Better Homes and Gardens® WOOD®

Vol. 8 No. 6 • Issue 48

# Weekend Woodworking Projects®

November 1995
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*From Your Workshop*

## 6 GREAT PROJECTS YOU CAN BUILD

- CHIPPENDALE MIRROR
- GUMBALL MACHINE
- DOVETAILED JEWELRY BOX
- PLATE SHOWCASE
- DOLL'S TABLE & CHAIRS
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Chippendale Mirror...page 8

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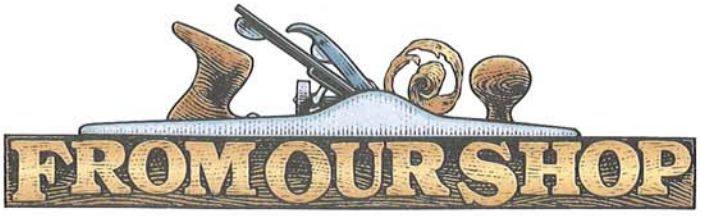
# Weekend Woodworking Projects®



**Cover photograph:** Craig Carpenter




# With Woodworking Projects, Looks Can Be Deceiving

Have you ever looked at a woodworking project in this magazine or another publication and passed it up because it looked too difficult to build? I know I have. But that's not always the wise thing to do. Sometimes, a project is much easier to construct than it appears at first glance. But you'll never discover that unless you read through the directions. That's the case with two projects in this issue: the Jewelry Box, beginning on *page 26*, and the Chippendale Mirror on *page 8*.

One of the first things you'll notice about the Jewelry Box is its impressive-looking dovetail joinery. Too tough? Take another look. The basic box is made with simple miter joints. These are then reinforced with dovetailed keys. With reasonable care, you'll get great results because you cut the dovetailed slots and the keys with the same router bit. As an added bonus, once you've made the jig, you can rout dovetailed keys into almost any box that you can lift onto your router table.

The Chippendale Mirror represents a different type of apparent complexity. The scrollsawn crests *look* intimidating because your eye takes longer to follow the outline of the swirling pattern than it would to trace a simple straight line or arc. Does this mean that the crests are difficult to cut? Not at all. Look at the full-sized design in the WWP PATTERNS insert in the center of the magazine, and you'll see that you don't even have to make any inside cuts. In fact, the scale of the crests makes them easier to saw than many small scrollsaw patterns, where a tiny departure from the line could mean a ruined workpiece.

Both of these projects are easier to build than they appear. So in this way, looks can be deceiving. On the other hand, the enduring good looks of these designs are the real reward. That would make them worth the effort even if they were tough to build.

Bob Settich

Print this article

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**Our Pledge to You:** Prior to publication, we build every project featured in *Weekend Woodworking Projects* step-by-step in our shop. Then, a team of editors reviews the how-to directions, technical drawings, illustrations, and Bill of Materials of each project to make sure the instructions we provide to you are clear, concise, and complete.
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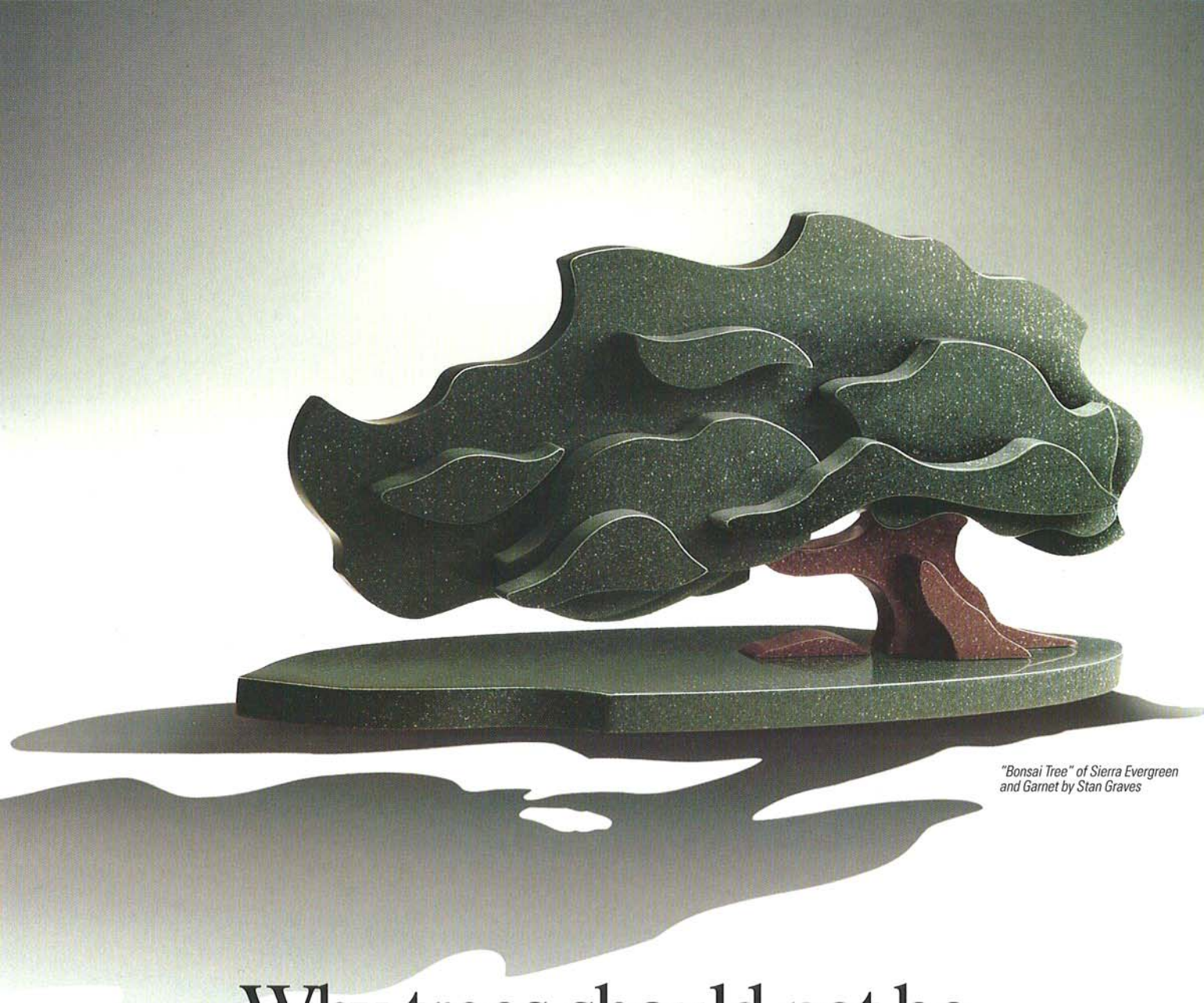

*"Bonsai Tree" of Sierra Evergreen and Garnet by Stan Graves*

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med. 28"
Height, sm.
9" Height)

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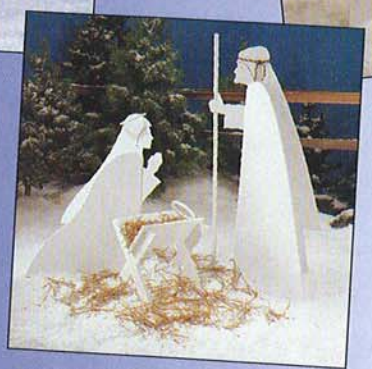
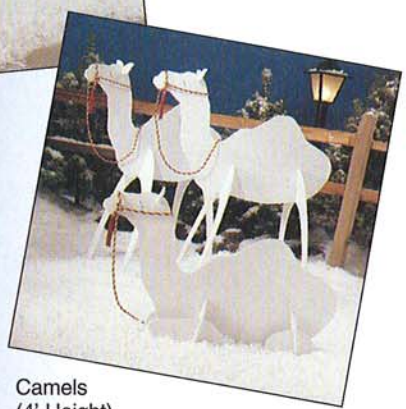


Nativity Scene
(Mary 32 1/2" H, Joseph 45 1/2" H)



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(4' Height)

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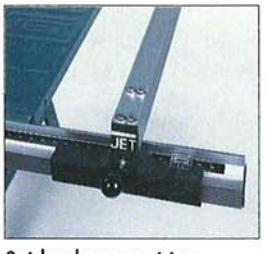


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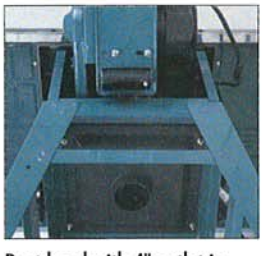

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# CHIPPENDALE WALL MIRROR

*With its fancy Chippendale-style crests and stately routed frame, this handsome walnut wall mirror might very well qualify as the fairest of them all. You'll be pleasantly surprised, too, when you discover how easy it is to make the frame and its decorative edging.*

## START BY MACHINING THE FRAME PIECES

1 From ¾"-thick walnut, rip and crosscut the frame ends (A) and frame sides (B) to the sizes listed in the Bill of Materials plus an additional 2" in length.

2 Install a ⅜" dado blade in your tablesaw. Adjust your rip fence, and rip a groove ⅜" deep, centered along the edge of the frame pieces as shown in the Forming the Frame Stock, Step 1 drawing on *page 10, bottom.*

3 Lower the dado blade, and attach a wooden auxiliary fence to your rip fence. Position the fence over the dado blade, leaving ¼" of the blade exposed. Then, with the saw running, raise the dado blade to a height of ¼". Now, cut a rabbet along the inside back edges of pieces A and B where shown in the Forming the Frame Stock, Step 2 drawing.

4 Chuck a ¼" roundnose bit into your table-mounted router, and raise the bit to ⅛". Set your router fence 1 1/16" from the center of the bit as shown in the Forming the Frame Stock, Step 3 drawing. Next, turn the rabbeted edge of the frame pieces up and against the fence, and rout a flute in the frame pieces.

5 Chuck a ¼" beading bit into your table-mounted router, and position it where shown in the Forming the Frame Stock, Step 4 drawing. Now, with the rabbeted edge face up and against the fence, rout pieces A and B.

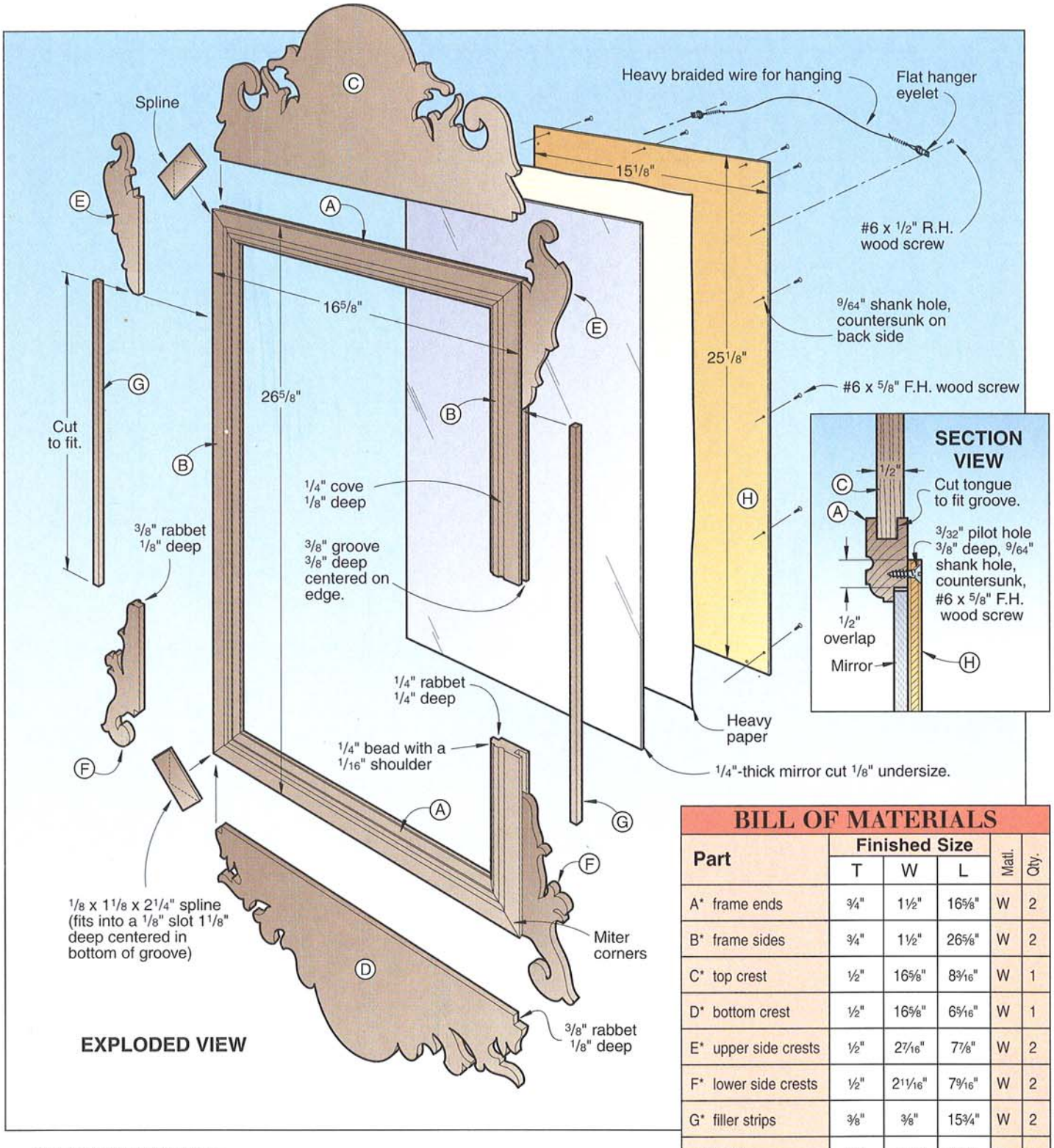
6 Switch to a standard blade in your tablesaw, and remove the auxiliary fence from the rip fence. Attach an extension to your tablesaw's miter gauge, and adjust it to 45°. Cut miters on one end of each of the frame pieces (A, B). Next, clamp a stopblock to the extension to ensure uniform lengths, and miter-cut the frame pieces to the finished lengths shown in the Bill of Materials.

7 Glue and clamp the frame (we used a band clamp). Check for square by making sure the diagonals are of equal length. Also make sure the assembly is flat.

## NEXT, REINFORCE THE CORNERS

1 Build the corner-spline jig shown in the Cutting Slots for Splines drawing on *page 10, top left.* Raise the tablesaw blade to 1 5/8", and fasten a 6"-high auxiliary fence to your tablesaw's rip fence. Position the frame assem-

*Continued*




## BILL OF MATERIALS

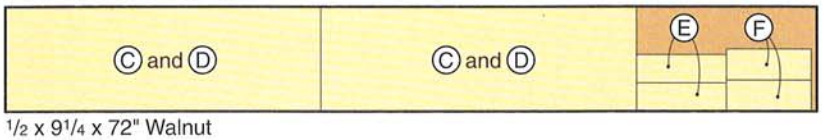
| Part | Finished Size T | W | L | Matl. | Qty. |
|---|---|---|---|---|---|
| A* frame ends | ¾" | 1½" | 16⅝" | W | 2 |
| B* frame sides | ¾" | 1½" | 26⅝" | W | 2 |
| C* top crest | ½" | 16⅝" | 8 3/16" | W | 1 |
| D* bottom crest | ½" | 16⅝" | 6 5/16" | W | 1 |
| E* upper side crests | ½" | 2 7/16" | 7⅞" | W | 2 |
| F* lower side crests | ½" | 2 11/16" | 7 9/16" | W | 2 |
| G* filler strips | ⅜" | ⅜" | 15¾" | W | 2 |
| H back | ¼" | 15⅛" | 25⅛" | P | 1 |

*Cut part to finished size during construction. Please read all instructions before cutting.

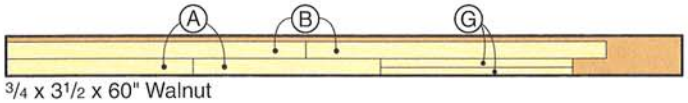
**Materials Key:** W–walnut; P–plywood.

**Supplies:** ¼"-thick mirror; heavy paper; 16–#6×⅝" F.H. wood screws; 2–hanger eyelets with #6×½" R.H. screws; heavy braided picture wire; finish.

## CUTTING DIAGRAM

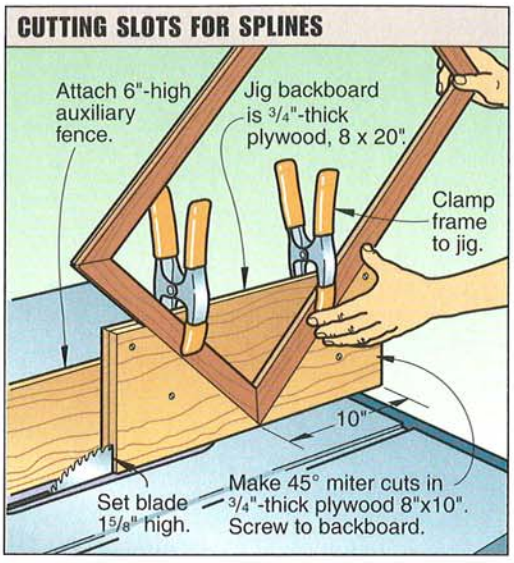


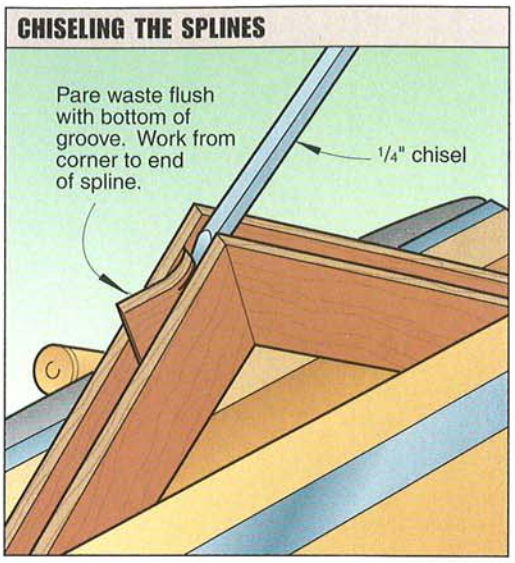

1/2 x 9 1/4 x 72" Walnut




3/4 x 3 1/2 x 60" Walnut

# *Chippendale Wall Mirror*




bly in the jig, and adjust the fence so that the blade is centered in the edge of the frame. Then, cut a groove in each corner where shown in the Spline Detail accompanying the Exploded View drawing.

2 Plane or resaw stock to ⅛"-thick for the splines, checking for a snug fit in the spline grooves. Cut four splines to 1⅛×2¼", then glue the splines in place. When the glue has dried, use a chisel to trim the splines flush with the bottom of the groove as shown in the Chiseling the Splines drawing *above right.*

## CUT THE CRESTS TO SHAPE

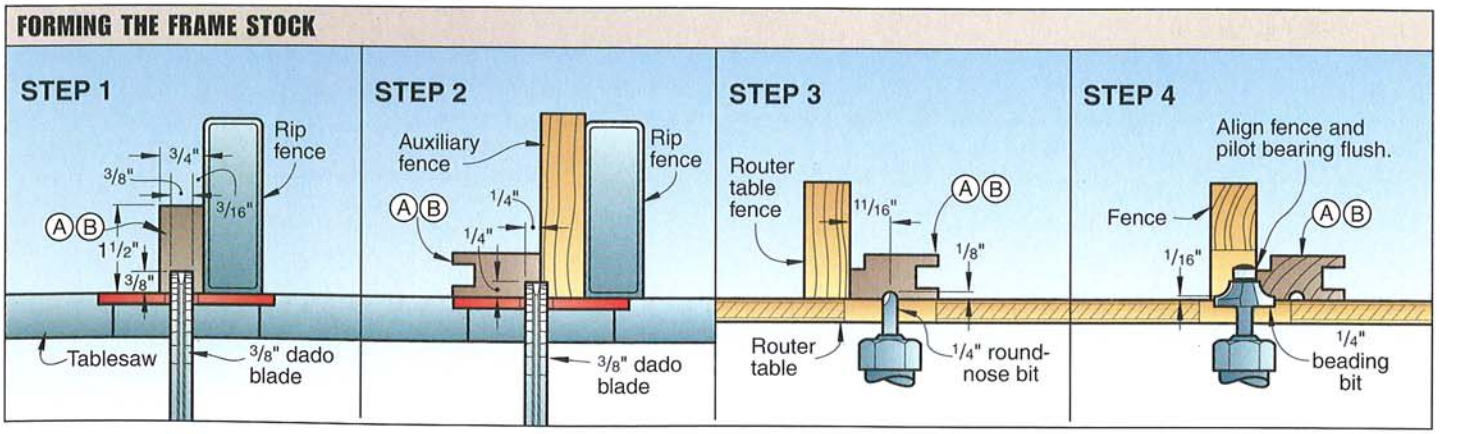
1 Plane two 9×28" boards to ½"-thick. Joint one edge of each board, and glue them together edge-to-edge to form an 18×28" blank. Next, joint one edge of the blank.

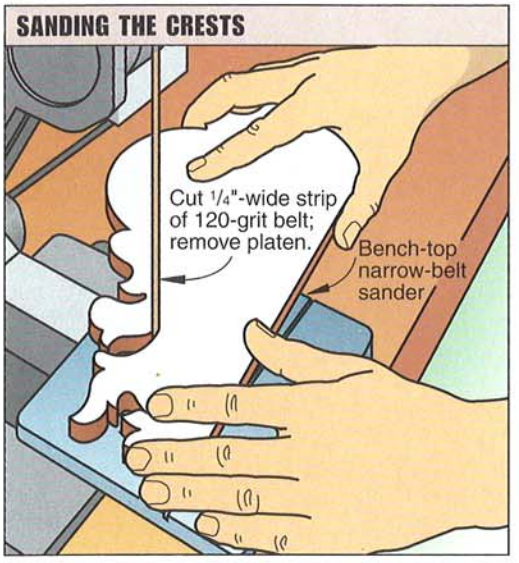
2 Crosscut one 10"-long piece for the top crest (C). Then, crosscut a 9"-long piece for the bottom crest (D). Next, make photocopies of the full-sized patterns in the WWP PATTERNS insert in the center of the magazine. Adhere the patterns to their respective blanks with spray adhesive, aligning the straight edge of the pattern with the crosscut end of the blank. Refer to the Cutting Diagram for the layout of all crest pieces.

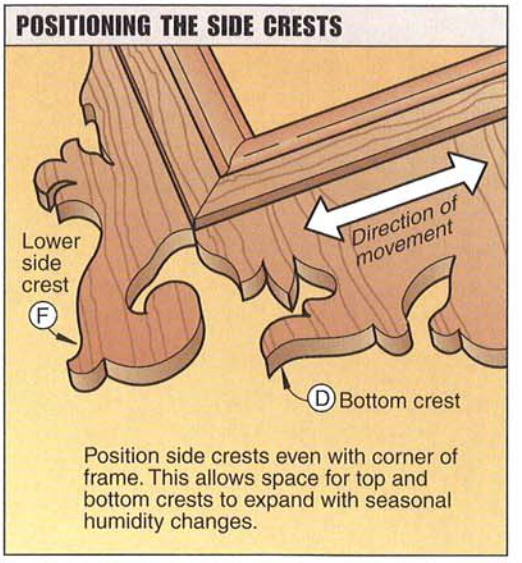
3 Rip the remaining stock into four 4½"-wide blanks for the upper side crests (E) and lower side crests (F). Adhere the patterns with spray adhesive, aligning the straight edge of the pattern with the ripped edge of the blank.

4 Cut a ⅜" rabbet ⅛" deep in a piece of scrap ½"-thick stock, and test the fit of the piece in the groove along the outside edge of the frame. See the Section View detail accompanying the Exploded View drawing for reference. Make any necessary adjustments, then cut a rabbet in the back inside edge of the blanks for the crest pieces (C, D, E, F).

5 Cut all crests on a scrollsaw, using a no. 7 blade. Sand the edges smooth with a drum sander and a 1" benchtop belt sander. To sand





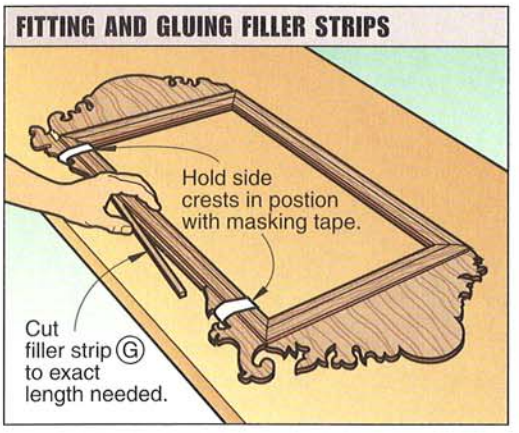




the tight spaces, cut a ¼" strip from a 120-grit belt with a utility knife, and remove the platen from your narrow-belt sander as shown in the Sanding the Crests drawing *above*. If you don't have a narrow-belt sander, you can glue a strip of sandpaper to a narrow scrap stick, and use it to sand the inside surfaces.

6 Glue only the center 3" of (C) and (D) into the groove in (A), to allow for the seasonal movement of the wood. Fit the parts into place in the frame as shown in the Exploded View drawing.

7 Dry-assemble (no glue) the side crests (E, F) where shown in the Positioning the Side Crests drawing *above right* so that the top and bottom crests have clearance for expansion. Temporarily tape the side crests into place with masking tape.

8 Rip and crosscut a piece of ¾"-thick stock to 1½×17". Then, plane it to ⅜" thick. Double-check the stock thickness against the groove in the sides of the frame, then rip two filler strips (G) to 13/32" wide. Cut the filler strips to fit between the upper side crests (E) and the lower side crests (F) as shown in the Fitting and Gluing Filler Strips drawing *below left*. Glue the filler strips in place, using glue sparingly to avoid squeezeout. Clamp the filler strips, then immediately remove the side crests.




9 When the glue has dried, sand the filler strips (G) flush with the frame sides, and glue the upper and lower side crests into place.

## APPLY FINISH, AND COMPLETE THE ASSEMBLY

1 Cut the back (H) to size from ¼"-thick plywood. Center it on the back of the frame, and clamp in place. Next, drill holes for the mounting screws where shown in the Section View Detail accompanying the Exploded View drawing. Next, drill pilot holes for the hanger eyelet screws.

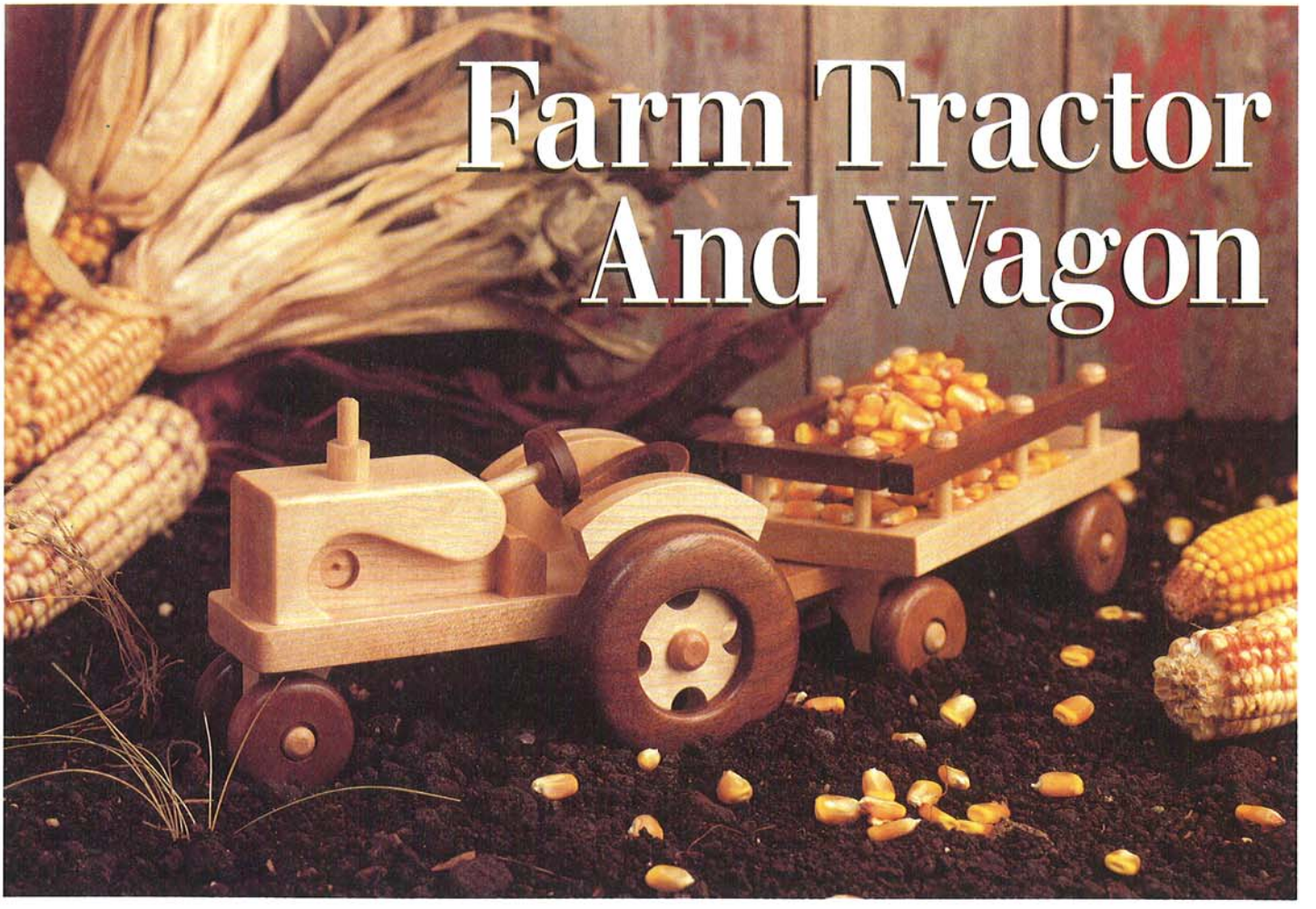
2 Finish-sand all parts, and wipe clean. Then, apply the finish. To give the frame the look of aged wood, we used two coats of Deftoil Medium Walnut Danish Oil Finish. Make sure that you apply finish to all of the edges of the plywood back.

3 Have a piece of ¼"-thick mirror cut ⅛" undersized in both dimensions. If you use a mirror with a ½" bevel, center it in the frame, and use several spots of silicone sealant to hold it in place so the bevel will be centered. Let the silicone dry.

4 Place heavy paper over the back of the mirror, and screw the back (H) in place. Fasten the hanger eyelets, and install a length of heavy braided wire. ■

**Written by:** Jon Greising
**Project design:** Jan Hale Svec
**Illustrations:** Kim Downing
**Project builder:** Jan Hale Svec
**Photograph:** Craig Carpenter

# Farm Tractor And Wagon



*If you're looking for a unique gift for that special little someone on your shopping list, may we recommend this hardworking tractor and wagon? This ruggedly constructed duo will withstand plenty of hours spent "out in the back-40" or anywhere else a child's imagination takes it.*

***Note:*** *You will need some thin stock for this project. Plane or resaw thicker stock to size.*

## LET'S ASSEMBLE THE TRACTOR CHASSIS

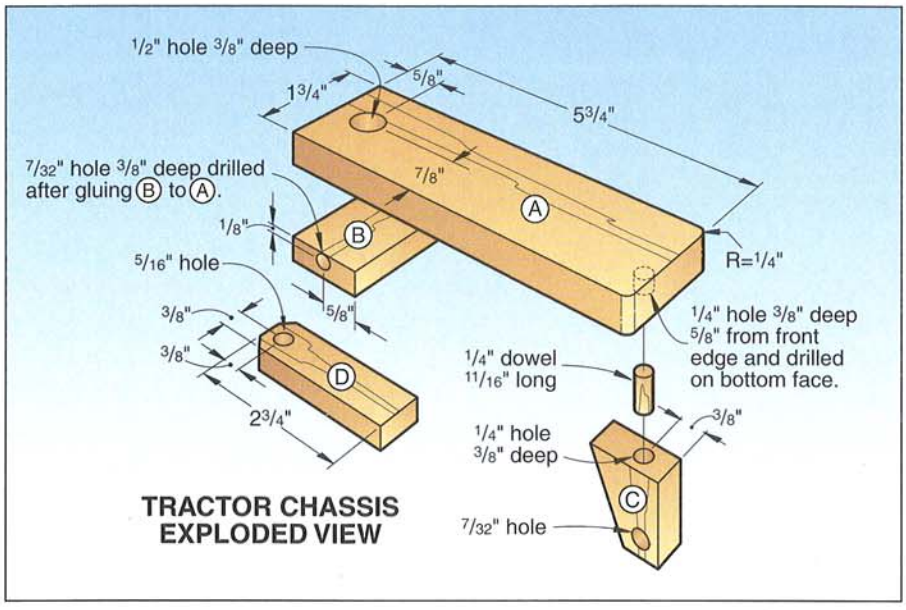
1 Rip and crosscut the tractor chassis (A) from ½"-thick stock to the size listed in the Bill of Materials. Referring to the Tractor Chassis Exploded View drawing, mark the centerpoints of the holes on the top and bottom faces of the piece. Set up a fence on your drill-press table to center the bit in the width of part A, then drill the holes. Form the ¼" radii on the front corners of the piece (we used a sanding disk in a stationary sander).

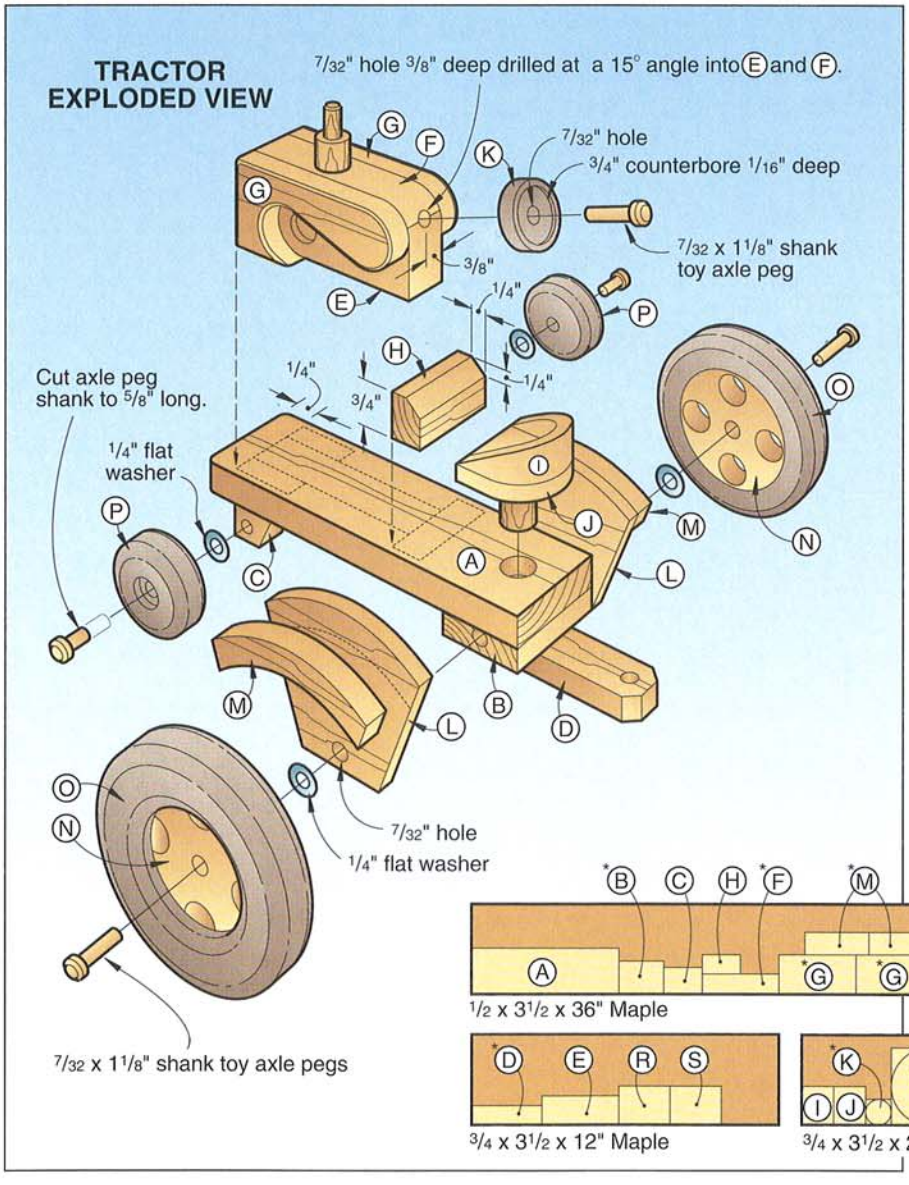
2 Rip and crosscut the rear axle block (B) from ⅜"-thick stock, then glue and clamp it to the tractor chassis where shown on the Exploded View. Unclamp when the glue is dry, and sand the edges and end of the rear axle block flush with the tractor chassis. Next, referring to the Tractor Chassis Exploded View drawing *opposite page, top,* mark the centerpoint of the hole in each end of the rear axle block, then drill the holes.

3 Make a photocopy of the front axle block (C) in the WWP PATTERNS insert in the center of the magazine, and adhere it to ½"-thick stock with spray adhesive. Mark the centerpoint of the ¼" hole in the end of the piece, then drill it. Next, drill the 7/32" hole where shown on the pattern. Bandsaw the piece to shape. Remove the pattern, then glue and clamp the front axle block to the tractor chassis, using a ¼"-diameter dowel pin 1 1/16" long as shown in the Tractor Chassis Exploded View. ***Note:*** *Make certain that the sides of the front axle block are parallel to the sides of the tractor chassis.*

4 Make a photocopy of the drawbar (D) in WWP PATTERNS, and adhere it to ⅜"-thick stock with spray adhesive. Rip and crosscut the drawbar to size, then disc-sand the miters on one end where shown. Next, drill the hole where shown. Remove the pattern, sand the piece, then glue and clamp the drawbar centered on the chassis assembly where shown on WWP PATTERNS.

*Continued*




## BILL OF MATERIALS

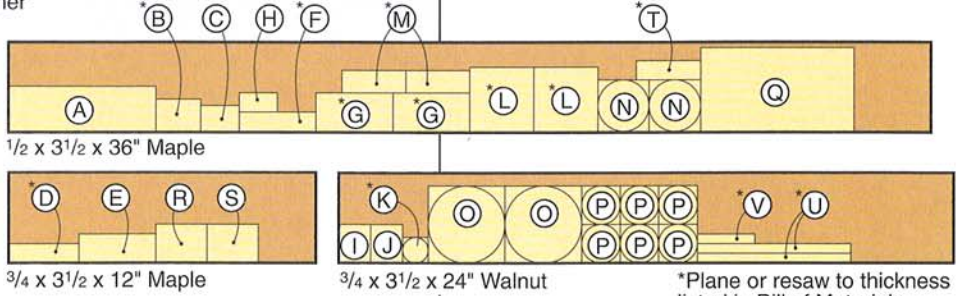
| Part | Finished Size T | W | L | Matl. | Qty. |
|---|---|---|---|---|---|
| A tractor chassis | ½" | 1¾" | 5¾" | M | 1 |
| B rear axle block | ⅜" | 1¼" | 1¾" | M | 1 |
| C front axle block | ½" | 1" | 1⅛" | M | 1 |
| D drawbar | ⅜" | ¾" | 2¾" | M | 1 |
| E lower engine block | ¾" | 1⅛" | 3" | M | 1 |
| F upper engine block | ⅜" | ¾" | 3" | M | 1 |
| G engine sides | ⅜" | 1½" | 3" | M | 2 |
| H toolbox | ½" | ¾" | 1½" | M | 1 |
| I seat back | ⅝" | 1½" | 1¼" | W | 1 |
| J seat | ⅜" | 1½" | 1¼" | W | 1 |
| K steering wheel | ¼" | 1" dia. | | W | 1 |
| L inner fenders | ¼" | 2¼" | 2½" | M | 2 |
| M upper fenders | ¼" | ⅞" | 2½" | M | 2 |
| N wheels | ½" | 2" dia. | | M | 2 |
| O large tires | ¾" | 3" dia. | | W | 2 |
| P small tires | ½" | 1½" dia. | | W | 6 |
| Q wagon platform | ½" | 3¼" | 6" | M | 1 |
| R rear axle holder | ¾" | 1⅛" | 2" | M | 1 |
| S front axle holder | ¾" | 1⅛" | 2" | M | 1 |
| T tongue | 5/16" | ¾" | 2½" | M | 1 |
| U side rails | ⅜" | ⅜" | 6" | W | 2 |
| V front rail | ⅜" | ⅜" | 2¼" | W | 1 |

Please read all instructions before cutting.

**Materials Key:** M–maple; W–walnut.

**Supplies:** ½" dowel 2½" long; ¼" dowels 2" long; 19–7/32" dia. ×1⅛" shank length axle pegs; 9–¼" washers; finish.

## CUTTING DIAGRAM



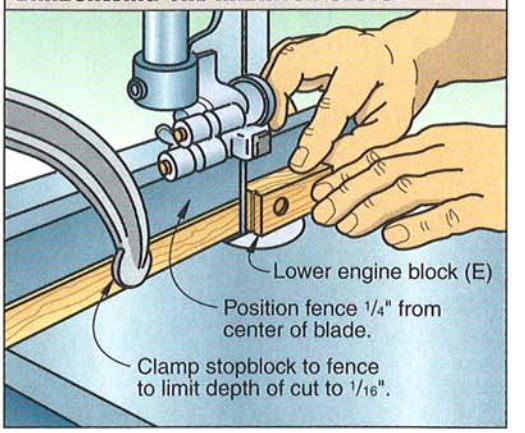

*Plane or resaw to thickness listed in Bill of Materials

## NEXT, BUILD A MIGHTY ENGINE

1 Rip and crosscut a piece of ¾"-thick stock to size for the lower engine block (E). Referring to the Engine Exploded View and WWP Patterns, mark the centerpoints of the holes on both sides of the piece where dimensioned. Use a scratch awl or nail to make a mark to help center the drill bit accurately. Then, drill the ½" holes ⅛" deep, using a Forstner bit.

2 Set your bandsaw fence ¼" from the center of the blade, and clamp a stopblock to it to limit the depth of cut as shown in the Bandsawing the Radiator Slots drawing *right*. Also refer to the Engine Exploded View *below*. Cut the first slot, then rotate the opposite face of the part against the fence to cut the next slot.

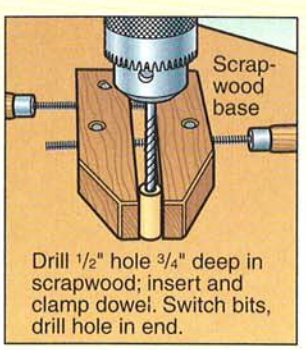
**BANDSAWING THE RADIATOR SLOTS**



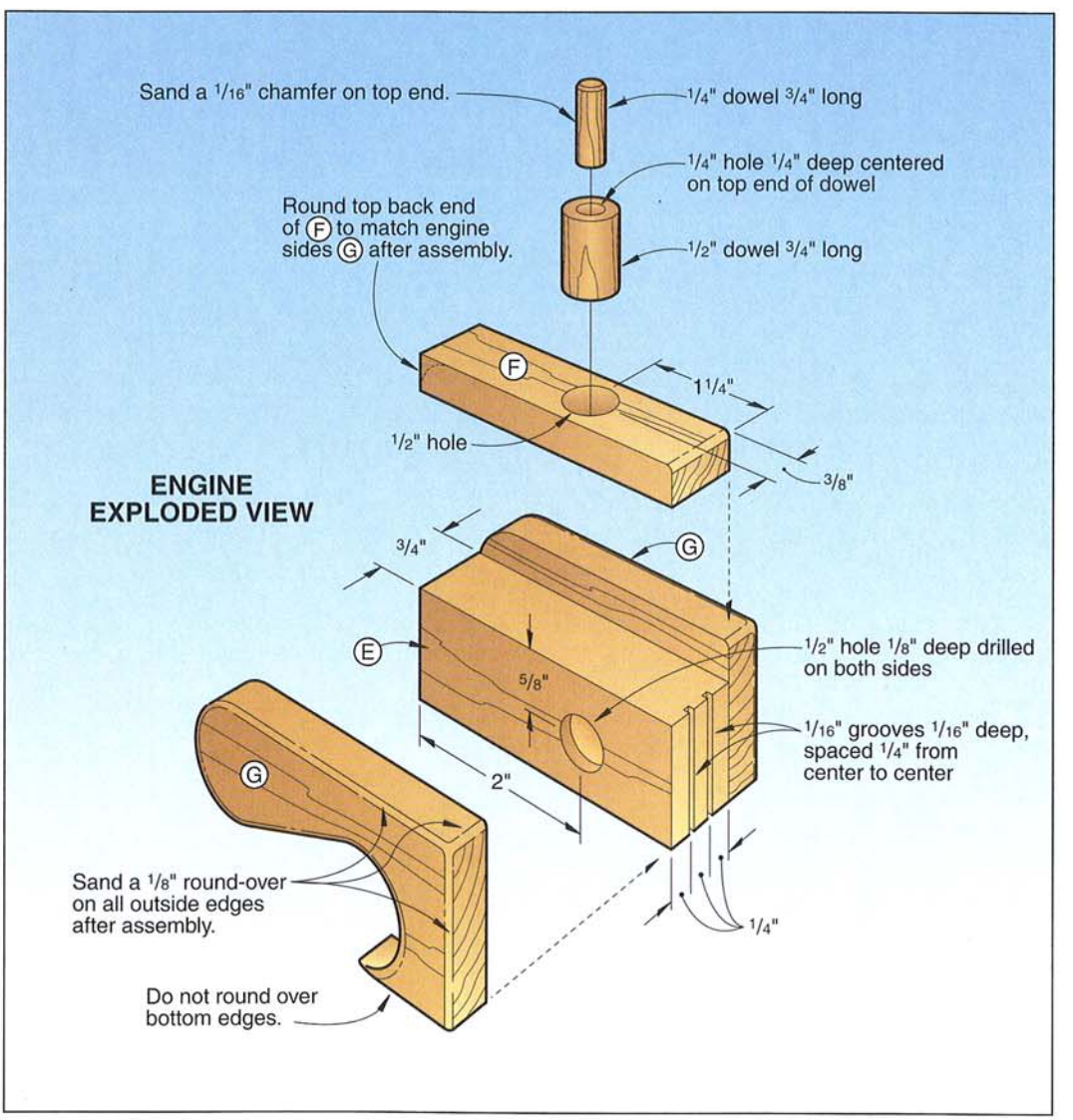

3 Rip and crosscut the upper engine block (F) to size from ⅜"-thick stock. Mark the centerpoint for the hole where dimensioned on the Engine Exploded View drawing, then drill it.

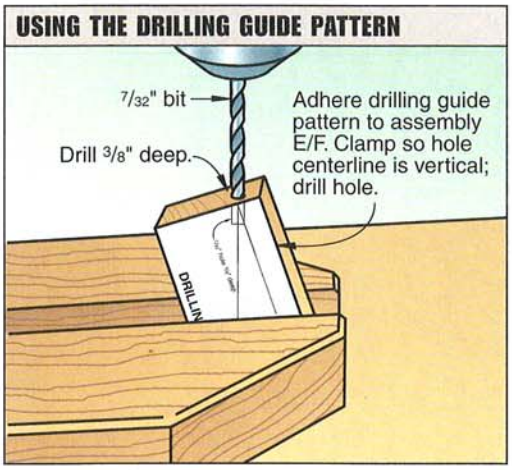
## Shop Tip

**No. 1—To center a hole in the end of a ½" dowel,** drill a ½" hole ¾" deep into scrapwood clamped to your drill-press table. Insert a 2½" length of dowel stock, and hold it vertically with a wooden handscrew clamp as shown below. Switch to a ¼" bit, and drill the centered hole.




Drill ½" hole ¾" deep in scrapwood; insert and clamp dowel. Switch bits, drill hole in end.





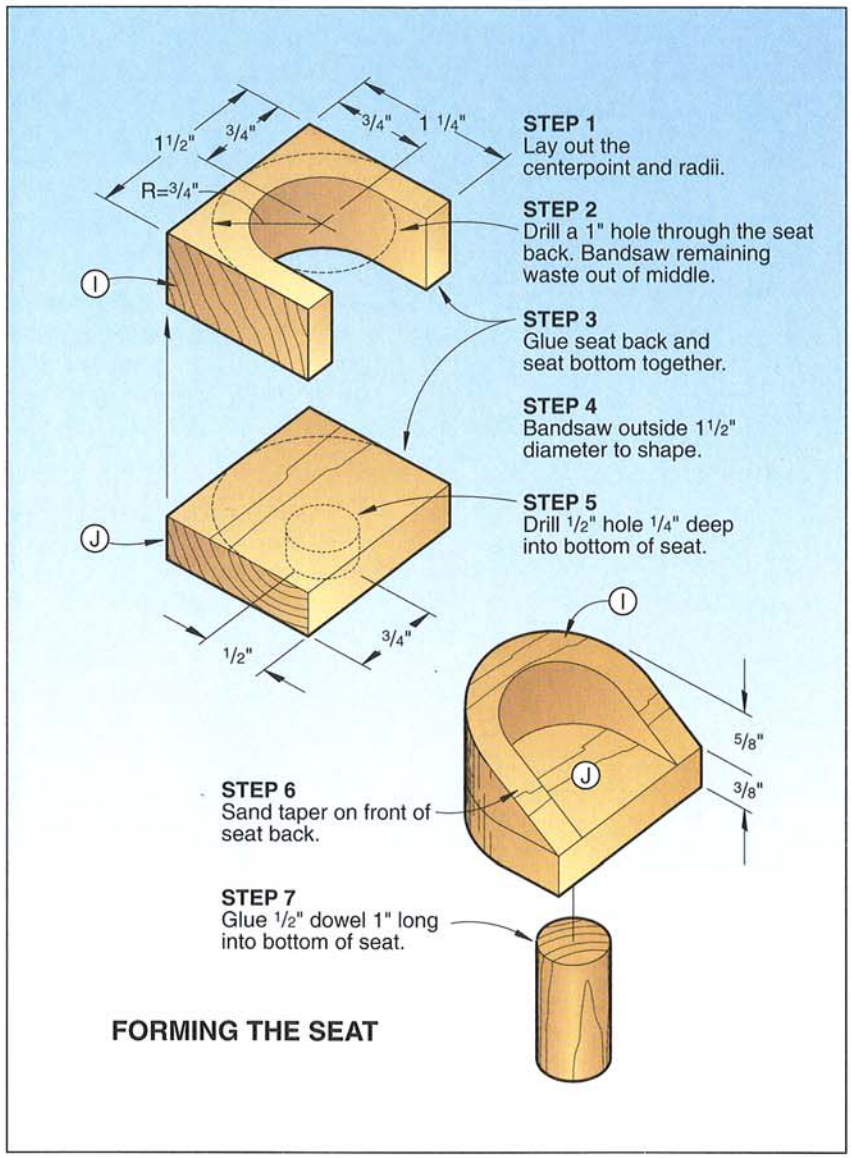

Glue and clamp parts E and F together, carefully aligning the edges and ends. Let dry.

4 Sand the edges and ends of the engine assembly (E, F) so the pieces are flush with each other. Next, make a photocopy of the Drilling Guide Pattern in WWP PATTERNS, and adhere it to the assembly with spray adhesive. Then, drill the hole for the steering column, following the procedure on the Using the Drilling Guide Pattern drawing *above*. Remove the pattern after drilling.

5 Make a photocopy of the engine side (G) in WWP PATTERNS, and adhere it to ⅜"-thick stock with spray adhesive. Use double-faced tape to adhere another piece of ⅜"-thick stock face-to-face for stack cutting. Scrollsaw the pieces to shape, then separate them. Glue and clamp the engine sides to the engine assembly where shown on the Engine Exploded View. When the glue has dried, sand the edges and ends flush; then sand the ⅛" round-overs where shown on the Engine Exploded View. Finally, glue and clamp the engine assembly to the chassis where shown on the Tractor Exploded View.

6 Cut a piece of ½" dowel stock to 2½" long. Drill a hole in its end, following the suggestions in Tip No. 1 *opposite page, left.* Next, cut it to a finished length of ¾". Cut a ¼" dowel ¾" long, and sand a 1/16" chamfer on one end. Use a toothpick to apply glue to the wall of the hole in the engine block assembly and the hole in the end of the dowel, then assemble.

7 Rip a 6" length of ½"-thick stock ¾" wide to make an initially oversized blank for the toolbox (H). Chuck a 45° chamfering bit into your table-mounted router, and adjust it to rout the ¼" chamfer where dimensioned on the Tractor Exploded View. Then, crosscut the toolbox to length, and glue it into place.




## NOW, HAVE A SEAT

1 Make the tractor seat assembly (I/J) by following the steps in the Forming the Seat drawing *above*. Then, glue the completed assembly to the tractor chassis.

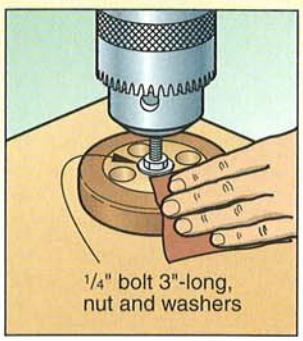
2 Make a photocopy of the steering wheel (K) in WWP PATTERNS, and adhere it to ¼"-thick stock with spray adhesive. Drill the ¾" counterbore and the 7/32" hole. Then, scrollsaw the steering wheel to shape, and sand the edge. Glue an axle peg through the steering wheel, then set the assembly aside.

*Continued*

# Farm Tractor and Wagon

## Shop Tip

**No. 2—Use a bolt to mount tires for power-sanding in your drill press.** Use a 1/4" bolt 3" long as shown below. Set the drill-press speed to 250 rpm. Start with 120-grit sandpaper; finish with 220-grit paper.




## NOW, MAKE THE FENDERS

1 Make a photocopy of the inner fender (L) in WWP PATTERNS, and adhere it to 1/4"-thick stock with spray adhesive. Use double-faced tape to adhere another piece of 1/4"-thick stock face-to-face for stack cutting. Scrollsaw the pieces to shape, cutting just outside the lines. Then sand to the lines. Drill the hole where shown. Separate the pieces.

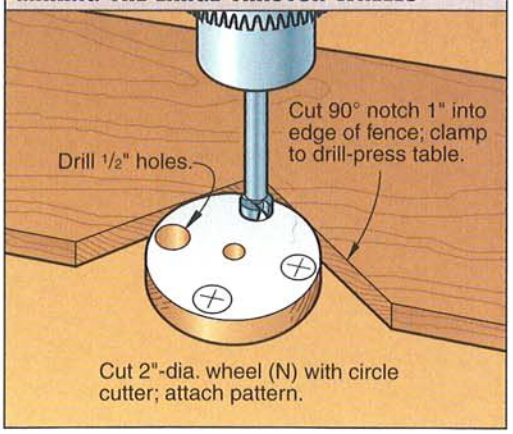
2 Scrollsaw the upper fenders (M) to shape, using the same procedure you used for the inner fenders. Glue and clamp parts L and M together. Unclamp when the glue has dried, and sand the edges of the pieces flush with each other.

3 Glue and clamp the fender assemblies to the chassis/engine assembly, carefully aligning the axle peg holes.

## NEXT, LET'S GET ROLLING ON THE WHEELS

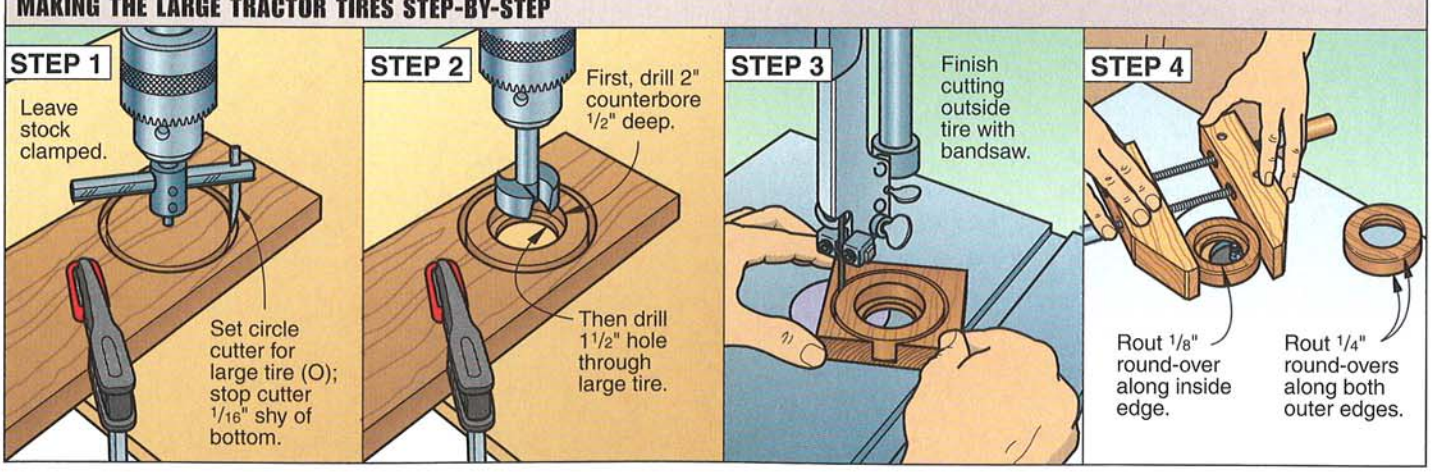
1 Make part N by cutting a 2" diameter wheel with a circle cutter. Then drill the holes as shown in the Making the Large Tractor Wheels drawing *above right*. Then, mark part O by following the four-step Making the Large Tractor Tires drawings *below*. When you begin making the large tire in Step 1, leave the stock clamped to the drill-press table until you have drilled the counterbore and hole in Step 2. Then, repeat the process to make the other large tire. When you bandsaw the large tire from the surrounding stock in Step 3, cut in the middle of the circle cutter's cutline. The small amount of stock remaining on the wheel's rim will be removed in the routing operation in Step 4. Glue the wheels (N) into the large tires (O), aligning the grain of the two parts.

### MAKING THE LARGE TRACTOR WHEELS




2 Rip and crosscut a piece of 1/2"-thick walnut to 2×18" to make a blank for the small tires (P). ***Note***: This blank is big enough to make six small tires: two for the tractor, and four for the wagon. Starting approximately 4" from one end of the blank, mark wheel centerpoints spaced 2" apart. Drill a 1/2" counterbore 1/8" deep at each centerpoint. Then, adjust your circle cutter to a 3/4" radius (the point of the fly cutter should be on the inside when cutting disks), then cut each wheel from the blank. Next, chuck a 3/16" round-over bit into your table-mounted router, then rout along both edges of each wheel. See Tip No. 2 *left* for a method of sanding the edges of both the large and small tires. ***Safety Notes:*** *We always clamp the blank to the drill-press table when using a circle cutter. We also recommend using a wooden handscrew clamp or push block to guide small parts on the router table.* Set the wheel/large tire assemblies and the small tires aside for now; you'll want to apply finish before final assembly.

### MAKING THE LARGE TRACTOR TIRES STEP-BY-STEP



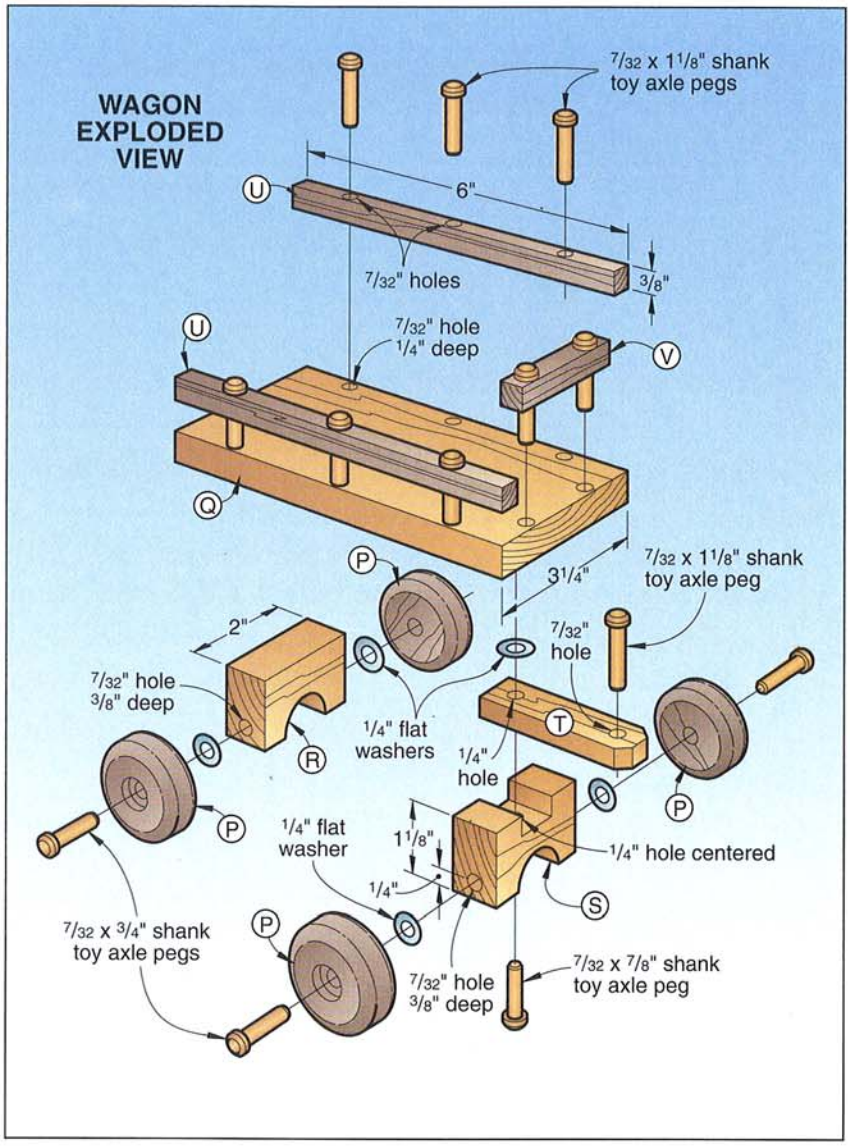
## THE WAGON IS A QUICK PROJECT

1 Rip and crosscut the wagon platform (Q) to size from ½"-thick stock. Mark and drill the 7/32" hole on the bottom side of the wagon platform where dimensioned on WWP PATTERNS. Sand the part to final smoothness, and set it aside.

2 Rip and crosscut a 1⅛×6" blank for the rear and front axle holders (R, S). Make a photocopy of these parts in WWP PATTERNS, and adhere to the blank with spray adhesive. Scrollsaw the radius cut at the bottom of each piece, then saw the notch in the top edge of part S. Next, crosscut the two pieces. Mark the centerpoints of the axle peg holes in the ends of the parts where shown on WWP PATTERNS. Set up a fence on your drill-press table, and drill the holes. Sand these parts, then glue and clamp the rear-axle holder to the bottom side of the wagon platform where shown on WWP PATTERNS. Set the front-axle holder aside for now.

3 Rip and crosscut the tongue (T) from 5/16"-thick stock. Make a photocopy of the part in WWP PATTERNS, and adhere it to your stock with spray adhesive. Disc-sand the 45° miters, and drill the 7/32" hole where shown. Next, glue and clamp the tongue to the front axle holder. When the glue has dried, drill the ¼" hole where shown, then remove the pattern. Glue an axle peg into the 7/32" hole in the tongue, leaving ¼" clearance between the head of the axle peg and the tongue.

4 Rip and crosscut a blank ⅜×⅜×15" for the side rails (U) and front rail (V). Next, crosscut the parts to length. Make photocopies of these parts in WWP PATTERNS, and adhere them to the parts with spray adhesive. Adhere the rails with double-faced tape to the wagon platform where shown on WWP PATTERNS. Drill the holes where shown on the patterns, drilling through the rails and ¼" deep into the wagon platform. Separate the parts, and remove the tape. Sand the rails to final smoothness, slightly rounding over any sharp corners. Place an axle peg through each rail hole, and secure it in place with a spot of glue. When the glue dries, glue the rail assemblies to the wagon platform.




## APPLY FINISH, THEN ASSEMBLE

1 Finish-sand all parts, then apply a clear finish. We sprayed two coats of Deft Semi-Gloss Clear Wood Finish, sanding between coats with 220-grit sandpaper.

2 When the finish has dried, attach the wheel/large tire assemblies, the small tires, the tongue/front axle holder assembly, and the steering assembly. We used ¼" washers where shown on the Exploded Views to help the tires roll smoothly. See Tip No. 3 *right* for more free-rolling suggestions. Use a toothpick to apply glue to the walls of the axle-peg holes. Be careful not to drive the axle pegs in too far, or you could keep the wheels from turning smoothly. ***Note:*** *You will need to shorten the shanks of the axle pegs used to attach the front tractor tires, the wagon tires, and the front axle holder. (You can do this quickly and safely with your scrollsaw.) Refer to the Exploded Views of the tractor and wagon.* ■

### Shop Tip

**No. 3—For smooth-running wheels, apply paste wax to the wheel washers.** Also, use a cotton swab to wax the axle holes in the wheels.

**Project design:** Jack Rowland
**Illustrations:** Kim Downing, Carson Ode
**Project builder:** Chuck Hedlund
**Photograph:** Craig Carpenter

# *Fashion Doll* TABLE & CHAIRS

*Fashion dolls (and those who play with them) will just love this impressively detailed table and chair set. Sturdily built from solid cherry stock, our scaled furniture project features simplified construction and no-nonsense joinery.*

Print this article

***Note:*** *You'll need some thin stock for this project. Plane or resaw thicker stock to ¼" thick. To make the table, you will need a piece of stock 8×18"; four chairs require a piece 6×48".*

## LET'S START WITH THE TABLE

1 Photocopy the table parts shown full-sized in the WWP PATTERNS insert in the middle of the magazine. Sand both sides of the stock before cutting the pieces. Adhere the pattern for the tabletop (A) to a piece of stock with spray adhesive, then scrollsaw to shape. (We used a No. 5 blade for all cuts in this project.) If necessary, smooth the edge of the table with 120-grit sandpaper.

2 Chuck a ⅛" round-over bit into your table-mounted router, and rout a round-over along the top edge of the tabletop.

3 Adhere the table base (B) pattern to a piece of stock, then scrollsaw the part to shape. Cut two pieces of ¼"-thick stock to 3½×5½" to make oversized blanks for the half-bases (C). Fasten the blanks face-to-face, using ⅜" brads through waste areas. Next, adhere the pattern to the blank. Then, cut the pieces to shape. Do any touch-up sanding necessary on the base pieces.

4 Glue and clamp the half-bases to the base. Use glue sparingly to avoid excessive squeeze-out. See Tip No. 1 *opposite page top right* for assembly suggestions. Unclamp when the glue dries, and finish-sand the parts. Next, turn the tabletop upside down, then glue and clamp the base assembly to it. We used spring clamps; you could also use spring clothespins or weight the assembly. Align the grain of the tabletop with one of the long crossarms of the base assembly.

## NOW, MAKE MATCHING CHAIRS

1 Make four photocopies of the pattern for the chair sides (D) and two photocopies each of the chair seat (E), the chair back (F), and the chair stretcher (G). ***Note:*** *To ensure uniform widths for the chair seats and backs, use your tablesaw to rip two 13½" lengths of ¼"-thick stock to 2¼" wide. Then, crosscut eight blanks 3¼" long.* Cut slightly oversized blanks for the chair sides and stretchers, then adhere the patterns with spray adhesive. ***Note:*** *We stack-cut only two thickness of stock.*

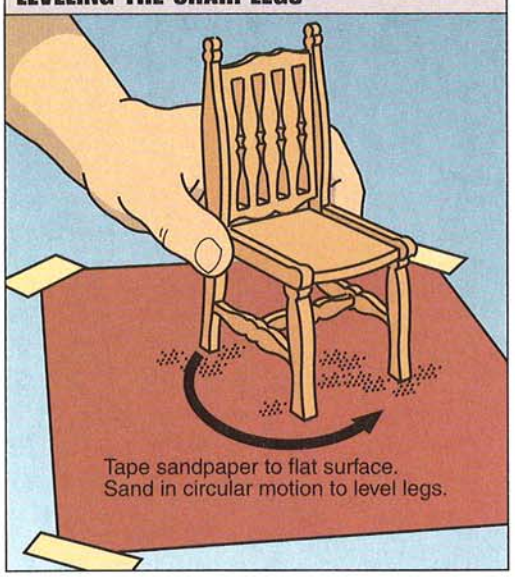
Place each blank with a pattern face-to-face on top of another blank for stack-cutting. Use brads in waste areas of the stock to stick the blanks together, as you did earlier for the half-base parts.

2 Drill blade start holes in the chair sides and backs where shown on the patterns. Then, cut the parts to shape, and do any touch-up sanding necessary. Referring to the Chair Side drawing in WWP PATTERNS, glue the chairs together, using glue sparingly to avoid excessive squeeze-out. See Tip No. 2 at *right* for a clamping suggestion. Assemble the chairs on a flat surface, and let the glue dry.

3 Check that the legs of the table base and chairs are level. To correct wobbles, use the technique shown in the Leveling the Chair Legs drawing *below left.*

4 Finish-sand the table and chairs, and wipe clean. Then, apply clear finish. We chose an oil finish (two coats of Minwax Antique Oil), rather than trying to brush a surface finish into all the cutout areas. ■

**LEVELING THE CHAIR LEGS**



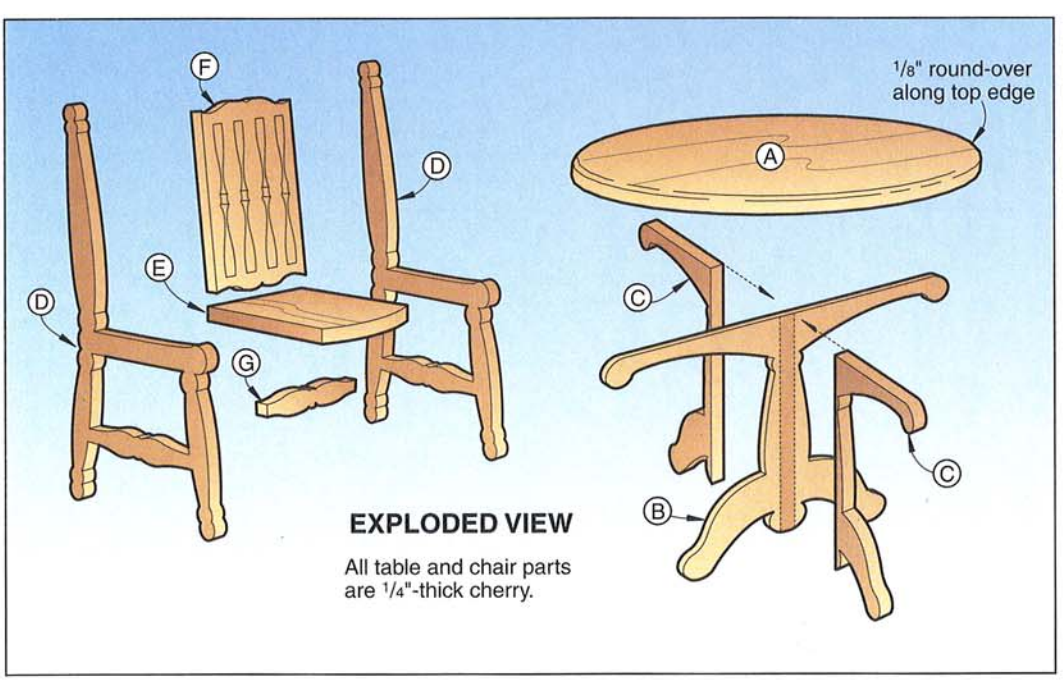

**BILL OF MATERIALS**

| Part | Finished Size T | W | L | Matl. | Qty. |
|---|---|---|---|---|---|
| A tabletop | ¼" | 7¼"dia. | | C | 1 |
| B base | ¼" | 6¾" | 4⅝" | C | 1 |
| C half-bases | ¼" | 3¼" | 4⅝" | C | 2 |
| D chair sides | ¼" | 3½" | 6 7/16" | C | 8 |
| E chair seats | ¼" | 2¼" | 2 15/16" | C | 4 |
| F chair backs | ¼" | 2¼" | 3 5/16" | C | 4 |
| G chair stretcher | ¼" | ⅜" | 2¼" | C | 4 |

Please read all instructions before cutting.

**Materials Key:** C–cherry.

**Supplies:** clear finish.

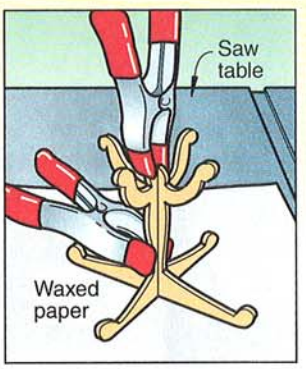



**EXPLODED VIEW**

All table and chair parts are ¼"-thick cherry.

## Shop Tip

No. 1—Assemble the base upside down on a flat surface. A piece of waxed paper will protect your saw table from glue, as shown below.




## Shop Tip

No. 2—Use rubber bands as "clamps" to assemble the chairs. Use bands that hold the parts lightly until you have the assembly properly aligned, then increase the pressure with additional rubber bands. Hold a square against a chair side to check the assembly.

**Project design:** Angie Medici
**Illustrations:** Roxanne LeMoine, Carson Ode
**Project builder:** Rick Hutcheson
**Photograph:** Craig Carpenter

# *Collector's-Special* PLATE SHOWCASE

*There's no need to keep your favorite plates in hiding when you can display them in this classy wall-hung frame. Just screw the backboard to the wall, hang the plates, then fit the frame in the rabbet at the top of the backboard. It's a system that's simple, safe, and secure.*

***Note:*** *We designed this project for plates from 7¼" to 8" in diameter. You will need one piece of cherry ¾×7¼×72", and one piece of plywood ½×10×20".*

## START WITH THE FRAME

1 From ¾"-thick stock, rip and crosscut initially oversized blanks for the stiles (A) to 1½×25½" as dimensioned on the Frame Assembly drawing *opposite page, top*. Again using ¾"-thick stock, rip and crosscut initially oversized blanks for the rails (B) to 3¾×9". Lay out the location of the dowel holes on the rails and stiles where shown on the Frame Outline drawing in the WWP PATTERNS insert in the center of the magazine. Drill the holes 13/16" deep.

2 Glue the dowel pins, and clamp the frame assembly. Also clamp the frame assembly to your workbench to keep it flat.

3 Make two photocopies of the Frame Outline drawing in WWP PATTERNS. Adhere the patterns to the frame assembly with spray adhesive. Bandsaw just to the waste side of the line, then sand to the line.

4 Chuck a ¼" beading bit into your table-mounted router, and rout along the inner and outer face edges of the frame assembly. Next, chuck a ¼" rabbeting bit into your table-mounted router, and rout a rabbet ¼" deep along the back inside edges. Square the corners of the rabbet with a chisel.

## MAKE THE CASE NEXT

1 Rip and miter-cut the case top/bottom (C) and the case sides (D) to size. Chuck a ¼" straight bit into your table-mounted router, and set the bit for a cut ¼" deep. Adjust a fence ¼" from the bit's inside edge, and rout a groove along the back inside face of the case top.

2 Finish-sand the inside faces of parts C and D. Glue and band-clamp the case assembly. Unclamp when the glue has dried, and finish-sand the outside of the case.

3 Cut the backboard (E) from ½" plywood to size. Use your tablesaw to cut a 5/16" rabbet 5/16" deep where shown in the Section View detail. Next, drill the countersunk 3/16" mounting holes in the backboard where dimensioned.

4 Center, glue, and clamp the case to the face frame. Make certain that the groove in the case top is at the rear. ***Note:*** *The rabbet in the frame assembly should align with the inner edge of the case assembly.*

## READY FOR FINISH AND FINAL ASSEMBLY

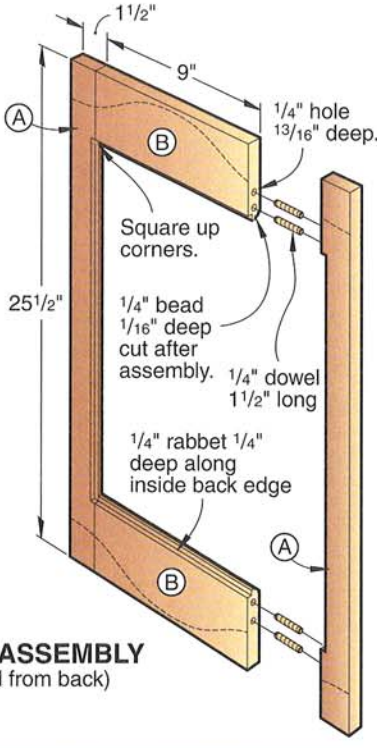
1 Finish-sand the completed assembly, then apply your finish. We rubbed in three coats of Minwax Antique Oil Finish. Have glass cut about ⅛" undersized, and install it with several dots of clear silicone adhesive.

2 Attach fabric (we used ultrasuede) to the backboard with spray adhesive. Trim the fabric flush with the top edge of the backboard (with the rabbet) but allow a ¼" overlap along the sides and bottom. ***Note:*** *When you put it on the wall, the edges of the frame assembly will tuck the fabric around the backboard.*

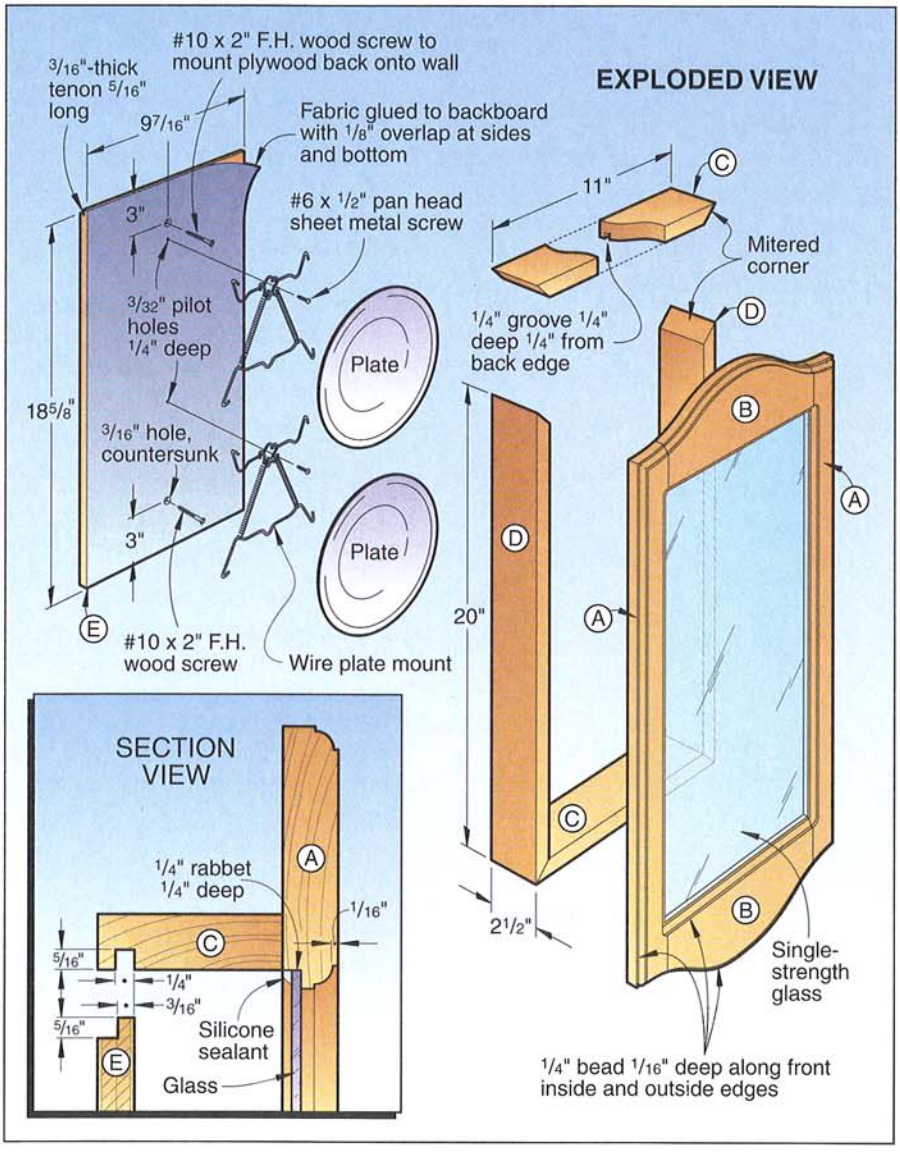
3 Attach wire plate mounts (available at hardware stores) to your plates, and center them facedown on the glass. Then, follow the procedure shown on the Measuring for Mounting drawing *below right.*

4 Attach the backboard to the wall with screws or hollow-wall anchors, then hang the plates. Next, fit the groove in the case top on the rabbet in the backboard. ■

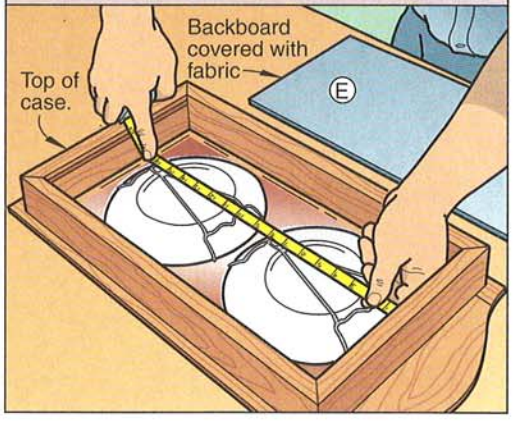
**Project design:** James R. Downing
**Illustrations:** Kim Downing, Carson Ode
**Project builder:** Erv Roberts
**Photograph:** Craig Carpenter




**FRAME ASSEMBLY**
(viewed from back)




**MEASURING FOR MOUNTING**




**BILL OF MATERIALS**

| Part | Finished Size T | W | L | Matl. | Qty. |
|---|---|---|---|---|---|
| A* stiles | ¾" | 1½" | 21½" | C | 2 |
| B* rails | ¾" | 3½" | 9" | C | 2 |
| C case top/bottom | ¾" | 2½" | 11" | C | 2 |
| D case sides | ¾" | 2½" | 20" | C | 2 |
| E backboard | ½" | 9 7/16" | 18 5/8" | P | 1 |

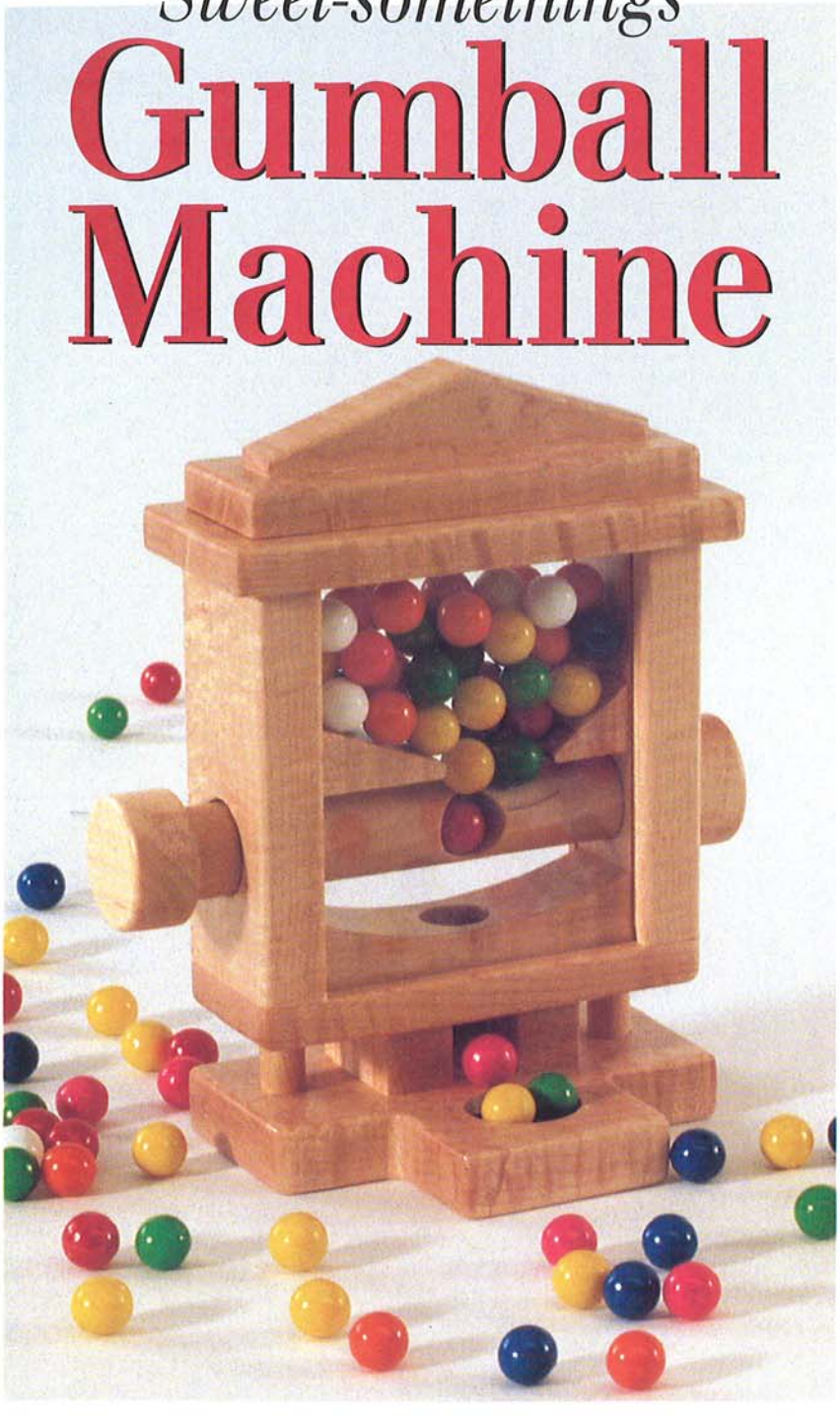
*Cut part to finished size during construction. Please read all instructions before cutting.

**Materials Key:** C–cherry; P–plywood.

**Supplies:** 2–wire plate mounts; 2–#10×2" flathead wood screws; 2–#6×½" panhead sheet metal screws; 8–¼" × 1½" dowel pins; single-strength glass; one-third yard of fabric; finish.

*Sweet-somethings*

# Gumball Machine



*Kids of all ages will stand in line to take a turn with this clever candy dispenser. We filled ours with colorful gumballs, but found other small coated candies work well, too. Simply turn either of the outside knobs and you'll be instantly rewarded with a sweet-tooth treat.*

## START WITH THE CASE

1 To form the case sides (A), rip and crosscut a piece of ¾"-thick stock to 2" wide by 12" long. (We started with a piece slightly longer than necessary for safety reasons.)

2 Using the dimensions on the Parts View drawing *on page 25* for reference, cut a pair of ⅛" grooves ¼" deep ¼" in from each edge along one face of the 12"-long piece.

3 Next, crosscut two pieces to their finished length of 4½" from the 12" piece for the case sides (A) .

4 Using double-faced carpet tape, adhere the two sides together face-to-face with their edges and ends flush. Mark the centerpoint of the 1 1/16"-diameter hole on one of the pieces where dimensioned on the Parts View. Then, bore a 1 1/16" hole where marked through both side pieces. Back the stock with scrapwood to prevent chip-out where the bit exits the stock. If you don't have a 1 1/16" bit, bore a 1" hole, and use sandpaper wrapped around a ¾" dowel or a small diameter drum sander to make the holes larger.

5 Pry the sides (A) apart, using a wooden wedge to prevent denting the pieces. If the pieces stick tightly together, weaken the tape's bond with a few drops of lacquer thinner or acetone applied to the seam line.

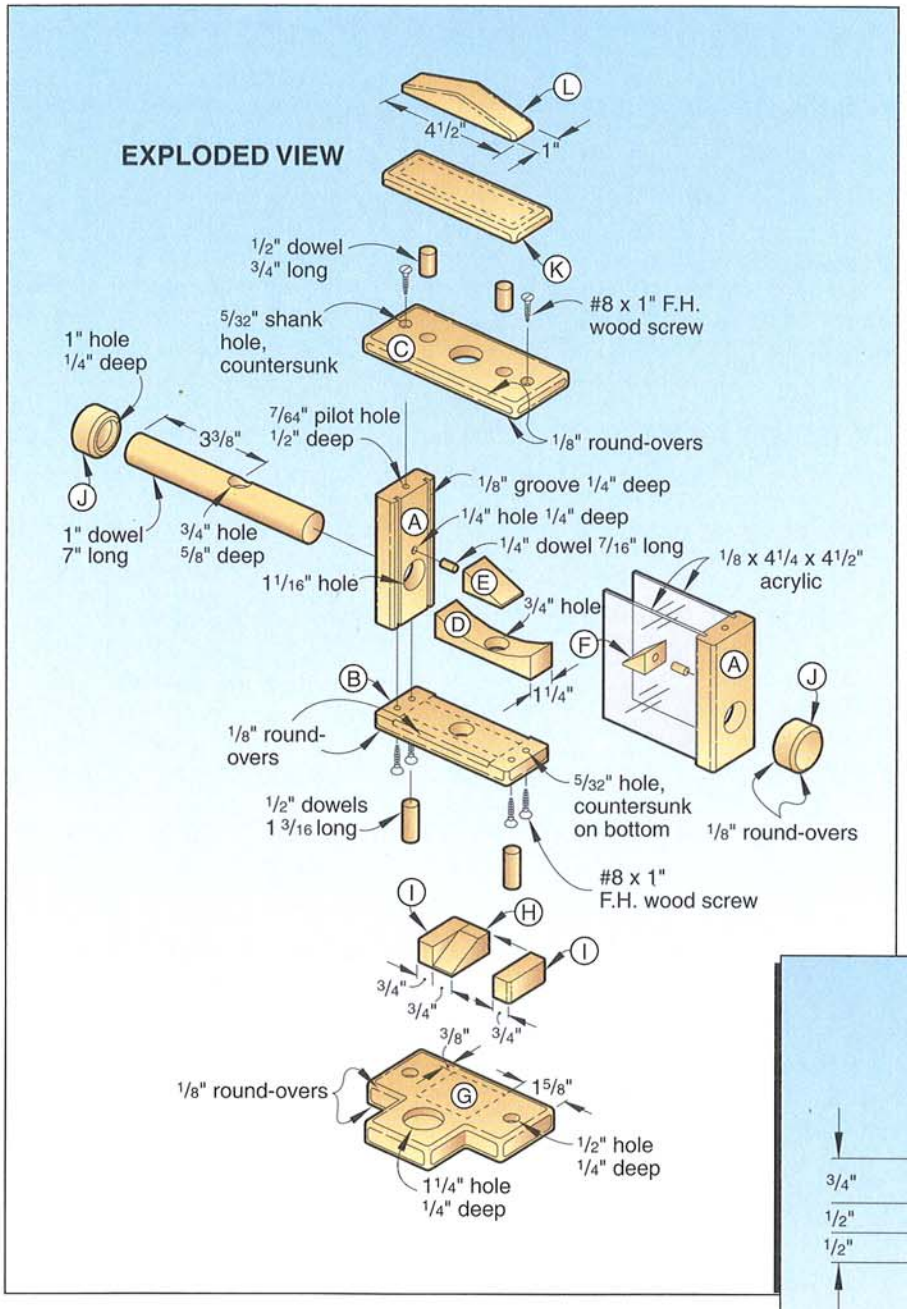
6 On the inside face (same face as the grooves) mark the centerpoints of the dowel pin holes which will be used to join the tumbler blocks (E, F) later.

7 From ½"-thick stock (we planed thicker stock to size), cut the case bottom (B) and top (C) to size. Using the Parts View for reference, carefully mark the hole centerpoints on the case top and bottom. Then, drill these holes where marked in both pieces. Now, finish-sand the pieces smooth.

8 Glue and clamp the case sides (A) to the case bottom (B) where shown on the Front View drawing. Immediately wipe off excess glue with a damp cloth. Let the glue dry, then unclamp the assembly.

9 Chuck an ⅛" round-over bit into your table-mounted router, and rout a round-over along all edges and ends of the assembly (A, B) except the top edges of the case sides. Next,

*Continued*



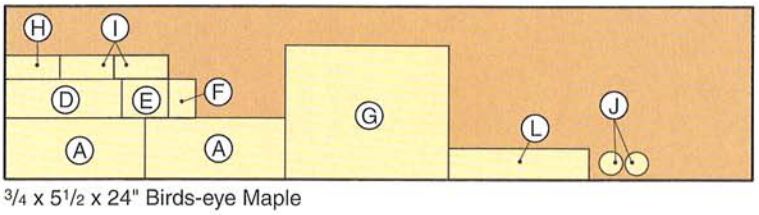

## BILL OF MATERIALS

| Part | Finished Size T | W | L | Matl. | Qty. |
|---|---|---|---|---|---|
| A* case sides | ¾" | 2" | 4½" | BM | 2 |
| B case bottom | ½" | 2" | 5¼" | BM | 1 |
| C case top | ½" | 2½" | 6" | BM | 1 |
| D roller | ¾" | 1¼" | 3¾" | BM | 1 |
| E tumbler | ¾" | 1¼" | 1½" | BM | 1 |
| F tumbler | ¾" | 1¼" | ⅞" | BM | 1 |
| G base | ¾" | 4⅛" | 5¼" | BM | 1 |
| H ramp | ¾" | ¾" | 1¾" | BM | 1 |
| I ramp sides | ¾" | ¾" | 1¾" | BM | 2 |
| J knobs | ¾" | 1½ dia." | | BM | 2 |
| K cover bottom | ½" | 1¾" | 5¼" | BM | 1 |
| L cover top | ¾" | 1" | 4½" | BM | 1 |

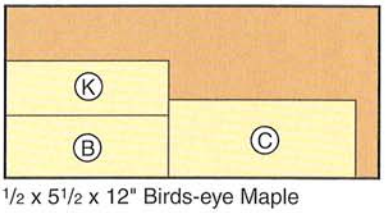
*Cut part to finished size during construction. Please read all instructions before cutting.

**Materials Key:** BM–bird's-eye maple

**Supplies:** double-faced (carpet) tape, ¼" dowel stock, 1" dowel stock, #8×1" flathead wood screws, 2– ⅛"-thick acrylic panels 4¼ × 4½", clear finish.

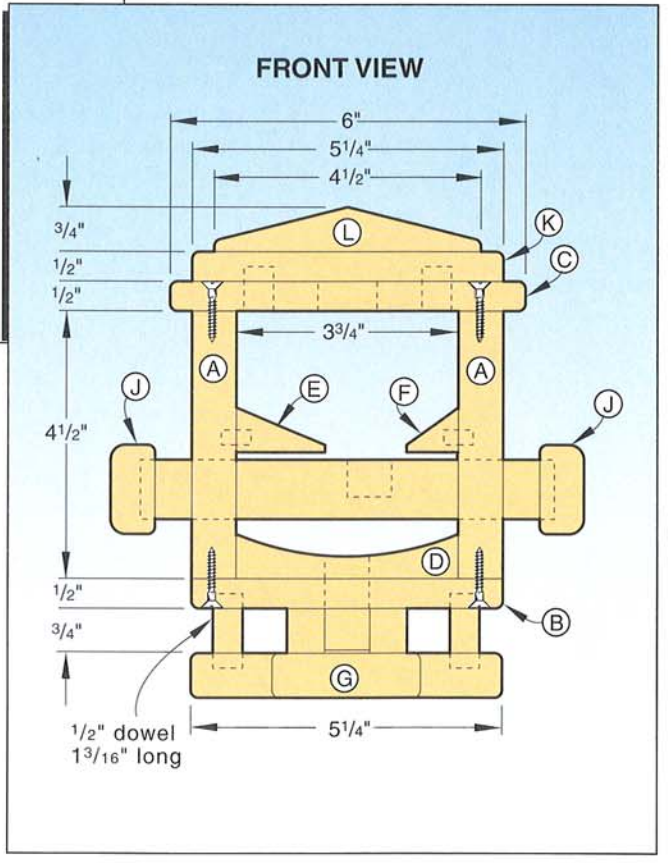



¾ x 5½ x 24" Birds-eye Maple




½ x 5½ x 12" Birds-eye Maple

**CUTTING DIAGRAM**



# Gumball Machine

rout a round-over along all ends and edges of the case top (C). Sand the edges.

10 Drill 7/64" pilot holes ½" deep into the side pieces, using the previously drilled 5/32" shank holes in part B as guides. Then, clamp the case top (C) to the assembly, and repeat the drilling operation. Do not screw the case top to the case sides at this time.

## THE PIECES INSIDE THE CASE ARE NEXT

1 Make a photocopy of the roller (D) pattern in the WWP PATTERNS insert in the center of the magazine. Adhere the pattern with spray adhesive to a piece of ¾"-thick maple stock. Holding the piece securely in a handscrew clamp, drill the ¾" hole where marked. Double-check the length of the roller against the opening in the case assembly, then crosscut to length. Next, bandsaw the roller to shape, then sand it to final smoothness.

2 Glue and clamp the roller to the case bottom (B), being careful that you do not cover any portion of the ⅛" grooves in the case sides.

3 Photocopy the patterns of the tumblers (E, F) in WWP PATTERNS, and adhere them to blanks of ¾-thick stock. Secure one of the blanks in a handscrew clamp, and drill a ¼" hole ¼" deep in it. Repeat the drilling operation with the other piece. Then, bandsaw the pieces to shape. Sand the parts smooth.

4 Cut ¼" dowel pins to 7/16" long, and use them to glue the tumblers into place in the case assembly. Immediately wipe off any excess glue with a damp cloth.

## THEN, LET'S ADD THE BASE

1 Using the dimensions on the Parts View for reference, lay out the base (G) on ¾"-thick stock. Then, bandsaw the piece to shape, and sand the edges smooth. Drill the holes at the marked centerpoints. Measure accurately; the two ½" holes in the top of the base must be exactly the same distance apart as the ½" holes on the bottom side of the case bottom (B).

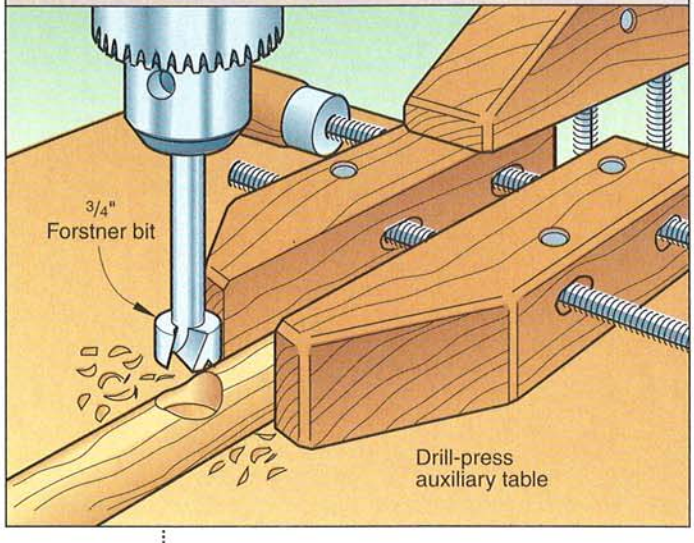
2 Rout ⅛" round-overs along all edges of G. Sand the part to final smoothness.

3 Photocopy the patterns of the ramp patterns (H, I) in WWP PATTERNS, and adhere them to blanks of ¾-thick stock. Next, cut the pieces to shape, and sand. Glue and clamp these parts together with the edges and ends flush. See the Exploded View for reference.

4 Glue and clamp the ramp assembly centered under the ¾" hole in the case bottom.

5 Cut a pair of ½" dowel pins to 1 3/16" long. Check their fit, and glue them between the base (G) and the case bottom (B).

**DRILLING THE SELECTOR DOWEL**



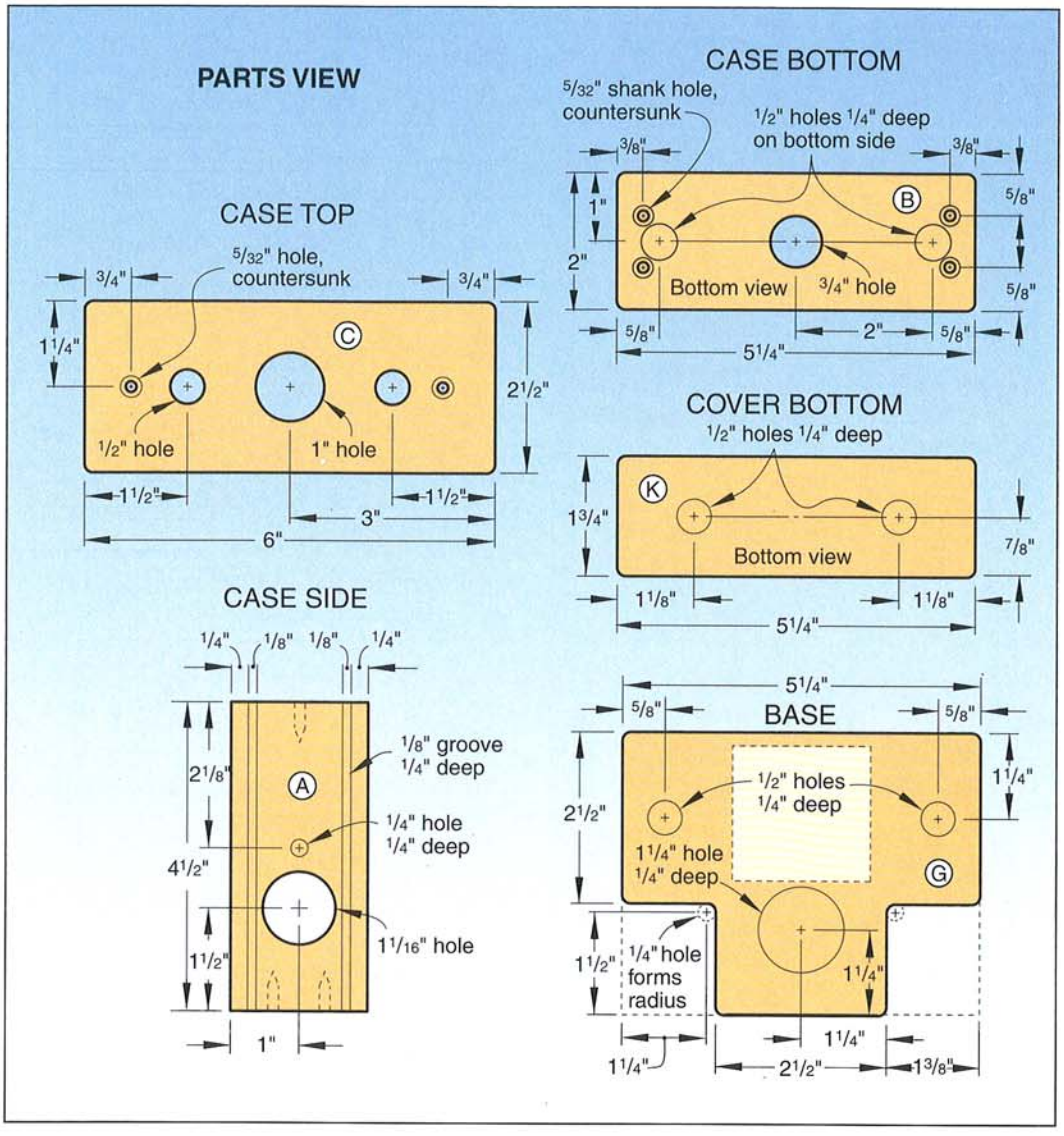

## NOW, MAKE THE GUMBALL SELECTOR

1 Cut a piece of 1" dowel to 7" long. Clamp the dowel as shown in the Drilling the Selector Hole drawing *above*, and use a ¾" Forstner bit to drill a hole ⅝" deep, located 3⅜" from one end of the dowel.

2 To make the knobs (J), use a compass to draw two 1½"-diameter circles on ¾"-thick stock. Also mark the centerpoints used to make the circles.

3 Drill a 1" hole ¼" deep at each marked centerpoint (we used a Forstner bit). Then, bandsaw the knobs to shape.

4 Sand the knobs, forming a ⅛" round-over on both edges of each knob. Fit the selector dowel through the holes in the case sides (A), push the knobs on (no glue), and check that




hole in the selector dowel centers under the opening between the tumblers.

## TOP IT OFF WITH A COVER

1 Cut the cover bottom (K) and cover top (L) to shape. Mark the centerpoints, and drill a pair of ½" holes ¼" deep into the bottom face of the cover bottom. Double-check the location of these holes against those in the case top (A). Rout or sand ⅛" round-overs along the top and edges (not the bottom) of both pieces.

2 Glue and clamp the cover top centered on the top side of the cover bottom (opposite the holes). Crosscut a pair of ½" dowel pins to ¾" long. Glue them into the ½" holes in the bottom of the cover.

## FINAL ASSEMBLY

1 Cut a pair of ⅛"-thick acrylic panels to fit into the grooves of the case. Double-check the size of the panels before cutting. Ours measured 4¼×4½". Set them aside for now.

2 Finish-sand all of the pieces, and apply a clear finish. We used two coats of Deft aerosol lacquer, sanding between coats with 220-grit sandpaper, and wiping the parts with a tack cloth to remove dust and grit.

3 Install the acrylic panels, and screw the case top (C) to the case assembly (A, B).

4 Insert the selector dowel through the holes in the case sides. Now, glue the knobs onto the ends of it. ■

**Project design:** Jack Rowland
**Illustrations:** Roxanne LeMoine, Carson Ode
**Project builder:** Jim Boelling
**Photograph:** John Hetherington

# *Dovetailed* JEWELRY BOX

*Walnut plays a "key" role in this handsome birds-eye maple jewelry box. And the striking keyed dovetails only begin the show. Open the lid, and you'll discover two layers of custom-designed trays and compartments perfect for pins, earrings, and watches.*

***Note:** You'll need thin stock for this project. Resaw or plane thicker stock to size.*

## LET'S START WITH A BASIC BOX

1 Rip and crosscut a piece of ⅜"-thick stock (we used birds-eye maple) to 3⅜×34" for the box sides (A) and box ends (B). Adjust the blade on your tablesaw to 45°. Miter-cut the parts to the sizes listed in the Bill of Materials. Use a stopblock to assure that matching parts are identical lengths.

2 Dry-assemble (no glue) the box sides and ends, and check the fit of the miter joints. Next, finish-sand the inside surfaces of these four pieces. Glue and clamp the box sides (A) and box ends (B) with two band clamps. Make certain that the assembly is flat and square. Double-check the dimensions, then cut two pieces of ¼"-thick maple to 5⅜×9⅞" for the box top and bottom (C). Glue the box top and bottom into place, and clamp or weight the assembly until dry.

## CUT THE DOVETAIL SLOTS AND KEYS

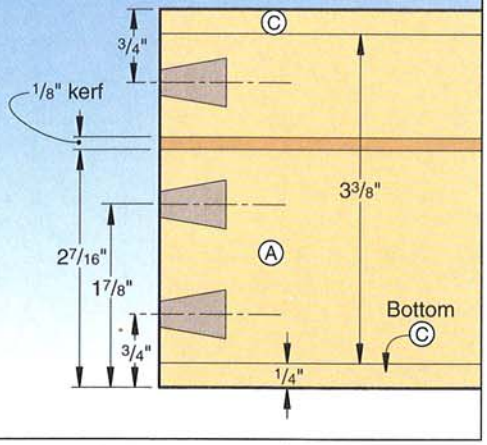
1 Make the jig shown in the Dovetail Jig drawing on *page 28, bottom*. Chuck a ½"×14° dovetail bit into your table-mounted router and set the bit 5/16" above the table's surface. Place the jig on the router table, start the router, and slide the jig across the table to rout a slot through the slanted backboard of the jig. Elevate the bit about 3/16", and make another pass. Repeat until you've raised the bit to 1 1/16" above the table.

2 Mark the bit's centerline on the jig, and screw a stopblock ¾" from the centerline, where shown in the Dovetail Jig drawing. Now, position the box with the bottom against the stopblock as shown in the Using the Dovetail Jig drawing on *page 28, top*, and rout a dovetail slot through the box's corner. Rotate the box in the jig to rout slots through each of the corners. Then, place the box top against the stopblock, and repeat the procedure to rout four more dovetail slots.

3 Referring to the Dovetail Key Spacing drawing *opposite page, top,* move the stopblock to 1⅞" from the bit's centerline. Then, holding the box bottom against the jig's stopblock , rout the center dovetail slot through each corner of the box. ***Note:** The center dovetail is slightly offset toward the bottom of the*

*Continued*

## DOVETAIL KEY SPACING




## BILL OF MATERIALS

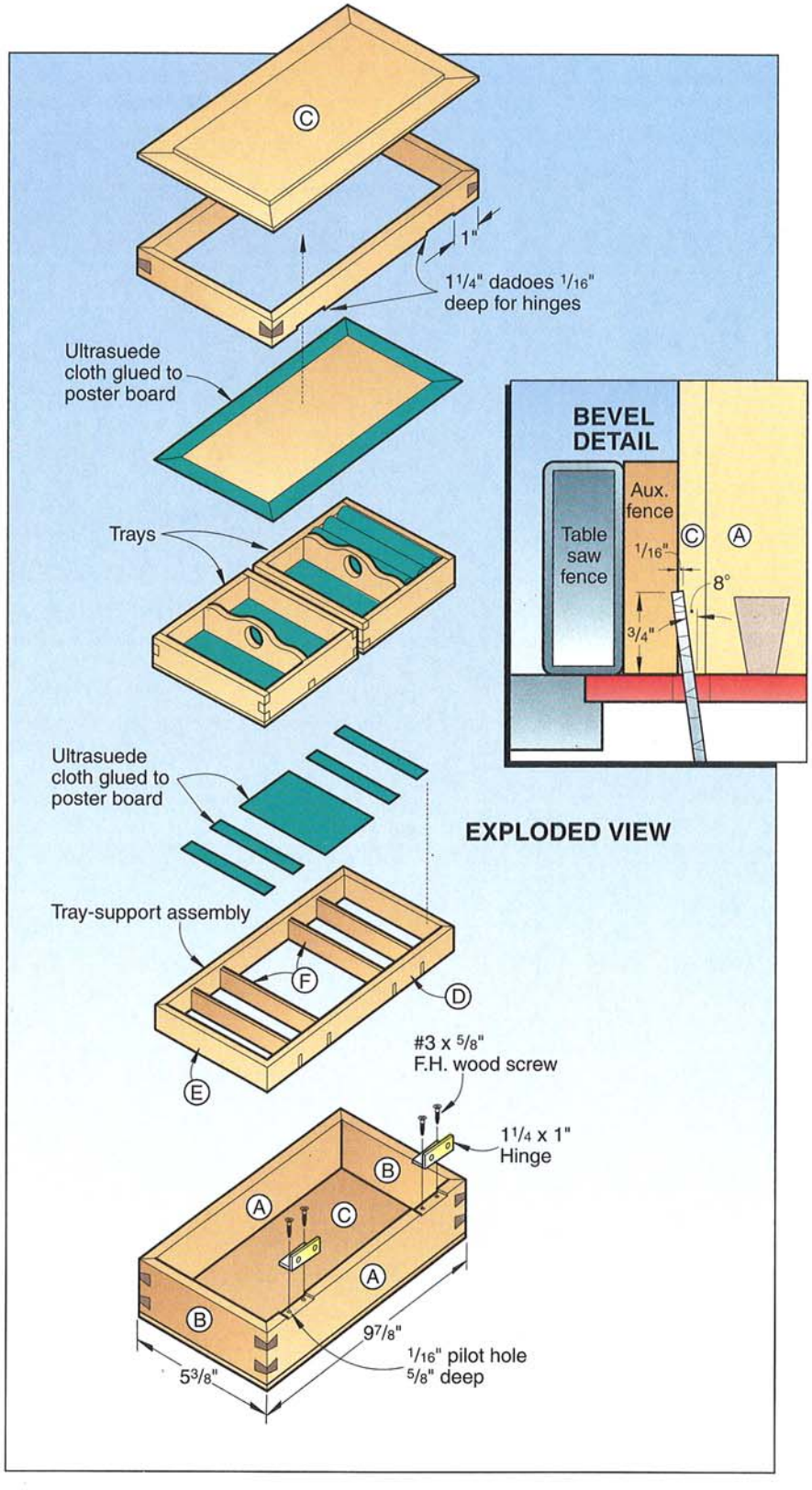
| Part | Finished Size T | W | L | Matl. | Qty. |
|---|---|---|---|---|---|
| A box sides | 3/8" | 3 3/8" | 9 7/8" | M | 2 |
| B box ends | 3/8" | 3 3/8" | 5 3/8" | M | 2 |
| C box top/bottom | 1/4" | 5 3/8" | 9 7/8" | M | 2 |
| D tray support sides | 1/4" | 1 1/16" | 9 1/8" | M | 2 |
| E tray support ends | 1/4" | 1 1/16" | 4 5/8" | M | 2 |
| F dividers | 1/8" | 7/8" | 4 5/8" | M | 4 |
| G tray sides | 1/4" | 7/8" | 4 1/2" | M | 4 |
| H tray ends | 1/4" | 7/8" | 4 1/2" | M | 4 |
| I tray handles | 1/4" | 1 1/4" | 4 1/2" | M | 2 |
| J tray bases | 1/8" | 4 1/2" | 4 1/2" | M | 2 |

Please read all instructions before cutting.

**Materials Key:** M–birds-eye maple.

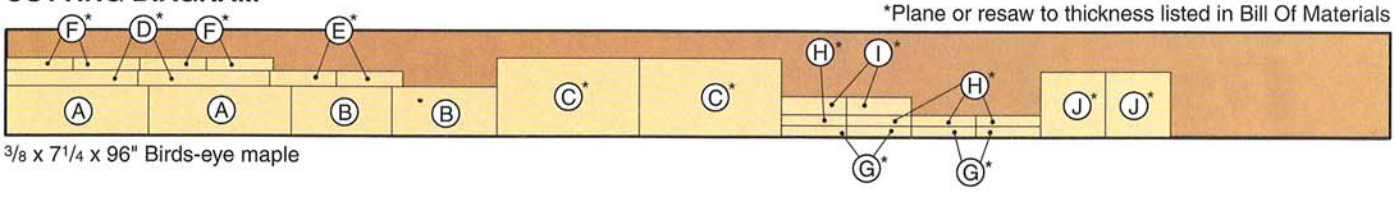
**Supplies:** 3/4×1×20" walnut; 1/3 yard of ultrasuede fabric; one square foot of 1/8"-thick foam rubber; 10×15" piece of posterboard; 1 1/4×1/2" (closed dimensions) stop hinges with screws; finish.

**Buying Guide**
**Hinges.** One pair of 1 1/4×1/2" (closed dimensions) stop hinges with screws. Part No. 16K53, $15.95 plus $4.50 shipping. Woodcraft Supply Company, 210 Wood County Industrial Park, P.O. Box 1686, Parkersburg, WV 26102-1686. Credit card customers call 800/535-4482 to order. State taxes may apply.




## CUTTING DIAGRAM

*Plane or resaw to thickness listed in Bill Of Materials

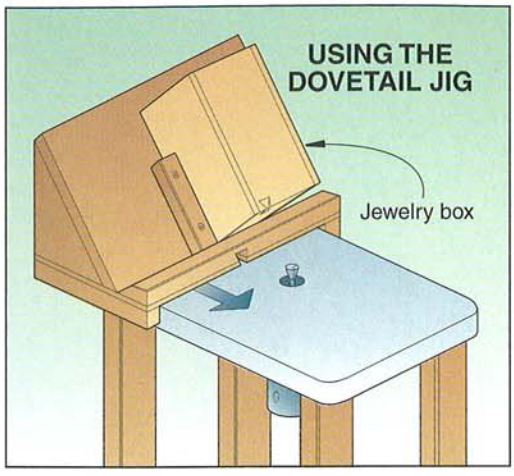



3/8 x 7 1/4 x 96" Birds-eye maple

# JEWELRY BOX

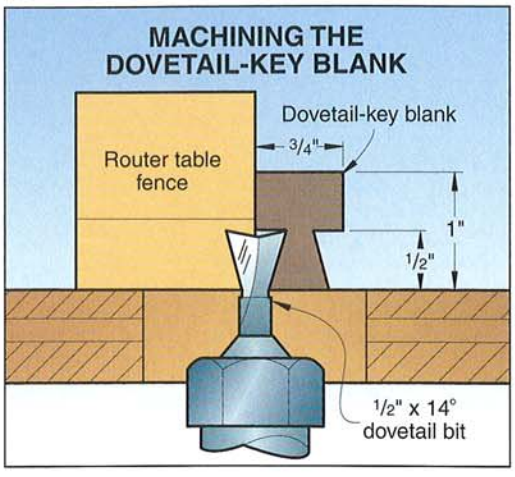
## Shop Tip

**When machining the dovetail-key blank, initially set up your router-table fence so that slightly less than half of the bit's width is exposed.** Rout both edges of the blank, and test the fit. At this point, the key should be too wide. Move the fence slightly to expose more of the bit, and reclamp it. Rout one edge of the blank, and again test the key. Repeat the process until you get a perfect fit.



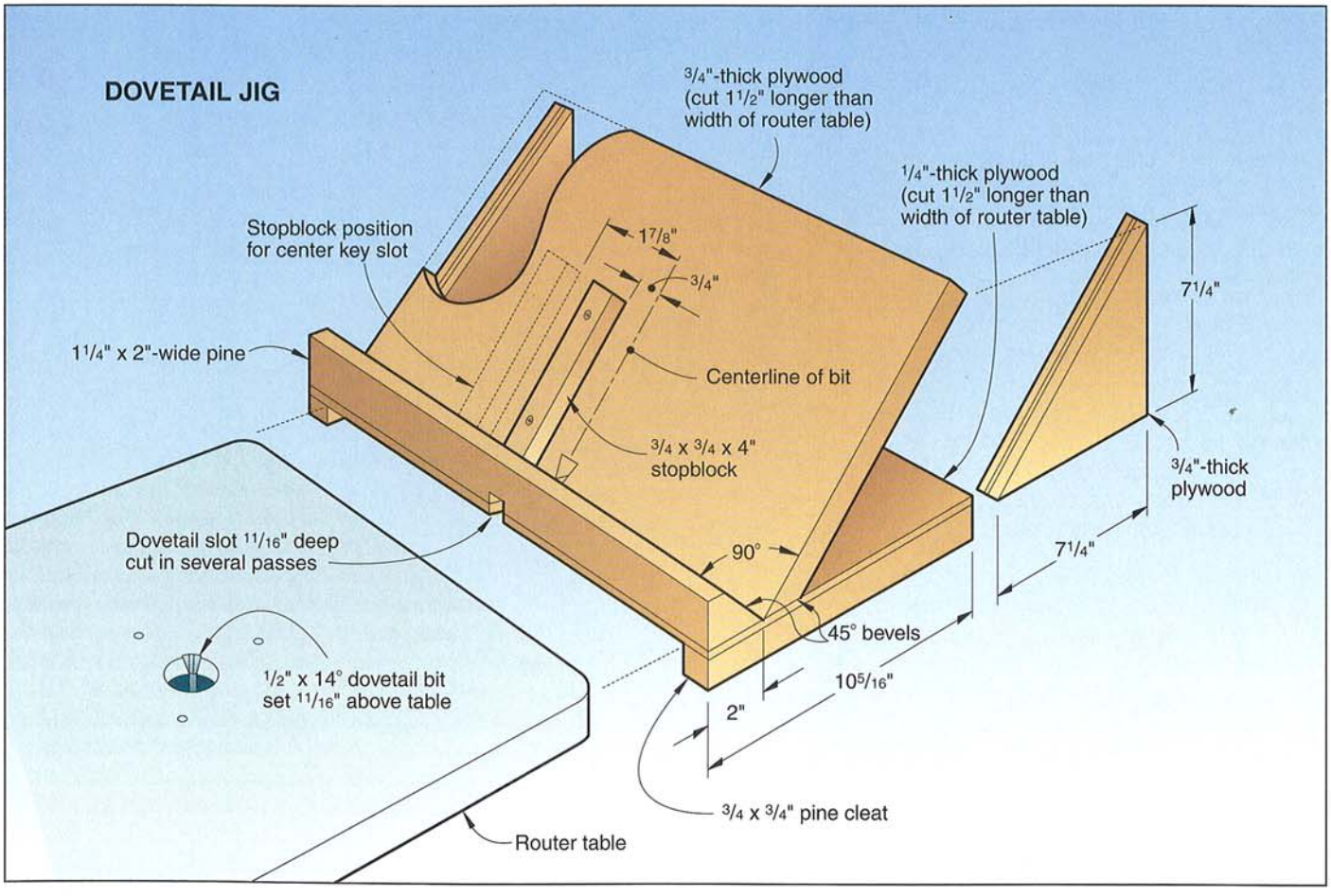

*box at this time. When the box lid is cut free, the slot will be in the center.*

4 Adjust the dovetail bit in your table-mounted router as shown in the Machining the Dovetail-Key Blank drawing *above right*. Align your fence with the bit's centerline, and rout both edges of a 20" length of ¾×1" walnut.




Refer to the Shop Tip *left* for a method of sizing the dovetail keys perfectly.

5 Test the fit of the key stock into the dovetail slots in the box. The fit should not be too tight, or you could split the box. Crosscut twelve 1¼"-long dovetail keys. Glue the keys into the dovetail slots, and let the glue dry.



6 Trim the excess length of the keys (we used an offset backsaw, but any fine-toothed handsaw will work well). Carefully sand the keys flush with the surfaces of the box (we used a belt sander with a 150-grit belt).

## NOW, CREATE A BOX LID

1 Adjust your tablesaw blade to 8° from vertical, raise it to ¾", and install an auxiliary wooden fence on your tablesaw's rip fence as shown in the Bevel detail accompanying the Exploded View drawing. Now, cut bevels along the edges and ends of the top and bottom of the box.

2 Adjust your tablesaw blade to vertical, set the blade height to 7/16", and adjust the rip fence to 2 7/16" from the blade. Make certain that the blade is centered between the top and middle dovetails. Now, cut the box assembly into top and bottom sections. Start by cutting an end (B), then rotate the box to cut through a side (A). Next, tape ⅛"-thick spacers to support the kerfs, then cut the other end and side. If necessary, sand the cut edges smooth, using a sheet of sandpaper taped to a flat surface.

3 Chuck a ¾" straight bit into your table-mounted router, and set the bit height to 1/16". Adjust your router fence to 1" from the edge of the bit, and rout dadoes for hinges in the base and lid where dimensioned on the Exploded View drawing. Adjust the rip fence to 1½" from the edge of the bit, and widen the dadoes to 1¼".

## THE TRAY SUPPORT COMES NEXT

1 Rip and crosscut a piece of ¼"-thick maple to 1 1/16×32" for the tray support sides (D) and tray support ends (E). Next, adjust the blade on your tablesaw to 45°. Double-check the inside dimensions of the box assembly. Then, miter-cut the parts to size.

2 Set the height of your tablesaw blade to ⅝", and install an extension on your miter gauge. Next, stack the tray support sides together face-to-face, using double-faced tape. Cut four notches in the tray support sides where shown on the Tray Support Assembly drawing *right*. Separate the pieces, and remove the tape.

3 Rip and crosscut ⅛"-thick maple into four 7/8×4 5/8" pieces to form the dividers (F). Stack the four divider pieces together face-to-face with double-faced tape, aligning the edges and ends. Now, adjust the height of your tablesaw's blade, and cut a ¼×¼" notch in the upper corners of the dividers. Separate the dividers, and remove the tape.

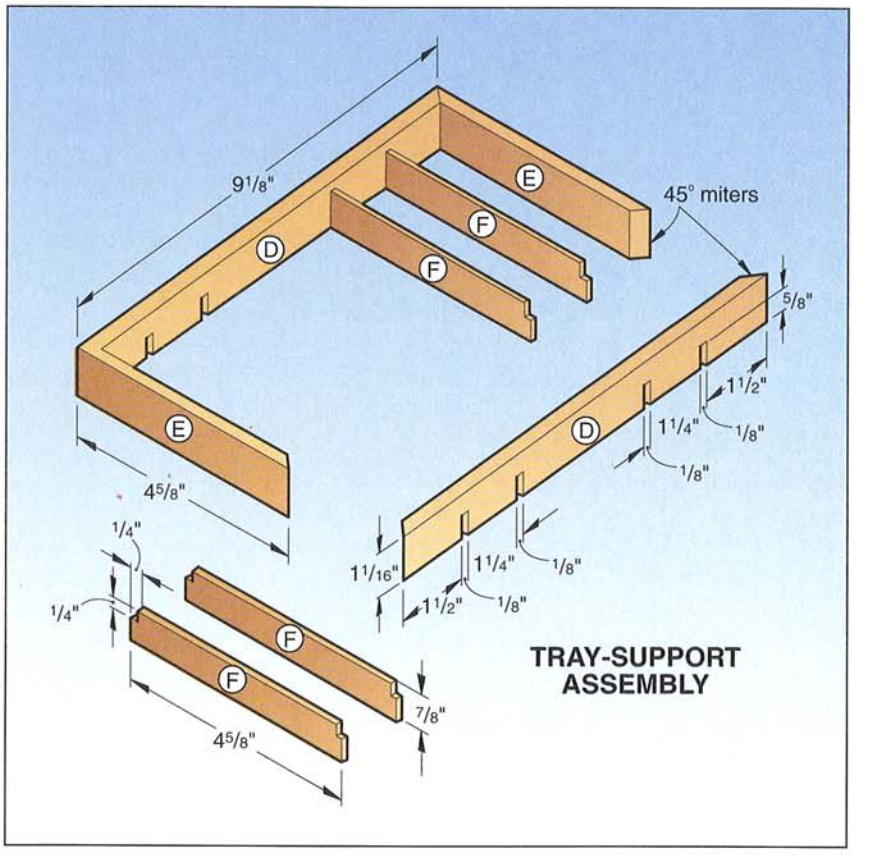
4 Finish-sand all parts of the tray support assembly. Dry-assemble to check the fit, then glue the pieces into place in the base of the box.

## ADD THE TRAYS

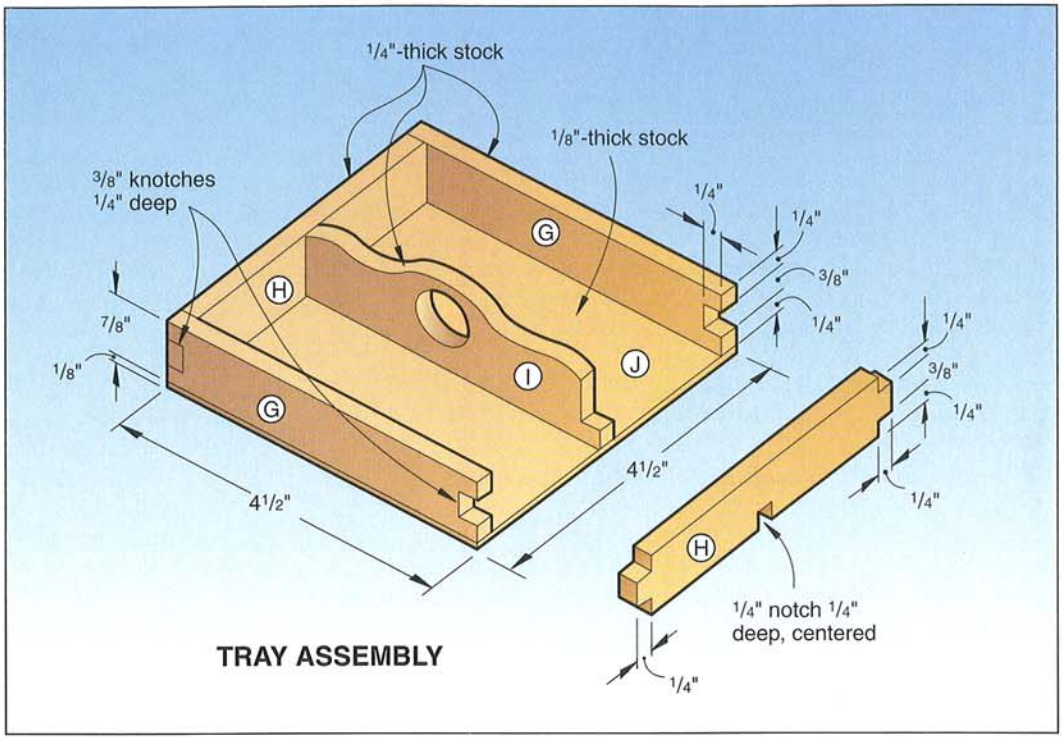
1 Rip and crosscut a piece of ¼"-thick maple into eight 7/8×4½" pieces for the tray sides (G) and tray ends (H).

2 Chuck a ⅜" straight bit into your table-mounted router, and adjust the fence to ¼" from the inside edge of the blade. Clamp the four tray sides (G) together, and rout a ⅜" notch ¼" deep centered in both ends of the tray sides where shown in the Tray Assembly drawing on *page 30*. ***Note:*** *Use a backing board in this step and the next to help prevent tearout where the router bit exits the stock and to hold the pieces square to the fence.*

*Continued*



# JEWELRY BOX




**TRAY ASSEMBLY**

3 Switch to a ½" straight bit in the router, and adjust your fence to leave ¼" of the bit exposed. Now, stack the tray ends together face-to-face, using double-faced tape, and rout a notch ¼" deep in each corner of the tray ends. Switch to a ¼" bit, and adjust the router fence to 2⅛" from the inside edge of the bit, and rout a notch ¼" deep through the bottom edge of the tray ends. Separate the tray sides, and remove the tape. Finally, hand-sand all tray parts smooth.

4 Rip and crosscut ¼"-thick maple into two 1¼×4½" blanks for the tray handles (I). Stack the pieces face-to-face, adhering them with double-faced tape. Photocopy the tray handle pattern in the full-sized WWP PATTERNS insert in the center of the magazine. Next, adhere the pattern to the blank with spray adhesive, and indent the hole centerpoint where shown. Chuck a ¾" Forstner bit into your drill press, and drill the finger holes. Scrollsaw the contours of the tray handles to shape. Then, sand the cut edges of the tray handles, if necessary.

5 Glue and clamp the tray sides (G), tray ends (H), and tray handles (I). Make sure the assemblies are square and flat. Next, rip and crosscut ⅛"-thick maple to 4½×4½" for the two tray bases (J). Glue and clamp until dry.

## FINISH AND FABRIC COMPLETE THE JOB

1 Finish-sand all parts, and apply several coats of finish (we used Minwax Antique Oil Finish). When the finish has dried, drill 1/16" pilot holes for the hinge screws.

2 Cut posterboard inserts 1/16" undersized for the bottom of the lid, the compartments in the bottom of the box, and three of the four tray compartments. Cut your lining fabric (we used ultrasuede) about 1" larger than each dimension of the posterboard. Next, apply spray adhesive to the back side of the fabric. Center the posterboard on the fabric, and fold the excess material over the edges, mitering the corners neatly. Fasten the covered inserts in place with double-faced tape.

3 To form the ring rolls, cut three pieces of posterboard to ¾×4". Then, wind two thicknesses of ⅛"-thick foam rubber around each posterboard piece. Then, cut three pieces of fabric (approximately 4×5" each) large enough to completely cover the foam-wrapped posterboard, leaving a little overlap on the sides and ends. Apply spray adhesive to the back side of the fabric, and cover each insert. Press the three completed ring rolls, face-to-face, into place in the unlined tray compartment. Drive the screws in the hinges to attach the lid to the box assembly.■

**Written by:** Jon Greising
**Project Design:** Richard Gagne, Nottingham, N.H.
**Illustrations:** Roxanne LeMoine, Carson Ode
**Project Builder:** Chuck Hedlund
**Photograph:** King Au

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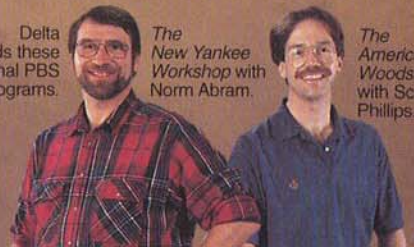
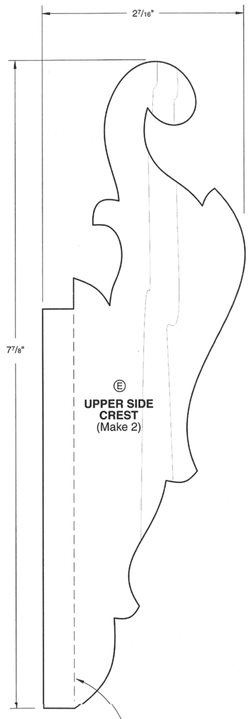


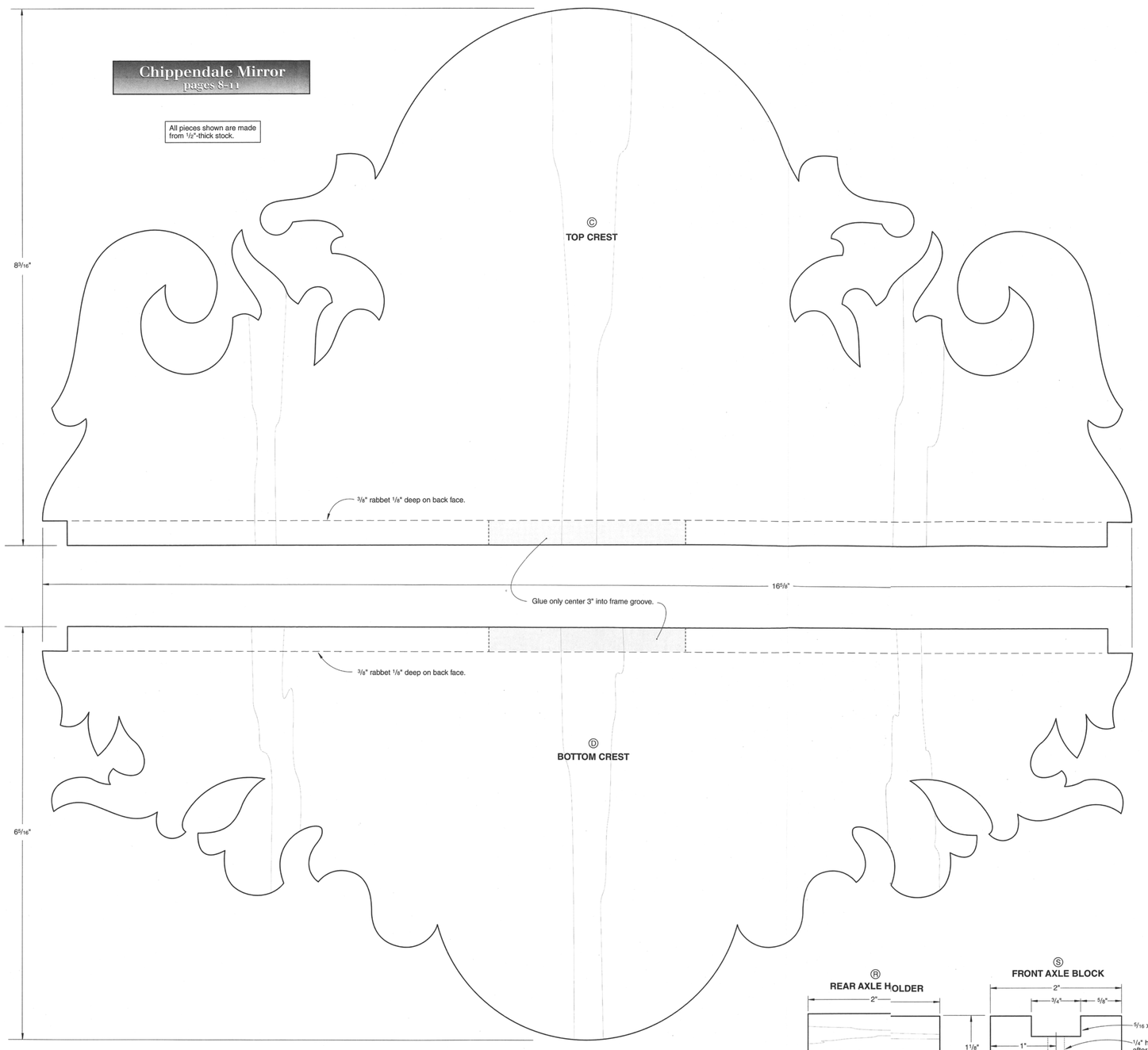
*The New Yankee Workshop* with Norm Abram.

*The American Woodshop* with Scott Phillips.

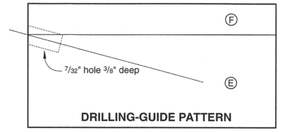
## Chippendale Mirror
pages 8–11

All pieces shown are made from ½"-thick stock.




## Tractor and Wagon
pages 12–17





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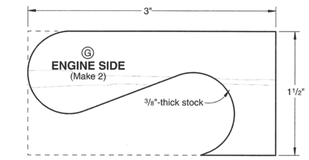
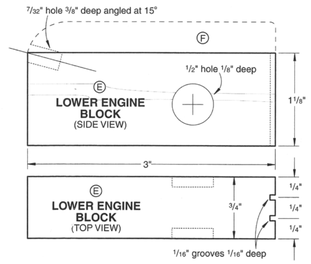
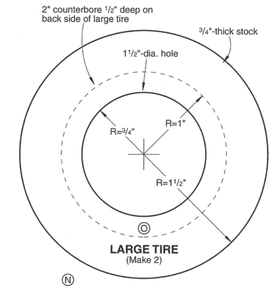
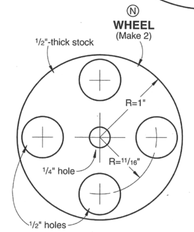
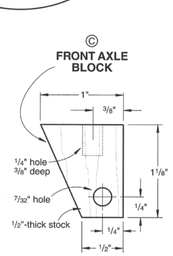
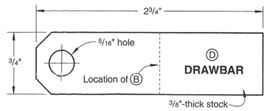


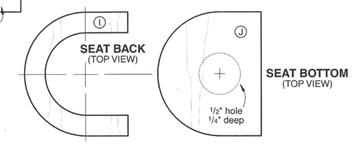



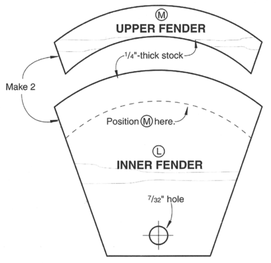



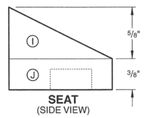



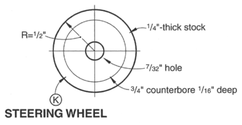



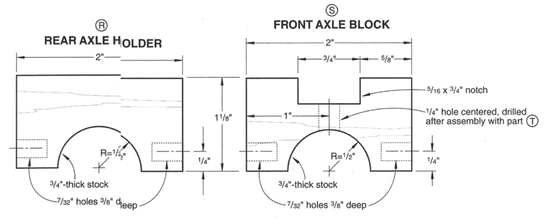



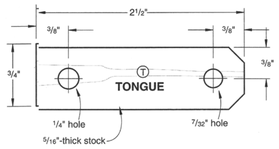



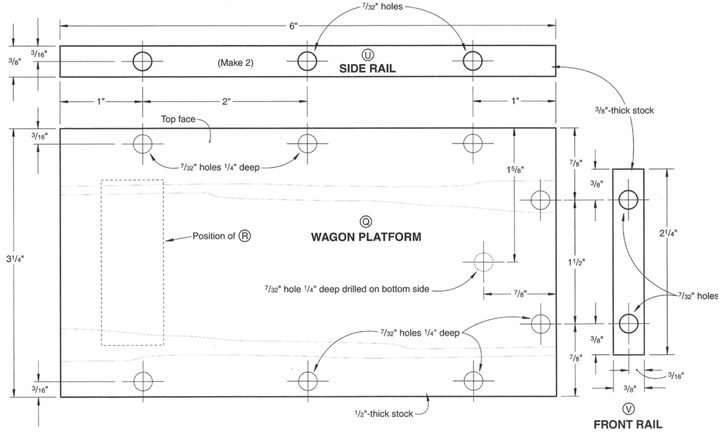



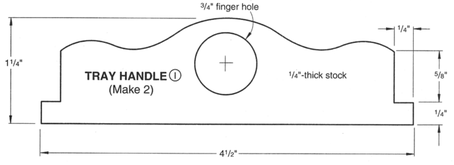






**Dovetailed Jewelry Box**
pages 26–30

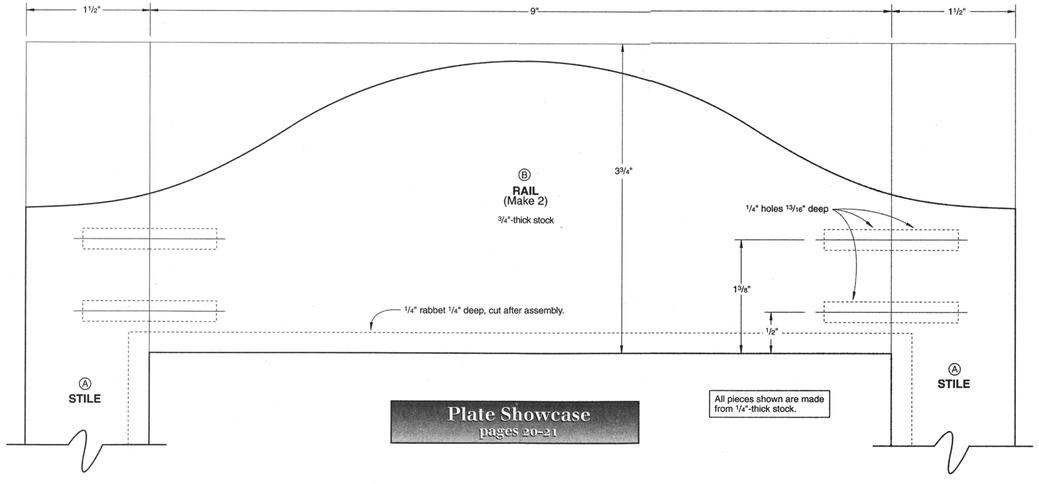
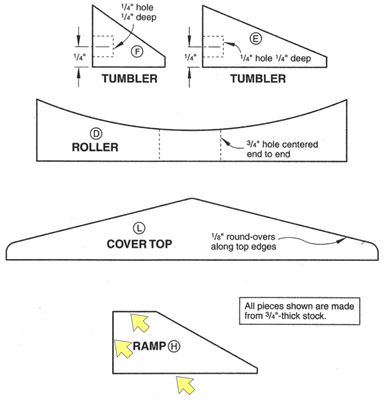
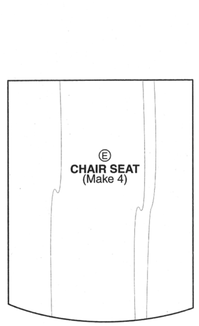


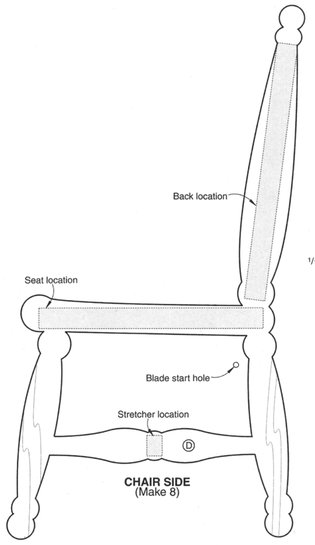

**Plate Showcase**
pages 20–21

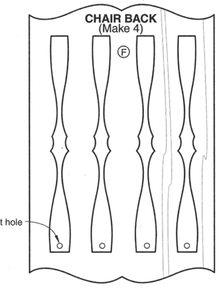



**Gumball Machine**
pages 22–25

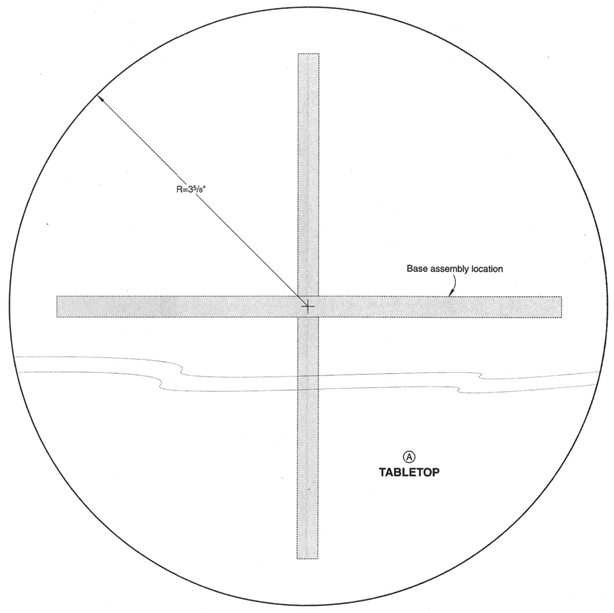







All pieces shown are made from 1/4"-thick stock.




**Fashion Doll Table and Chairs**
pages 18–19