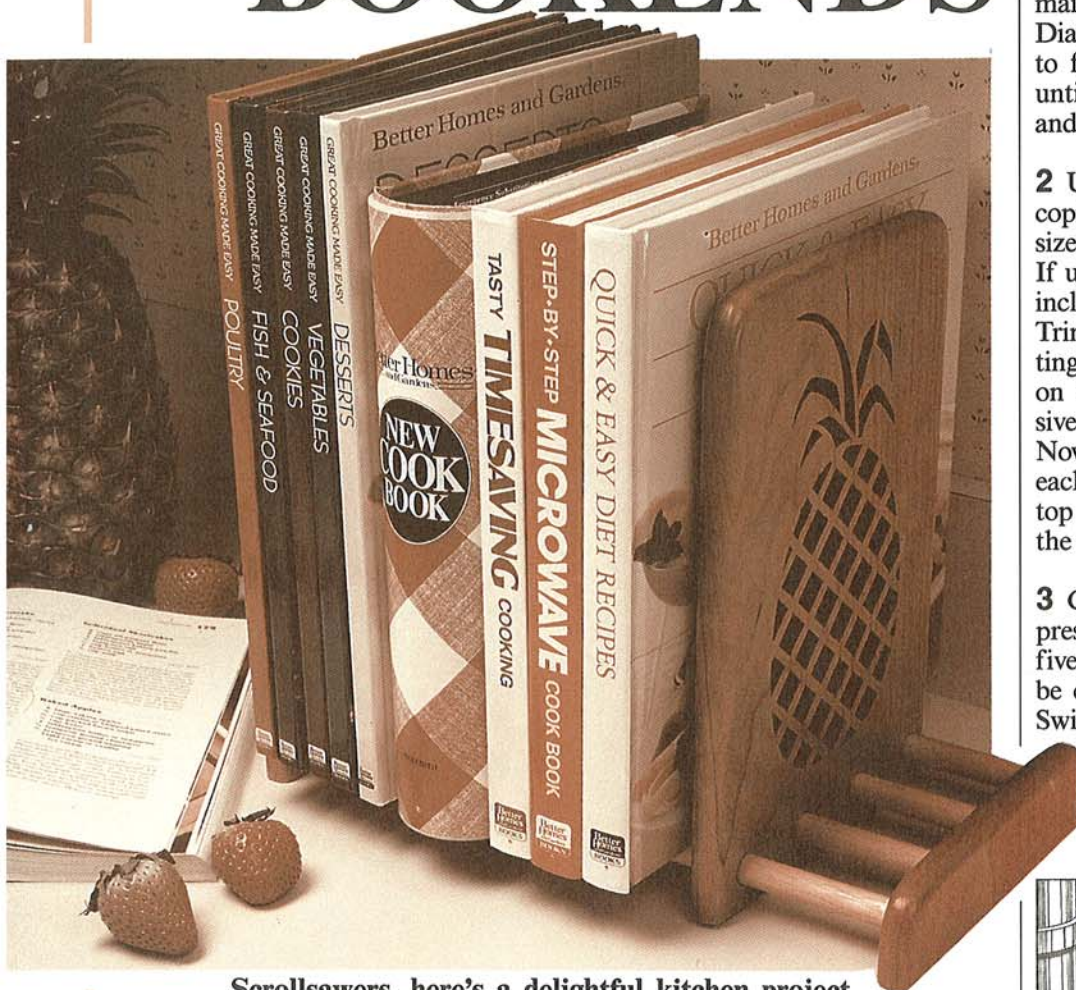
lathe's face plate to the jig's back, and mount it to headstock spindle.

8 Loosely secure an unfinished turned egg within the jig. Start the lathe, and with your fingers, center the egg in the jig. Stop the lathe, and tighten the jig's four screws. Using a 1/2" gouge and a speed of 1,000 rpm, finish turning the protruding end of the egg as shown in drawing H. Then, sand the end of the egg. Loosen the screws, turn the egg end for end, and shape that end. Repeat the process for each egg.

9 Using 320-grit sandpaper, hand-sand each egg with the grain. Next, lay the eggs on a large piece of waxed paper and apply the finish. (We sprayed on three coats of spray lacquer.) Be careful not to apply too much finish at one time and create sags. When the eggs dry, rotate and spray the opposite side. Between coats, rub with 0000 steel wool.



ENJOY THE FRUITS OF YOUR LABOR PINEAPPLE BOOKENDS



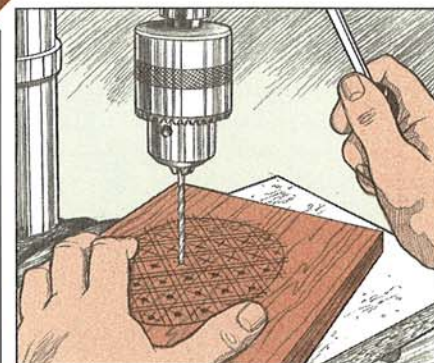
Scrollsawers, here's a delightful kitchen project that will surely capture the envy of your woodworking friends. Made from cherry, our pineapple bookends measure 12" long and stand 10" tall, providing plenty of room for your favorite cookbooks. Use our full-sized pattern to make a pair of pineapples.

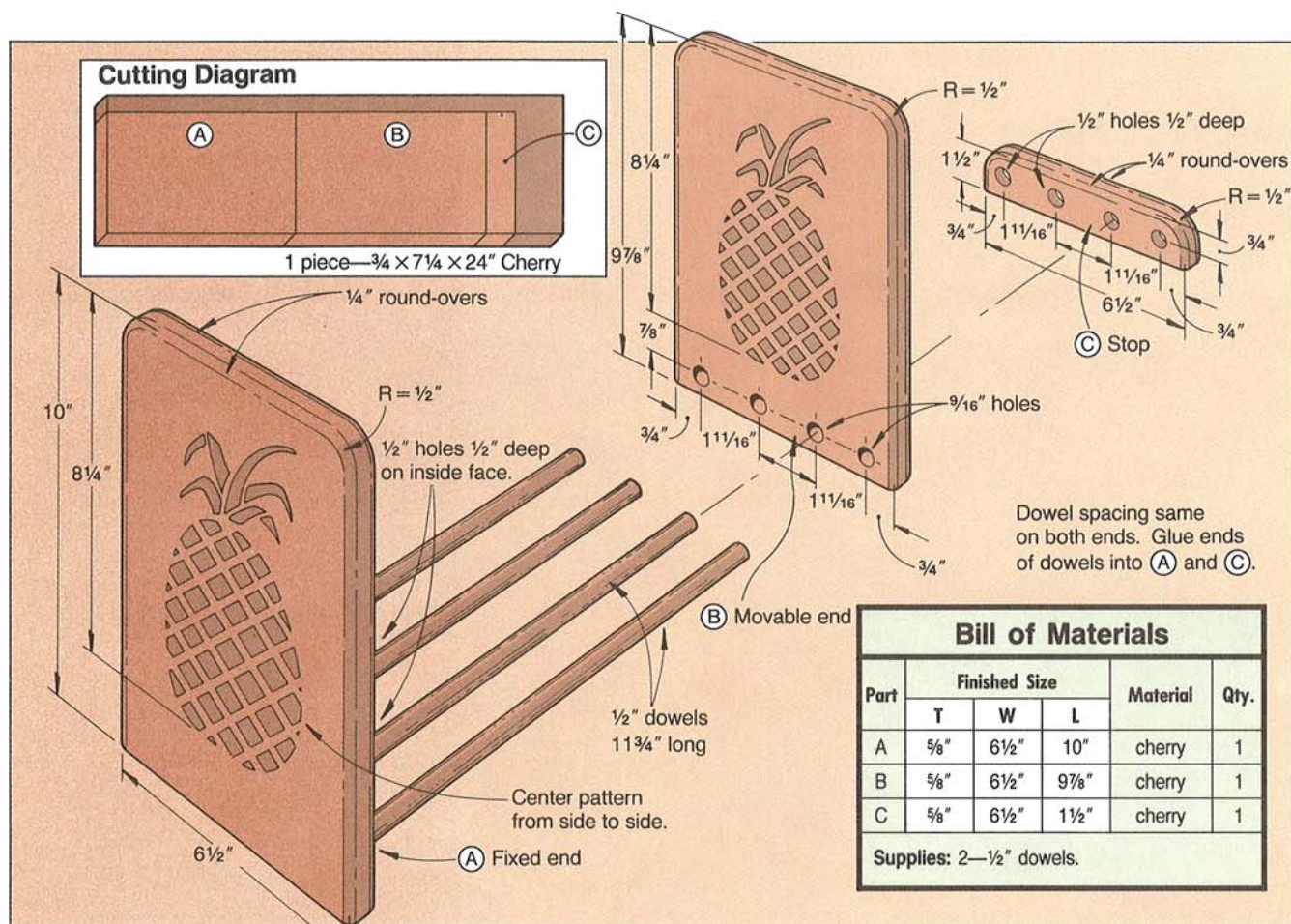
FIRST, MACHINE THE BOOKEND PARTS

1 Rip and crosscut a $\frac{3}{4}$ "-thick piece of stock (we selected cherry) to $6\frac{1}{2} \times 24$ ". Plane or sand the piece to $\frac{5}{8}$ " thickness. From it, crosscut one 10" length to make the fixed bookend (A), and one $9\frac{7}{8}$ "-long length to form the movable bookend (B) part. You will also cut the $1\frac{1}{2}$ "-long stop piece (C) from the remaining material (see the Cutting Diagram *opposite*), but do not saw it to final length (step 8 on page 28) until after you have drilled the holes and rounded the edges.

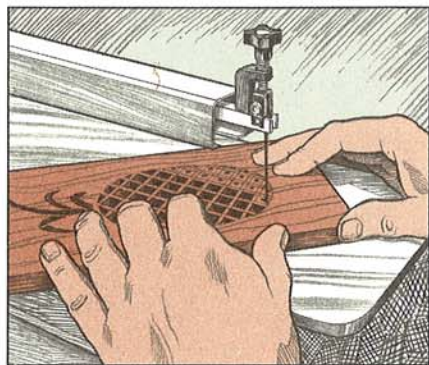
2 Using carbon paper or a photocopier, make two copies of the full-sized pineapple pattern on page 28. If using carbon paper, make sure to include the drill hole centerpoints. Trim the patterns to $6\frac{1}{2}$ " wide, cutting equidistant from the centerline on the pattern. Apply spray adhesive to the back of both patterns. Now, center a pattern on the face of each bookend piece, and align the top of the pineapple patterns with the top edge of each piece.

3 Chuck a $\frac{1}{8}$ " drill bit in your drill press. Drill start holes through the five smallest areas of the pattern to be cut out on both bookend pieces. Switch to a $\frac{3}{8}$ " bit and drill through the larger areas as shown *below*. (We backed the end pieces with scrap to help prevent chip-out.)





4 Thread the scrollsaw blade through each of the start holes and, as shown below, saw the grid pattern to create the pineapple shape. (We used pin-type saw blades and ground off a portion of the pin on one end in order to get the blade through the smaller 1/8" start holes.)



Note: Depending on your skill and the capability of your scrollsaw, you may be able to tape the bookends together with double-faced tape, and then drill and saw both pineapple shapes at once.

5 Using the pattern for A and B, and the dimensions on the exploded-view drawing above for C, mark the centerpoints for the four dowel holes on the three pieces with an awl. Next, using a quarter as the pattern, mark the radii on the top corners on the two end pieces (A, B) and the stop (C).

6 Chuck a 1/2" drill bit in your drill and drill the 1/2" holes 1/2" deep into the inside face of the fixed bookend and the inside face of the stop. (We

clamped a guide-fence to our drill press table 3/4" from the center of the bit.) Next, drill the four 9/16" holes through the movable bookend piece, backing it with scrap to prevent chip-out. (We spaced the fence 5/8" from the bit's centerpoint when drilling these holes.) Drill these holes accurately to ensure smooth operation for the movable part of the bookend.

7 Saw the corner radii on the end pieces to shape (we used a band-saw), and sand the cuts. Next, chuck a 1/4" round-over bit in your table-mounted router. As shown on the exploded-view drawing, round over the top, and side edges on the three pieces. Do not round over the bottom edges.

Continued

BOOKENDS

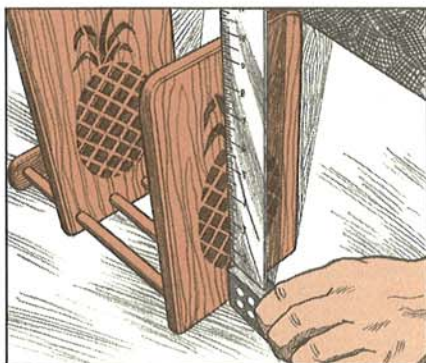
8 Finish-sand all parts. Now, cross-cut the stop (C) to 1½" long.

9 Crosscut four ½"-diameter dowels (we used oak) to 11¾" long. Finish-sand the dowels, and sand a slight chamfer on both ends of each dowel for an easier fit.

NOW, ASSEMBLE AND FINISH THE BOOKENDS

1 Apply a small amount of glue (we used yellow woodworker's glue) inside the four holes in the fixed bookend (A). Insert the four dowels in the glued holes. Wipe off any glue squeeze-out. Next, slide the movable bookend (B) on the dowels, orienting it so its pineapple pattern matches the pineapple on the fixed bookend.

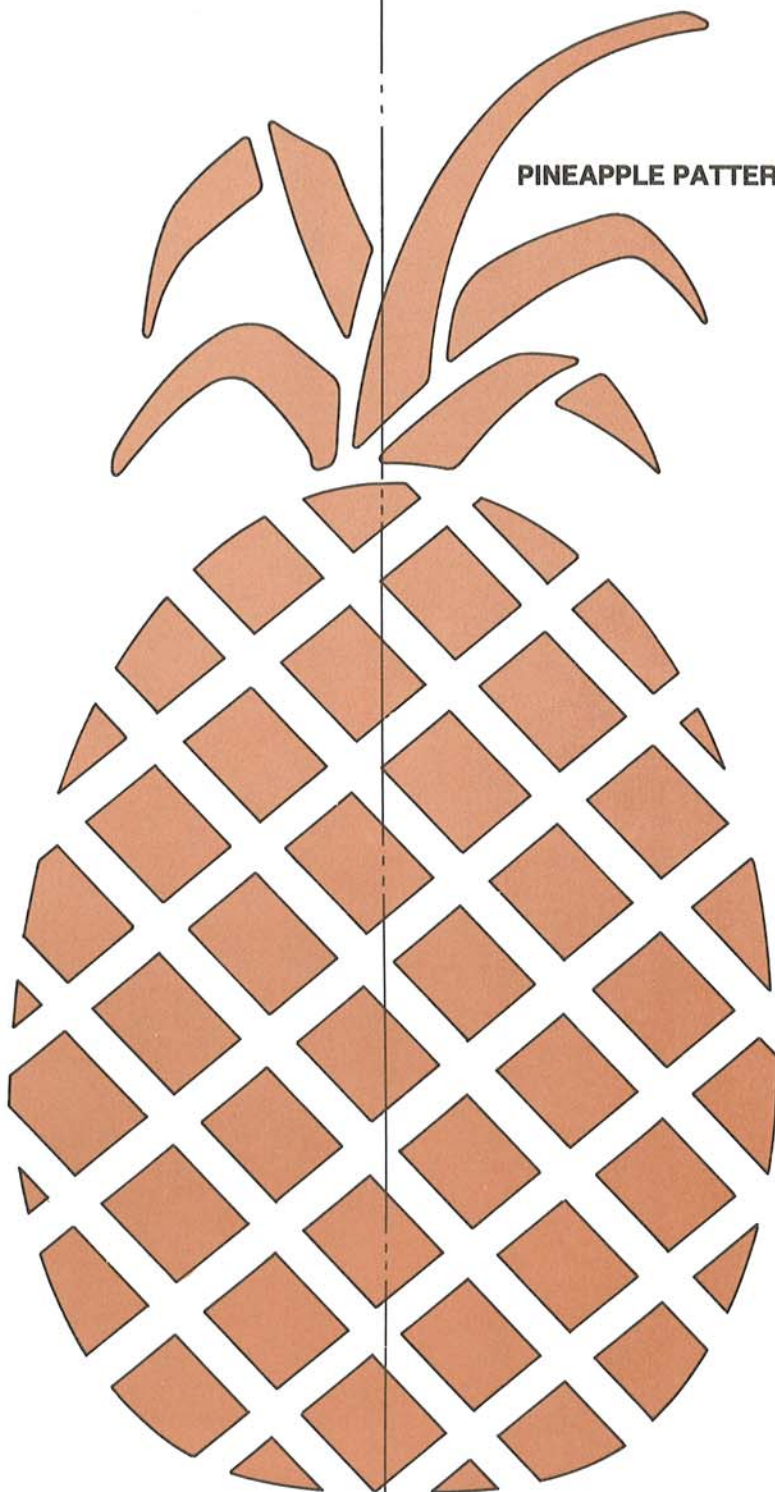
2 Apply glue to the holes in the stop (C) and insert the remaining dowel ends into it. Stand the assembly on the fixed end, and using a rubber mallet and a block of wood, tap the stop firmly onto the dowels. Wipe off any glue squeeze-out. Set the assembly on a flat surface. Now, using a square as shown *below*, check to make sure the fixed end (A) sits square with the surface. Finally, place a bar clamp on each side while the glue dries.



3 Apply the finish of your choice. (We applied four coats of spray gloss Deft, sanding between coats.)

Align top edge and at centerline.

PINEAPPLE PATTERN



Hole centerpoints. Drill ½"-dia. holes in fixed end, ⅜"-dia. holes in movable end.

