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SPRING/SUMMER 2016  
ISSUE 63

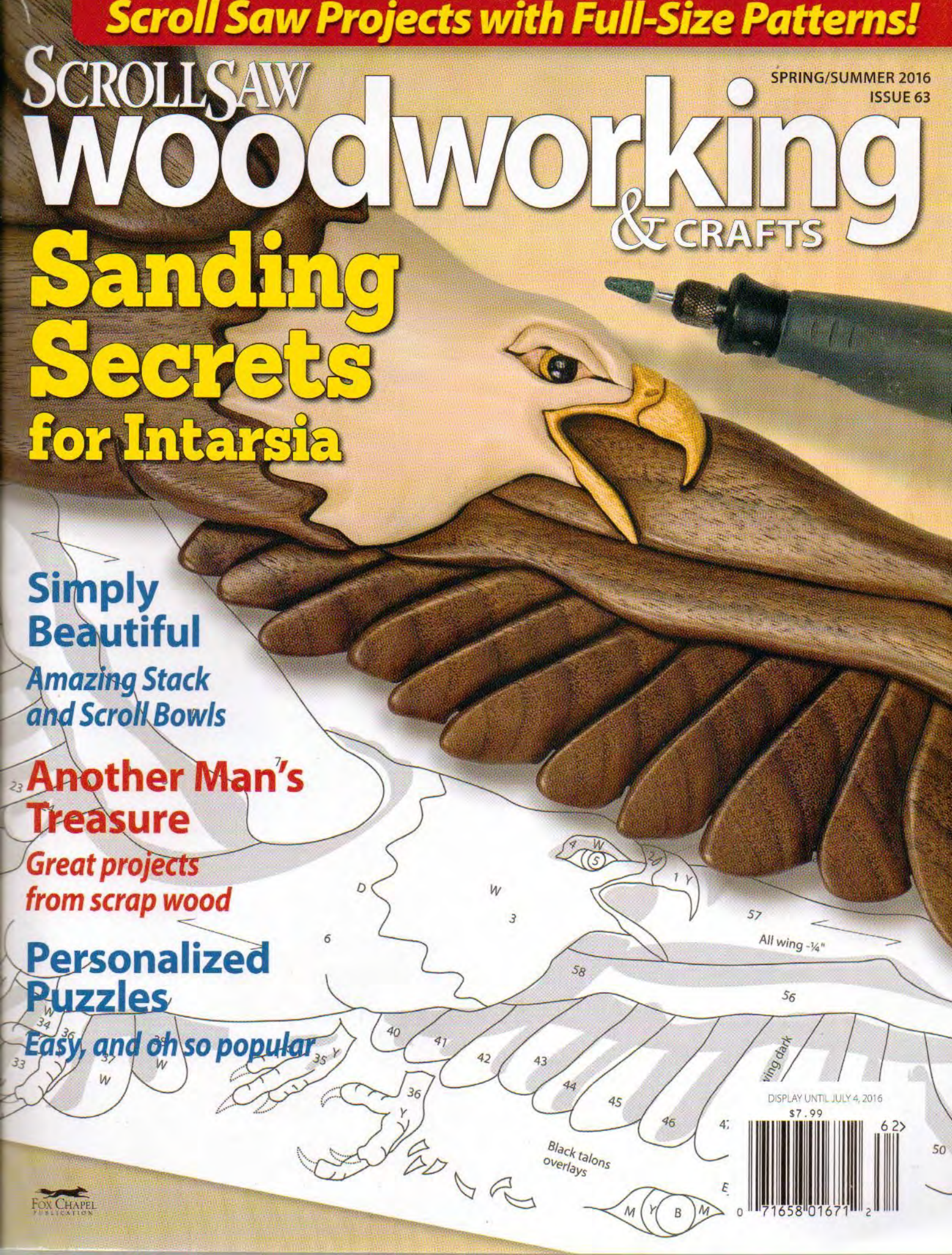
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22



40



## FEATURES

### 18 *Fishing for Success*

By Brian D'Ambrosio

A. L. Swanson's line for Orvis brings custom woodworking to the public

### 44 *Summer 2016 Roundup*

By Kathleen Ryan

Say hello to summer with these fun projects

### 48 *And the Winner Is...*

Announcing the first winners in the 2016 People's Choice Contest

### 54 *Chinese Opera Masks*

By Kathleen Ryan

Western craftsman creates Zen moments when scrolling Eastern motifs

### 56 *Scrolling for a Song*

By Kathleen Ryan

Woodworker gives new life to old vinyl records

## PROJECTS

### 22 *Making a Basket with a Scroll Saw*

By Carole Rothman

Build a unique blank to create a bowl that looks like a basket

### 32 *Cheery Spring Wheelbarrow*

By John A. Nelson

Easy trick creates perfect "paint" design every time

### 34 *Shaping Intarsia Feathers*

By Kathy Wise

Easy tips for making a realistic eagle

### 40 *Cardinal Bird Feeder*

By Paul Meisel

Create an attractive holder for seed bells

### 50 *Harold the Hurried Hummingbird*

By David Wakefield

Simple mechanism makes the wings flutter fast



32



28



43



56

## PATTERNS

### 20 *Vintage Golf Club*

By Janette Square

Careful wood color and figure selection highlight this popular project

### 28 *Sailboat Puzzle*

By Will Richards

Freestanding puzzle captures the essence of the sea

### 30 *Grapevine Welcome Plaque*

By Keith Fenton

Greet guests with a colorful symbol of hospitality

### 38 *Freestanding Car Puzzles*

By Eric Van Malderen

Celebrate the joy of summer road trips with a classic BMW 700 and VW Beetle

### 43 *Fretwork Wall Clock*

By Sue Mey

Large frets are fun & easy for beginners, quick for pros

### 46 *Lucky Charms Name Puzzle*

By Tim Gilman

Clever design lets you create a custom puzzle quickly and easily

### 58 *Cutting Vinyl Records*

By Deborah Nicholson

Turn a vintage record into an attractive clock

### 60 *Animal Doorstops*

By Carl Hird-Rutter

A quick and easy solution to unwanted wood scraps

### 62 *Western Heritage*

By Don Calhoun

Celebrate the wildlife of North America with a fretwork portrait

### 66 *Clown Portrait*

By Michael Kelley

Fretwork design shows the two sides of our personalities

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#### • Video

Watch Harold the Hummingbird hurry across the floor (pg. 50).

#### • Bonus Projects

Download designs for your wheelbarrow (pg. 32) and make a fretwork Chinese fan (pg. 54).

#### • More Info

Read an in-depth review of the SuperMax Drum Sander (pg. 65).



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## DEPTS.

4 Editor's Note

6 Letters

8 Reader Gallery

10 Info Exchange

12 News and Notes

49 Contest Call for Entries

65 Product Review

70 Scroll Saw Basics

71 Coming Features

71 Ad Directory

72 Sawdust



## Cherry Picking

Sometimes a project just speaks to you. We try not to play favorites—and we wouldn't publish a project unless we were confident in its ability to captivate readers—but some designs stand out while we're working on an issue.

For example, the entire staff is crazy about Carol Rothman's open-segment bowl (page 22). The bowl—or, as I insist on calling it, "basket"—is gorgeous in its simplicity, while at the same time showing a sophisticated knowledge of woodworking and use of a scroll saw. As Bob Duncan, our technical editor, so aptly put it, "I love the way she stretches the tool to the limit to bring the vision in her head to life in wood." Jon Deck, our art director, concurs. "I love the dimensionality and openness of the design, the positioning of the vertical and horizontal grain directions, and the natural finish that give this project an honest beauty."

Oddly, another project that grabbed me was Janette Square's "Vintage Golf Club" intarsia. I say "oddly" because I don't golf. But I really like the way Janette focused on the club and gave it dimension through both artistic perspective and actual shaping. The club is nicely detailed, the naturally colored background is reminiscent of rolling greens, and the spalted curly maple accents suggest sand traps. It makes me smile every time I see it.

Design is a major factor in another project's appeal for Jon. He said of John Nelson's "Cheery Spring Wheelbarrow" (page 32), "It could have been something clunky and utilitarian, but it's got a bit of elegance. It's painted, which sometimes detracts from a design for me, but it's done in a way that's a plus for this project."

Bob has a completely different reason for being drawn to Michael Kelly's "Clown Portrait" (page 66). We originally chose the project after we published a photo in the Reader Gallery and several people requested the pattern. However, we learned from Michael's introduction that his experience as an adult with ADHD inspired the design. Bob notes, "As someone who was also diagnosed with ADHD as an adult, I can understand Michael's struggle and can really own the inspiration for his design."

I could list the reasons we like every article in the magazine or think they will be fun, appealing, or inspiring for you. Instead, flip through and see what makes you stop to look more closely, read the story, or check your wood stash. And when you've made your list for the issue, let us know what you liked. If, by chance, nothing did it for you this time, I'd love to know what we missed. You've been hoping for a complicated fretwork project and the wall clock wasn't enough? You've cut your way through the last *Gizmos* issue and the hummingbird didn't scratch the itch? Either way, let us know—and we'll go looking for more projects we'll all love.

*M Kinsey*

Mindy Kinsey  
kinsey@FoxChapelPublishing.com

**Mounding Carol Rothman's bowl with fruit shows off the beauty of the woodworking and the bounty of the season.**



# SCROLLSAW woodworking & CRAFTS

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*To promote scrolling as an artform and an enjoyable pastime—for all ages and all skill levels.*

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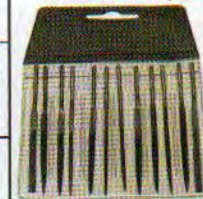
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I've been letting my grandchildren have at them, and they are having a ball creating wooden sculptures with these scraps and some hot glue. The only thing I did for them was scroll their initials.

**Pierre Falzon**

*Pickering, Ont., Canada*



Little hands and a lot of imagination make fanciful sculptures from scrap wood.

Left: Kameron Kirk's take on "Osprey Intarsia" by Janette Square and Bruce Worthington; the original is shown below. Kameron carved each feather to add realism to the piece.



### Intarsia Adaptations

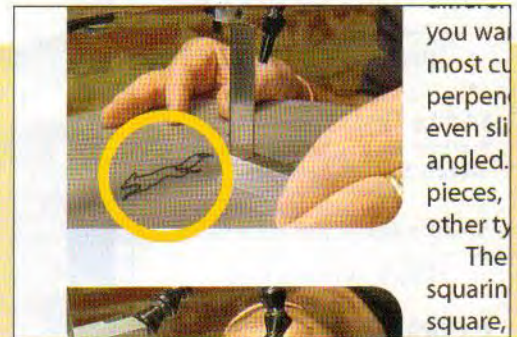
I usually follow all of the instructions to the letter the first time I take on a project. After I feel comfortable, I modify the shape, size, species of wood, and finishing techniques to make the project my own. I've altered a number of patterns by different scrollers, including the "Great Horned Owl" by Kathy Wise and "Osprey Intarsia" by Janette Square and Bruce Worthington (both featured in *Scroll Saw Woodworking and Crafts*, Issues 52 and 60, respectively). I have been active duty Air Force for 23 years and I am constantly tasked with making retirement/going away gifts when I have the spare time.

**Kameron Kirk**

*Warner Robins, Ga.*

### Correction:

The materials list for the "Tiered Display Shelf" by Paul Boers, page 44 of *Scroll Saw Woodworking & Crafts* Winter/Spring 2016 (Issue 62), calls for 1/4" (6mm)-thick material for the shelves. This is incorrect. The shelves are made from 1/2" (13mm)-thick walnut. We apologize for the error.



you want most cut perpendicular even slightly angled. pieces, other type. The squaring square,

### Fox Hunt

Wesley Wheelock of Neopit, Wisc., and Boyde Fields of Beaumont, Texas, were randomly drawn from the participants who located the fox in our last issue (Winter/Spring 2016, Issue 62). The fox was hiding on page 70, in the *Scroll Saw Basics*.

Find the fox in this issue, and tell us the page number and location. Two readers randomly selected from all correct replies will receive a \$25 Fox Chapel Publishing gift certificate. Entries must be received by April 18, 2016, to be eligible. *NOTE: The contest fox is an outline drawing that would face left if his feet were on the "ground" (other foxes appearing in SSW&C don't count).*

Send your entry to SSW&C, Attn: Find the Fox, 1970 Broad Street, East Petersburg, PA 17520, or enter online at [www.ScrollSawer.com](http://www.ScrollSawer.com).

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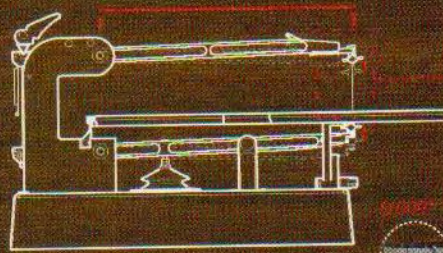
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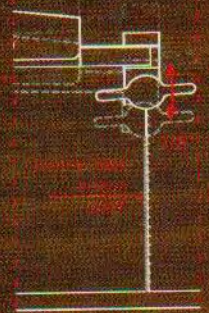
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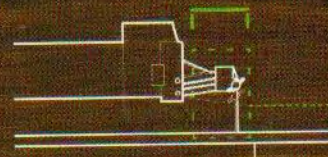
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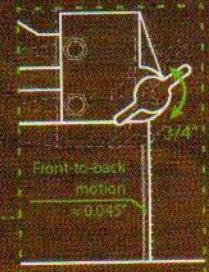


Turning circle = 1/10"

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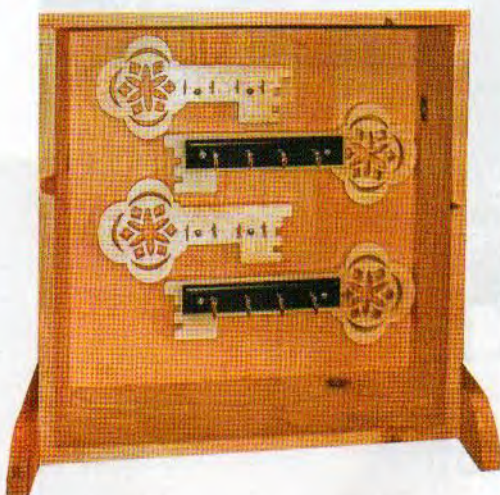
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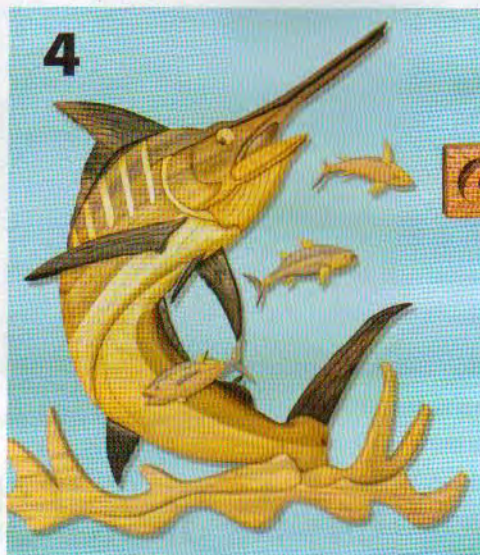
2



3



4



5



**1 Spiral Seashell**

Bob Collins, of Kangaroo Flat, Vic., Australia, cut this amazing shell on the scroll saw. He cut 45 segments out of marine plywood, purple heart, and Osage orange wood. He sanded the shell and finished with polyurethane. The base is a piece of iron bark stump that he shaped, sanded, and finished with polyurethane.

**2 Whitetail Intarsia**

Tom Kaldunski of Farmington, Minn., designed and scrolled this whitetail intarsia piece. He used 19 different varieties of wood to create the forest scene. He finished the piece with a clear coat.

**3 Key Hanger**

Lew Riggins of Doty, Wash., scrolled these key hangers from a pattern designed by Sue Mey. It was featured in *Scroll Saw Woodworking & Crafts* Spring 2015 (Issue 58).

**4 Hungry Marlin**

Luis Martinez of Aguadilla, Puerto Rico, used 10 varieties of wood to create the Hungry Marlin. It has 65 pieces total and is 3/4" (19mm) thick. He used acrylics to dye the smaller fish blue and yellow.

**5 Compound Crosses**

Donald Nichols of San Antonio, Tex., made these compound crosses from Sue Mey's patterns in *Ultimate Scroll Saw Woodworking Patterns*. He enlarged her patterns slightly to make each cross 1 1/2" (38mm) thick. He cut each cross from red oak and finished the hearts in the center with a red oak stain.

**Share Your Latest Work!**

Send a slide, professional print, or digital image (300 dpi minimum) with 100 words about you and your piece. Include your hometown, the name of the pattern maker, and a list of wood and materials used. Send to Reader Gallery, *Scroll Saw Woodworking & Crafts*, 1970 Broad Street, East Petersburg, PA 17520, or e-mail editors@scrollsawer.com.

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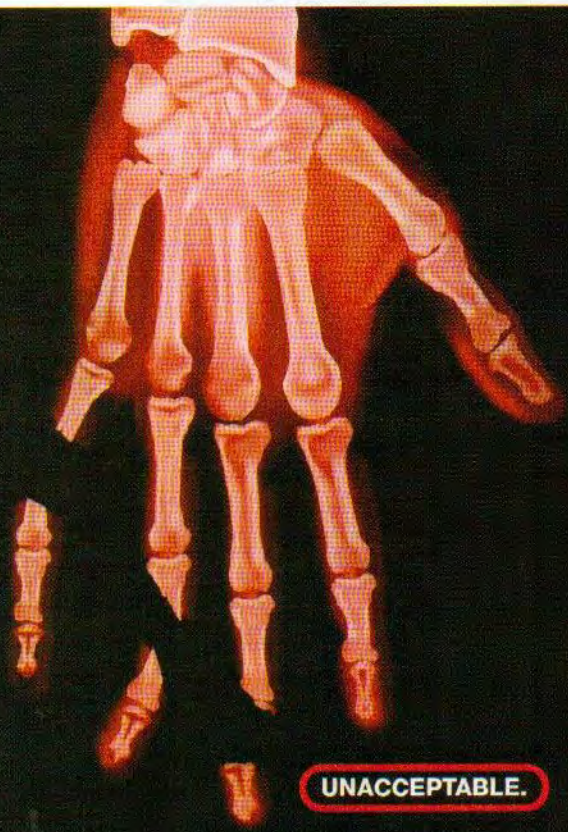


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# Shake It Up!



When arthritis made shaking a bottle of paint a real challenge, I salvaged an old scroll saw to do the job for me. I made a wooden box and clamped it to the saw. The box holds three bottles of paint firmly without additional clamping. A few minutes on the scroll saw does the job for me. No achy wrists!

**Ray Hall**

*Jeromesville, Ohio*

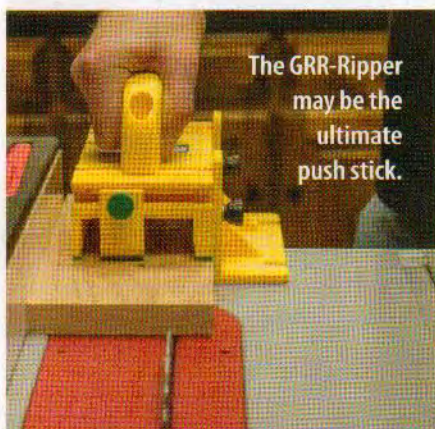


A wooden box clamped to the arm of a scroll saw makes a great paint shaker.

## Table Saw Tips

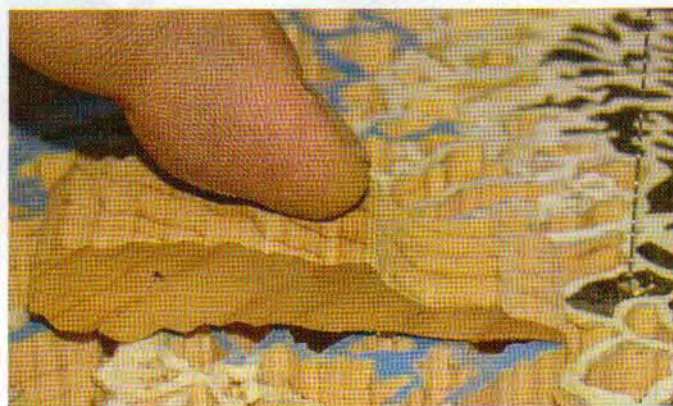
Here are some tips for cutting on your table saw. Try the GRR-RIPPER. It's a 3-D push block system that grips onto wood to help you guide the wood on the saw. I've been using it since Micro Jig came out with it and find it to be one of the most useful tools I ever bought. It's really helpful when cutting small pieces.

Or, if you'd rather not spend money, you can easily make two pusher sticks by breaking a wooden coat hanger. Cut a notch into each side, and you're done. You can also attach a piece of sandpaper to the miter to keep wood from slipping while you're cutting it.



The GRR-Ripper may be the ultimate push stick.

Howard Hill  
*Via e-mail*



Use a 3" piece of scrap cut to a point to hold down a pattern that has come loose.

## Fretwork Pattern Fix

While doing my latest fretwork piece, some of the pattern came loose from the wood. Normally when this happens I try to hold it down with my finger or thumb, but the pattern on the remaining wood was so small that it wasn't working. So I cut a piece of wood to help me hold it down. The wood is  $\frac{3}{4}$ " (19mm) thick and about 3" (76mm) long with a slight concave on the bottom. The front edge is cut almost to a point to aid in seeing my work, and the back end is big enough for my finger. Use the front end to hold the pattern down.

**Rick Bartels**

*Prairie du Chien, Wis.*

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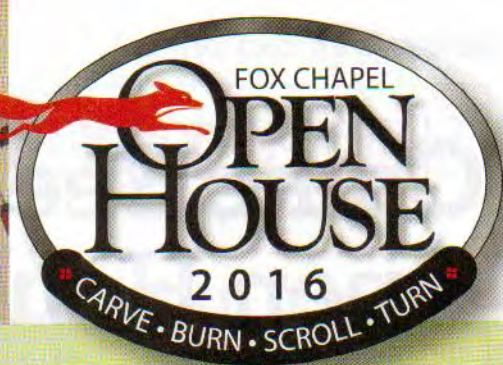


- 1 It's like Spring Break for woodworkers!** Many of your favorite authors, designers, and online personalities will be there to share their knowledge and hang out with you.
- 2 Classes, classes, classes!** Judy Peterson will be sharing her secrets for making "diabolical jigsaw puzzles." Carole Rothman will demonstrate how to make her amazing boxes and bowls. Janette Square will have all the tips and tricks to make intarsia easier, more fun, and more gorgeous. For those still new to scrolling, Janette will take the mystery out of the machine with an intro class. George Ahlers will show you how to turn photos into portrait patterns. More teachers are registering every day, and with 40+ classes there's sure to be something for everyone.



**Whether it's scrolling, carving, turning, or crafts, you'll find a hands-on experience at Open House.**





## Join us May 13 & 14

- Gates, vendor hall, & demos will be open 8am to 5pm.
- Classes will run from 9am to 4pm.
- General admission is \$5 for both days in advance; \$5 per day at the gate.
- Order tickets early and save! Before March 31, a one-day class pass is \$35; a two-day class pass is \$55. As of April 1, a one-day class pass will be \$45; a two-day class pass will be \$75.

**Buy tickets online at  
[www.Wood-Show.com](http://www.Wood-Show.com)  
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- 3 Test-drive saws!** Meet representatives from four major scroll saw brands and learn what makes each saw unique: Excaliber (Seyco), Hawk (Bushton Manufacturing), Hegner (Advanced Machinery), and PS Wood Machines.
- 4 Need wood?** Groff & Groff Lumber, a leading supplier, will have a wide selection available. And if you don't see what you're looking for on Friday, ask—they might be able to get it for you by Saturday.
- 5 Cool tools!** King Arthur Tools will have their Guinevere sanding tool on hand to try out. It speeds up sanding for any woodworker. See the Sand-Flee portable drum sander in action—with attachments, it even sands irregularly shaped items. Or, see an Epilog laser turn out precision-cut pieces in no time flat.
- 6 Books!** The famous "Alan's Attic" Scratch-n-Dent Book Sale will be in full swing with great prices on all woodworking, home improvement, outdoor living, craft, and coloring books.
- 7 Authors!** Once you buy a book, get it signed at our first-ever Fox Author Book Signing Booth.
- 8 Free demos!** If you've always wanted to try carving, turning, woodburning, or crafts—or just a different brand of scroll saw—this is your chance.

Carole Rothman shares the art of making bowls with a scroll saw.

- 9 The Rough and Tumble museum is awesome!** You can see steam-powered marvels like an enormous saw mill, the oldest internal combustion engine running in North America, and the second oldest steam traction engine. Blacksmiths will have their forges fired. Fields will be tended with steam-powered plows. Admire antique cars and intricate miniature machines. And you might just have a chance to ride on the newly restored Shay Railroad, pulled by a steam locomotive.
- 10 Lancaster County is one of the East Coast's most popular tourist destinations.** Learn about the Amish, buy handmade quilts and furniture, shop the outlets, see a show at the innovative Sight & Sound Theater, visit the historic downtown, enjoy local wineries, breweries, and restaurants—there's plenty to see and do before and after the show.



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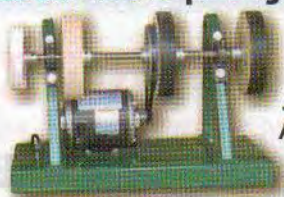
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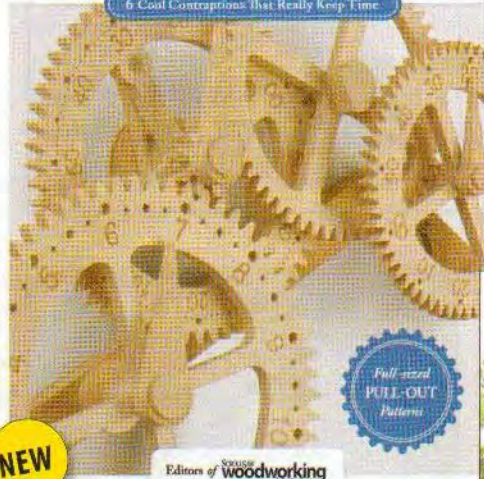
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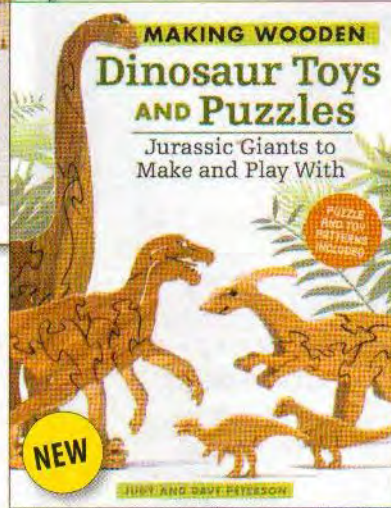
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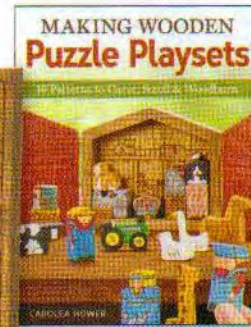
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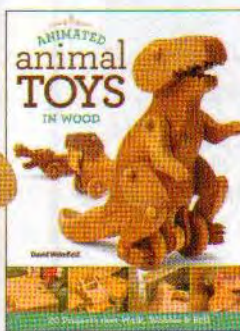
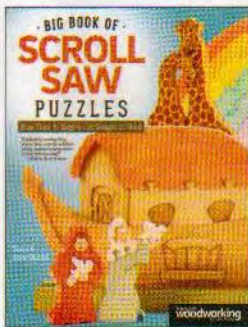
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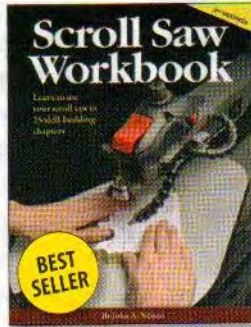


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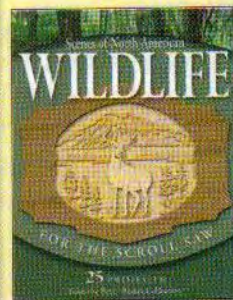
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# Fishing For Success

**A. L. Swanson's line for Orvis brings custom woodworking to the public**

By Brian D'Ambrosio



**T**he A. L. Swanson Gallery and Craftsman Studio in Helena, Mont., intermingles talent, trade, and toil. The gallery showcases handmade furniture, paintings, and artwork, while a large window reveals the building blocks and sawdust of the furniture-building component.

At a table, A. L. Swanson runs his fingers across a handsome walnut fly box decorated with abalone, mother of pearl, and various metals. Fly boxes are the most recent addition to Al's business portfolio.

Although he studied business and farming in college, Al chose to apprentice as a cabinetmaker and eventually open his own furniture studio. He started the gallery in 2004. A native of Maine, Al was familiar with the East Coast gallery vibe—all slate floors and austerity—and he wanted something different. “I wanted to create more of a home atmosphere,” said Al. “I wanted to do it in a way that would marry the handmade furniture to different types of art, be it painting, or glass, or ceramics. I wanted to let them interact together: hardwood, different colored walls, fresh flowers, candles.”

The idea worked. The gallery showcases Al's furniture as well as work by the region's premier artists and has been luring tourists to Montana for the past 12 years. “We took a loud, dusty woodworking facility and figured out a way, with engineering and architecture, to put it underneath an accounting firm in the middle of the city,” said Al. “It's unlike anything in Helena or anywhere else, really.”

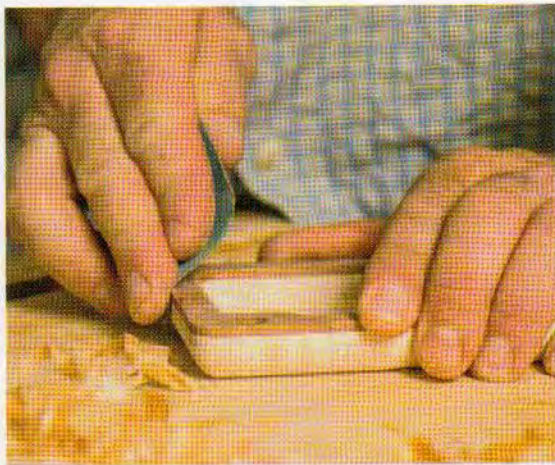
In 2007, Al decided to expand. “It is ironic, but with the recession bearing down

on us, and in a horrible economy, we made a conscious decision to grow. If we could weather the storm, our ship would sail. We knew we could position ourselves to be in a different situation. So we risked life and limb and economics and everything else.”

Al's plan was to bring the people to the process by offering the hands-on opportunity to make a table. You don't have to know how to use a sander or a grinder—the workshops are designed for true beginners—and at the end of the class, you will have made, say, a Shaker-style cherry end table. “We have the tools and the experience you need to further develop your inner artist,” said Al. “We are teaching people woodworking rather than just providing them with a table, a chair, and a desk. The mission at many woodworking schools or classes is to make woodworkers better woodworkers. Here, we want to make people better people, while exposing them to something they have never been exposed to.

“The beauty of it is that you can walk away with something that you've created,” said Al. “They can do some of it, or they can do all of it. But the minute that you make it, or I help you make it, and you sign it and you write a little note to your granddaughter, you've made a legacy. I can't do that—you can.”

Last year, Al tried yet another new direction: the fly boxes. A fishing enthusiast himself, Al worked with an employee, Jacob Franklin, to design the perfect fly box—one that is beautiful, but also highly functional. Now called the Classic Series, the box is 3½" by 5", available in four combinations of wood, and inlaid with a portrait of a fly



made of wood, abalone shell, and various metals. Each box has foam inserts to hold the flies, solid brass hinges, magnetic closers, a brass lanyard post, and a water-resistant finish. They are made from some of the same high-quality hardwoods—many of them domestic—that Al uses for his furniture. The boxes were designed by hand, but production pieces are now made with a computer-controlled router and finished by hand.

The boxes were launched with fanfare—they appeared on the cover of a new series of giftware catalogs from Orvis, the largest fly-angling retailer in the world, along with a profile of the company. They were such a success that they inspired a second series of fly boxes, each named for a Montana river and available in three sizes, as well as a set of cigar boxes and a landing net. All of the boxes can be personalized with a monogram, but Al has also launched a custom box program to create truly one-of-a-kind boxes.

A. L. Swanson is already looking for the next opportunity in a business brimming with potential, but he tempers the prospects with responsibility. “We have the responsibility to the artists we represent, as well as to the person who wants to learn how to build their own furniture. And now with our fly boxes, I look at it this way: the wood took 200 years to grow, so the box had better last that long. That’s another responsibility we have.”

*Visit the A.L. Swanson Gallery and Craftsman Studio at 863 Great Northern Blvd., Helena, Mont.; [www.alswanson.com](http://www.alswanson.com).*



Top to bottom: Landing Net; *The Smith*, 4" by 5½"; *The Blackfoot*, 4" by 5½"; *The Muddler*, 4" by 6"; and *The Trout* cigar box, 4" by 8".

# Vintage Golf Club

Careful wood color and figure selection highlight this popular project

By Janette Square

**T**ee up this project for the golf enthusiast in your life! The idea for this design came about when a customer wanted a special gift for an avid golfer. I wanted to create and emphasize the dimensionality to enhance the overall look. This project would make a great award for golf tournament winners.

This is a fairly simple project to cut, but it's surprisingly challenging to shape. You can simplify it by eliminating the thin walnut pieces or by keeping them the same height as the surrounding pieces. You could also leave the background out entirely and eliminate the risers to create a stand-alone piece showing just the club and ball.

## Selecting the Wood

The background coloring represents grass and sand, both of which you encounter while golfing. Select your wood based on this idea. Alternately, if you have some interesting wood you would like to highlight, use it for this project.

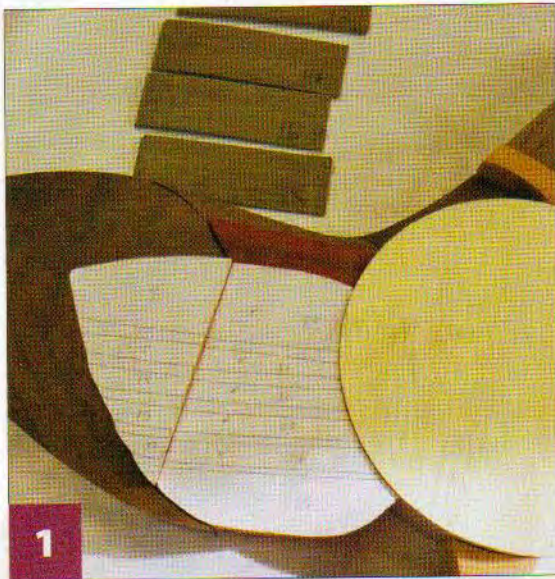
The dimensions in the Materials List are approximate; the larger the pieces are that you start with, the more opportunity you have to decide where the grain looks best for each piece. The thickness of the risers may vary depending on the initial thickness of the wood.



Pattern for the **VINTAGE GOLF CLUB** is in the pattern pullout section.



Janette Square lives in Yachats, on the Oregon coast. For more of her work, visit her website at [www.square-designs.com](http://www.square-designs.com).



**1 Cut the project.** Most of the cutting is pretty straightforward, except the club face. Apply the pattern for the thin walnut strips to a single piece of wood and number the pieces. Repeat the process for the padauk strips and the figured redwood strips. Cut the walnut pieces and number them, keeping track of the order and orientation. Cut the perimeter of the padauk and redwood pieces, leaving the interior intact. Leave the pattern in place as you glue the padauk and redwood together. Make sure the pattern lines are aligned, and let the glue dry completely. Then, cut the thin interior areas. Do not discard the thin cutouts. Once you have cut the pieces apart, reassemble them. Using double-sided tape, attach all of the pieces to a sanding shim and shape the section. Once you are satisfied with the shape of the section, remove the waste pieces and insert the walnut strips. Sand those to desired height (slightly lower than the others). Glue the entire face section of club together.

**2 Cut scraps of plywood for the risers.** Use varying thicknesses to create a nice 3-D look. The only area where you actually need thicker wood is where the shaft of the golf club is visible on the outer edge.

**3 Shape the rest of the project.** The club should appear "behind" the ball, so keep the club height  $\frac{1}{4}$ " (6mm) to  $\frac{1}{2}$ " (13mm) lower than that of the ball. Do not raise a piece so high that a riser will show beneath it. The toe of the club should curve gently from the face to the end and bottom with

a subtle taper. You could easily substitute the background material for thinner wood, such as  $\frac{1}{2}$ " (13mm) thick, but this will limit the thickness of the riser.

**4 Dry-assemble the project.** Then, edge-glue everything together and let the glue dry. Apply two coats of finish, such as satin gel varnish. Allow the finish to dry, and then glue the intarsia to the backing board.

**Materials & Tools**

**Materials:**

- Poplar,  $\frac{3}{4}$ " (19mm) thick: green background, 7" x 20" (178mm x 508mm)
- Spalted curly maple,  $\frac{3}{4}$ " (19mm) thick: background top, bottom, 3" x 16" (76mm x 406mm)
- Aspen, 1" (25mm) thick: ball,  $4\frac{1}{2}$ " x  $4\frac{1}{2}$ " (114mm x 114mm)
- Pine,  $\frac{3}{4}$ " (19mm) thick: tee, 1" x 3" (25mm x 76mm)
- Peruvian walnut, 1" (25mm) thick: 5" x 6" (127mm x 152mm)
- Figured claro walnut, 1" (25mm) thick: 2" x 4" (51mm x 102mm)
- Padauk, 1" (25mm) thick: 3" x 4" (76mm x 102mm)
- Figured redwood, 1" (25mm) thick: 2" x 3" (51mm x 76mm)
- Walnut,  $\frac{3}{4}$ " (19mm) thick: 2" x 4" (51mm x 102mm)

- Baltic birch plywood,  $\frac{1}{8}$ " (3mm) thick: backing board, 10" x 13" (254mm x 330mm)
- Plywood scraps: risers, shims
- Sandpaper
- Wood glue
- Packaging tape
- Spray adhesive
- Waxed paper
- Finish, such as satin gel varnish
- Hanger
- Tape: double-sided turners

**Tools:**

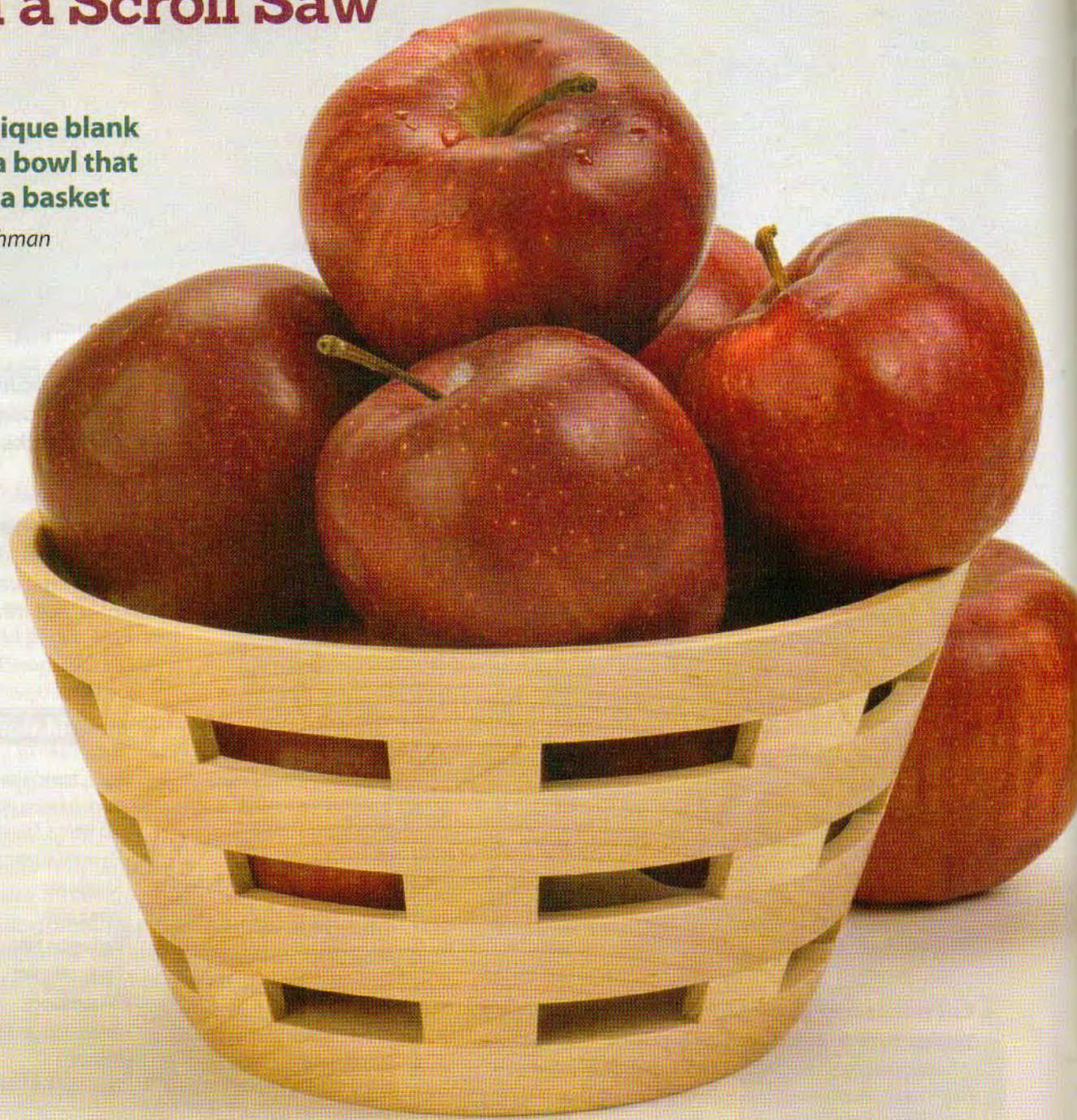
- Scroll saw blades: #7, #1 or #2 reverse-tooth.
- Sanders: flex drum or inflatable drum; 180-, 220-grit sanding mop

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*

# Making a Basket with a Scroll Saw

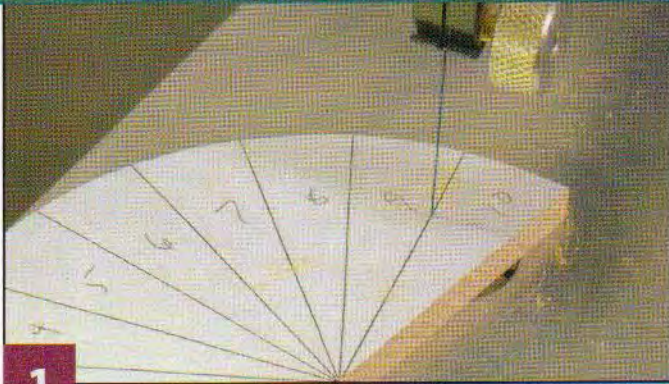
**Build a unique blank  
to create a bowl that  
looks like a basket**

*By Carole Rothman*

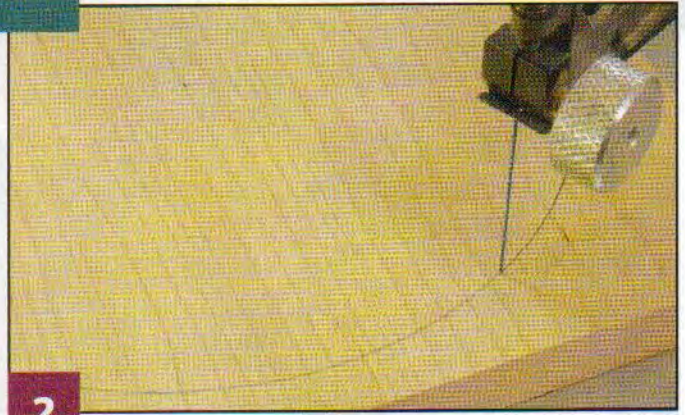


**O**pen segmented bowls are associated with lathes, not scroll saws, and discovering how to obtain this effect took more than a little trial and error. However, once you make the special blank, the cutting is quite straightforward. Using spindle and belt sanders makes the finishing process relatively painless.

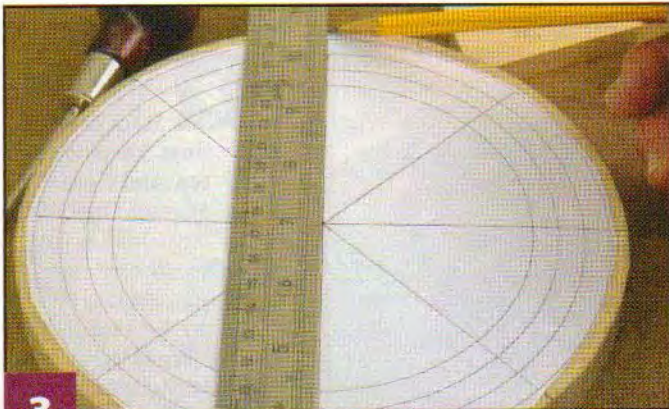
## BASKET: MAKING THE BLANK



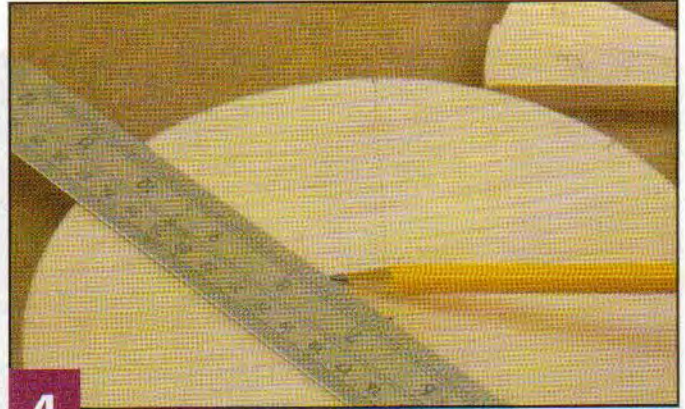
**1** Attach the 10-segment pattern to the appropriate blank. Align the bottoms of the pattern and wood. Cut the segments with a #3 blade. Remove the pattern and transfer the numbers to the segments. Two are extras. Clean any fuzzies off the bottom edges.



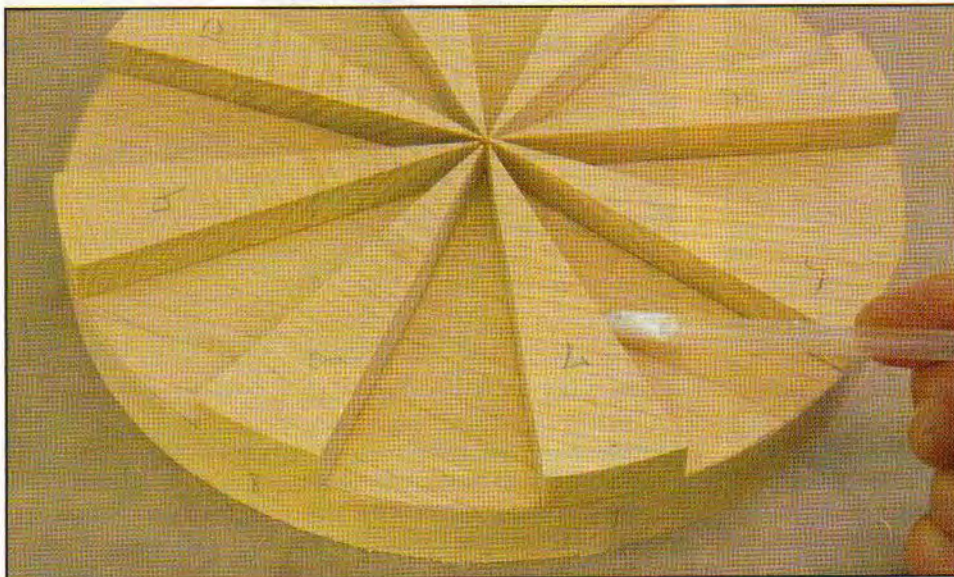
**2** Draw a 7½" (191mm)-diameter circle on the main blank. Mark the center with an awl. With the saw table level, cut the perimeter to the outside of the line.



**3** Trim the cutting pattern for the rings. It should fit inside the main blank cut in Step 2. Use an awl to center the pattern on the circle. Attach the pattern at the edges with dabs from a glue stick. Mark the end points of the segment lines on the wood. Remove the pattern.

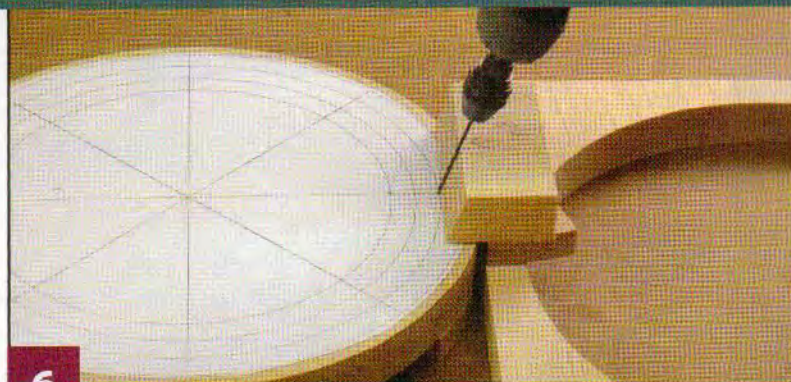


**4** Connect the end points with light pencil lines. This divides the main blank into eight segments. Drill a small through-hole at the center point of the base so you can center the pattern on the underside of the blank in Step 6.

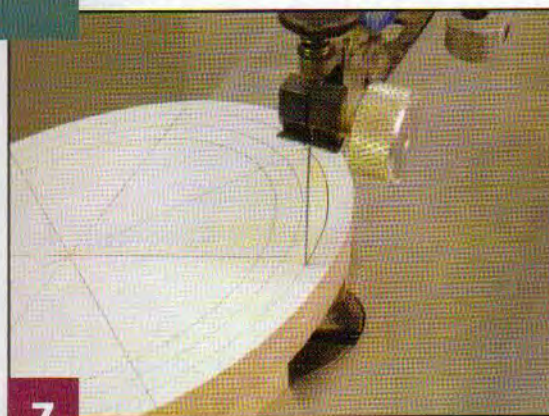


**5** Place the segments on the circle. Match the grain of the outer edges as closely as possible with that of the circle. Number the position of each segment on the corresponding edge of the circle. Glue each segment into place, sliding it back and forth until it drags to obtain a good bond. Use a toothpick or diagonally cut drinking straw to remove excess glue. Place the workpiece in a press and clamp firmly. Remove it from the press after five minutes to clean up any squeeze-out on the segment sides. Re-clamp and let dry.

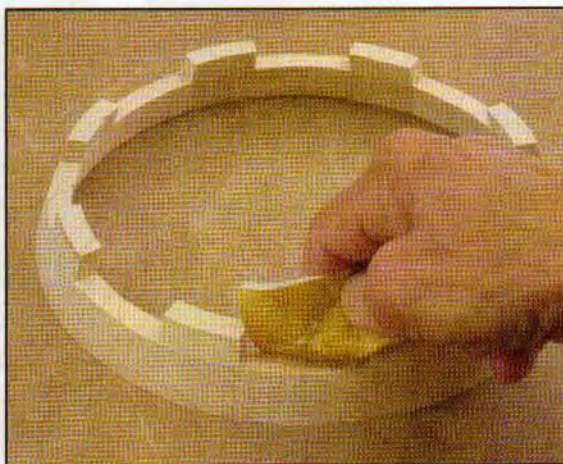
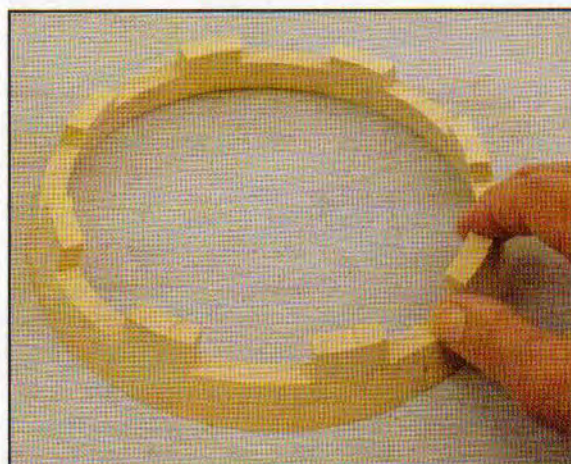
## BASKET: CUTTING & ASSEMBLING THE PROJECT



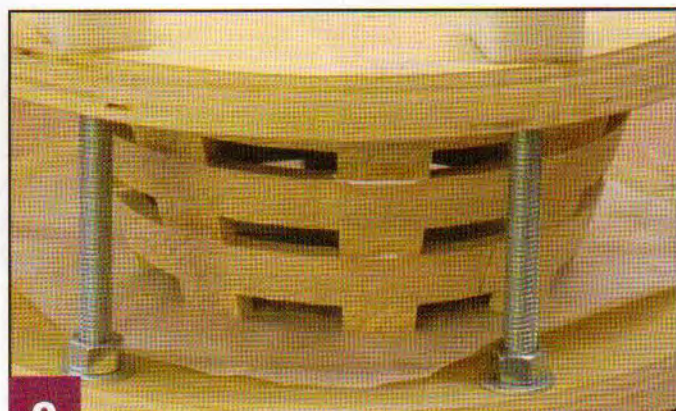
**6** **Attach the cutting pattern for the rings to the underside of the base.** Use the hole drilled in Step 4 to center the pattern. The location of the “top” is arbitrary, but the entry holes should be located above open spaces. Drill an 18° blade-entry hole at each of the three points indicated on the pattern, using an angle guide and drilling toward the center of the blank. The second hole is located opposite the others to avoid back-to-back drill marks on the same ring.



**7** **Tilt the left side of the saw table down to 18°.** Cut clockwise around the perimeter. Insert the saw blade in the outermost blade-entry hole and cut clockwise to complete the first ring. Transfer the “top” mark to the ring. Repeat for the second and third rings. The remainder of the blank is not used for this project.



**8** **Stack the rings, keeping the tops and segments aligned.** Check that the surfaces lie flat against each other, and then sand as needed. I use a sheet of sandpaper attached to a granite tile. Then, remove any fuzzies from all of the edges.

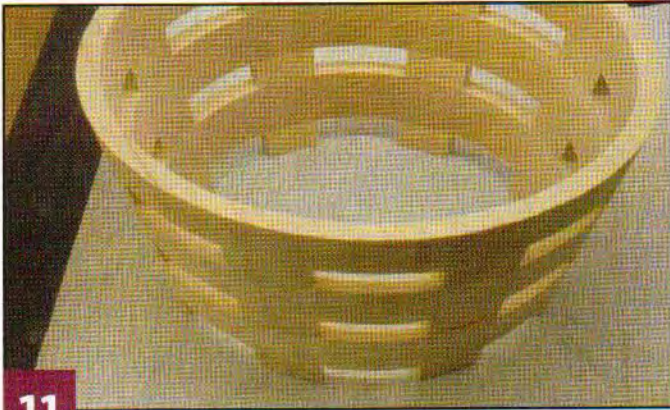


**9** **Apply glue to the undersides of the segments of the two larger rings.** Stack the three rings together, keeping the tops and segments aligned, and press down firmly. Place in the press, clamp, and let set for five minutes, being careful not to overtighten—the angled wedges are vulnerable to shear. Clean away squeeze-out between the segments, removing the clamp assembly briefly if needed for access. Let the glue dry fully.

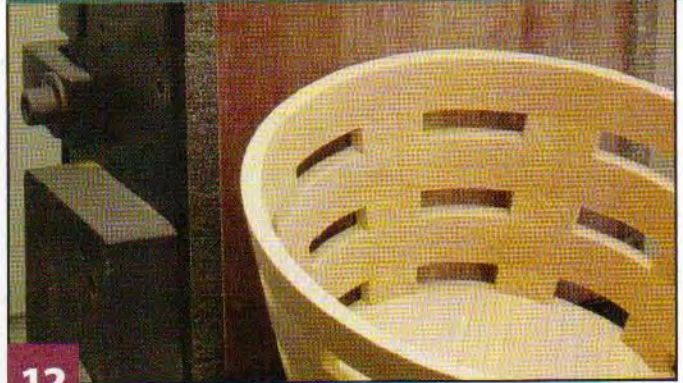


**10** **Sand the insides of the rings.** Use a spindle sander with the table set to 18°. Sand until the inside is smooth and free of glue residue and blade marks. Switch to a 4" (102mm)-long pneumatic drum and sand through the grits up to 220. You can also use a standard long drum provided you can sand through the grits. Check the underside frequently to be sure you leave enough wood to attach the bottom.

## BASKET: SANDING & SHAPING THE PROJECT



**11** **Trim a copy of the cutting pattern for the rings to fit the base blank.** Attach the pattern and set the left side of the saw table down to 18°. Cut the smallest circle on the pattern in a clockwise direction. Sand the bottom of the ring assembly flat and glue it to the base, using the procedure from Step 9. Be sure that the grain of the bottom and top run in the same direction.



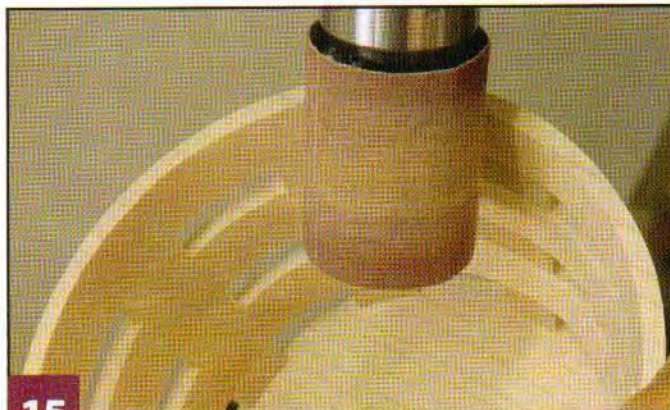
**12** **Sand the outside of the basket.** Use a belt sander with the table tilted to 18°. Sand until the surface is smooth, all glue and blade marks are removed, and the upper edge is even. Draw a circle on the underside of the base to help guide the shaping.



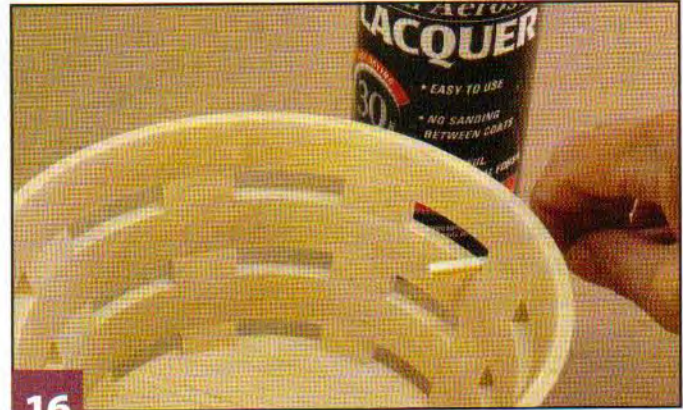
**13** **Tilt the belt sander table to 30°.** Sand a bevel on the bottom that extends about halfway up the base. Tilt the table to 45° and sand a bevel that extends about halfway up the previous bevel.



**14** **Finish sanding the basket exterior.** Use a 2" (51mm)- or 3" (76mm)-diameter flexible pad sander. Use a firmer pad to correct irregularities and a softer one to sand without changing the shape. Sand through the grits to 220, softening the lower curve and removing any scratch marks.

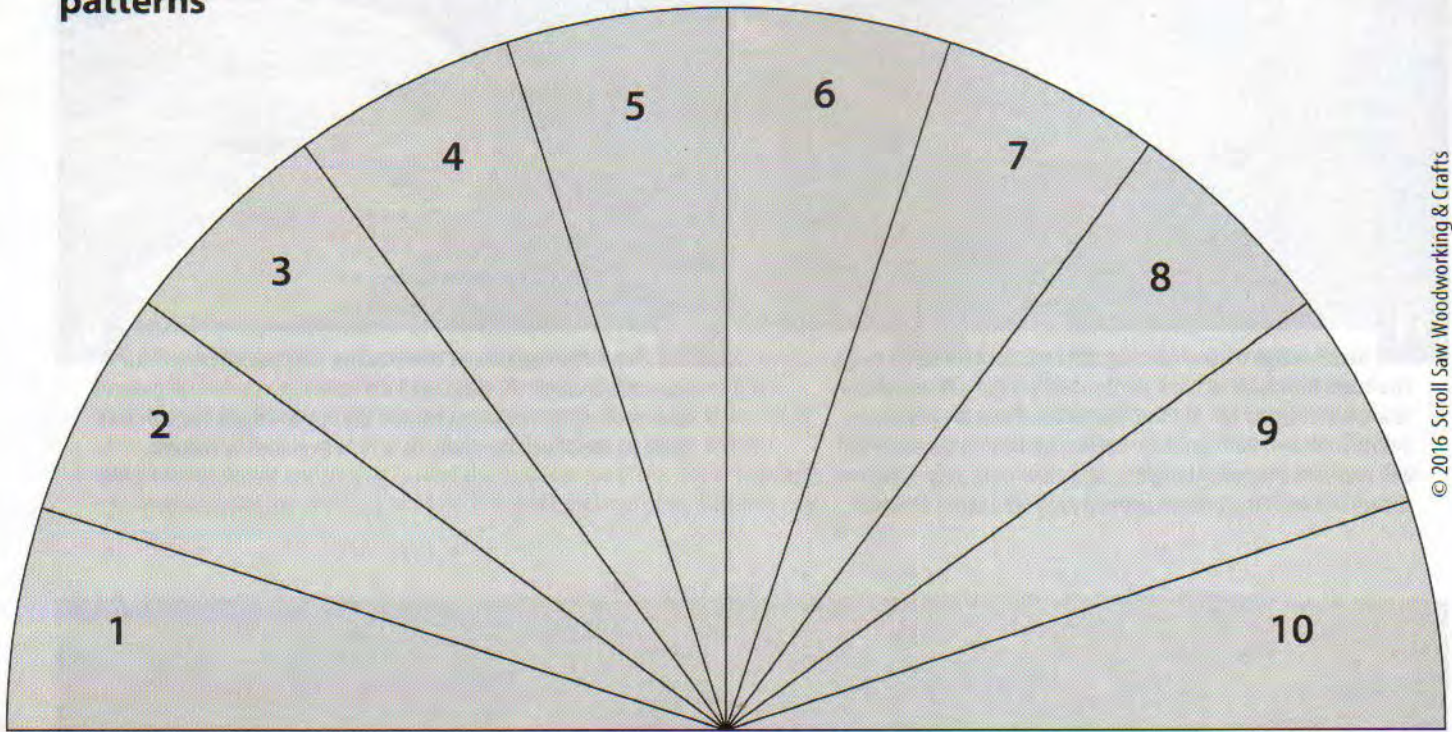


**15** **Soften the top and bottom edges.** Use a pneumatic sanding drum. Then, hand-sand the edges. Use a small 320-grit sanding mop to soften the edges of the segments and remove fuzzies. Finish sanding by hand.



**16** **Apply several coats of clear gloss lacquer.** Buff between coats as needed, using 320-grit sandpaper or 0000 steel wool. A sanding twig is useful for sanding between the segments.

## Scrolled basket patterns



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### Materials & Tools

#### Materials:

- Maple,  $\frac{5}{8}$ " (16mm) thick: main blank, 8" x 8" (203mm x 203mm)
- Maple,  $\frac{3}{8}$ " (10mm) thick: segments, 4" x 8" (102mm x 203mm) [the combined thickness of this piece and the main blank must total 1", or 25mm]
- Maple,  $\frac{5}{8}$ " (16mm) thick: base, 4" x 4" (102mm x 102mm)
- Repositionable adhesive
- Glue stick
- Sandpaper: assorted to 220 grit
- Sanding discs and drums
- Wood glue, such as Weldbond
- Spray lacquer: gloss

#### Tools:

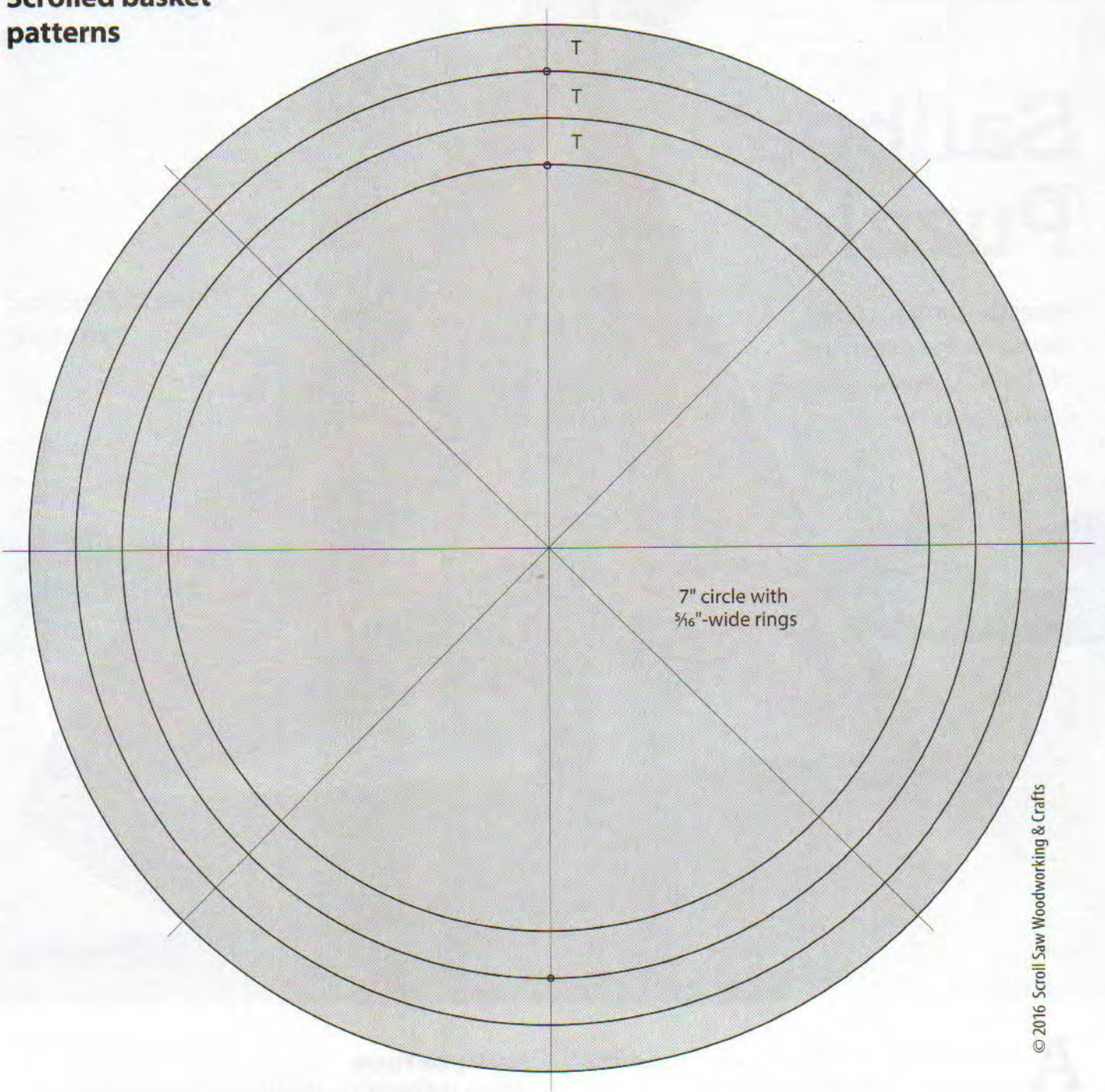
- Scroll saw blades: #5 premium, such as FD Polar; #3 reverse-tooth
- Drill with bit: #54 wire size

- Drafting tools: compass, straight edge
- Awl
- 18° shop-made angle guide
- Flexible pad sanders: 2" (51mm) or 3" (76mm) dia. (soft and mediums pads)
- Spindle sander with tilting table
- Pneumatic sanding drum, 4" (102mm) long
- Belt sander with tilting table
- Sanding twigs (recommended)
- Granite tile with 150-grit sandpaper attached (recommended)
- Bowl press, or clamps and boards for gluing

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*



## Scrolled basket patterns



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*Carole Rothman of Pawling, N.Y., is a retired psychologist and college professor. She is also an award-winning cake decorator. Visit Carole online at [www.scrollsawbowls.blogspot.com](http://www.scrollsawbowls.blogspot.com). You'll find her books Creative*

*Wooden Boxes from the Scroll Saw and Wooden Bowls from the Scroll Saw at [www.foxchapelpublishing.com](http://www.foxchapelpublishing.com).*

# Sailboat Puzzle

Freestanding puzzle captures the essence of the sea

By Will Richards



**A** swift wind ripples over the water. Spray surges up from the hull. The sun beams down, warming the water. All of these sensations can be captured in this sailboat puzzle.

A sure hit at craft shows or a wonderful gift for a boating enthusiast, this sailboat will also hone your scrolling skills. Beginners can cut the puzzle from a single piece of light wood and stain or dye the pieces. More advanced scrollers can make the piece from different hardwoods, intarsia style. Because of the changes in grain direction, plan the joints for the tabs and use dowels or small pin nails to reinforce the tabs.

## Making the Puzzle

Attach the pattern to the blank with spray adhesive and cover the pattern with clear packaging tape. Cut the pieces, reassembling the puzzle as you go. After cutting, remove the patterns and tape, and sand each piece, rounding the sharp edges and smoothing the surfaces. Remove all of the dust.

For a finish, I dip the individual pieces into a dish of Danish oil. Allow the pieces to dry for 30 minutes, dip again, and wait another 30 minutes. Wipe off any excess oil with a clean rag. Dispose of the rag carefully; oil-soaked rags can spontaneously combust. Allow the puzzle to dry for at least 24 hours before assembling it.

## Materials & Tools

### Materials:

- Hardwood, 3/4" (19mm) thick:  
8" x 8" (203mm x 203mm)
- Spray adhesive: temporary bond
- Packaging tape
- Sandpaper
- Wood glue (optional)
- Danish oil
- Rags

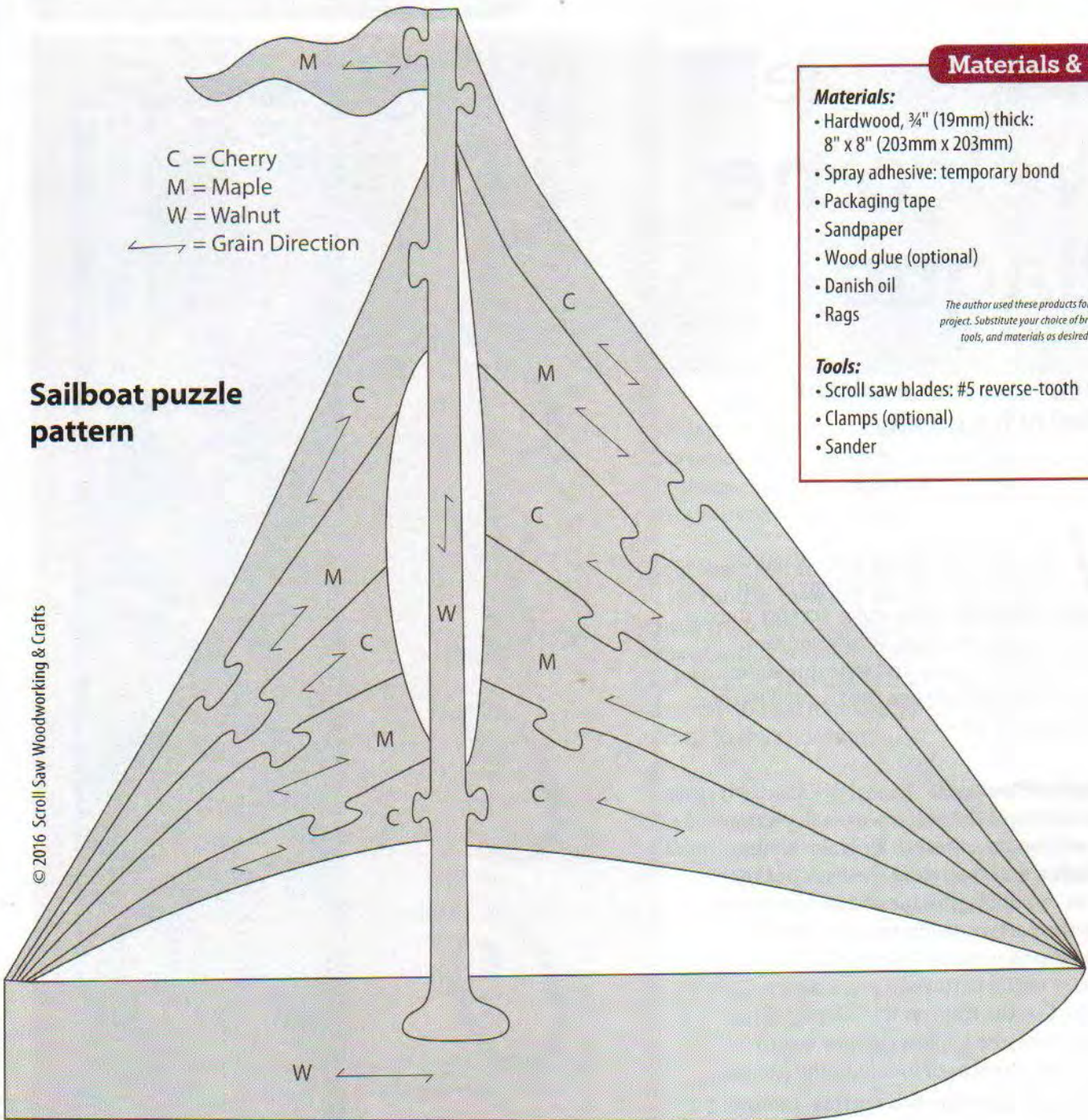
*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*

### Tools:

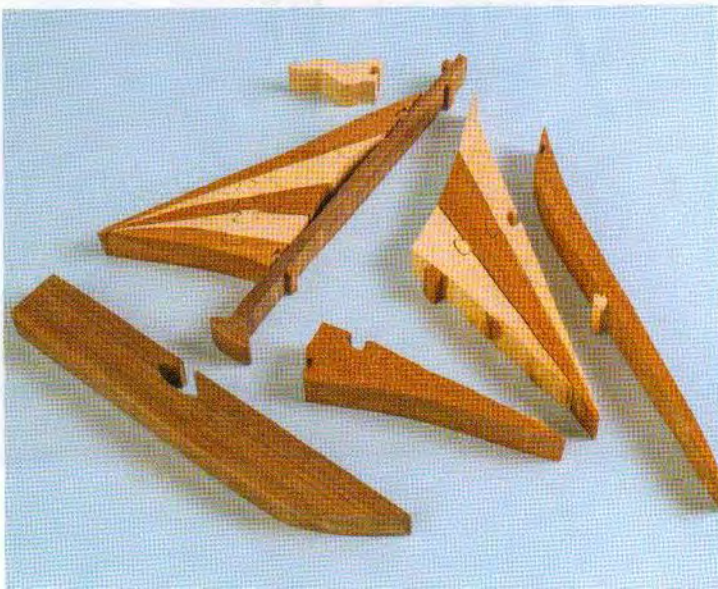
- Scroll saw blades: #5 reverse-tooth
- Clamps (optional)
- Sander

C = Cherry  
M = Maple  
W = Walnut  
← = Grain Direction

## Sailboat puzzle pattern



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Will Richards has been scrolling since his grandfather gave him his first scroll saw. When Will is not working wood, he enjoys chess, percussion, and speech team. To see more of his work, go to [woodbywill.com](http://woodbywill.com).

# Grapevine Welcome Plaque

Greet guests with a colorful symbol of hospitality

By Keith Fenton

**W**hile the natural color and grain pattern of wood are attractive on their own, carefully added color accents the look of this welcome sign. While you can leave the grapes, leaves, and vine unpainted, I like the contrast between the painted parts and the natural wood.

## Cutting the Plaque

Attach a copy of the pattern to each piece of wood with spray adhesive. Drill the blade-entry holes, and then sand the back of the board to remove any tear out. Use the dotted line on the pattern to cut the plywood backing board with a #2 blade. Cut the perimeter of the hardwood piece with a #5 blade. Cut the frets on the plaque with a #2 blade. Save the longest cuts for last to reduce your chances of breaking the leaves.

When you are finished cutting, remove the pattern, and carefully use a random orbital sander and progressively finer grits of sandpaper up to 220 grit to sand the pieces smooth. Thoroughly remove the dust.

Pattern for the **GRAPEVINE WELCOME PLAQUE** is in the pattern pullout section.

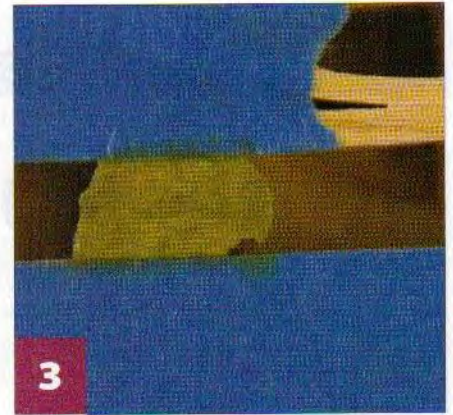




1



2



3

**1 For best results, mask off glue areas on the backing board and fretwork to ensure a good glue joint.** Mix 1 part bittersweet chocolate paint with 1 part medium and paint the backing board. Allow the paint to dry. This gives you a dark backing board with good paint coverage.

**2 Mask the edges of the fretwork.** Thin the other colors in a ratio of 2 parts medium to 1 part paint. Pick up enough paint on the brush that you don't dry-brush, but not so much that it's difficult to control. Brush from the inside areas toward the edges. I apply the thinned paint and immediately pat it off with a clean paper towel. Work in small areas because the paint dries quickly.

**3 Mask off the straight lines.** This is especially important if you want the lattice to appear to be in front of the leaves. Use the factory edge of the masking tape for perfectly straight lines. The paint

dries fast, so you don't have to wait very long before moving on. You can always paint the whole leaf green, if you prefer, and it will look like the leaf twists in front of the lattice.

**4 Allow the paint to dry. Apply spray varnish that is safe for use over the paint.** I spray the main plaque from the back before assembly so I can spray into the fretwork from behind. I also give a light coat or two to the backing board before assembly so that it gets even coverage. Allow the varnish to dry thoroughly.

**5 Glue on the backing board.** Remove the masking tape and apply glue where appropriate. Clamp or weight the pieces and allow the glue to dry. Attach a hanger to the back. I used a sawtooth hanger attached with two-part epoxy. Be generous with the epoxy and spread it around to make sure that it holds the hanger securely.

## Materials & Tools

### Materials:

- Maple, ¼" to ½" (6mm to 13mm) thick: 7" x 16" (178mm x 406mm)
- Baltic birch plywood, ⅛" (3mm) thick: 7" x 16" (178mm x 406mm)
- Spray adhesive
- Blue painter's tape
- Sandpaper
- DecoArt spray varnish
- Staining and antiquing medium, such as DecoArt Americana
- Acrylic paint, such as DecoArt Americana: avocado, red violet, bittersweet chocolate, and milk chocolate

- Wood glue
- Sawtooth hanger
- Two-part epoxy

### Tools:

- Scroll saw blades: #2, #5 reverse-tooth
- Drill press and bits: assorted small
- Random orbital sander
- Paintbrushes: ¾" (19mm), small, flat #6 or #8 shader brush

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*



Keith Fenton has been designing scroll saw patterns for several years with his partner, Sheila Landry. They have contributed patterns and articles to several woodworking and painting magazines and e-zines. Visit their website at [www.sheilalandrydesigns.com](http://www.sheilalandrydesigns.com). If you have any questions about this project, you can reach Keith at [sheilalandrydesigns@gmail.com](mailto:sheilalandrydesigns@gmail.com).

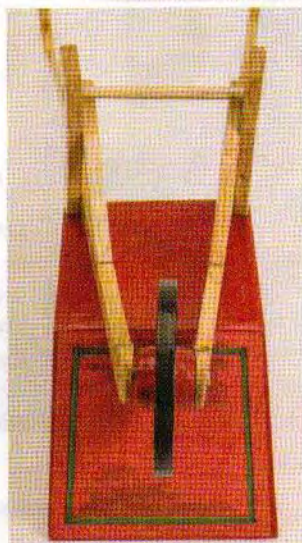
# Cheery Spring Wheelbarrow

Easy trick creates perfect "paint" design every time

By John A. Nelson



**B**ring a bit of the outdoors in with this charming wheelbarrow. Use it as a planter, centerpiece, or other display. You can paint or finish the wheelbarrow as you like or use my easy trick: use white glue or a clear-drying glue sealer like Mod Podge to attach a downloaded flower motif, creating the appearance of an expert paint job in minutes.



The long handles angle toward the wheel and are beveled at the front end. The legs angle in to support the handles. Beveled spacers are situated on both sides of the wheel.

## Making the Wheelbarrow

Several parts require you to cut the pieces to the dimensions listed. Cut the wood for the other parts to the rough sizes, stack if desired, and attach the patterns. Cut the pieces, separate the stacks, and sand as needed.

Use the top view of the handles to taper them properly. Sand a bevel into each spacer and then glue and clamp them to the wheel. Drill the axle holes. Glue the axle to one handle, position the wheel, and glue the axle to the other handle. Use glue and brads to assemble the wheelbarrow box and to attach it to the handles. Glue the legs and braces to the handles. Drill angled holes through the legs and attach the spreader. Paint the wheelbarrow box and wheel and let them dry. If desired, download and print the flower motifs and use Mod Podge or a similar glue product to attach them. Seal the project with clear finish.

## Parts List

Item	Quantity	Materials	Dimensions	Presentation	
<b>A</b>	Handle	2	Oak, ¼" (6mm) thick	1¾" x 16½" (44mm x 422mm)	Pattern
<b>B</b>	Legs	2	Oak, ¼" (6mm) thick	1" x 3¾" (25mm x 98mm)	Pattern
<b>C</b>	Spreader	1	Dowel, ⅜" (5mm) dia.	5" (127mm) long	Dimensions
<b>D</b>	Brace	2	Oak, ¼" (6mm) thick	¼" x 3¼" (6mm x 83mm)	Dimensions
<b>E</b>	Spacer	2	Plywood, ⅜" (10mm) thick	1⅛" (29mm)-dia. circles, beveled	Pattern
<b>F</b>	Axle	1	Dowel, ⅜" (5mm) dia.	2" (51mm) long	Dimensions
<b>G</b>	Wheel	1	Oak, ⅝" (16mm) thick	3¾" (95mm) square	Pattern
<b>H</b>	Side	2	Oak, ¼" (6mm) thick	3" x 7" (76mm x 178mm)	Pattern
<b>I</b>	Front	1	Oak, ¼" (6mm) thick	4¾" x 4¾" (111mm x 121mm)	Pattern
<b>J</b>	Back	1	Oak, ¼" (6mm) thick	3" x 3⅜" (76mm x 79mm)	Pattern
<b>K</b>	Bottom	1	Oak, ¼" (6mm) thick	2½" x 3⅜" (64mm x 86mm)	Pattern

## Materials & Tools

### Materials:

- Oak, ¼" (6mm) thick: 6" x 33" (152mm x 838mm)
- Oak, ⅝" (16mm) thick: 3¾" (95mm) square
- Dowel, ⅜" (5mm) dia.: 7" (178mm) long
- Plywood, ⅜" (10mm) thick: 1½" x 2½" (38mm x 64mm)
- Wood glue
- Brads
- Acrylic paints: red, green, black
- Decoupage medium, such as Mod Podge (optional)
- Clear finish
- Hammer or brad nailer
- Clamps
- Drill with bits: ⅜" (5mm) and assorted small
- Paintbrushes

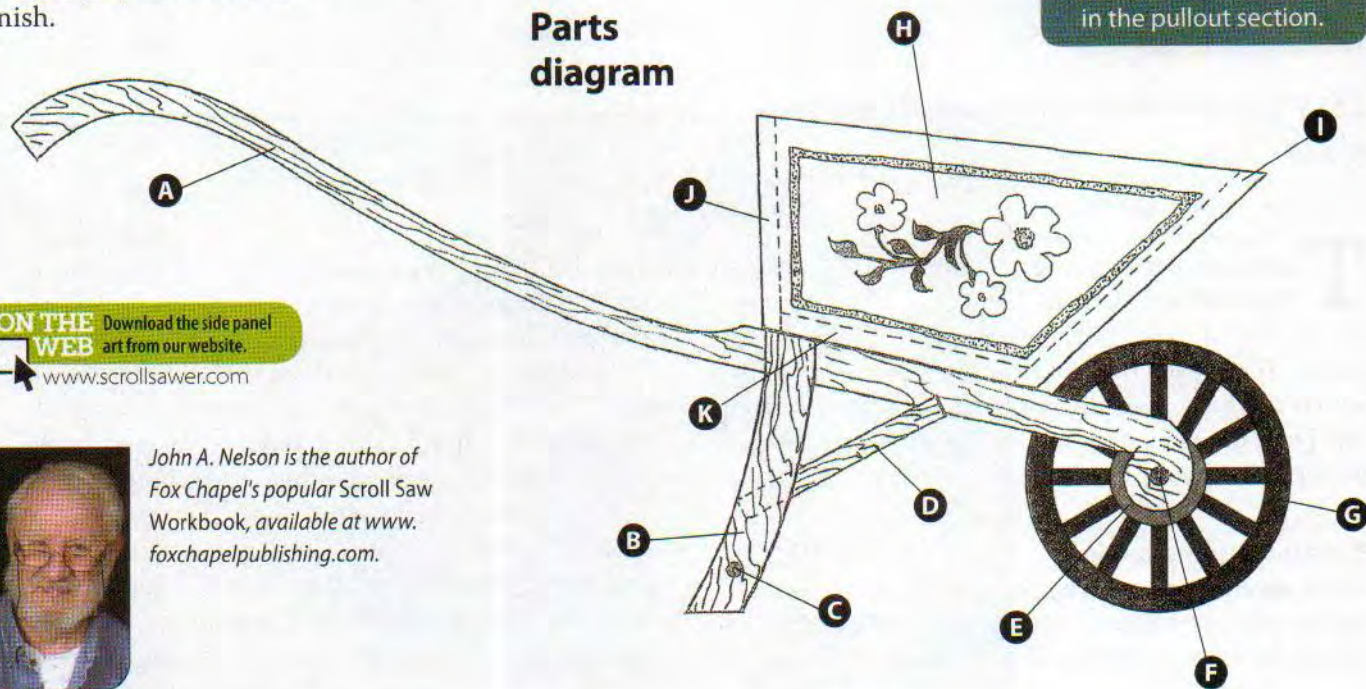
### Tools:

- Scroll saw blades: #3 reverse-tooth

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*

Patterns for the **CHEERY SPRING WHEELBARROW** are in the pullout section.

## Parts diagram

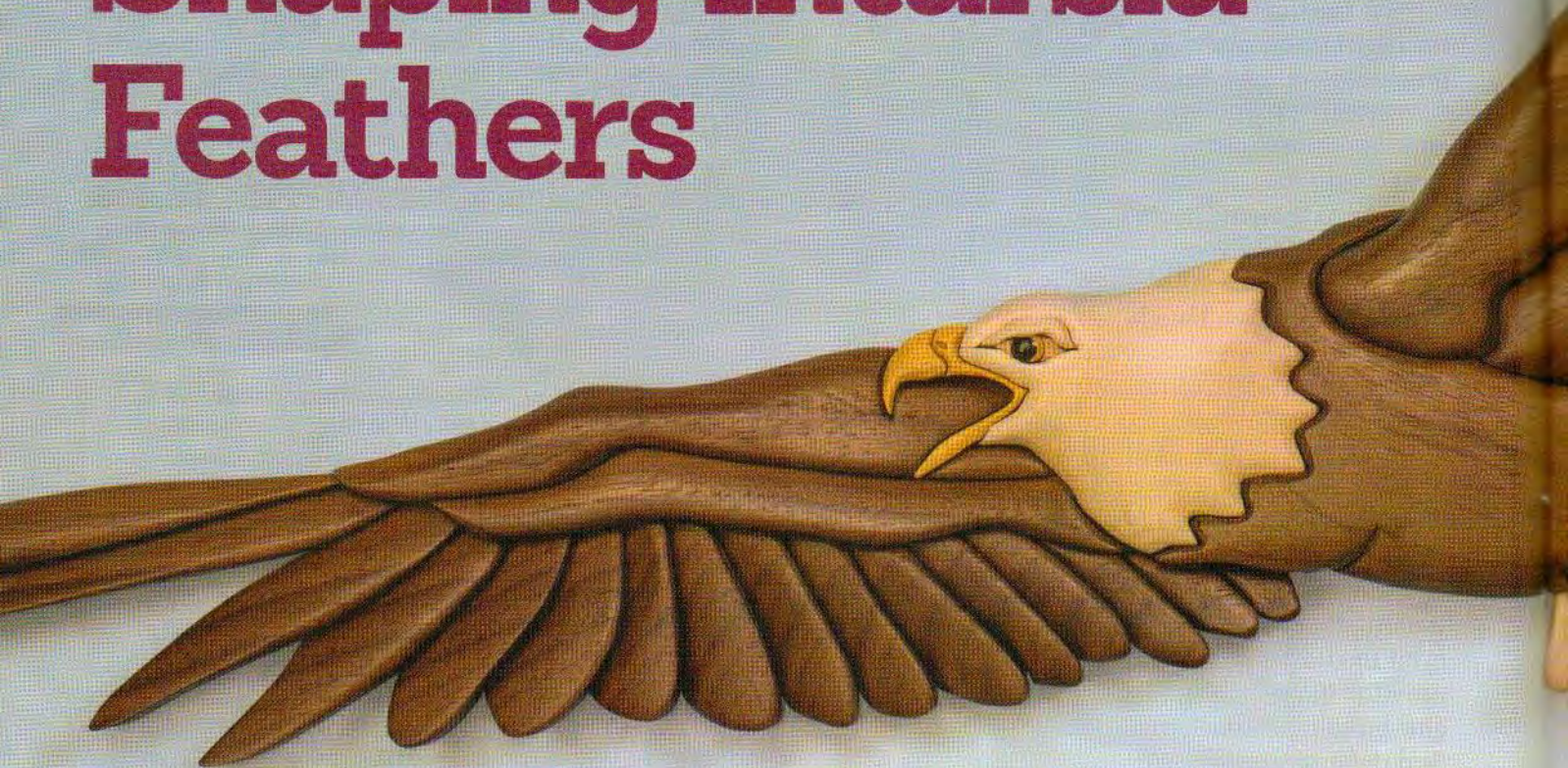


**ON THE WEB** Download the side panel art from our website.  
[www.scrollsawer.com](http://www.scrollsawer.com)



John A. Nelson is the author of Fox Chapel's popular Scroll Saw Workbook, available at [www.foxchapelpublishing.com](http://www.foxchapelpublishing.com).

# Shaping Intarsia Feathers



## Easy tips for making a realistic eagle

By Kathy Wise

**T**his eagle pattern is perfect for showing how easy it is to shape feathers. I will also show you how to use clear silicone glue/caulk to correct for the kerf (material removed by the blade) and create a tight fit, which can be challenging for pieces that are cut from one piece of wood. You can enlarge or reduce the patterns to fit your needs.

### Basic Intarsia Instructions

Make several copies of the pattern, keeping one as the master copy. Tape the master copy to a flat board. Select the wood and plane it to the desired thicknesses.

I use 1" (25mm)-thick wood for most of the project, but  $\frac{3}{4}$ " (19mm)-thick wood for the back wing, so it shapes faster. Cut the pattern pieces, spray the backs with adhesive, and attach them to the shiny side of Con-Tact brand clear shelving paper. Peel and stick the patterns onto the wood. Use a #5 reverse-tooth blade to cut the pieces, numbering the bottoms with a pencil as you complete each one. Place them on the master pattern and check the fit. As you push the feathers together tightly, there will be a gap at one end. By using silicone glue in our last steps, we can have a perfect fit.

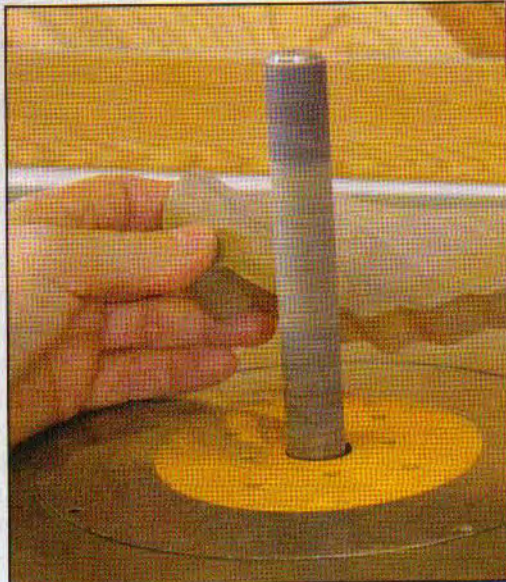


## EAGLE: SHAPING THE PIECES



1

**Mark the sanding area on each feather.** Use the wing-sanding guide found on the pattern pullout section. Determine which feather is under the one next to it, and mark the edge with a pencil or a blue grease pencil. If you sand in the order below, it will be faster with less re-sanding. Often there are many feathers, and they are small and hard to handle. If you are using a drum sander, use forceps or needle-nose pliers to hold them as you sand.



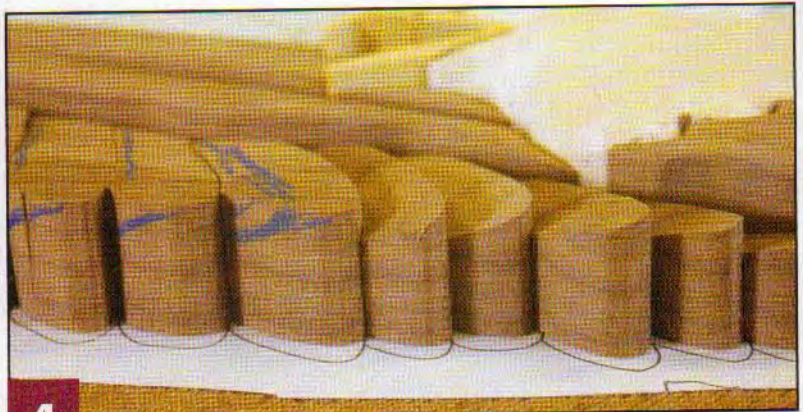
2

**Mark and sand the head, body, and upper wing sections.** Sand down to the line, always keeping the line side up and in sight. I use a drum sander for the larger pieces and an oscillating sander for the small inside curves. On the wing sections, I round the edges on these pieces first just a bit. Place them on the master pattern to see if the level is where you desire. Don't take off too much, too fast. Check each piece often and mark again as needed.



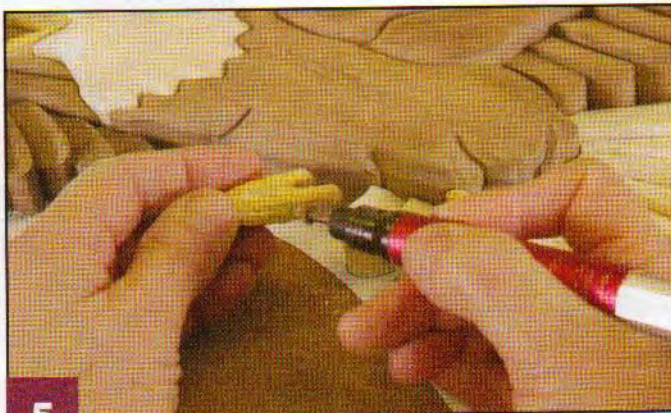
3

**Remove about ¼" (6mm) from each feather in the next row.** I start with the drum sander with a 100-grit drum and sand each feather. Sometimes you can hold two or three feathers together. Sand them to just below the upper wing sections. Sand all of the feathers under the wings and the tail section. Re-mark the lines that you sanded off between the feathers.



4

**Sand a sharp angle on each feather at the marked edge.** Leave the other edge sharp and not rounded. Work from one side to the other. Return the feather to the pattern and check that it is sanded at the correct level. You may have to re-sand each feather two or more times before it looks right. Move on to the next feather and repeat until all of the feathers are sanded to your satisfaction. Continue until you have rough-sanded all of the wing and tail feathers. Then, use a smaller drum sander with a 220-grit drum to finish-sand the pieces.



5

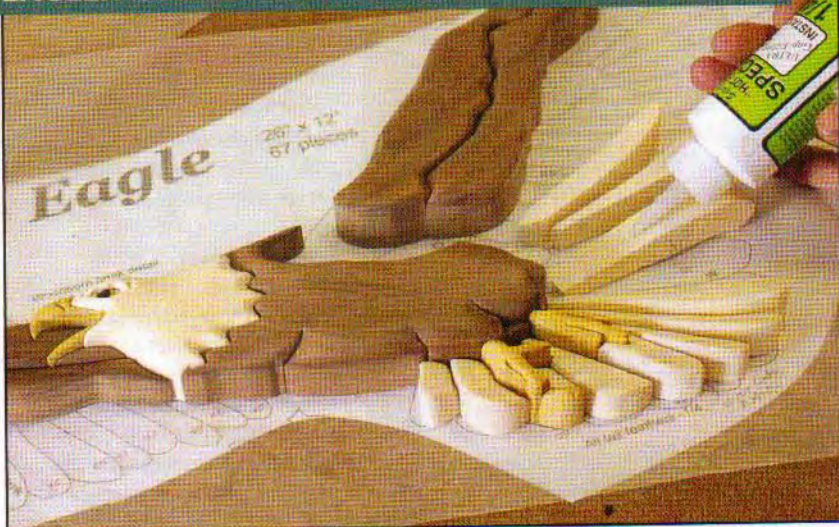
**Carve the details on the feet, eye, and body.** Use a rotary tool or hand tools. You will overlay the ebony talons and glue them in place after you pre-glue the entire piece together.



6

**Buff the pieces.** Use a sanding mop. Then, check for fit on the main body and adjust as needed—you will adjust the feathers later.

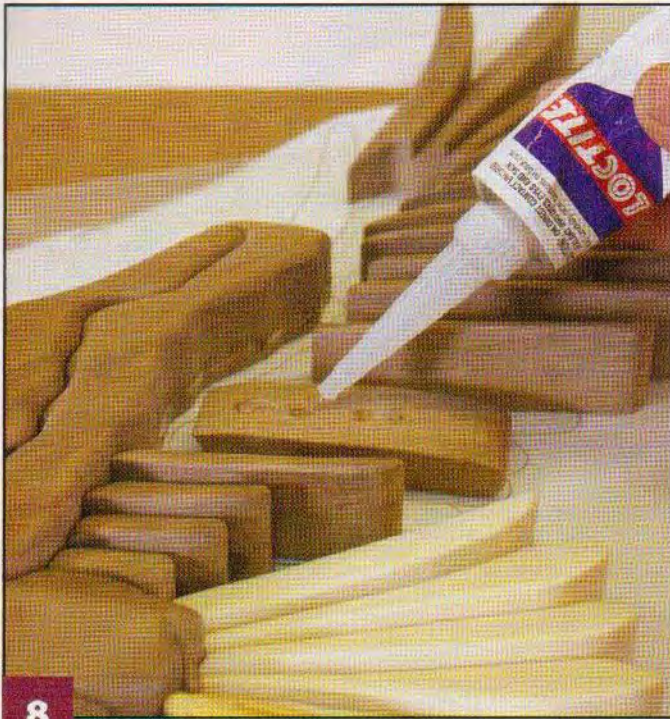
## EAGLE: ASSEMBLING THE INTARSIA



7

**Pre-glue the head, tail, and body together.**

Use cyanoacrylate (CA) glue and assemble three to four pieces at a time. Cover the master pattern with waxed paper, place the pieces on it, and let them dry. Glue sets of pieces until you have glued all of the sections. Don't use too much glue or it may ooze through the seams. Glue the tops of the wing sections (57-58), but don't glue the feathers to the wings or the upper wing to the body yet. This way the eagle will be in two pieces and be easier to handle for final gluing. Flat-sand the eagle sections on a portable drum sander, such as a Sand-flee, to create a flat bottom that will glue to the backer board well. You can CA glue the tail-section feathers to the body because the end edges don't fit up to another piece so the saw kerf won't affect the fit. Attach the talon overlays and carefully shape them.



8

**Glue the wing and tail pieces together.** I use 100% silicone glue/caulk. Place the body sections on the master pattern. Place dots of silicone glue along the upper wing and between each feather. Start at the body and move to the tip of the wing. Silicone glue needs to set overnight, so you have lots of time to adjust the feathers. Space each feather equally, following the pattern beneath.



9

**Place the pre-glued eagle onto the backing board.**

Trace the outline, cut the board, and spray it with accelerator. Place the body section onto the board, but don't glue it. Apply dots of CA glue and wood glue to the back of the wing section. Place and quickly adjust the wing section—you have about 8 seconds if you use accelerator—and apply pressure. Repeat on the other body and wing section. Spray the eagle with a coat of finish and let dry overnight. Use clear gloss on the eye to give the eagle a lifelike look. Attach a hanger to the back.

## Materials & Tools

### Materials:

- White wood, such as poplar, aspen, or wavy maple, 1" (25mm) thick: neck and tail, 7" x 10" (178mm x 254mm)
- Dark wood, such as black walnut, 1" (25mm) thick: wing, body, 8" x 16" (203mm x 406mm)
- Dark wood, such as black walnut, 3/4" (19mm) thick: back wing, 5" x 14" (127mm x 356mm)
- Yellow wood, such as yellowheart, 1" (25mm) thick: beak, eye, 4" x 4" (102mm x 102mm)
- Medium wood, such as sycamore, 1" (25mm) thick: eye, 1" (25mm) square
- Black wood, such as ebony, 1" (25mm) thick: eye, 1" (25mm) square
- Tempered hardboard, 1/4" (6mm) thick: 15" x 29" (381mm x 737mm)
- Finish: clear gloss

- Glue: cyanoacrylate (CA) & accelerator; wood; 100% silicone
- Shelf paper, such as Con-Tact brand: clear
- Spray finish: clear satin
- Spray adhesive
- Mirror-style hanger
- Waxed paper

### Tools:

- Scroll saw blades: #5 reverse-tooth
- Sanders: pneumatic drum, oscillating spindle, sanding mop
- Rotary tool with bits or hand-carving tools
- Portable drum sander

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*

Patterns for the **EAGLE INTARSIA** are in the pattern pullout section.



A nationally acclaimed intarsia artist, Kathy Wise has written three books and more than 40 articles. For a free catalog of 500 patterns, contact Kathy Wise Designs Inc., P.O. Box 60, Yale, Mich. 48097; fax 810-387-9044; [www.kathywise.com](http://www.kathywise.com); [kathywise@bignet.net](mailto:kathywise@bignet.net).



**Red Tail Hawk**  
#710



# Freestanding Car Puzzles

Celebrate the joy of summer road trips with a classic BMW 700 and VW Beetle

By Eric Van Malderen

One of the things I enjoy most is designing wooden puzzles of trucks, motorcycles, and cars. My special attention goes to cars that have sentimental value to someone or cars that have an exceptional appearance, design, or history.

A colleague asked me to design a BMW 700 as a present for a friend. In researching it, I found that this was not an ordinary car in the history of the BMW car factory. At the time of its release, BMW was close to financial ruin and needed a boost; it was thanks to this model's sales success that the company survived.

The 700 was the first BMW automobile with a monocoque structure (the body is integral with the chassis), an engine based on BMW motorcycles at the back, and a boot (trunk) with a spare wheel in the front. The company made three models: the coupé, the convertible, and the saloon. BMW's engineers also designed a special racing version, the 700 RS. I based the puzzle on a photo of a BMW 700 saloon, an LS Luxus, from 1962.

My neighbor, whose first car was a VW Beetle, inspired me to design the second car puzzle. The

Volkswagen Type 1 is the most famous VW and is regarded by some to be the most famous car ever made. It was originally designed by Ferdinand Porsche. More than 21 million cars were built between 1938 and 2003, making the VW Beetle both the longest-running and most-manufactured car of a single platform ever produced.

Until 1967, VW Beetle was called the Type 1, but because of its shape the nickname "Beetle" came into public use. The original Beetle is always called the Volkswagen Type 1, because it was the first model produced by Volkswagen. I based the puzzle on a second-generation VW Beetle model built between 1957 and 1967.

## Cutting the Puzzles

Puzzles with fine details, such as these car puzzles, rely on a good selection of wood. I chose homegrown oak for the BMW 700 and meranti, a type of hardwood from Southeast Asia, for the VW Beetle.

Attach the pattern to the blank wood, positioning it to avoid any knots. Cover the pattern with clear



packaging tape to lubricate the blade and reduce the chance of scorching the wood. Drill blade-entry holes in the windows and cut them first. If necessary, you can remove uneven parts with a file. Continue cutting the rest of the puzzle, sanding carefully. Because of the narrow and fragile pieces, I don't recommend using a flap sander to round the edges. Finish the pieces with clear Danish oil.

Patterns for the  
**FREESTANDING CAR PUZZLES**  
are in the pullout section.

### Materials & Tools

#### Materials:

- Hardwood,  $\frac{3}{4}$ " (19mm) thick:  $3\frac{1}{2}$ " x 10" (89mm x 254mm), per puzzle
- Spray adhesive
- Tape: clear packing
- Sandpaper or sanding disc: 180-220 grit
- Danish oil

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*

#### Tools:

- Scroll saw blades: #5 skip reverse-tooth
- Drill press and bits:  $\frac{1}{16}$ " (2mm)
- File (optional)

### Puzzle-making Tips

- These puzzles consist of small, sharp pieces and are not suitable for little children to play with.
- Some pieces are very thin and are easily breakable—handle your work with care.
- I recommend new scrollers practice scrolling sharp angles and straight parallel lines on waste wood first.
- Make sure that the blade is always perpendicular to the table. (See page 70 for details.)
- Change the blade regularly when working with hard woods.
- Lay out the pattern to avoid knots and small cracks. They can ruin your work when scrolling very narrow pieces and may cause the wood to break when sanding.
- Work safely and use a dust respirator.



*Eric Van Malderen lives in Dendermonde, Belgium, with his lovely wife, Rita, and awesome daughters, Mieke and Sarah. Eric works at the Belgium railways in Brussels as a G.I.S. designer. He received his Hegner scroll saw in 2002 as a 40th birthday present from his wife.*

# Cardinal Bird Feeder

Create an attractive holder for seed bells

By Paul Meisel



**S**eed bells attract all sorts of birds for your viewing pleasure. But you need to find a way to hang these tasty treats (made by compressing bird food into the bell shape). The colorful birds on this feeder do the job!

Two cardinals face each other with their beaks connected by a piece of wire. The seed bell hangs from this wire, which keeps it off the platform. I sized the pattern to provide adequate space for birds to land and enjoy their meal.

I chose cardinals for this project because they are colorful and easy to paint. You can paint both cardinals bright red or vary them by painting just the red highlights.

## Selecting the Wood

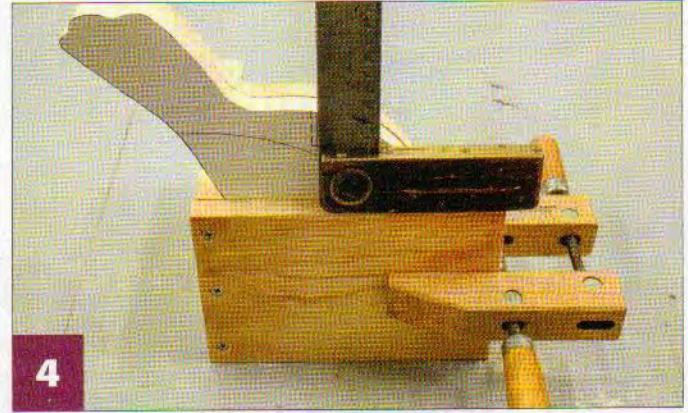
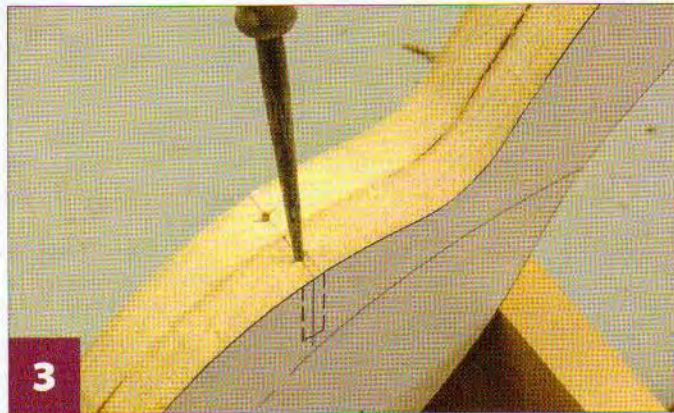
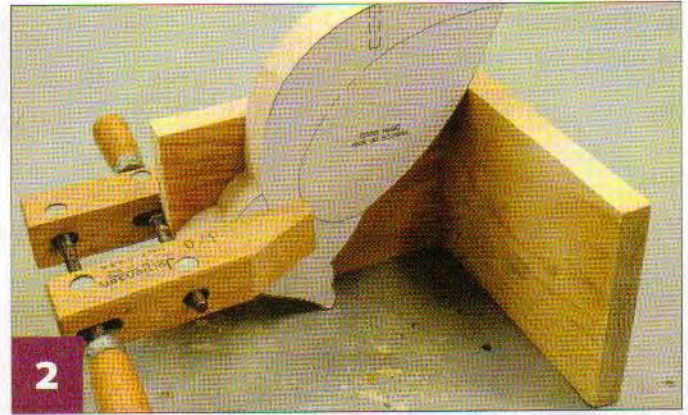
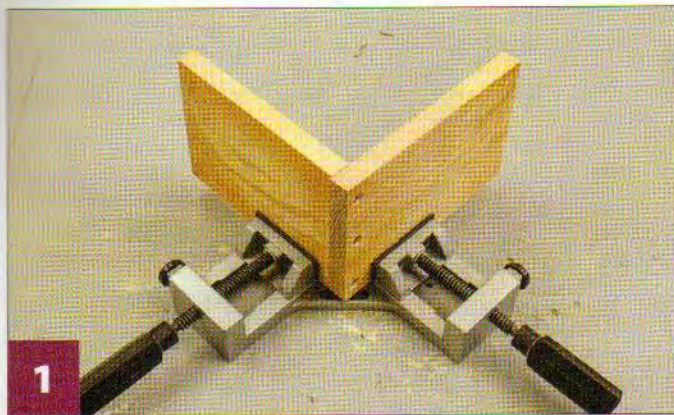
To keep material cost in check, I used cedar fence boards. Cedar fence boards are rough-cut to about  $\frac{5}{8}$ " thick by  $5\frac{1}{2}$ " (16mm by 140mm) wide by either 6' or 8' (1,829mm or 2,438mm) lengths. They are remarkably inexpensive—I found 6' (1,829mm) boards for less than \$2.50 each at my local store.

## Cutting and Assembling the Base

The cutting diagram shows one way to lay out the parts on an 8' (2,438mm)-long fence board. Two 6' (1,829mm)-long fence boards would provide extra material and allow you to cut around knots and other lumber defects.

Photocopy the patterns and attach them to the blanks with temporary-bond spray adhesive. The platform base is made using three separate pieces. The center piece can be the width of your fence board. The  $5\frac{1}{2}$ " (140mm) width promised is often closer to  $5\frac{1}{4}$ " (133mm). Cut the outside boards wide enough to bring the diameter to 14" (356mm). Use a compass to draw a 7" (178mm) radius, and then cut the perimeter of the base.

The parts for the base are connected with three cleats. I attached the cleats with water-resistant glue and 1" (25mm)-long screws. Because the wood was rough sawn, I didn't edge-glue the parts for the base. Drill  $\frac{1}{4}$ " (6mm)-diameter holes in the center of the base for the fiberglass rods that support the cardinal assemblies.



**1 Make an L-shaped jig.** Butt-join two pieces of  $\frac{3}{4}$ " (19mm)-thick scrap. The easiest way is to use a corner clamp and to attach the pieces using wood screws.

**2 Cut the cardinal bodies.** Drill an  $\frac{1}{8}$ " (3mm)-diameter hole in each beak and  $\frac{13}{64}$ " (9mm)-diameter holes for the plastic eyes.

**3 Position the two cardinal bodies next to each other.** Clamp them in the L-shaped jig. Use a square to mark the locations of the bottom holes across the edge of the parts. Use a scratch awl to mark the hole location in the center of each body.

**4 Use a square to make sure the bodies are clamped in the jig with the holes vertical.** Use a  $\frac{1}{4}$ " (6mm)-diameter Forstner bit in a drill press to drill the holes.

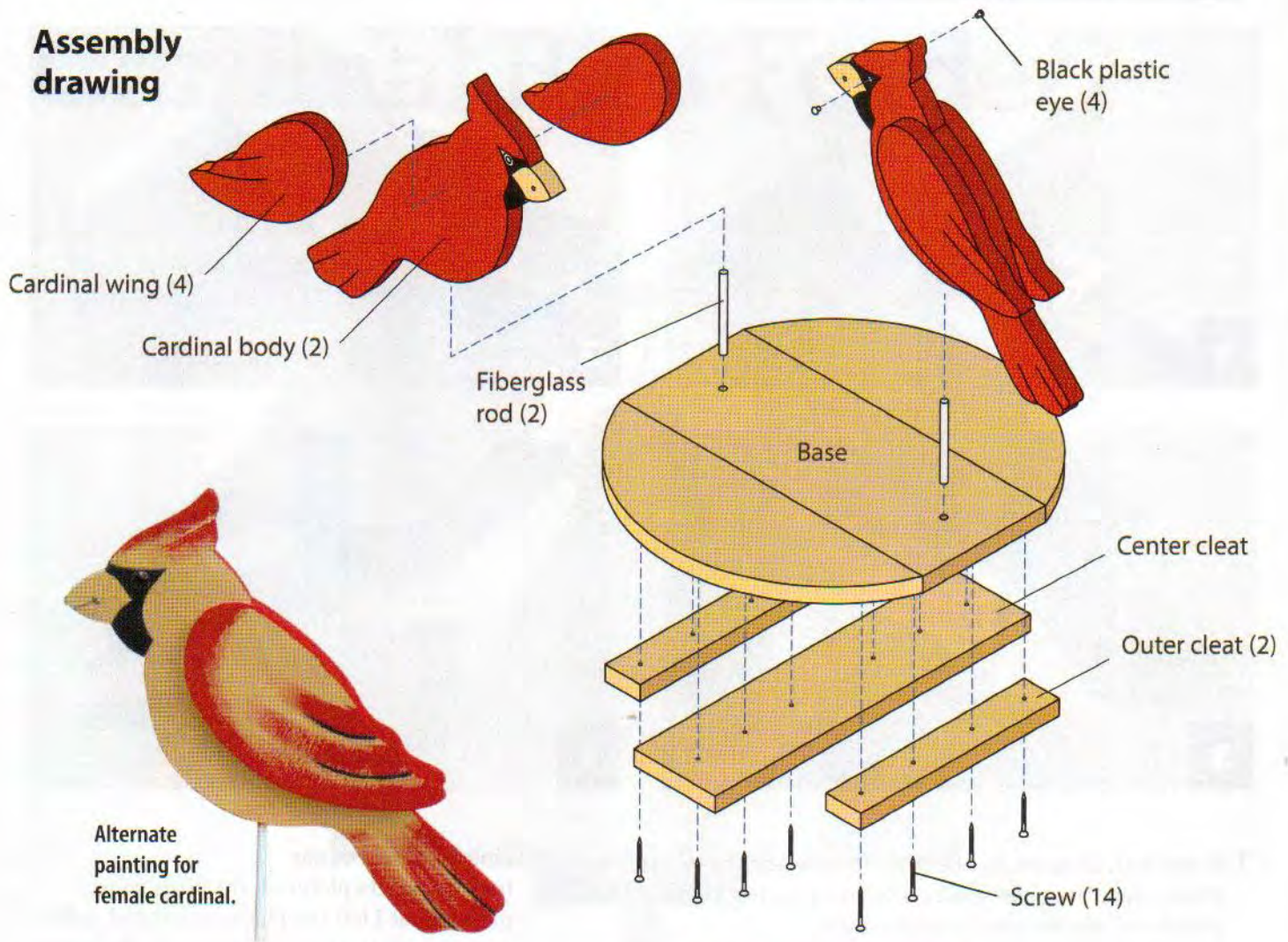
**5 Glue a wing to each side of each body.** Cut two 5" (127mm)-long sections of  $\frac{1}{4}$ " (6mm)-diameter fiberglass dowels. Insert the dowels into the holes to attach the cardinals to the base. The tips of the cardinal beaks should be at the same height and almost touch each other.

## Finishing the Feeder

In the projects pictured, the birds were painted but I left the platform natural. After painting, reattach the cardinals to the base. Slip a length of annealed wire through the holes in the cardinal beaks and twist the ends. Use a second piece of annealed wire (or even a twist tie) to connect the seed bell to the wire loop.

To keep cats, squirrels, raccoons, and other predators from killing your birds or stealing the seeds, mount the project on a post rather than hanging it from a tree. A piece of  $\frac{1}{2}$ " (13mm)-diameter pipe (pipe is measured on the inside diameter) and a floor flange make an excellent mounting post. Discourage squirrels and other predators from climbing onto the platform by greasing the pole and adding a sheet metal predator guard to the pole.

## Assembly drawing



## Materials & Tools

### Materials:

- Cedar fence board,  $\frac{5}{8}$ " (16mm) thick:  $5\frac{1}{2}$ " x 8' (140mm x 2,438mm)
- Seed bell, 1-lb. size:  $4\frac{1}{4}$ " dia. x  $5\frac{1}{2}$ " tall (108mm x 140mm)
- Scrap wood,  $\frac{3}{4}$ " (19mm) thick: 2 each 4" x 6" (102mm x 152mm)
- Fiberglass dowels (rods),  $\frac{1}{4}$ " (6mm) dia.: 2 each 5" (127mm) long (Cut from a #8637  $13\frac{1}{2}$ " or 343mm, rod)\*
- Black plastic eyes,  $\frac{7}{16}$ " (11mm) dia.: 4 each (#8627)\*
- Wood screws, flat head: 14 each #6 x 1" (25mm) long (#WS1006)\*
- Annealed wire, 18 gauge: 4' (1,219mm)-long roll (#5084)\*
- Acrylic paint: red (#02077)\* black (#02506)\*
- Spray adhesive: temporary-bond (#1447)\*
- Pipe,  $\frac{1}{2}$ " (13mm) dia.: 6' (1,829mm) long, threaded on one end (optional)
- Floor flange:  $\frac{1}{2}$ " (13mm) national pipe thread (optional)

### Tools:

- Scroll saw blades: #5 reverse-tooth
- Compass
- Drill press with bits:  $\frac{1}{8}$ " (3mm),  $\frac{9}{64}$ " (3.5mm),  $\frac{13}{64}$ " (9mm)-dia. twist;  $\frac{1}{4}$ " (6mm) dia. Forstner; countersink
- Square
- Corner clamps
- Scratch awl
- Screwdriver

Patterns for the **CARDINAL BIRD FEEDER** are in the pattern pullout section.

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*

### SPECIAL SOURCES:

Seed bells are available at most home improvement stores.

Parts marked with an asterisk above are available from Meisel Hardware Specialties. To order parts or to request a catalog, contact Meisel Hardware Specialties, P.O. Box 70, Mound, MN 55364-0070; 800-441-9870; [www.meiselwoodhobby.com](http://www.meiselwoodhobby.com).



Paul Meisel of Mound, Minn., has designed more than 3,000 woodworking plans. For more ideas of what to

build, to order parts, or to request a catalog, contact Meisel Hardware Specialties (see Special Sources).

# Fretwork Wall Clock

Large frets are fun & easy for beginners, quick for pros

By Sue Mey

**T**his attractive wall clock dresses up a room without looking too fussy or ornate. It's impressive to look at but easy enough that a beginner can cut it.

## Making the Clock

Attach a copy of the pattern to the  $\frac{1}{8}$ " (3mm)-thick overlay stock. Stack the overlay, if desired, to make more than one clock and to support the fragile fretwork. Determine the size of the hole you need for the clock insert and use a compass to draw a circle of that size in the center of the clock. Drill blade-entry holes and cut the fretwork. Separate the stack, and stack the overlay with the backing board. Cut just outside the perimeter line, and sand up to the line. Separate the two pieces, remove all of the patterns, sand everything smooth, and remove the dust. Glue and clamp the overlay to the backing board; let dry. Apply a clear spray finish. Attach a hanger to the back of the backing board, and insert the clock.

Pattern for the **FRETWORK WALL CLOCK** is in the pattern pullout section.

## Materials & Tools

### Materials:

- Hardwood,  $\frac{1}{8}$ " (3mm) thick: 11 $\frac{1}{2}$ " x 12" (292mm x 305mm)
- Hardwood, contrasting color,  $\frac{3}{4}$ " (19mm) thick: 11 $\frac{1}{2}$ " x 12" (292mm x 305mm)
- Spray adhesive
- Sandpaper
- Wood glue
- Clear spray finish

- Clock insert: 2 $\frac{3}{8}$ " to 2 $\frac{3}{4}$ " (60mm to 70mm) dia.

### Tools:

- Scroll saw blades: #2, #5 reverse-tooth
- Drill with bits: assorted small
- Compass
- Sander
- Clamps

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*



Sue Mey lives in Pretoria, South Africa. To see more of her work, including a wide variety of patterns and pattern-making tutorials available for purchase, visit [www.scrollsawartist.com](http://www.scrollsawartist.com). She can be contacted at [suem@storage.co.za](mailto:suem@storage.co.za). Her pattern book, *Lighted Scroll Saw Projects*, is available from [www.schifferbooks.com](http://www.schifferbooks.com) and other outlets.



# Summer 2016 Roundup

Say hello to  
summer with  
these fun  
projects

By Kathleen Ryan

## 1 Summer Fun

Reminding us that summer and ice cream go hand in hand, this 16" by 24" door hanger was designed and crafted by Jenna Payton of Designs by Jenna Door Décor in Central City, Ky. She cut the design and painted it with acrylics. Contact Jenna at [www.facebook.com/designsbyjennadoordecor](http://www.facebook.com/designsbyjennadoordecor).

## 2 Woodpecker Whirligig

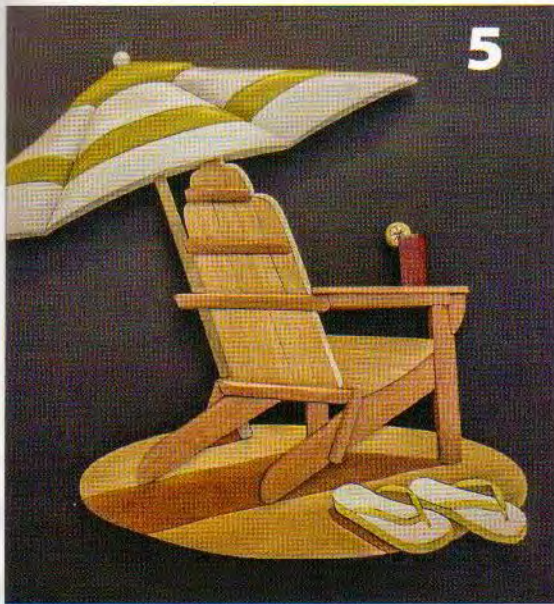
Perfect for a summer breeze, this 16" by 16" by 28" whirligig was made by Dale C. Maley of Fairbury, Ill., using an Anders S. Lunde design. Dale cut the design from plywood and painted it with enamel. E-mail Dale at [DaleMaley@gmail.com](mailto:DaleMaley@gmail.com).

## 3 3-D Butterfly Puzzle

Billy and Heather Worthen of Hobbyholica in Las Vegas, Nev., adapted a pattern to create their framed butterfly. Cut from poplar wood, it measures 5 3/4" by 7 1/2" without the frame. Contact Billy and Heather at [www.Hobbyholica.etsy.com](http://www.Hobbyholica.etsy.com).

## 4 Seashell Candle Tray

Bring the flavor of the sea into your home with this candle tray by the scroll saw pattern designer Sheila Landry. Cut from mahogany, the tray measures 8" in diameter. Contact Sheila at [www.sheilalandrydesigns.com](http://www.sheilalandrydesigns.com).



### 5 Summer Daze

Steve Wavro of Baytown, Texas, created this 78-piece beach chair intarsia scene based on a Judy Gale Roberts design. It measures 18" by 21" and is made of western red cedar, yellowheart, aspen, mahogany, and bloodwood. Contact Steve at [stevewavrointarsia.shutterfly.com/pictures](http://stevewavrointarsia.shutterfly.com/pictures).

### 6 Conch Trivet

Mike Jamgochian of MJ Scrollworks in Rockwall, Texas, cut this 6" by 9½" walnut trivet, which was designed by Jacob Fowler. E-mail Mike at [mike@mjscrollworks.com](mailto:mike@mjscrollworks.com).

### 7 Flower Box

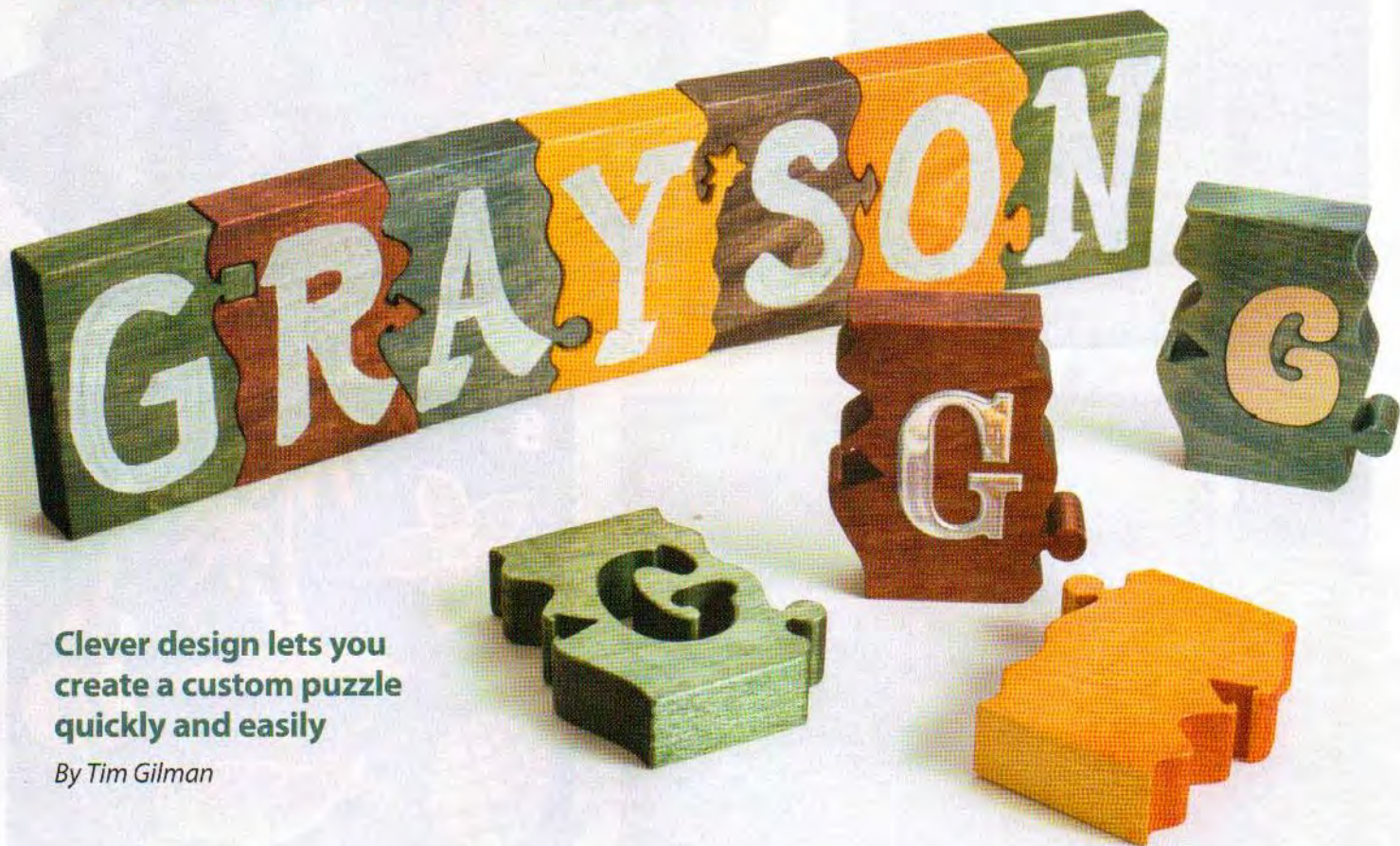
This flower box (3½" by 23" by 34") was designed, cut, and painted by Lisa Barton of Lisa Bees Craft and Design in Santaguin, Utah. Contact Lisa at [www.lisabees.etsy.com](http://www.lisabees.etsy.com).

### 8 Island Fridge Magnet Set

This five-piece Hawaiian luau set of magnets was created by Jason and Rebekah Wade of XyKit in Escondido, Calif. Contact Jason and Rebekah at [www.etsy.com/shop/XyKit](http://www.etsy.com/shop/XyKit).

*Note: These projects are intended as inspiration only. The patterns are not in this issue, nor are they necessarily available from the designers.*

# Lucky Charms Name Puzzle



**Clever design lets you create a custom puzzle quickly and easily**

*By Tim Gilman*

**P**eople love to see their name on things. Whether you scroll for craft shows or friends and family, this is the perfect project. I designed it for kids by making each key a different shape, which makes it easier for a younger child to assemble. The puzzle can be used to teach names, shapes, and colors.

I usually make each puzzle piece a different color and then add one letter to each puzzle piece. The Grayson puzzle is an example of this method, which works well for craft shows. We take prefinished blank puzzles in a variety of lengths and use a metallic silver oil-based paint marker to write the name. The customer comes back in 15 minutes and leaves the show with a custom piece.

## **Making the Puzzle**

Copy the pattern at 100%; the pattern is designed to allow you to create a puzzle that is 3" (76mm) tall and 2 to 9 pieces long. The gray dashed lines represent the

possible ends for the puzzle, and the measurements to the left of the line are the length the stock would need to be. Cut off the extra pieces you will not need at the gray dashed line, and the pattern is ready to be attached to the wood.

Make sure the blade is sharp, tensioned properly, and square to the saw table. Cut one piece at a time. After cutting each piece, test the fit of the key from both sides; adjust as needed until the key fits smoothly. Use a 180-grit mop to smooth the surfaces and to lightly round the edges.

## **Coloring the Pieces**

I use H. Behlen Solar-Lux Stain. It doesn't raise the grain and doesn't come off when I dip the pieces in a clear finish. Dip the pieces in the stain, blot off the excess with paper towels, and place them on a drying rack overnight. Solar-Lux stains are available in most primary colors, and you can mix them to make

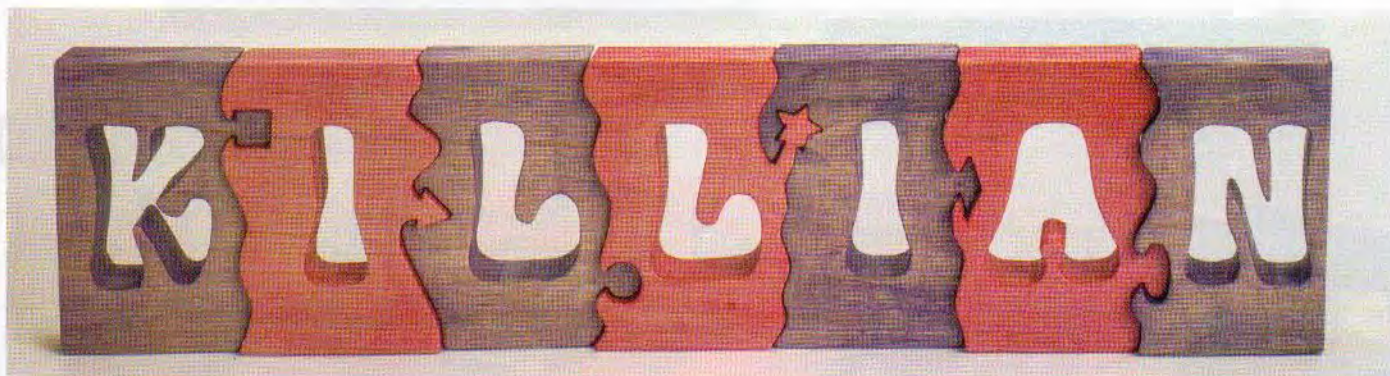
secondary colors. I made purple by mixing 4 parts Sea Blue with 1 part Medium Red Mahogany. For more colors, I mix TransTint liquid dye or TransFast powdered dye with Behlen Solar-Lux Reducer, a product intended to thin Solar-Lux stains. Unlike dyes mixed with water, this mixture does not raise the grain and does not come off when I dip the pieces in finish. After the stain dries, dip the pieces in clear finish, such as Arm-R-Seal urethane. I let them soak for about five minutes; don't leave them in too long, because the urethane will eventually start to dissolve the dye. Remove the pieces from the finish, blot them dry with paper towels, and let them dry overnight.

### Adding the Letters

At shows, I use a medium-point oil-based paint marker, such as Sharpie brand, to write letters on puzzle pieces. I searched online for "calligraphy lettering practice pages" until I found one I liked. I take a printout of it to shows and refer to it as I draw the

letters. The paint will be dry to the touch in about five minutes. Take scrap wood and pattern printouts so you can practice before you write on a puzzle. I usually practice in the morning, and then my hand seems to be programmed for the rest of the day.

If you are making name puzzles for friends or family members, let your creativity and available time determine how you add the letters. Letter stickers are a neat, easy way to add a name to the puzzle. If the child is old enough, you could let him or her choose and apply the stickers. You could also decoupage paper letters or write them with a woodburner. Cutting fretwork letters creates the feeling of a classic toy, while inlaying the letters makes a more durable and heirloom-quality puzzle. To lay out the letters for fretwork or inlay, use stencils or a computer printout of the letters with carbon paper, or gently attach stickers for cutting and then remove them.



### Materials & Tools

#### Materials:

- Maple ¾" (19mm) thick; 3" (76mm) wide; length depends on name (see pattern)
- Blue painter's tape
- Spray adhesive, such as Weldwood
- H. Behlen Solar-Lux Stain
- Behlen Solar-Lux Reducer
- TransTint liquid dye
- TransFast powdered dye
- Finish, such as General Finishes Arm-R-Seal
- Oil-based paint marker, such as Sharpie brand

#### Tools:

- Scroll saw blades: #5 skip-tooth, such as Pegas Modified Geometry
- Sanders: random orbit, 180-grit sanding mop
- Drill press (for sanding mop)

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

Pattern for the **LUCKY CHARMS NAME PUZZLE** is in the pattern pullout section.



*Tim Gilman has been teaching middle school tech ed for 11 years in Harrisburg, Pa. With the birth of his first child, Grayson, he started cutting scroll saw puzzles and now sells them at several arts and crafts shows a year and at [www.graysonsworkshop.com](http://www.graysonsworkshop.com). He also teaches scroll saw classes at the Harrisburg Woodcraft.*

# And the Winner Is...

Announcing  
the first  
winners in the  
2016 People's  
Choice Contest

SCROLLSAW  
**woodworking**  
& CRAFTS

**People's  
Choice**  
A W A R D S

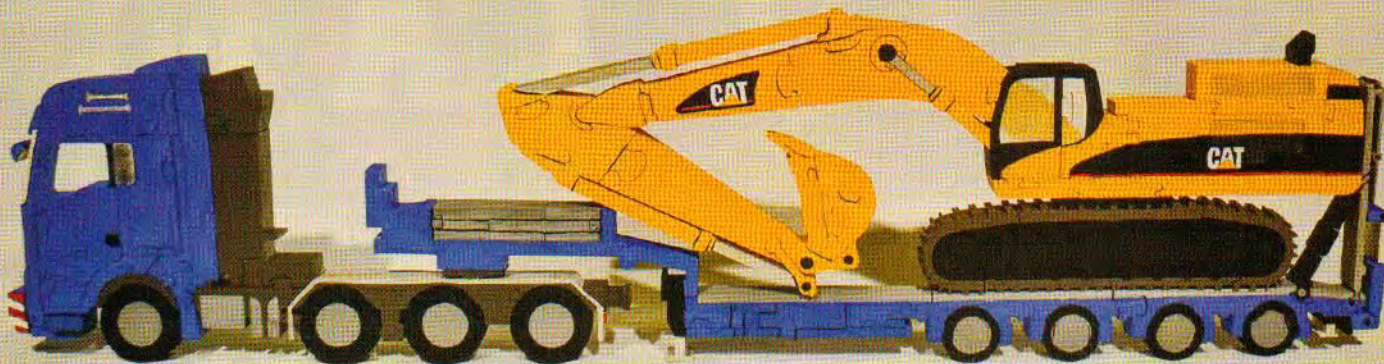
**C**ongratulations to the first winners in the 2016 People's Choice Contest!

We are trying something new this year. Instead of running one big competition, we are breaking it into ongoing mini matches. Plus, we are offering cash prizes! Special thanks to our first contest sponsors, The Wooden Teddy Bear and Mike's Workshop.

The first category, announced last fall, was Toys. Although we didn't receive many entries, they were strong designs that demonstrated creative scrolling and finishing. We'll be talking to some of these scrollers about sharing their patterns in future issues.

For information on the current and upcoming contests, see page 49 or visit [www.scrollsawer.com](http://www.scrollsawer.com).

## TOYS

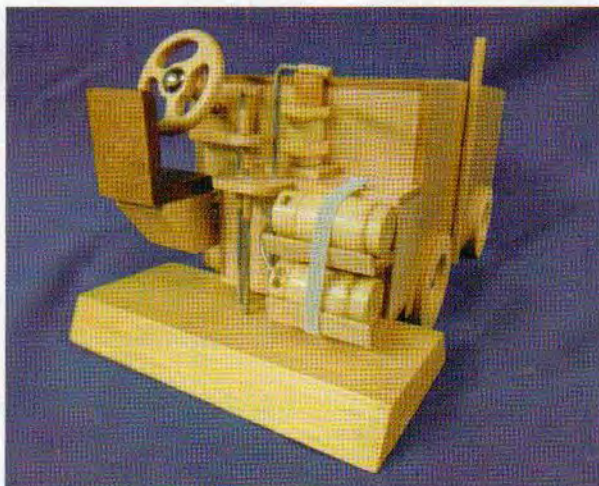


### **First Place: 3-in-1 Heavy Exceptional Transport Puzzle Set**

**Eric Van Malderen** of Dendermonde, Belgium, designed this set of three puzzles, each of which depicts a piece of heavy construction equipment: a heavy-duty tractor, type M.A.N. TGX XXL (21 pieces); a lowbed semitrailer (21 pieces); and an excavator, type Caterpillar (29 pieces). "Sometimes we all are impressed with the things and machines we see," said Eric. "Exceptional transports are one of those. The drivers of these special transports must be heroes in our busy daily traffic." The project is about 24" long and made of 3/4" plywood.

### Second Place: Kia Sportage Model

**Elzear Guignard** of Bathurst, N.B., Canada, built this model car to resemble his own 2008 Sportage. The car is 6" by 14" and made mostly of maple with walnut trim. Elzear noted, "The steering wheel actually steers the front wheels of the car." He also made the matching showcase.



### Third Place: Zamboni Model

**Nick Sabetti** of Ottawa, Ont., Canada, designed this Zamboni, 4" by 10", using photos and sketches of machines he worked on during his career as a technician. He made the model from basswood with some pine and cedar.

## call for entries

Everyone loves ornaments! Submit your best original designs—fretwork, compound, intarsia, etc.—for a chance to win cash prizes! Your ornaments can be any size, any material, and painted or unpainted, but they must be made mostly with a scroll saw. Special thanks to our friends at CarveBuddy for sponsoring the cash prizes for Contest 3—Ornaments: Painted & Unpainted.



### Entry Information:

- Please e-mail one high-resolution photo or mail one professionally printed photo of your entry, along with the following information: Category, piece name, size, type of wood, and story/inspiration, if any. Also, include your name, address, and e-mail address. If you do not have e-mail, include a phone number instead.
- E-mail your entries to: [Editors@scrollsawer.com](mailto:Editors@scrollsawer.com) with a subject of SSW Contest #Ornaments. Or, mail to: SSW Contest #Ornaments, Fox Chapel Publishing, 1970 Broad St., East Petersburg PA 17520. Entries must be received by June 1, 2016.
- All entries must be original designs created by the entrant. They cannot be made from, inspired by, or variations of anyone else's pattern; they cannot be class projects; and no one else can have helped with the piece. By entering, you verify that your entry is your own creation.
- See the Rules for important entry details. Visit [www.scrollsawer.com](http://www.scrollsawer.com), or send an SASE to the address above to request a printed copy.

Contest	Category	Entry Period	Online Voting	Winners Published
3	Ornaments: Painted & Unpainted	March 16 – June 1, 2016	June 15-30, 2016	Fall/Holiday 2016 issue
4	Functional: Kitchen or Office (items to use in either room)	May 17 – September 1, 2016	September 15-30, 2016	Winter/Spring 2017 issue



Special thanks to our friends at CarveBuddy for sponsoring the cash prizes for the contest!



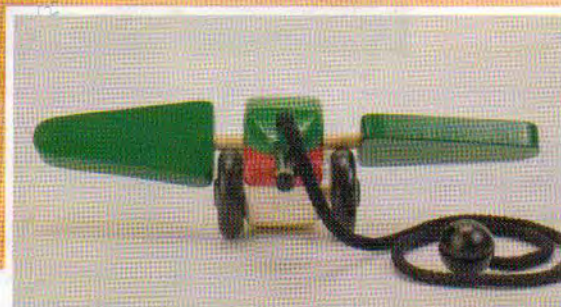
# Harold the Hurried Hummingbird

**Simple mechanism makes  
the wings flutter fast**

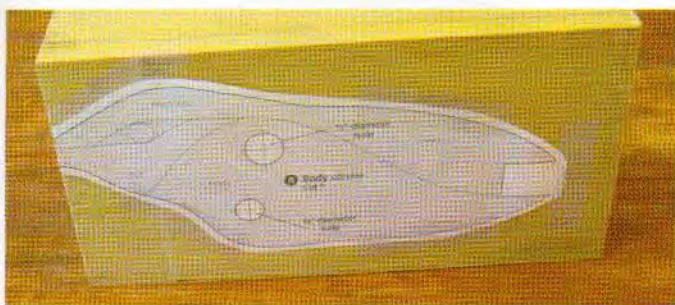
*By David Wakefield*

**T**his fellow was in my first book, *How to Make Animated Toys*, but I decided to revisit him because I thought that he was too small for a pull toy. He needed to be more substantial, so I scaled him up.

Harold's mechanism is fairly simple, but this is the only toy I have used it on so far. (Watch for a bee in my next book!) The axle of the little wings rests on the wheels. Because the axle is much smaller in circumference than the wheels, the wings spin very quickly, like the whirring of hummingbird wings.



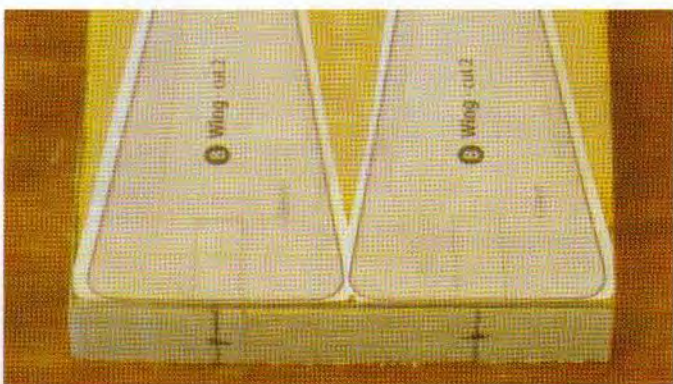
## CUTTING THE PIECES



**▲ Step 1: Lay out the side view of the body.** Orient the pattern on the blank with the beak hole perpendicular to one sawn end-grain edge. Stand the other parallel edge on the drill press table and drill the beak hole.

**Step 2: Drill the holes for the eyes, axle, and wing dowel.** Cut the perimeter on a band saw or scroll saw. Edge-sand the perimeter, and then round the edges with a router and a 1/4" (6mm)-radius quarter round bit. I use a carbide-tipped bit with a roller bearing to route the edges of my toys to avoid burning the sides. It saves a lot of sanding time.

**Step 3: Attach the bottom-view pattern to the body.** Cut the perimeter. Mark a 1/2" (13mm)-dia. hole under the chin for the pull cord knot. Drill that hole partway through, switch to a 1/4" (6mm)-dia. bit, and drill the rest of the way through. Drill a 1/4" (6mm)-dia. hole in the back for the tail pin. Edge-sand it and rout the edges that you can (the central flat areas). Use a four-in-hand to round the remaining edges. Hand-sand the routed edges and set it aside for painting.



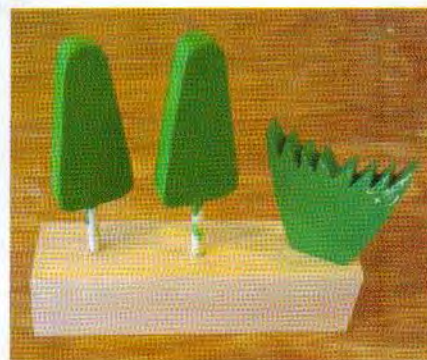
**▲ Step 4: Attach the patterns to the wings.** Orient the patterns so the axle hole for each wing is at a right angle to an end-grain sawn edge. This makes it easier to drill the axle holes with a drill press. Drill the holes.

**Step 5: Cut the perimeter of each wing.** Use the scroll saw or band saw. Edge-sand and flat-sand the wings. Then, hit the corners with sandpaper. Drill the hole for the tail pin, and then cut the perimeter of the tail. Sand the tail and round the edges. Set both aside for painting.

## PAINTING THE TOY

**Step 6: Transfer the paint lines to the body.** I use the colored carbon paper made for transferring patterns to material. You'll find it at any fabric store. Transfer the paint lines to the body sides. Draw a line from one side to the other to clarify where the red and white meet under the chin.

**Step 7: Paint the hummingbird body.** It is easier to paint the body before gluing the beak in place. Paint one color at a time and let it dry thoroughly before adding the next color. It's a bit tricky where the colors meet. I found that by the time I finished the second or third coat I got the hang of sweeping along the joining lines. A smooth line is more important than perfect accuracy. Once the body is done, glue the beak in place and paint it as well. For the wings, I put a temporary dowel in the hole, drilled a matching hole in a scrap of wood, and propped the wings upright so the paint can dry without touching anything. The tail can simply sit on the front edge to dry, as that won't be seen after assembly. Paint the wheels and the pull handle.



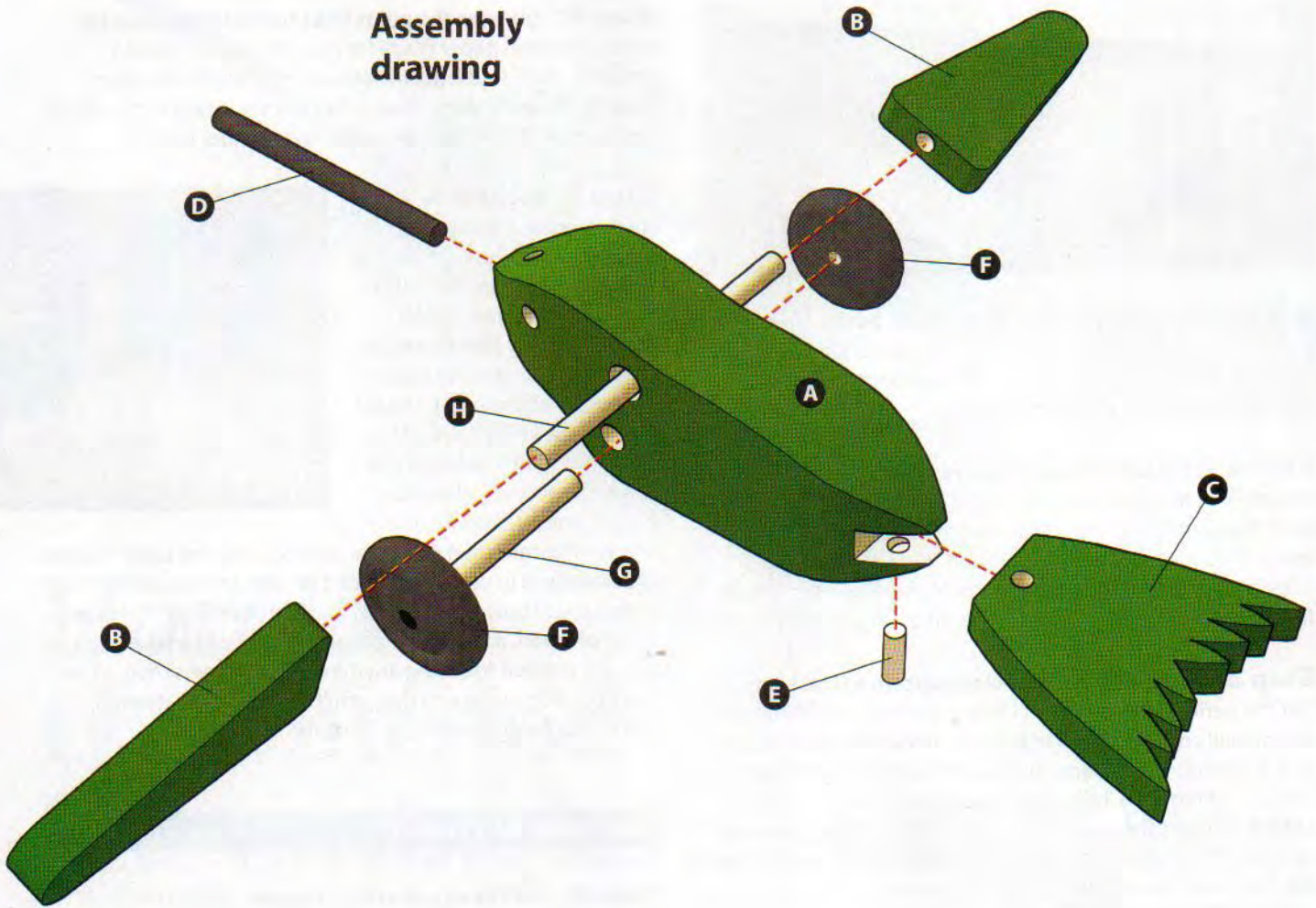
## ASSEMBLING THE TOY

**Step 8: Cut the wheel axle to length.** Round the ends slightly with sandpaper, so they don't push all the glue out of the holes during assembly. You can crimp the ends with pliers for more glue surface if you like. Put glue inside each wheel hole. Place one wheel hub down on waxed paper and use a 16oz hammer to drive the dowel into the hole. Wipe off the excess glue, slide the axle through the body, and repeat for the other wheel. When the glue has dried, edge-sand the axle hubs and touch up the paint.

**Step 9: Attach the wings.** Use the process for attaching the wheels. Rotate the wings so they are at right angles to each other. This makes them look more fluttery, and they will have less of a tendency to shift off the wheels when you pull this fellow along. Glue the tail into place and insert the tail pin to reinforce the joint. Touch up the paint as needed.

**Step 10: Cut the pull cord to length.** Melt the ends to prevent unraveling. Tie an overhand knot in one end and pull it through from the bottom until the knot sits in the hole under the chin. Thread it through the pull cord handle and tie a knot in the other end. Pull it through until the knot seats in the hole in the handle. You've brought one more (rather large) hummingbird into the world to delight a small child or grace an executive's desk.

## Assembly drawing

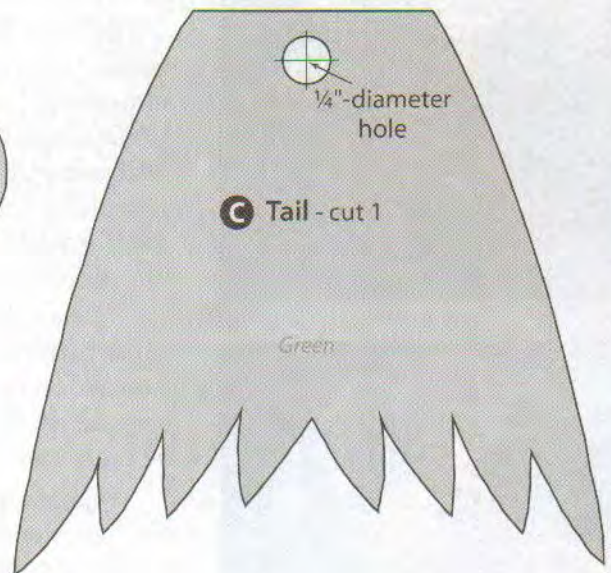
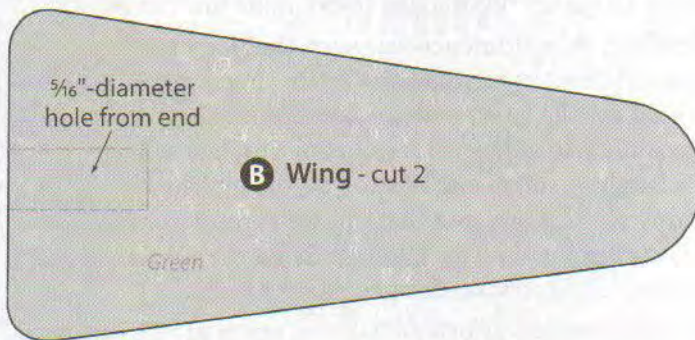
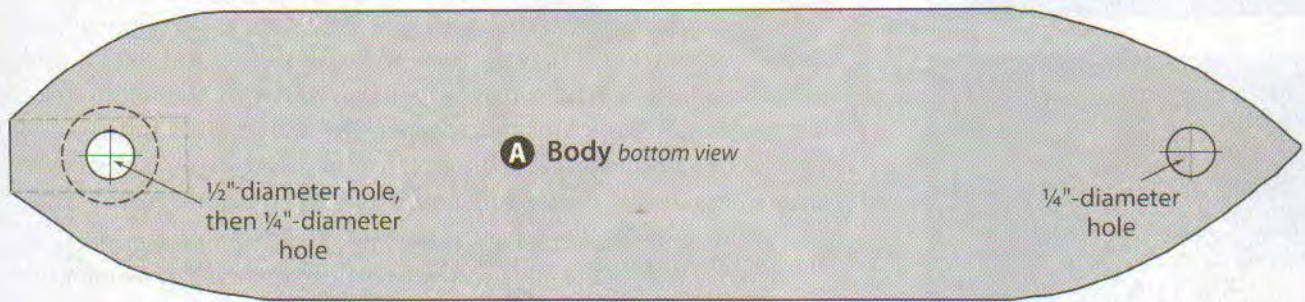
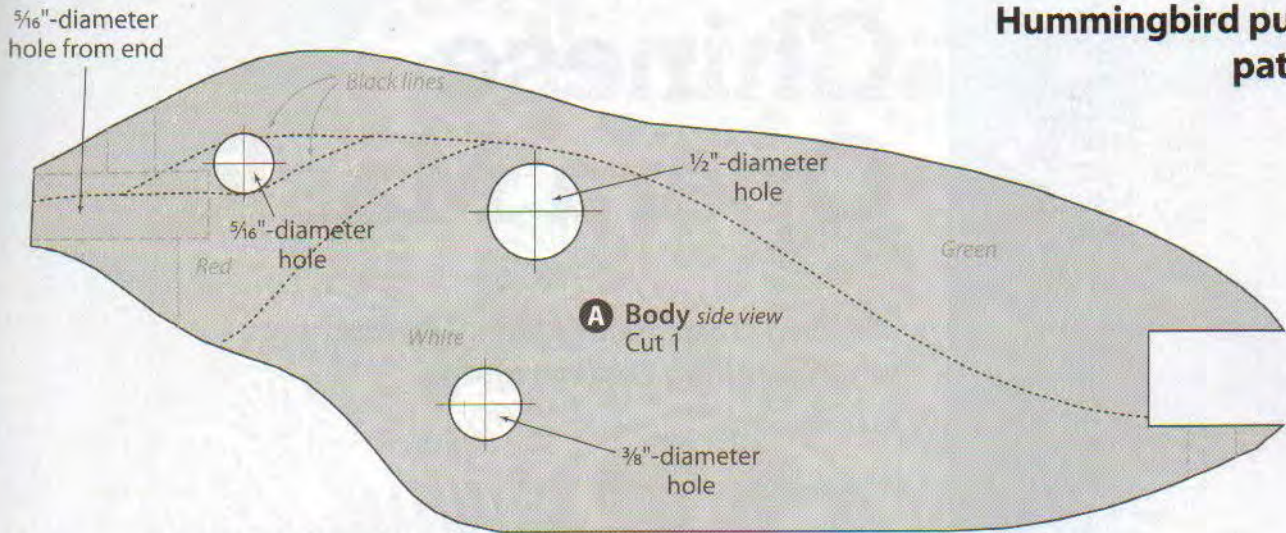


**ON THE WEB** See a video of the pull toy in motion on our website.  
[www.scrollsawer.com](http://www.scrollsawer.com)

### Parts List

	Item	Quantity	Materials	Dimensions	Presentation
<b>A</b>	Body	1	Hardwood, 1½" (38mm) thick	2½" x 7" (64mm x 178mm)	Pattern
<b>B</b>	Wings	2	Hardwood, ½" (13mm) thick	2" x 4" (51mm x 102mm)	Pattern
<b>C</b>	Tail	1	Hardwood, ½" (13mm) thick	3" x 3" (76mm x 76mm)	Pattern
<b>D</b>	Beak	1	Dowel, ⅝" (8mm) dia.	4" (102mm) long	Dimensions
<b>E</b>	Tail pin	1	Dowel, ¼" (6mm) dia.	¾" (19mm) long	Dimensions
<b>F</b>	Wheels	2	Commercial wheels	1¾" (44mm) dia.	NA
<b>G</b>	Wheel axle	1	Dowel, ⅝" (8mm) dia.	3" (76mm) long	Dimensions
<b>H</b>	Wing axle	1	Dowel, ⅝" (8mm) dia.	4¼" (108mm) long	Dimensions

# Hummingbird pull toy patterns



## Materials & Tools

### Materials:

- Hardwood, 1 1/2" (38mm) thick: 2 1/2" x 7" (64mm x 178mm)
- Hardwood, 1/2" (13mm) thick: 4" x 7" (102mm x 178mm)
- Dowel, 5/16" (8mm) dia.: 11 1/2" (292mm) long
- Wheels: 2 each 1 3/4" (44mm) dia.
- Soft black cord, 1/4" (6mm) dia.: 24" (610mm) long
- Wooden handle bead, 1" (25mm) dia. with 1/4" (6mm) dia. through-hole and 1/2" (13mm) dia. stopped hole

- Acrylic paint: green, red, black, white
- Wood glue

### Tools:

- Scroll saw blades, #7 reverse-tooth
- Drill with bits: 1/4" (6mm), 5/16" (8mm), 1/2" (13mm), 3/8" (10mm)
- Hammer
- Paintbrushes

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.



David Wakefield's love for wildlife, combined with his down-to-earth designing and woodworking skills, results in an uncanny ability to capture the character and movement of creatures in hardwood for children (and adults) to play with. David lives in Ohio, where he has been designing toys for 35 years.

# Chinese Opera Masks

Western craftsman creates Zen moments when scrolling Eastern motifs

By Kathleen Ryan

California scroller Paul Senko refers to himself as a jack-of-all-trades. When he is not earning a living, the 52-year-old can be found at his scroll saw. Paul took to scrolling about 10 years ago, making toys, animals, trains, and puzzle boxes. As his confidence grew, he began to focus on fretwork. "I'm all in for cutting anything I think looks nice, especially if it involves fretwork. After a bad day, it's like Zen meditation for me," said Paul. Paul enjoys scrolling so much that his personal motto is, "Fretting life away."

Like many new scrollers, Paul shied away from complex projects at first. "I used to look at the advanced patterns and wonder how people could ever do them," he said. "I bought a really advanced pattern and realized that it's the exact same process as the easy patterns. It doesn't matter if there are 10 cuts or 1,000 cuts. It's all done one cut at a time!"

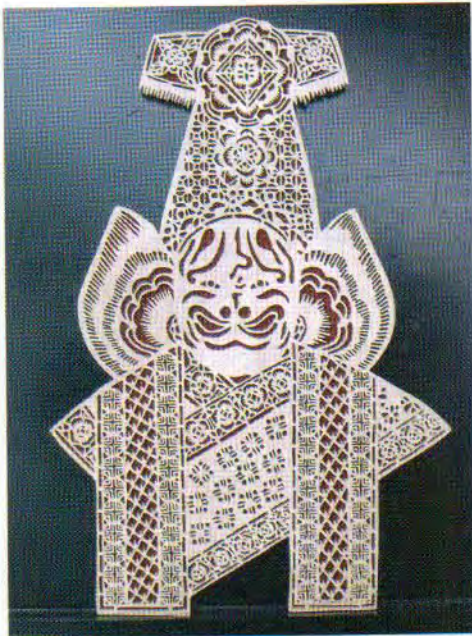
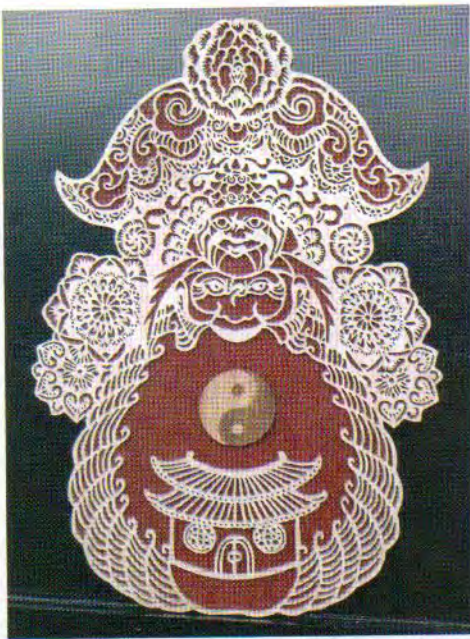
By 2013, however, his confidence was such that Paul was searching for new and unusual projects to work on. "Every time I thought I'd found something, I would get the latest issue of *Scroll Saw Woodworking & Crafts* magazine, only to discover that someone else had already done it!" Paul said with a laugh. "I spent a lot of time on the internet trying to find something I hadn't seen before, and that's how I came across the Chinese opera masks." Long fascinated with Chinese culture, Paul was instantly drawn to the history and intricate designs of the masks.

To date, Paul has created 17 ornate wooden opera masks based on paper patterns he finds online. Depending on its complexity, each mask can take 30 to 40 hours to complete. "I like to take my time with them, because when you get in a hurry, that's when you make mistakes," he cautioned.

To make a mask, Paul transfers a paper pattern onto a piece of Baltic birch plywood and digs in. After hours of precise cutting, he lightly sands the completed mask and mounts it on a luan plywood backing. He paints the masks with environmentally friendly water-based stains.

Ralph Waldo Emerson once said, "The reward of a thing well done is having done it." Paul Senko feels the same way about his masks. Although he does not sell them, he shows them every chance he gets, because, he said, "I really enjoy seeing the smiles on people's faces."

Contact Paul Senko at [paulsenko@hotmail.com](mailto:paulsenko@hotmail.com).





### **History of Chinese Opera Masks**

Chinese opera masks can be traced back 3,500 years, which is when shamans first used them during religious ceremonies and healing rituals. The masks became part of traditional Chinese culture, playing an intricate role in welcoming the gods, protecting homes, totem worship, and casting out evil spirits. The masks also have a long history in the arts, particularly in dance and opera. During the Ming Dynasty (1368 to 1644 A.D.), different mask colors began to signify the personality

traits of the characters in theatrical productions. The masks were made from cloth, leather, shells, metal, and wood. Depending on the craftsman and the purpose of the mask, it would either possess a true-to-life appearance or represent different emotions. Today, Chinese opera masks are used in dance performances, cultural celebrations, festivals, and opera. Many traditional Chinese opera masks are now displayed in museums and prized by collectors.

# Scrolling for a Song

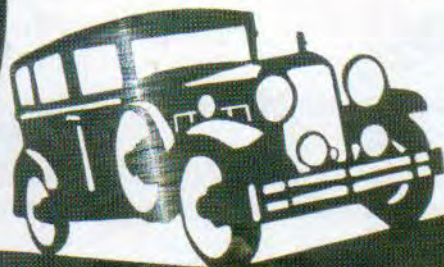
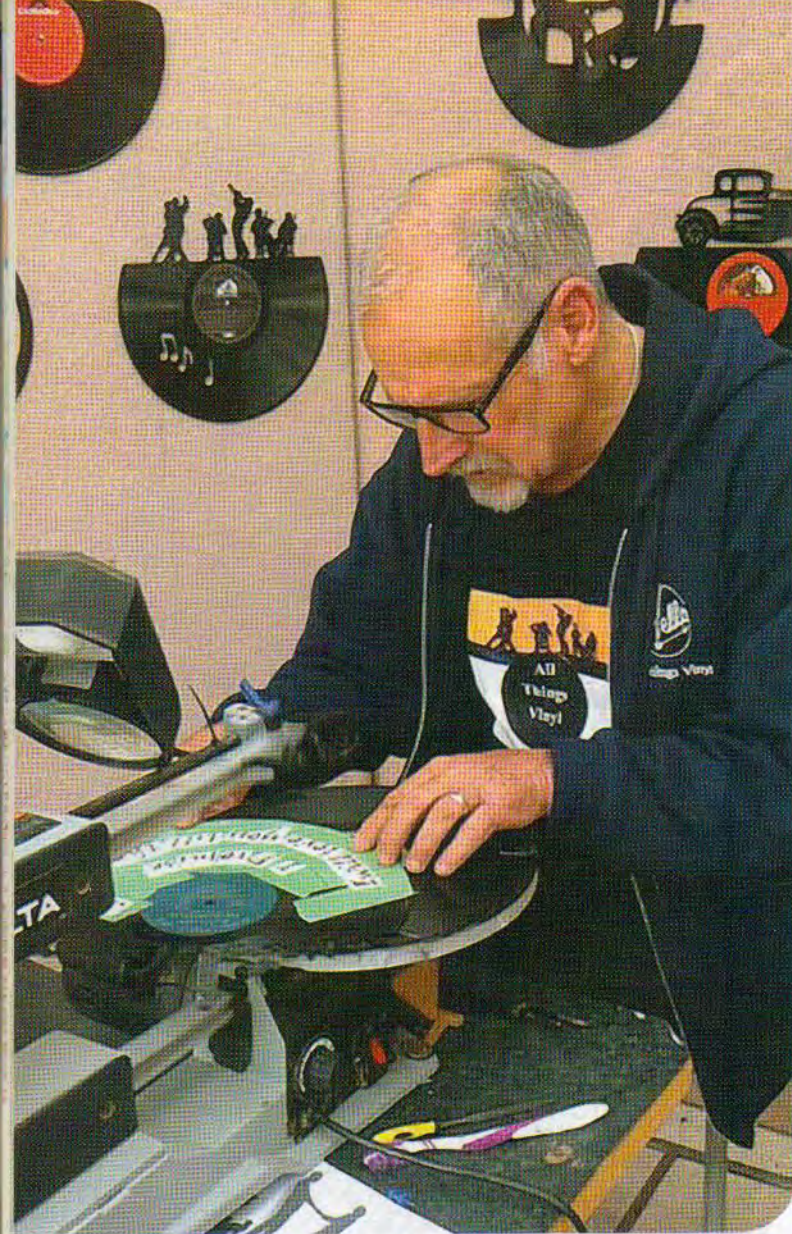
Woodworker gives new life to old vinyl records

By Kathleen Ryan

**B**arry Wright's vinyl record artwork venture is humming along quite nicely. In fact, ever since the New Zealand woodworker began scrolling old vinyl records, it has become somewhat of a compulsion for him. "I started experimenting with them on my scroll saw and was immediately hooked. From there it just snowballed!" he said.

For those who might be cringing at the thought of ripping through vintage or collectible record albums, rest assured. Barry only uses records that are already scratched, chipped, or otherwise damaged beyond repair and are unplayable. He and his wife, Tina, scour secondhand shops and garage sales in search of such records. "I do not cut any vinyls of significance," said Barry. "They are mostly old classical music and symphony recordings—things that are dime a dozen today and rarely played. Many of our friends have left boxes of them on our doorstep!"

A carpenter by trade, Barry began scrolling as a hobby about 20 years ago by making wooden toys for his children. This evolved into scrolling plaques, which he donated to local organizations. After seeing photos of scrolled vinyl records in a magazine, he decided to give it a whirl in February of 2015. Now, he's turning them out one after another and selling them on the weekends from his home workshop and at a local marketplace. Not only does the couple turn



vinyl records into wall art, they also cut and press vinyl into bird feeders, fruit and egg bowls, and mirror frames. They cut other vinyl scraps into butterfly and dragonfly shapes for garden art. They even recycle the old album covers. "My wife and I trim the sleeves, then turn them inside out and re-tape the edges for packaging," Barry said.

Having worked with wood all of his adult life, Barry appreciates combining the capabilities of the scroll saw with the unique properties of vinyl. "What I enjoy most about working on a scroll saw is the quietness and cleanliness of the machine and its capability to do intricate work," he said. "Scrolling vinyl is quite pleasant. There are no fumes or mess whilst cutting because the residue clings together in the catchment area."

Barry sources his basic patterns from magazines, photographs, and the internet and adapts them accordingly. "People may see a picture and want other details, so I cut and paste, moving things around to achieve the desired effect." Although he does take special requests for designs and sentiments, he most often draws inspiration from the record label itself. "I try to link the patterns I select to the record label whenever possible. For instance, if the original pattern I came across had a couple dancing with a four-piece band alongside, I'd try to find a record label that has the word 'dance' or 'dancing' on it to link the two together," Barry explained.

After Barry selects and adapts a pattern, he adheres it to a vinyl disk with masking tape and begins cutting. According to Barry, not all records are a standard thickness; some are very fragile, which he usually determines after the first three or four cuts. If the record proves to be problematic, he will abandon it and start again. Even with the strongest records, cracks and mishaps can and do occur. "That's when I have to be clever enough to recut around a mistake," said Barry with a chuckle. "This is what makes each piece an individual work of art."

Contact Barry at [barrytina@xtra.co.nz](mailto:barrytina@xtra.co.nz).

## Tips for Scrolling Vinyl

By Barry Wright

- Involve your spouse or partner, because this is very addictive—it may consume your thoughts 24/7!
- Look around for patterns that inspire you, and think outside of the box.
- Practice different ways to mask/tape, and experiment with various types of blades before you start to avoid disappointment.
- Tape a record onto the scroll saw table to give it a smooth surface to glide the working record over (this also provides a smaller tolerance hole around the blade).
- Keep your work area tidy and clean, as little bits of vinyl can stick to clothing.
- For the initial cleanup of the vinyl, use a toothbrush with medium to hard bristles to get rid of most of the bulky residue. Follow with deburring tools and files.
- A quality deburring tool and small files are essential to smooth the cut edges. A sheet metal tool works for me, while my wife sometimes uses emery boards.
- To remove glue or stickiness from tape residue on the record, apply isopropyl alcohol to a clean cloth and gently wipe.
- Always store your record away from direct sunlight and heat to avoid warping.
- Doing delicate work requires your full attention. Be sure there are no distractions or interruptions while cutting, as this is when mistakes happen.



# Cutting Vinyl Records



## Turn a vintage record into an attractive clock

By Deborah Nicholson

If you go to a thrift store, you can find bunches of old vinyl records. After making sure you're not choosing a rare or valuable record, transform a record into an attractive project. I added a beach scene to this beach-related record and turned it into a clock. You can cut any sort of silhouette into the record.

### Cutting Records

Cover the surface you plan to cut on both sides with masking tape, to keep the cut shavings from melting back to the record. Then, cover the surfaces with thin cardboard and tape it in place to support the fragile record. Attach the pattern to the cardboard.

When cutting, use a slow speed to reduce the heat generated. The slower speed also gives you better control. After cutting, remove the cardboard and tape. Drill a hole for the clock mechanism and secure the mechanism to the record. For a different look, I attached some of the silhouettes I cut to the record with Goop adhesive. If your mechanism doesn't include a hanging hook, use Goop to attach a small piece of wood to the back of the clock and attach a hanger to the wood.

### Materials & Tools

#### Materials:

- Vinyl record
- Masking tape
- Thin cardboard
- Spray adhesive
- Adhesive, such as Goop
- Clock mechanism

#### Tools:

- Drill with bits: assorted small
- Scroll saw blades, #2/0 reverse-tooth

#### SPECIAL SOURCES:

Clock mechanisms are available at most large retailers and craft stores.

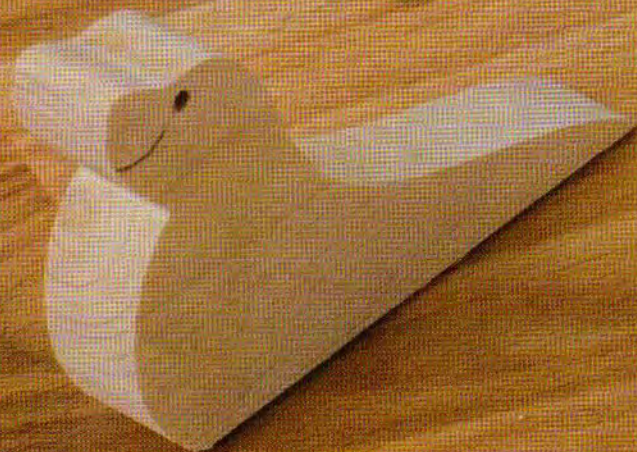
The author used these products for the project.  
Substitute your choice of brands, tools, and materials as desired.



Deborah Nicholson grew up in Chicago and has lived in Hernando Beach, Fla., since the late 1990s. An artist all of her life, she works in various mediums, including mosaics, clay, and paint; she especially enjoys combining media. Deborah began working with wood by making frames with her father, who is also an artist.

Patterns for **CUTTING VINYL RECORDS** are in the pattern pullout section.

# Animal Doorstops



A quick and easy solution to unwanted wood scraps

By Carl Hird-Rutter

**M**y shop is full of scraps, which I find hard to throw out. I thought of a way to remedy this problem with doorstops that can be cut from  $\frac{3}{4}$ " (19mm) scraps or even 2x4 offcuts.

## Making the Doorstops

Photocopy and attach the pattern, placing the pattern on the milled edge of the wood to ensure a straight cut. Cut the pattern using a #5 reverse-tooth blade. Drill holes for the eyes. Perform an inside cut on the beak of the owl. Sand and finish, or leave natural. If the doorstop slips on the floor, glue a piece of foam shelf liner to the bottom.

## Materials & Tools

### Materials:

- Wood scraps: at least  $\frac{3}{4}$ " (19mm) thick
- Sandpaper

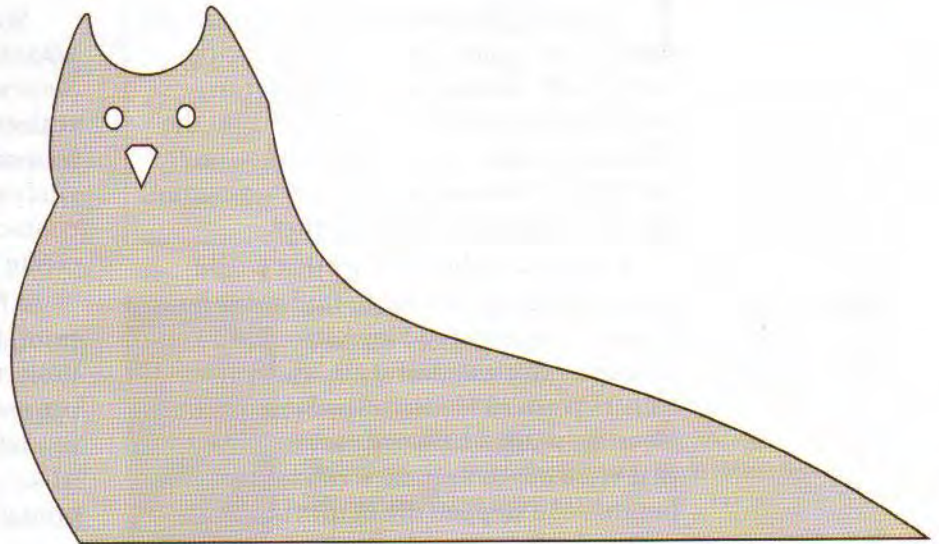
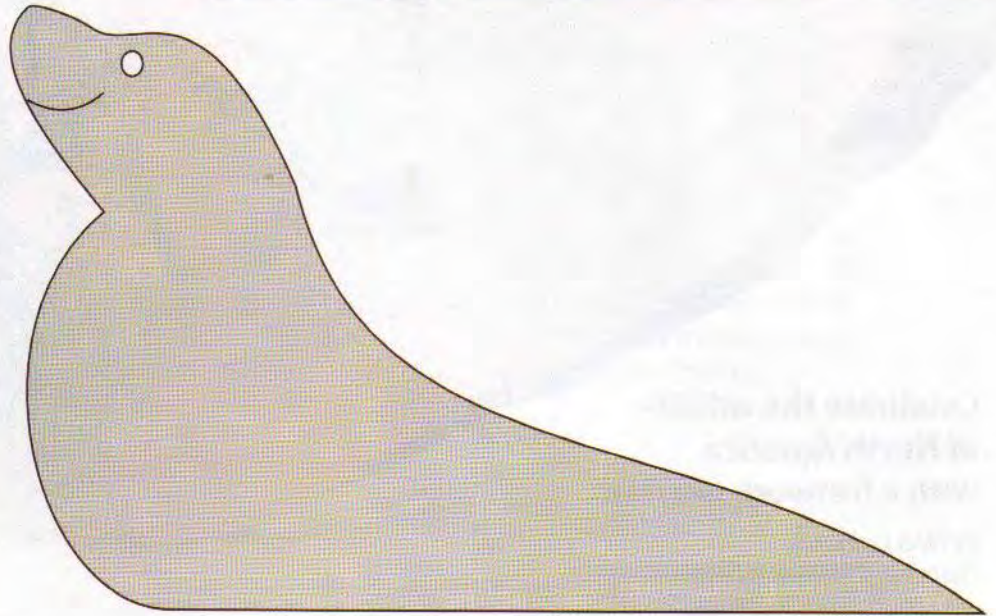
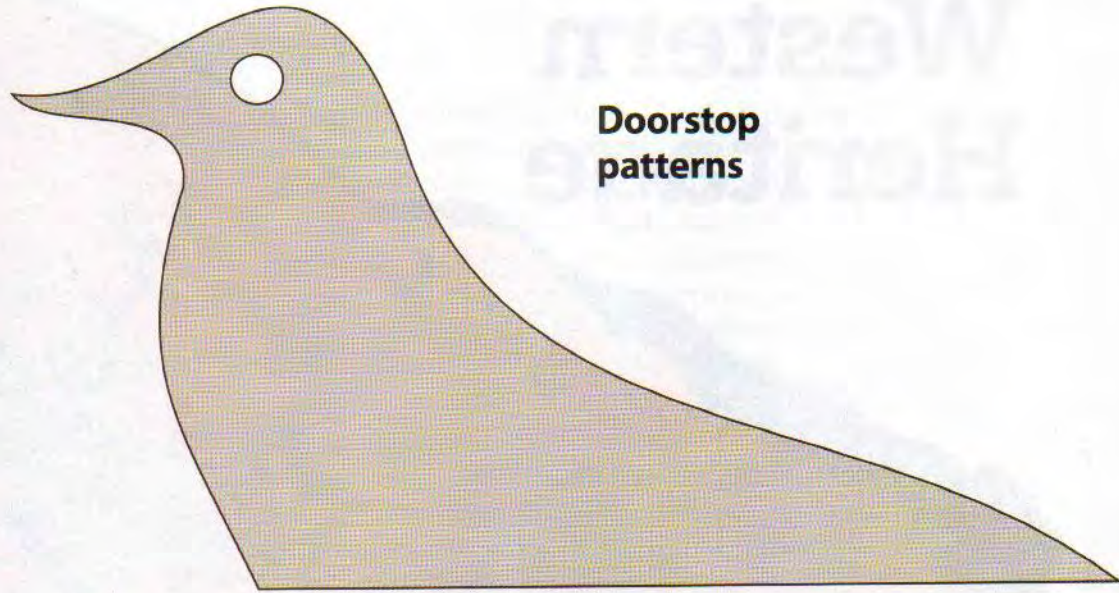
### Tools:

- Scroll saw blades: #5 reverse-tooth
- Drill and bit:  $\frac{1}{8}$ " (3mm)

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*



## Doorstop patterns

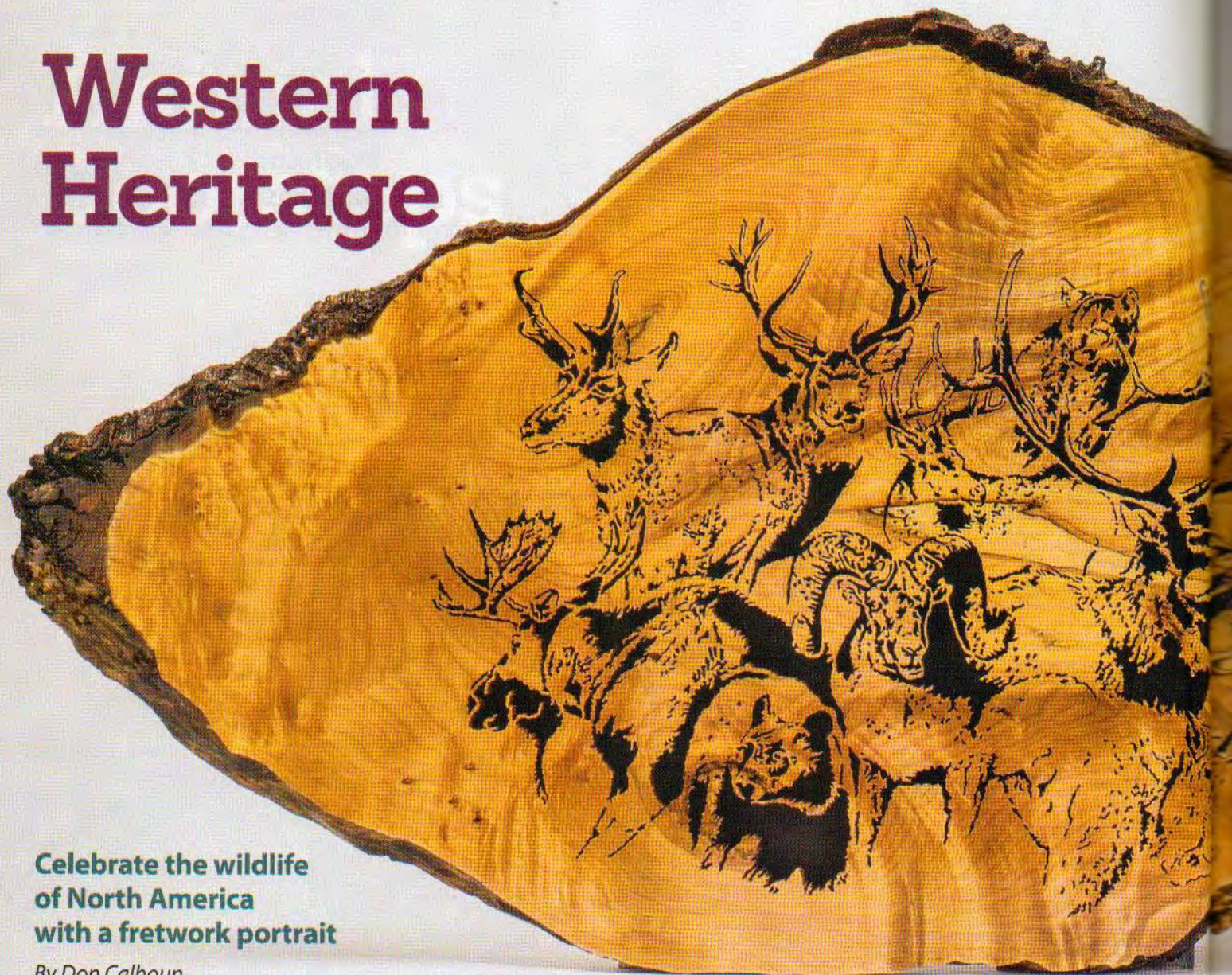


*Carl Hird-Rutter has been scrolling for more than 15 years. Four years ago he suffered from a stroke, which slowed his creative process. With the*

*arrival of his grandson Max, he has a renewed interest in scrolling and hopes to produce many more patterns.*

© 2016 Scroll Saw Woodworking & Crafts

# Western Heritage



**Celebrate the wildlife of North America with a fretwork portrait**

*By Don Calhoun  
Pattern by Mike Williams*

**L**iving in Washington State surrounded by the natural beauty of the Pacific Northwest, I do not have to look far to find inspiration. During a journey into the wilderness, I got the idea to create a scroll saw design showing several of Washington's native animals clustered together.

I began searching for art that would work as a design, hoping to find something unusual. I discovered FineArtAmerica.com, a website with wonderful art, and a print called "Western Heritage" by Steve Spencer. Over the years, I have seen several images that cried out to become scroll saw designs, but this one stopped me in my tracks.

Steve is an Idaho native and a self-taught wildlife, landscape, and portrait artist. Steve's touch is an astonishing degree of realism—the kind that can only be achieved by someone who has spent long hours studying his subjects from life. I immediately contacted Steve to request permission to create a derivative of "Western Heritage."

After studying the "Western Heritage" print, I knew this was going to be an intense project. In order to achieve the intricate pattern design I wanted, I enlisted the help of a fellow pattern designer, Mike Williams. Mike's attention to detail and artistic flair brought this design to life.



Special thanks to both Steve Spencer and Mike Williams, who together made this project possible. See more of Mike's work at [www.mikesscrollsawpatterns.com](http://www.mikesscrollsawpatterns.com). View more of Steve's work at [www.fineartamerica.com/profiles/steve-spencer.html](http://www.fineartamerica.com/profiles/steve-spencer.html).

### Making the Project

Sand the wood with progressively finer grits until the surface is smooth and you have removed all irregularities and mill marks. Remove the sanding dust. Attach the pattern, drill the blade-entry holes, and start cutting. Make all veining and internal cuts first, and cut the large sections of the design

last. To prevent breaking delicate areas, set the saw speed to slow, install a zero-clearance insert, and adjust the feed rate to slow. Take your time and let the saw do the work. Do not push the wood through too fast.

*Note: I do not recommend reducing the pattern size. In fact, you may want to consider increasing the pattern size. You can easily calculate pattern enlargement or reduction using a C-Thru Proportional Scale.*

### Finishing the Fretwork

Using an orbital sander fitted with 220-grit sandpaper, remove all burrs from the back of the piece. Then, use 320-grit sandpaper to lightly sand the front of the piece. For a supersmooth surface, use #000 steel wool for a final rubdown. Remove the dust.

An interesting hardwood does not require a stain, but you can use it if you like. I prefer using a high-gloss varnish or lacquer. Apply a coat of finish, allow it to dry thoroughly, and lightly sand the surface using 320-grit sandpaper before applying the next coat. Continue this process until you have achieved a deep high-gloss finish. Choose a darker element for the backing. Cut the backer material to size and attach it to the back of the cutting using permanent-bond glue. Attach a sawtooth hanger to the back, and the project is ready for display.

### Materials & Tools

#### Materials:

- Wood,  $\frac{3}{4}$ " (19mm) thick:  
14½" x 19" (369mm x 483mm)
- Sandpaper: 220, 320 grits
- Steel wool: #000
- Backing to fit behind design
- Finish, such as high-gloss varnish or lacquer
- Sawtooth hanger

#### Tools:

- Scroll saw blades: #2 spiral and #2 flat
- Drill with bits: #60
- Sander: random orbital

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*



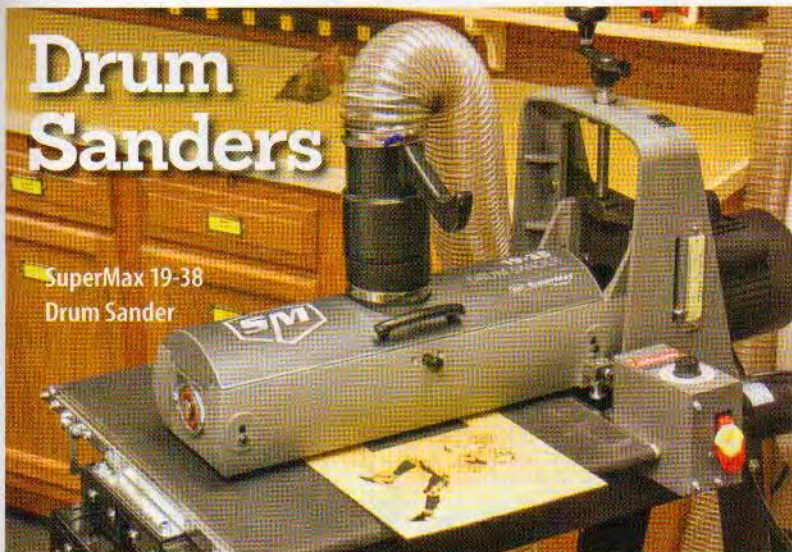
Don Calhoun began scroll sawing 14 years ago. It opened his hidden talents and helped him connect with his childhood love of nature. Don enjoys cutting and modifying patterns to create artwork that evokes the beauty of nature. He participates in craft shows, has won awards for scrolling, and is the owner of Don and Inge's Creations, where he and his wife make gifts to sell at craft shows. Visit his website at [pacificscrollsawart.com](http://pacificscrollsawart.com).

**Western Heritage  
pattern**



# Drum Sanders

SuperMax 19-38 Drum Sander



If you regularly work with thin blanks, and especially if you resaw your own stock, you probably need a drum sander. This tool can surface wood and reduce its thickness without damaging it.

## What is a Drum Sander?

Scrollers often use the terms “sanding drum” and “drum sander” interchangeably, but they are not the same tool. A sanding drum attaches to a rotary carver and is often used to shape intarsia or clean up small cuts. A drum sander has an abrasive-wrapped spinning drum attached to a precision-flattened table. On stationary drum sanders, a variable-speed conveyor belt moves lumber at a consistent speed under a spinning drum wrapped with sandpaper, allowing you to sand thin and short pieces of wood. The drum moves up and down using a screw drive, which allows you to create a perfectly flat surface and control the amount of wood removed in each pass. The drum sander smooths without cutting, which reduces the risk of damage to the blank. A planer has similar controls and works more quickly, but its blade can damage thin and/or figured wood.

## The “Dream Shop” Drum Sander

My top choice of drum sanders is the SuperMax 19-38. Its 19"-wide table is open on one end, allowing you to sand wood up to 38" wide in two passes. It has a powerful 1 3/4 HP motor that removes wood quickly and a patented quick-change system for the abrasive (custom-cut rolls of sandpaper). It has a system that reduces the feed rate if the motor starts to bog down, which reduces burns, dips, and low spots without requiring you to monitor the motor as you feed the wood. The shaped dust collection hood catches the majority of the sanding dust. Because you can quickly remove stock with a coarse abrasive, this tool can in some cases remove the need for a planer. With the flat table, you can even use the tool to joint the edges of blanks less than 4" wide.

One of our contributors, Dave Van Ess, considers this tool a must-have. “I would put this as the first tool (after a scroll saw) a serious scroller would buy,” Dave said.

**ON THE WEB** See a detailed review of the SuperMax 19-38 online. [www.scrollsawer.com](http://www.scrollsawer.com)

Carole Rothman, the author of many articles and two books about scroll saw boxes and bowls, uses her SuperMax 19-38 for everything from dimensioning lumber to rescuing cupped and twisted wood and flattening and smoothing laminated blanks. Carole is impressed with the SuperMax 19-38's quick and easy sandpaper changing system.

*The SuperMax is available for around \$1,399. Visit [www.supermaxtools.com](http://www.supermaxtools.com) to find a retailer. For a more comprehensive review of the SuperMax 19-38, visit [www.scrollsawer.com](http://www.scrollsawer.com).*

Jet 10-20 Benchtop Drum Sander

## More Options

For smaller shops, or for folks who work with small pieces of lumber, the Jet 10-20 Benchtop



Stationary Drum Sander is an economical way to get the many benefits of a drum sander without spending a lot. The Jet 10-20 has a 1 HP engine and will handle wood up to 20" wide in two passes.

*The Jet 10-20 retails for around \$765. Visit [www.jettools.com](http://www.jettools.com) to find a retailer.*



18" Sand-Flee® Portable Drum Sander

A portable drum sander, such as a Sand-Flee, forgoes the conveyor belt and requires you to move the stock by hand. It takes a bit of practice to keep the feed rate steady, but Rolf Beuttenmuller, an SSW test cutter, sees the hand control as a plus. He uses a Sand-Flee to remove the fuzzies from 1/16"-thick ornaments and then attaches a MacMop sanding mop to the power take-off shaft, which allows him to finish sanding the ornaments using just one machine. Additionally, because there is no top, this tool handles wood of any thickness.

*The 18" Sand-Flee is available for \$960 and the 9" Sand-Flee is available for \$786. Contact RJR Studios, [www.rjrstudios.com](http://www.rjrstudios.com).*

# Clown Portrait

**Fretwork design shows  
the two sides of our  
personalities**

*By Michael Kelley*

**I**t's safe to say that most people have two faces: the one they show to the world and the one they keep bottled up inside. As an adult with ADHD, I use medicine to control my symptoms, which means that I mask my true self. That experience inspired me to create this design.

## **Making the Portrait**

Cover the plywood with blue painter's tape and apply spray adhesive to the tape. Then, position the pattern on the adhesive. The blue painter's tape comes off the wood easily and lubricates the blade. Drill blade-entry holes, cut the fretwork, and sand any rough areas. Then, apply clear satin acrylic finish, such as Minwax Polycrylic, to protect the project. Use Aleene's tacky glue to attach a black felt backing.



*(Continued on page 68)*

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## Clown portrait pattern

### Materials & Tools

#### Materials:

- Baltic birch plywood, ¼" (6mm) thick: 8" x 14½" (203mm x 369mm)
- Black felt
- Glue, such as Aleene's Tacky
- Blue painter's tape
- Spray adhesive
- Clear satin acrylic finish, such as Minwax Polycrylic

#### Tools:

- Scroll saw blades: #5 reverse-tooth blades, such as Flying Dutchman brand
- Drill with bits: ¼" (2mm) dia.

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*



Michael Kelley of Bartlesville, Okla., started drawing with pencils at a young age and moved on to acrylic and oil

paints. He started scroll sawing about five years ago and started designing his own patterns about three years ago.

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To avoid repetitive instructions, this page is included in each issue to assist novice scrollers with basic scrolling techniques.

## Squaring Your Table

Most scroll saws have an adjustable table that allows you to make cuts at different angles. There are times when you want the saw set at an angle, but most cutting is done with the blade perpendicular to the table. If the table is even slightly off-square, the cuts will be angled. This interferes with puzzle pieces, intarsia, segmentation, and many other types of scrolling projects.

The most common method for squaring a table uses a small metal square, or right angle tool. Set the square flat on the saw table against a blade that has been inserted and tensioned. Adjust the table to form a 90° angle to the blade.

The cutting-through method is also popular. Saw through a piece of scrap wood at least 3/4" (19mm) thick and check the angle of the cut using a square. Adjust the table until you get a perfectly square cut.

You can also use the kerf-test method. Take a 1 3/4" (44mm)-thick piece of scrap wood and cut about 1/16" (2mm) into it. Stop the saw, back the blade out, and spin the wood around to the back of the blade. If the blade slips easily into the kerf, the table is square. If it doesn't slide into the kerf, adjust the table and perform the test again until the blade slips in easily.

## Attaching Patterns

Temporary-bond spray adhesive is the most common method used to attach patterns to stock. Photocopy the pattern. Spray the adhesive on the back of the copy of the pattern, wait a few seconds, and then press the pattern down onto the blank. Rubber cement or glue sticks work similarly.

You can also use graphite or carbon transfer paper. Place the pattern on the blank and slip a sheet of transfer paper

in between the pattern and the blank. Use a few pieces of painter's tape to hold the pattern and transfer paper in place. Trace around the pattern with a red pen (so you know where you have traced). Choose a light-colored transfer paper for darker woods. Carbon paper costs less than graphite paper, but must be sanded off before finishing.

## Stack Cutting

Stack cutting lets you cut several pieces of a project—or even several projects—at one time. Essentially, you attach several blanks together and cut them as one unit.

One way to attach blanks is with tape. Line all the layers up and wrap a layer of tape around the outside edge. You can also wrap the whole stack in tape for extra stability. Use masking tape, painter's tape, or clear packaging tape.

Hot-melt glue is another option. Glue the blanks together with a dot of hot-melt glue on each side.

You can also join pieces by driving brads or small nails into as many waste areas as you can. Cut off any overhanging nails as close to the surface as you can, and then sand them flush to avoid scratching or catching on the table.

## Blade Tension

Before inserting a blade, completely remove the tension. Clamp both ends of the blade into the blade holders and adjust the tension. Push on the blade with your finger. It should flex no more than 1/8" (3mm) forward, backward, or side to side.

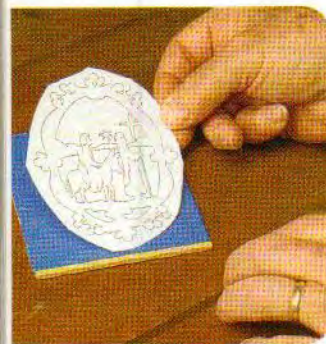
A blade that does not have enough tension will wander. It will also flex from side to side, making for irregular or angled cuts. If you press too hard on a loose blade, it will usually snap. A blade that has too much tension is more susceptible to breaking and tends to pull out of the blade holders. In general, it is better to make the blade too tight rather than too loose.

## Blade-Entry Holes

Some patterns have blade-entry holes marked. If the pattern doesn't, place the holes near a line to be cut to prolong the blade life, but don't place the hole on a curving line or inside corner (if possible). Drill the hole perpendicular to the blank. Use a drill press if you have one; otherwise, use a hand drill and make the holes as vertical as possible. Drill through the blank into scrap wood to prevent tear out on the back side of the blank. If you have the space, use a larger bit—it will make it easier to thread the blades through. For thin veining cuts, use the smallest bit the blade will fit through.

## Removing Patterns

Dampen a glued paper pattern with mineral spirits to aid in removal. Commercial adhesive removers work as well. A quick wipe of mineral spirits will remove most adhesives left behind on the wood.



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# Scrolling Alabama

Leldon Maxcy, a test cutter and designer for Fox Chapel Publishing, got hooked on scroll sawing at the age of 13. Nearly two decades later, he is still scrolling. "I love it more than ever!" said the Cullman, Ala., woodworker.

In 2015, Leldon was commissioned to build an 8' by 12' cutout of the state of Alabama with the 67 counties made from different types of reclaimed wood. Garlan Gudger of Southern Accents (an architectural salvage store) created the design for the annual Southern Makers, a two-day event in Montgomery, Ala. "We wanted something fun with a crazy, over-the-top design, and Leldon was the only one I knew who would take on such a challenge," said Garlan.

Leldon printed the outlines of each county and laid them on MDF backers. He cut the pieces into manageable sizes with a jigsaw and outlined the county shapes with a scroll saw. Next, he arranged and glued pieces of wood onto the cutouts. The salvaged wood consisted of old beadboard, barn wood, wood siding, and hardwood flooring that dated back to the 1800s. Leldon said, "It's pretty awesome knowing some of the wood is that old and being the lucky person to give it new life."

After gluing the salvaged wood onto the backers, Leldon recut the shape of each county, following the border lines of



Leldon Maxcy looks over his assembled Alabama artwork. He cut each of the 67 counties from vintage or salvaged wood.

the backers. "I only used a spiral blade on three counties," he explained. "The rest I cut with a flat blade, turning them around many, many times." Laying the counties out on his basement floor like a giant jigsaw puzzle, Leldon began piecing the state of Alabama together. He then delivered the pieces to Southern Accents, who fastened them together. "Everyone was blown away by Leldon's awesome skills," said Garlan. Leldon couldn't have been happier. "This was my favorite project to date. It proved to me that with enough will, you can pull off some pretty amazing things!" he said. The Alabama artwork currently hangs at the Good People Brewing Company in Birmingham, Ala.

*For information on the Southern Makers event, visit their website, [southernmakers.com](http://southernmakers.com). Contact Leldon Maxcy at [www.leldonsscrollsawing.com](http://www.leldonsscrollsawing.com).*

**This is the Alabama artwork hanging over the stage at the Southern Makers event.**



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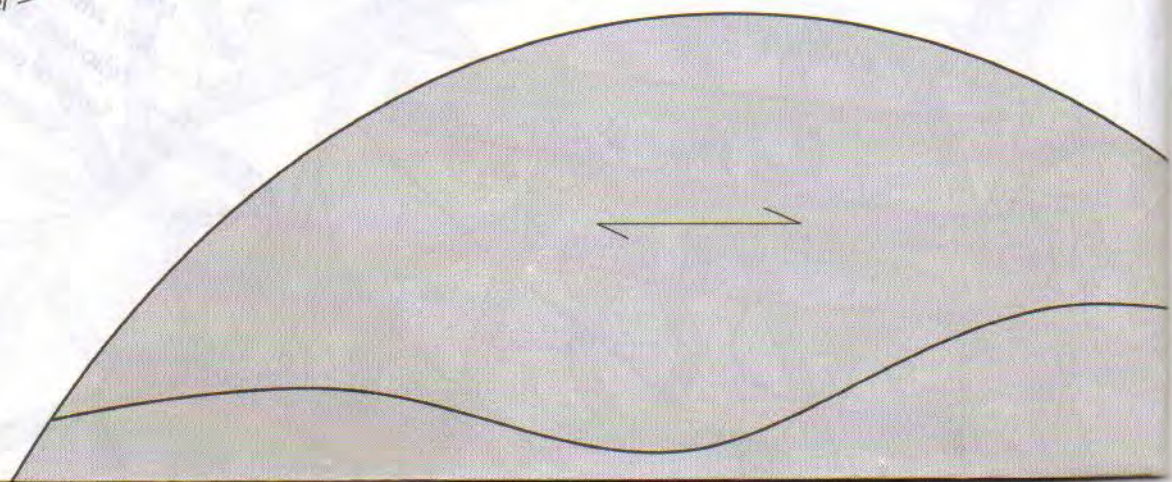
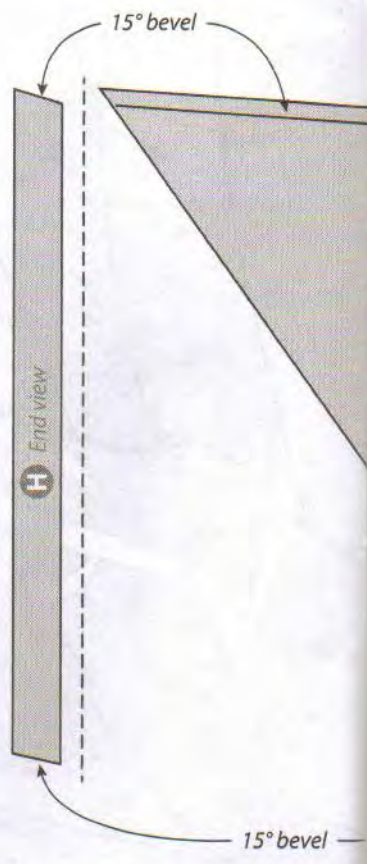
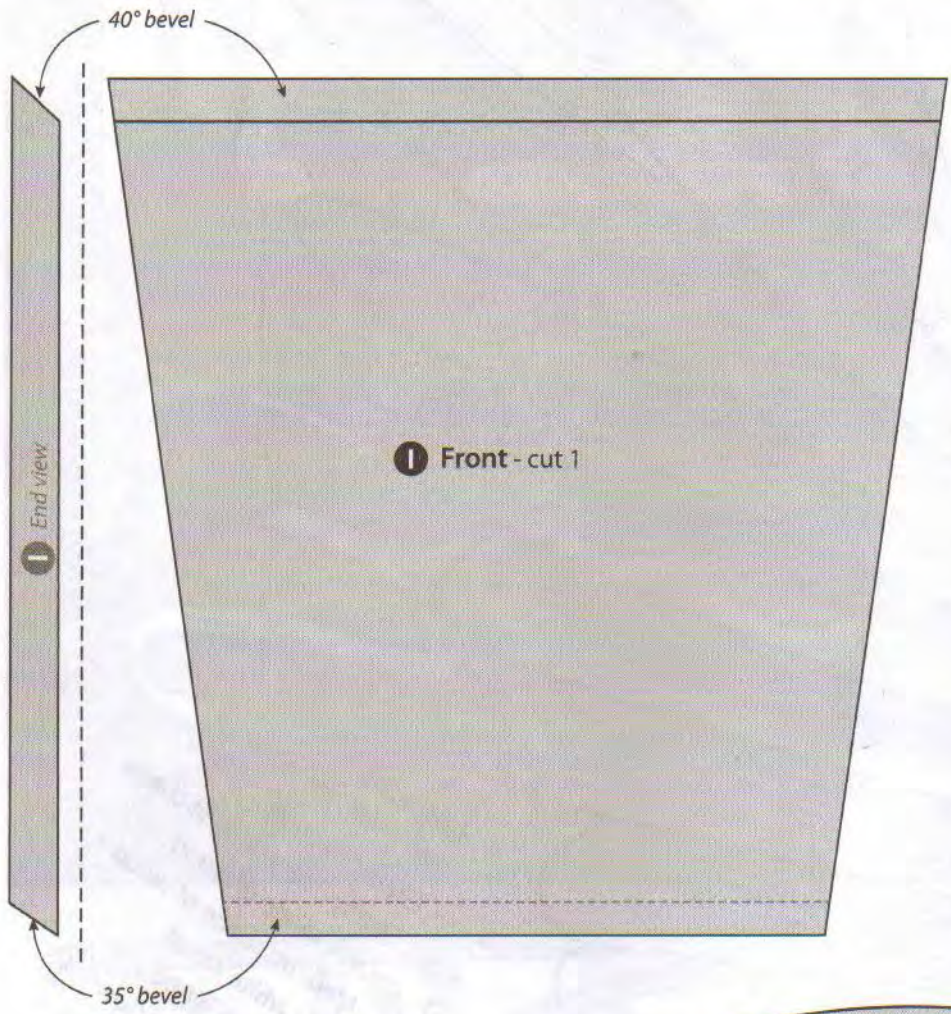
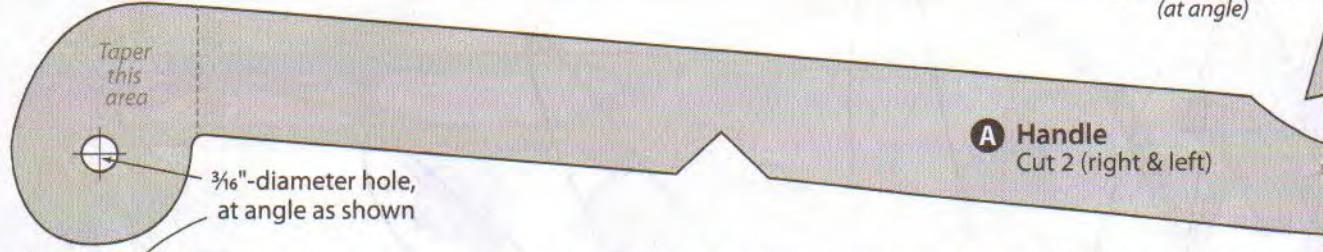


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1A

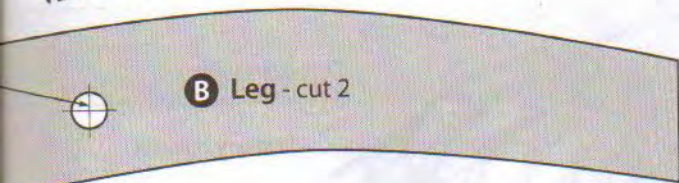
$\frac{3}{16}$ "-diameter hole  
Drill after assembly  
(at angle)



18 2A

S.F.

**B** Leg - cut 2

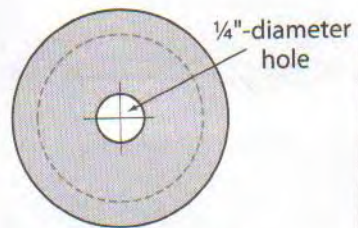
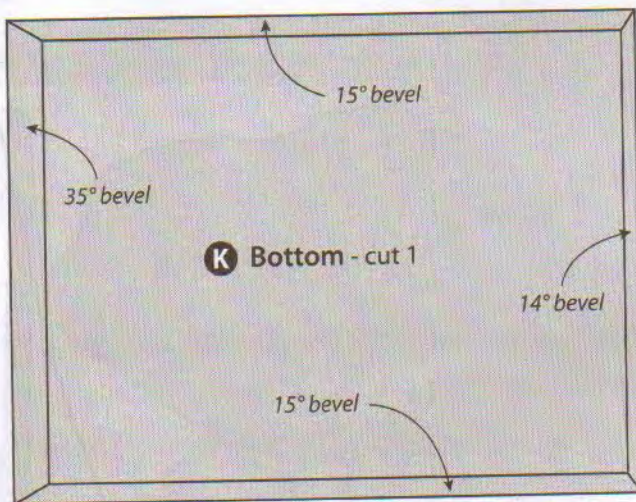
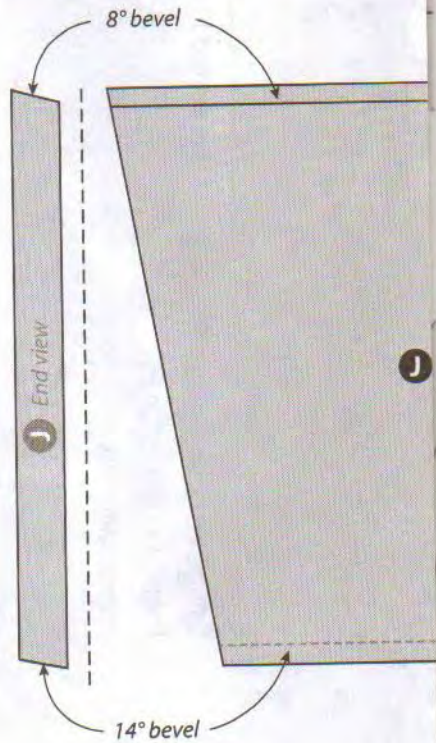
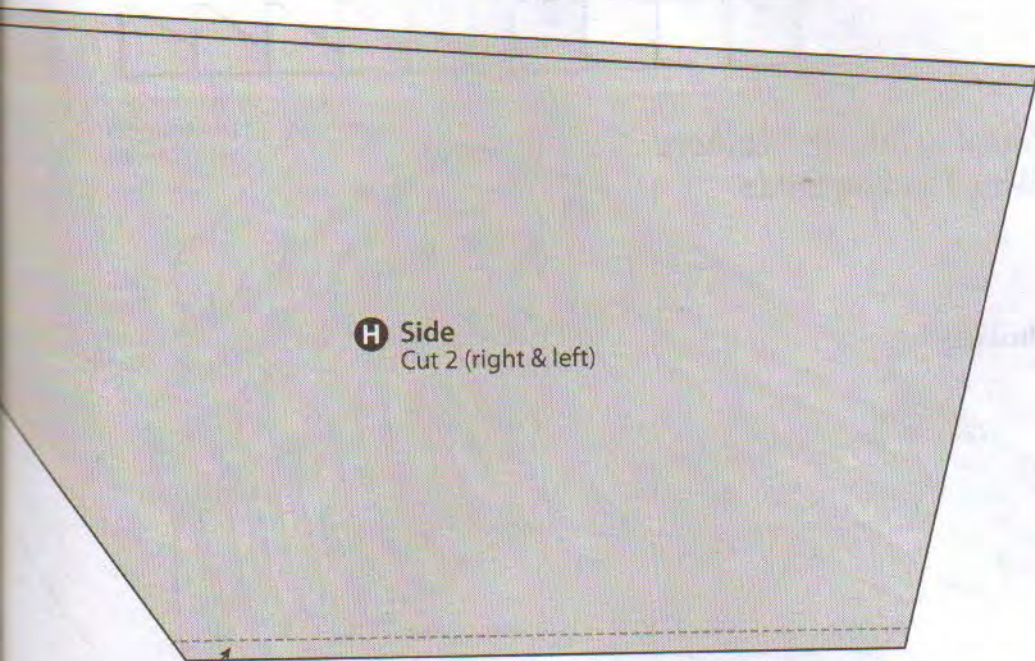


# Cheery Spring Wheelbarrow

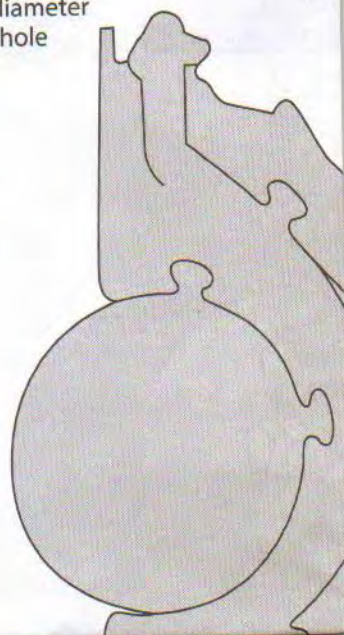
Page 32 - SSWC Issue 63

Designer: John A. Nelson

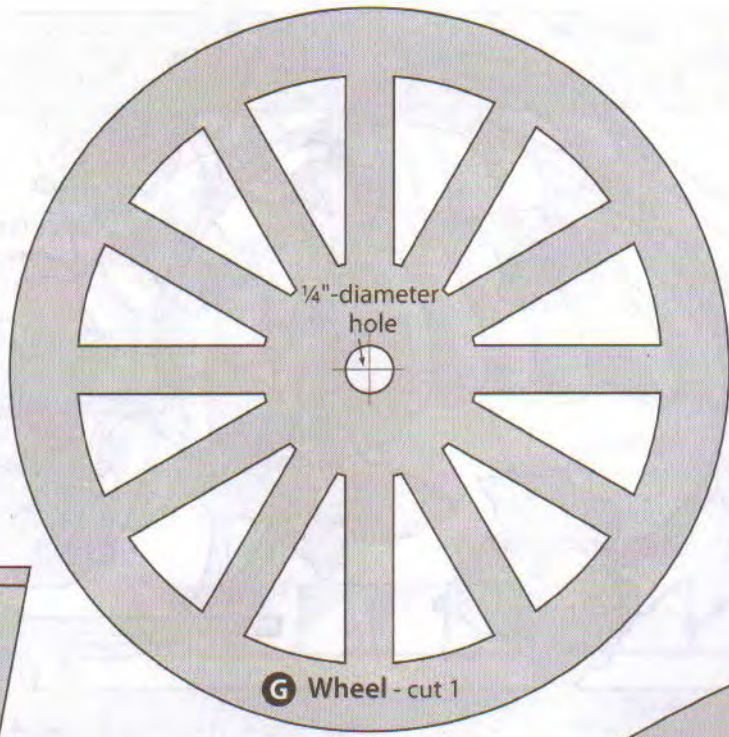
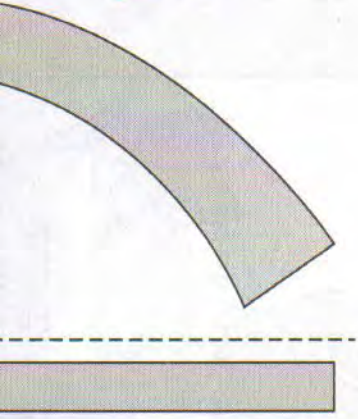
**H** Side  
Cut 2 (right & left)



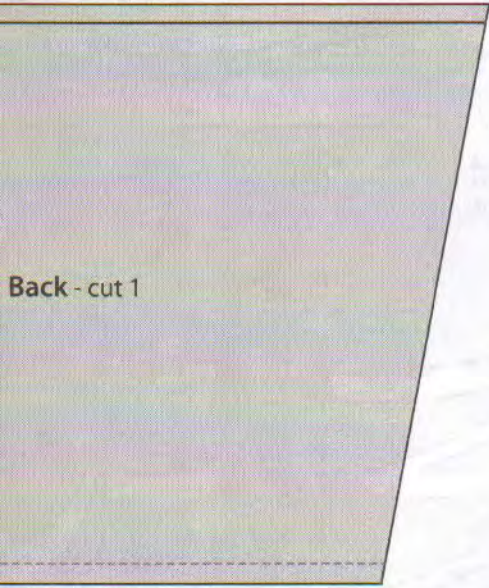
**E** Spacer - cut 2



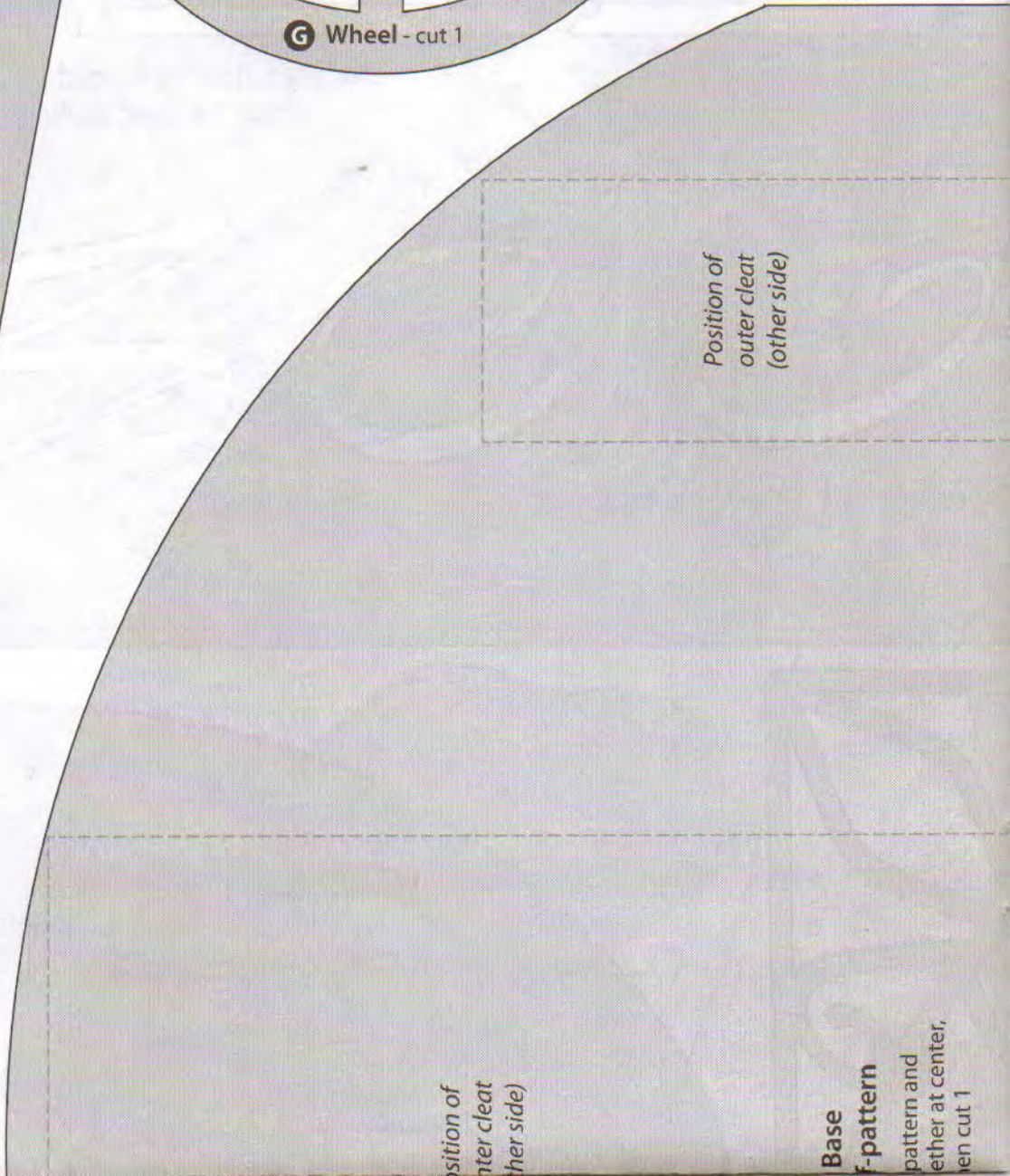
3A



Wheel - cut 1



Back - cut 1



Position of  
outer cleat  
(other side)

Position of  
center cleat  
(other side)

Base  
f-pattern  
pattern and  
either at center,  
then cut 1

LA SA

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East Petersburg, PA 17520

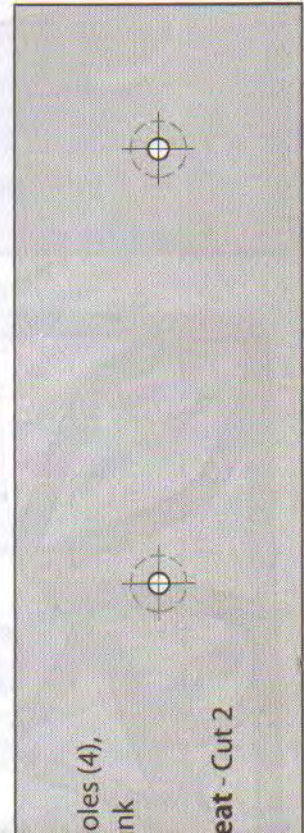
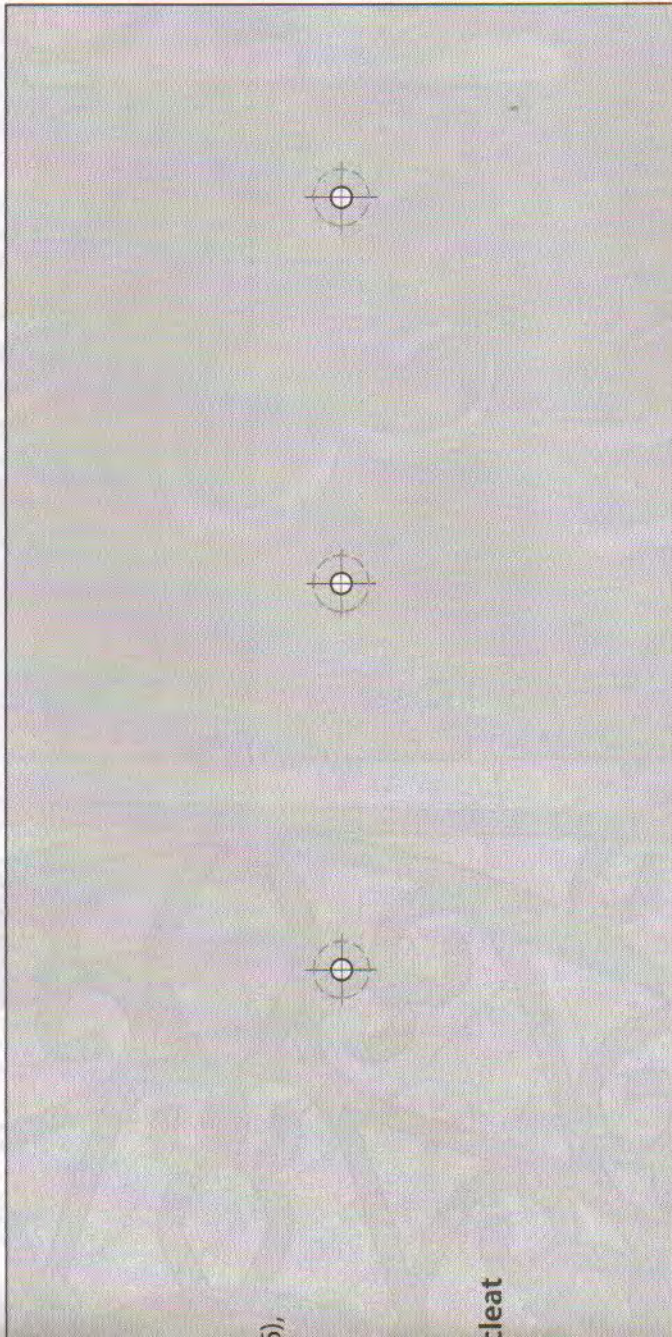
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Vintage Golf Club .....	20	Cardinal Bird Feeder .....	40
Grapevine Welcome Plaque .....	30	Fretwork Wall Clock .....	43
Cheery Spring Wheelbarrow .....	32	Lucky Charms Name Puzzle.....	46
Shaping Intarsia Feathers.....	34	Cutting Vinyl Records.....	58
Freestanding Car Puzzles.....	38		

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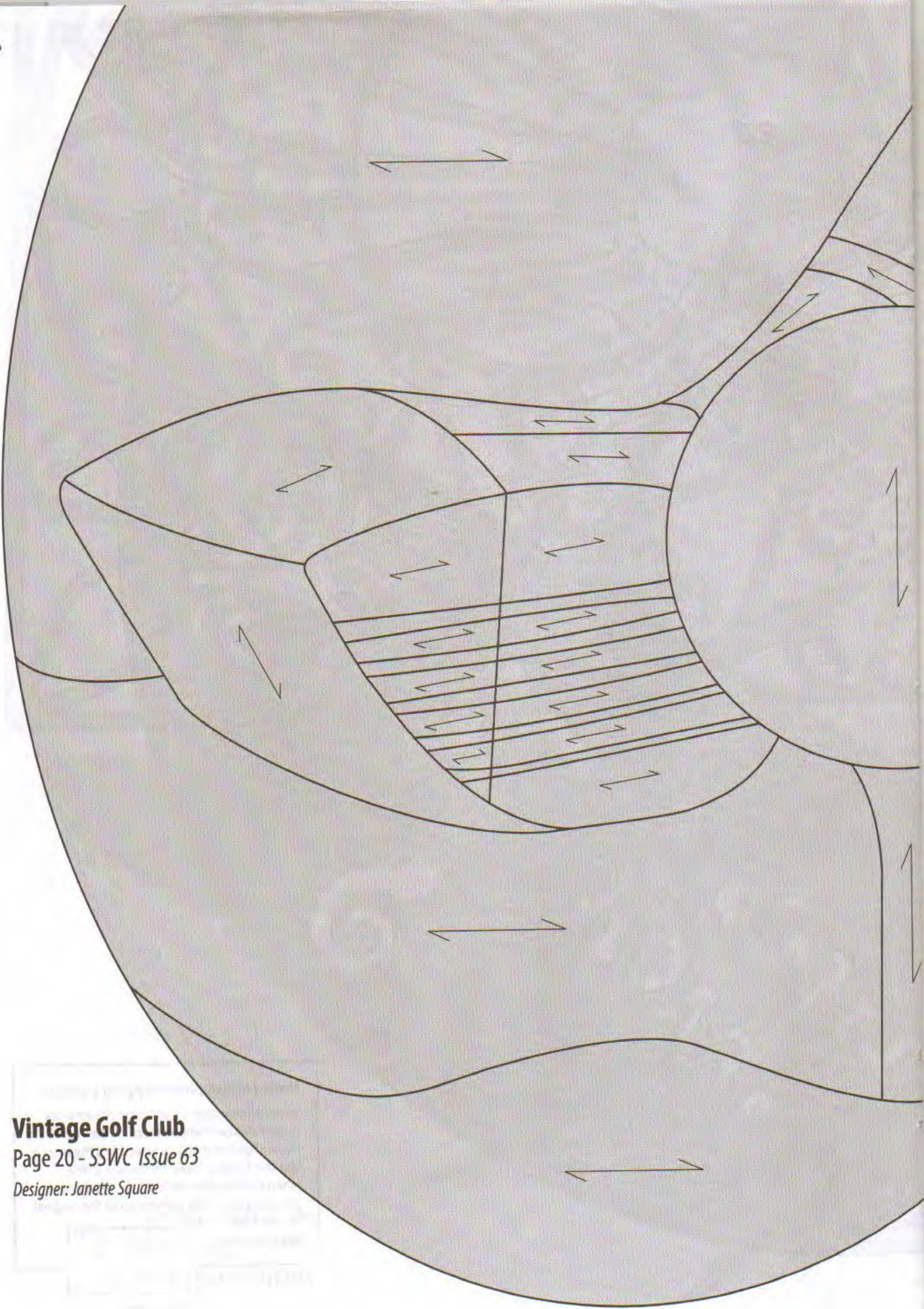
**Cardinal  
Bird Feeder**  
Page 40 - SSWC Issue 63  
Designer: Paul Meisel



oles (4),  
nk

eat - Cut 2

5A



**Vintage Golf Club**

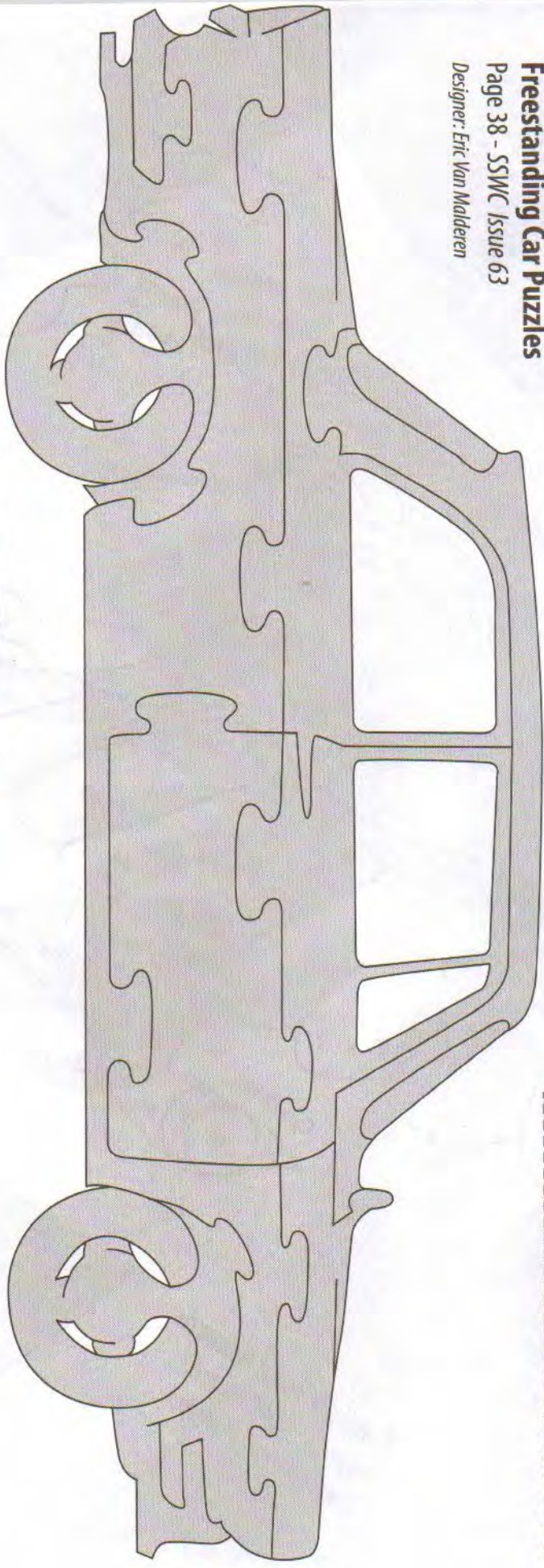
Page 20 - SSWC Issue 63

Designer: Janette Square

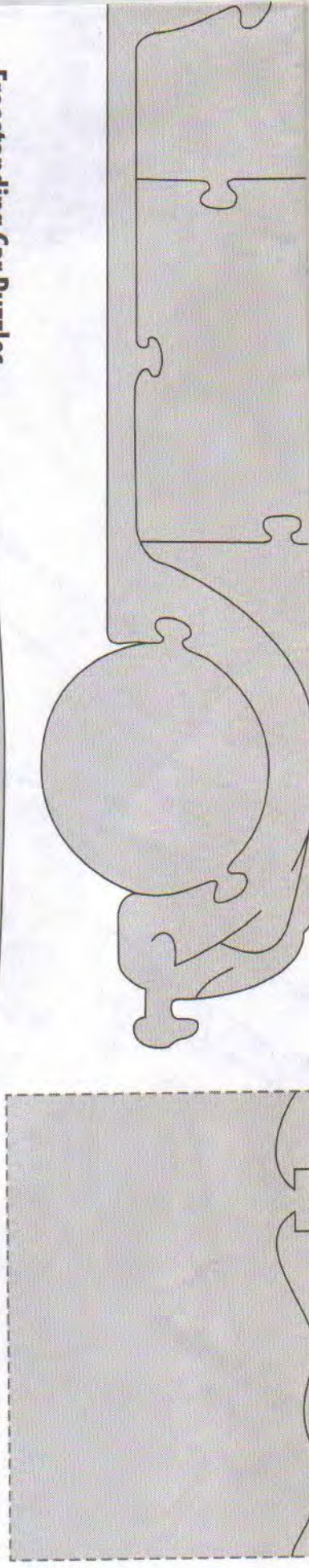
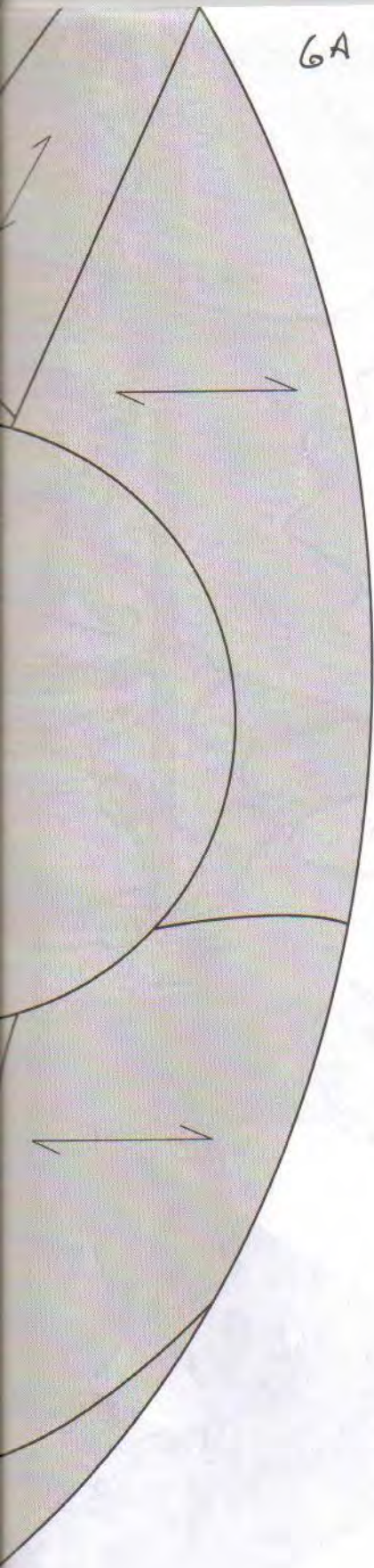
**Freestanding Car Puzzles**

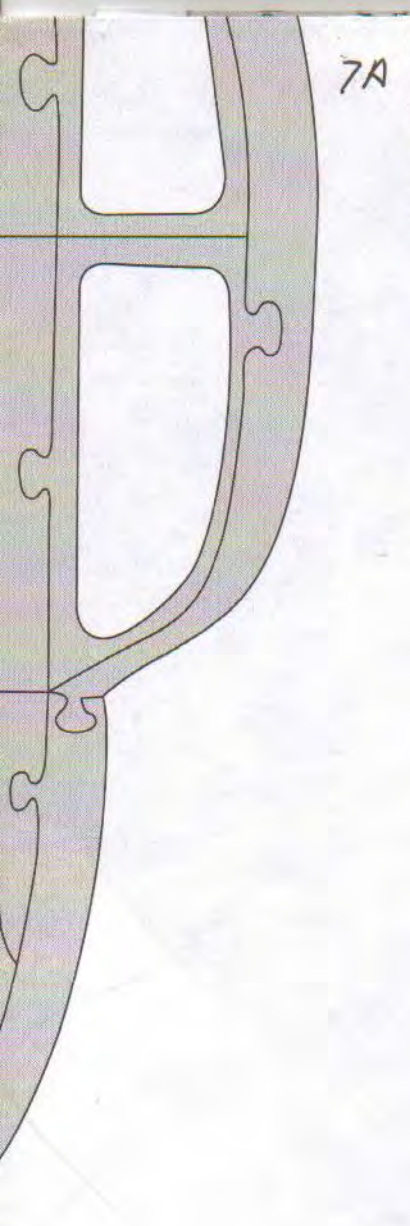
Page 38 - SSWC Issue 63

Designer: Eric Van Malderen



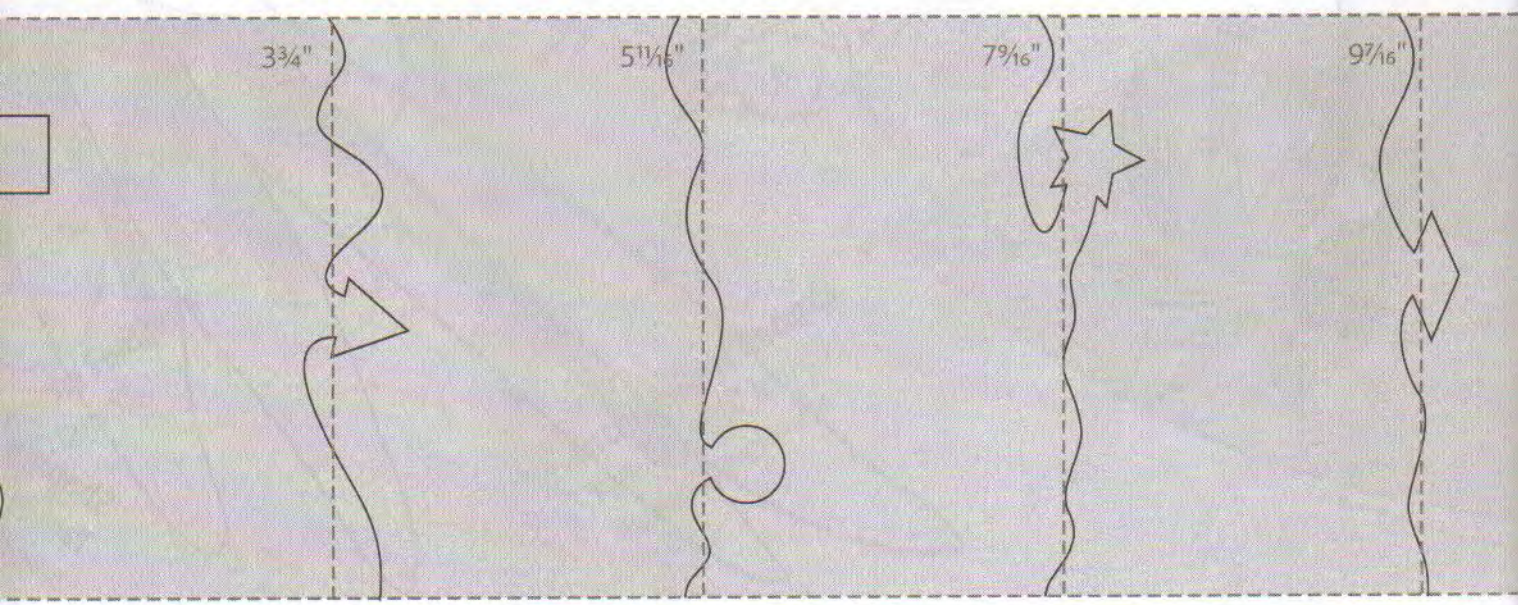
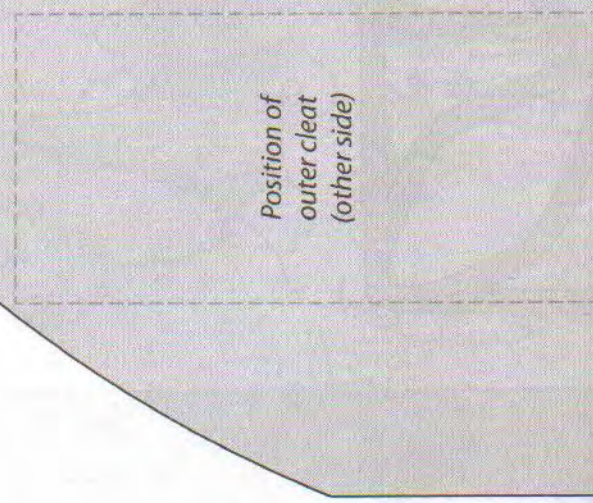
6A





PC  
ce  
(oi

hal  
Copy  
tape tog  
tt



8A

1/4"-diameter holes (2)



3/64"-diameter holes (countersunk)



Center



3/64"-diameter countersunk



Outer c



### Lucky Charms Name Puzzle

Page 46 - SSWC Issue 63

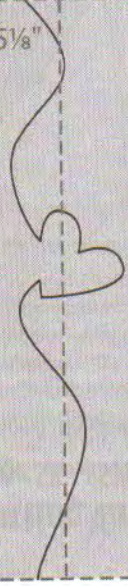
Designer: Tim Gilman

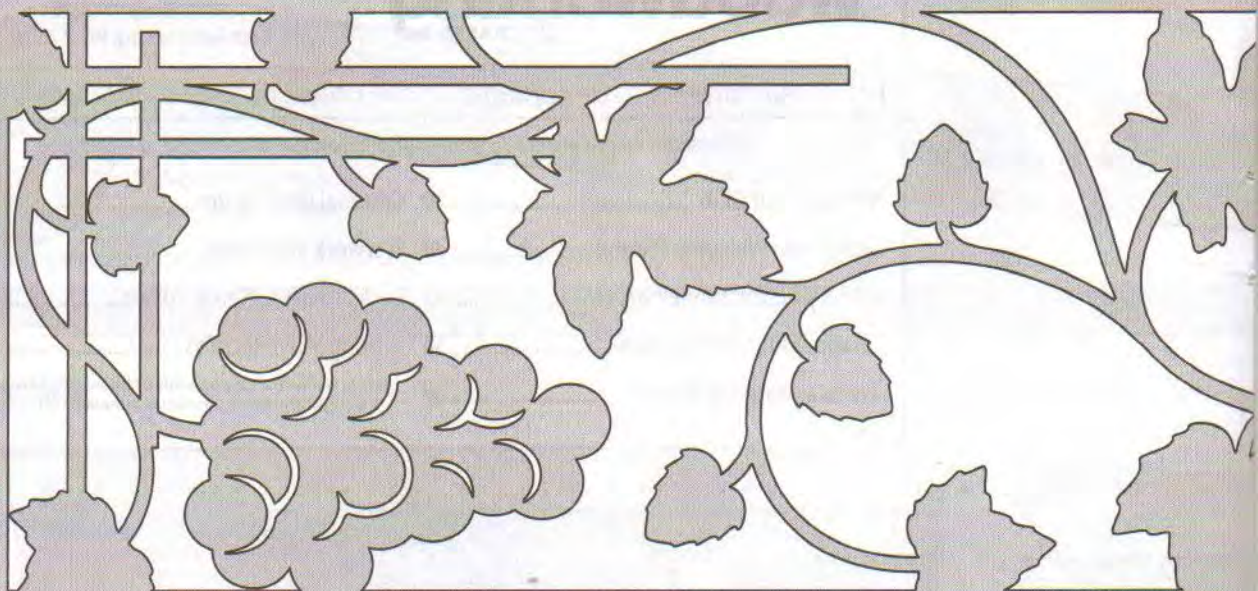
11 5/16"

13 3/16"

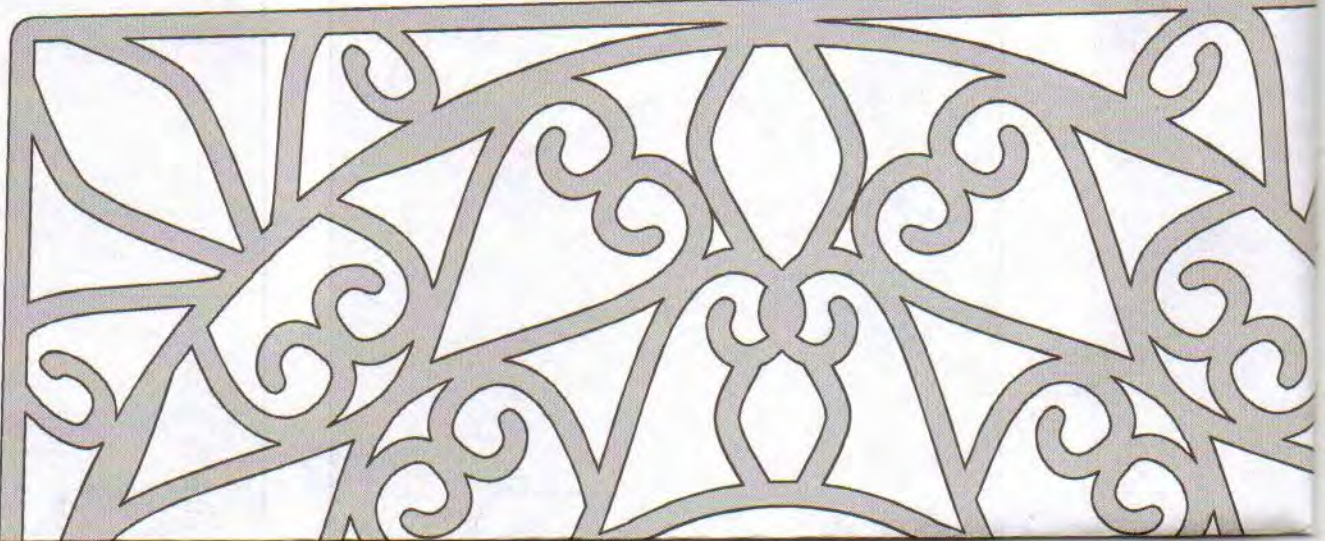
15 1/8"

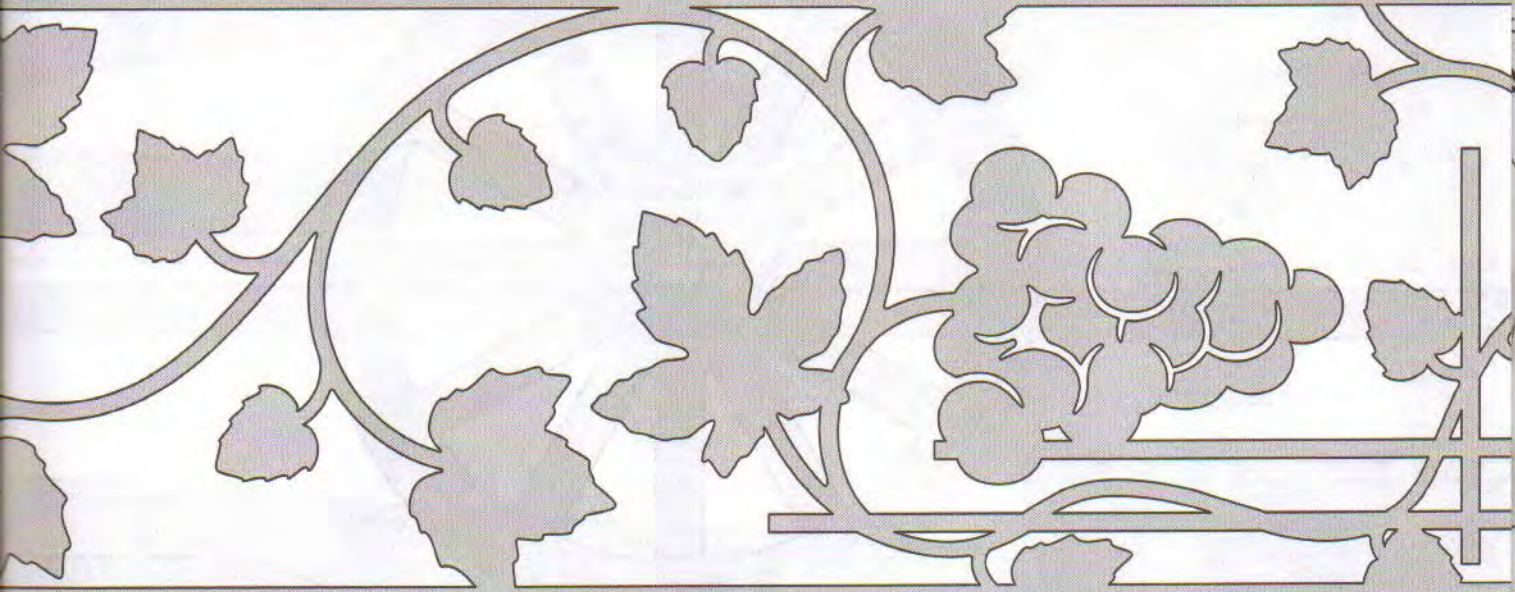
17"



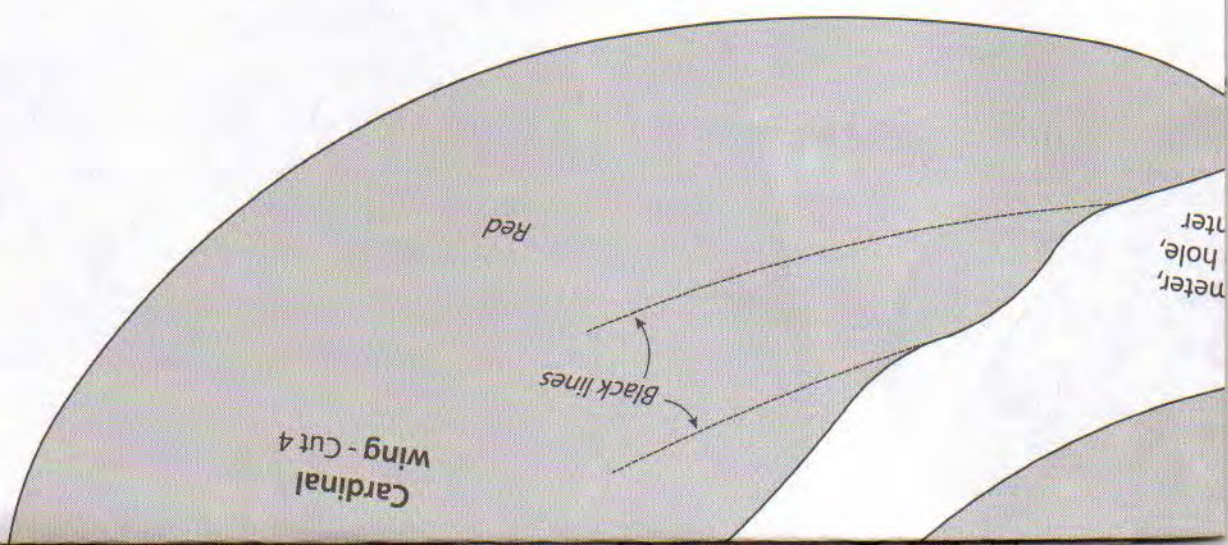


W E S T



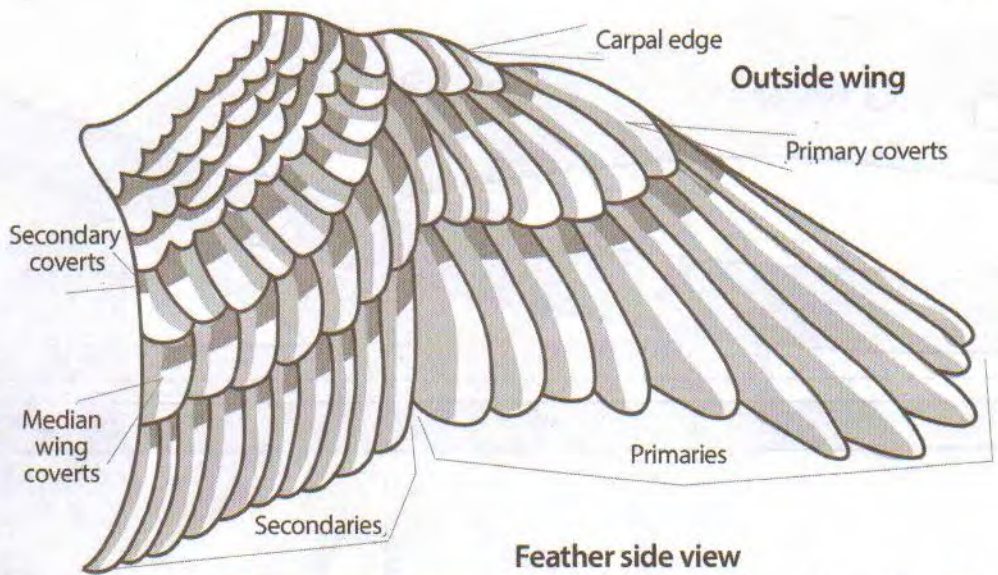


C O M E



meter,  
hole,

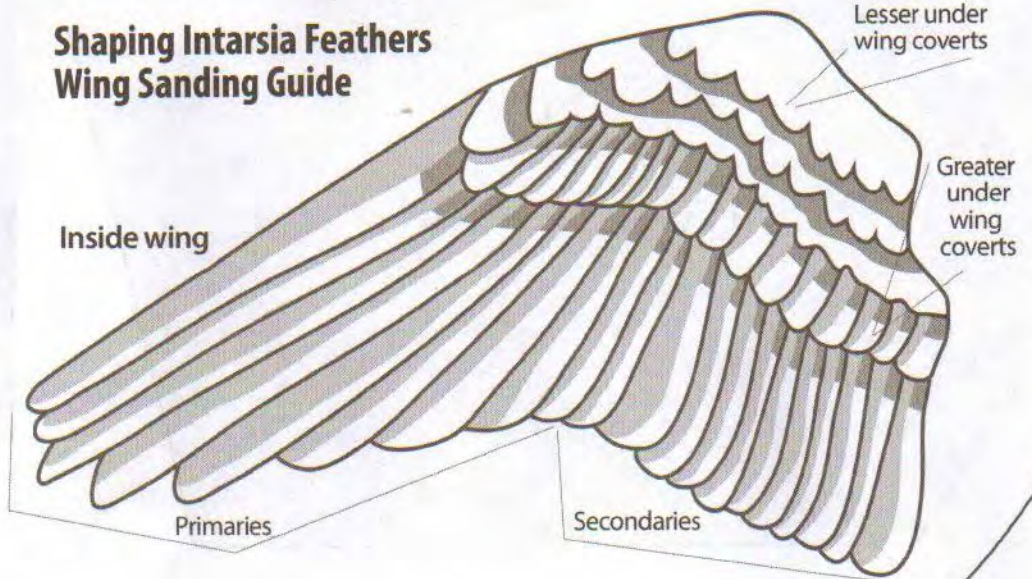
Use dotted line for cutting the backer.



Feather side view



### Shaping Intarsia Feathers Wing Sanding Guide



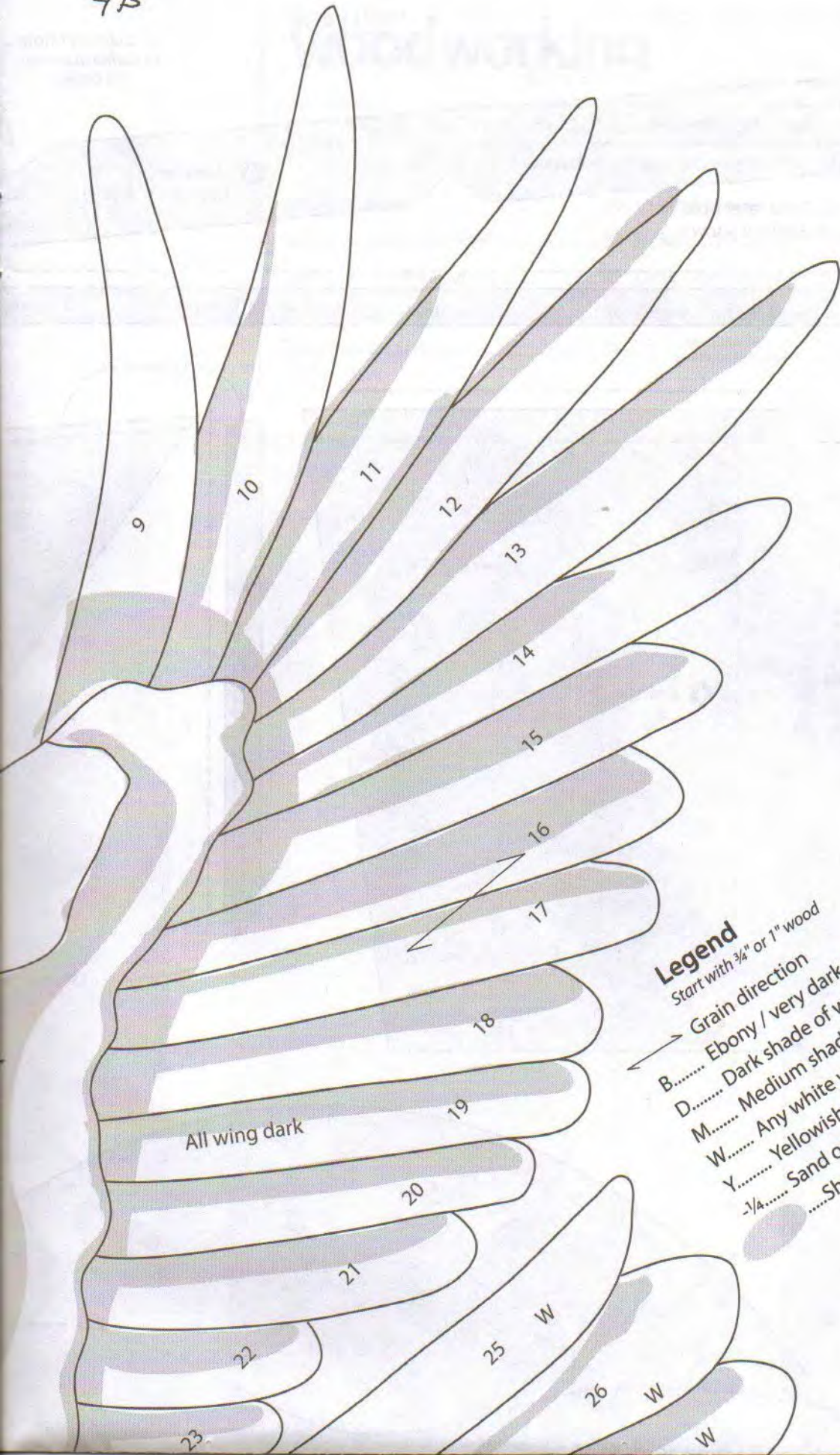
### Grapevine Welcome Plaque

Page 30 - SSWC Issue 63

Designer: Keith Fenton

1/4"-dia  
1" deep  
on ce

Red



All wing dark

**Legend**

Start with 3/4" or 1" wood

→ Grain direction

B..... Ebony / very darkest shade

D..... Dark shade of wood

M..... Medium shade of wood

W..... Any white wood

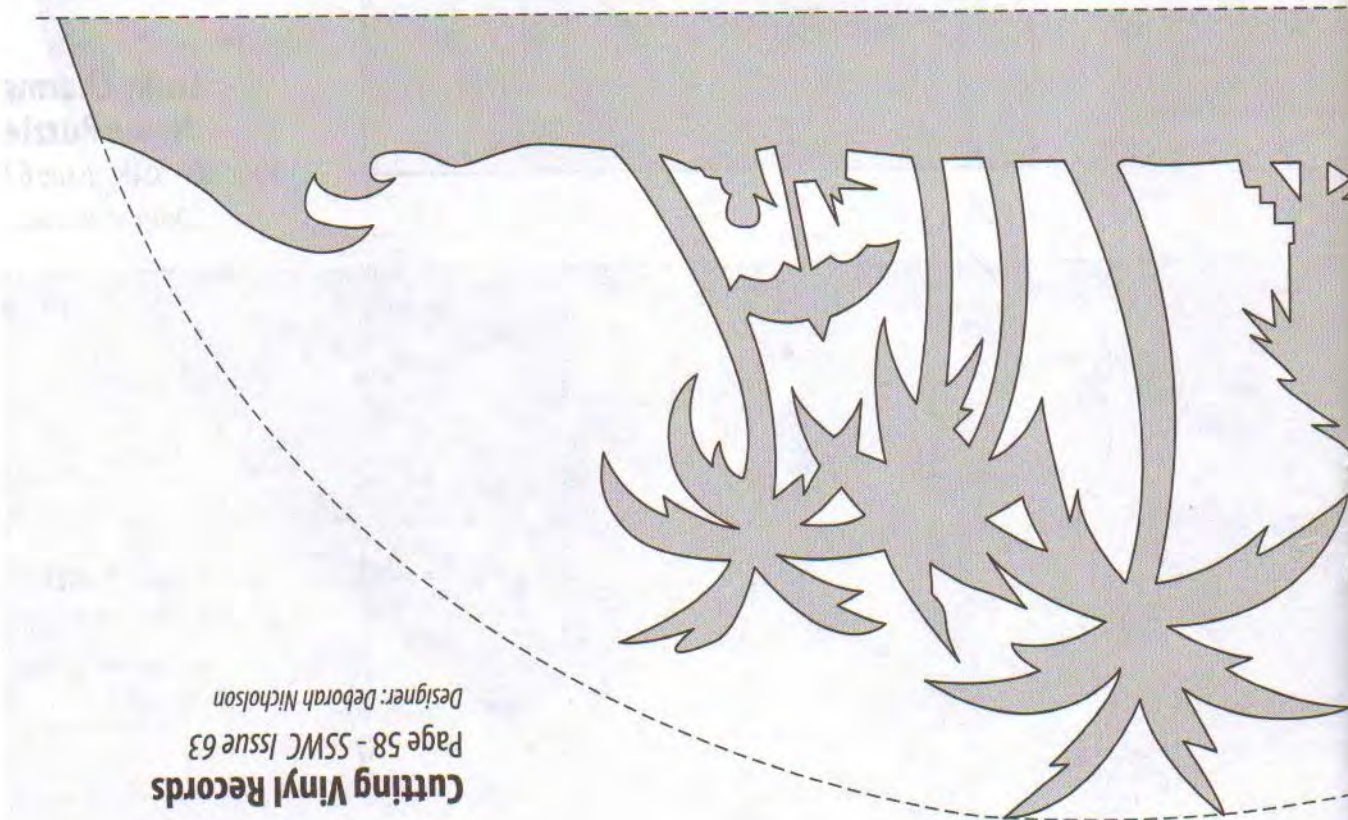
Y..... Yellowish wood

-1/4..... Sand or plane down 1/4"

.....Shaping guide

tail feathers -1/4

**Diamond Scrolls Wall Clock**  
Page 43 - SSWC Issue 63  
Designer: Sue Mey



**Cutting Vinyl Records**  
Page 58 - SSWC Issue 63  
Designer: Deborah Nicholson



6B

**Cardinal Bird Feeder**  
Page 40 - SSWC Issue 63  
Designer: Paul Meisel

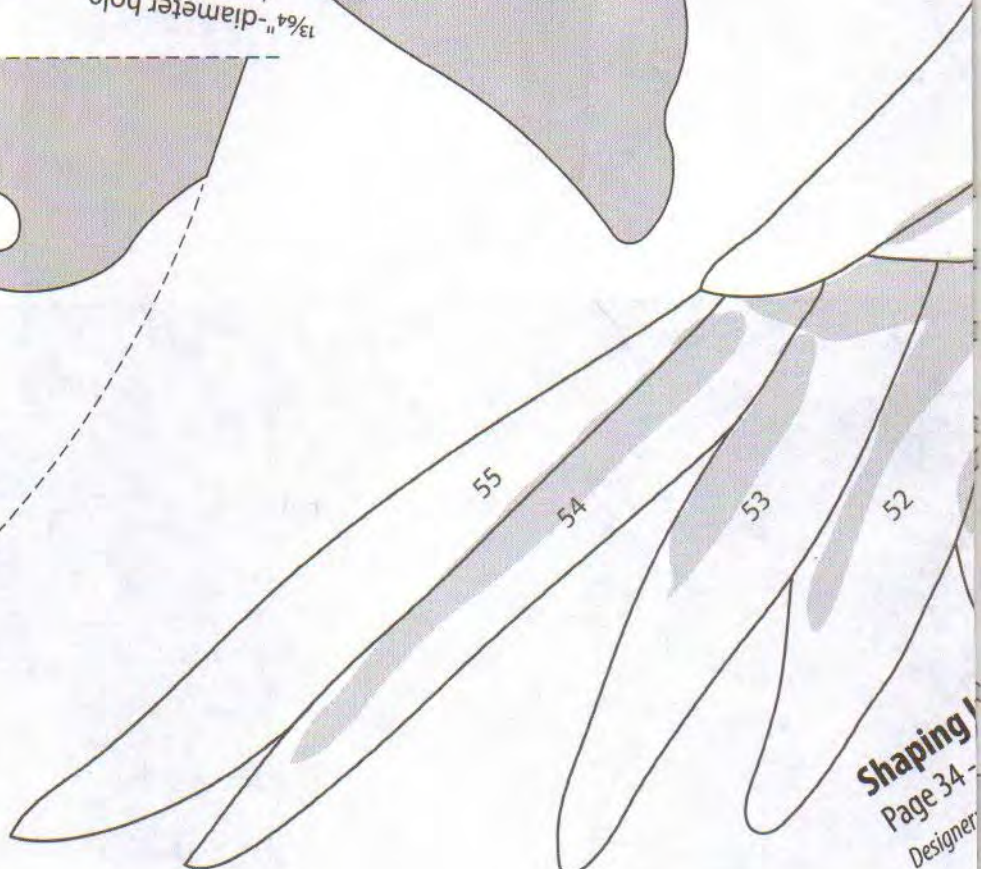
$\frac{1}{8}$ "-diameter hole

Black

Natural

Red

$\frac{13}{64}$ "-diameter hole



**Shaping**  
Page 34 -  
Designer

7B

Cardinal body - Cut 2

Position of wing

Woodburn beak detail

57  
All wing - 1/4"

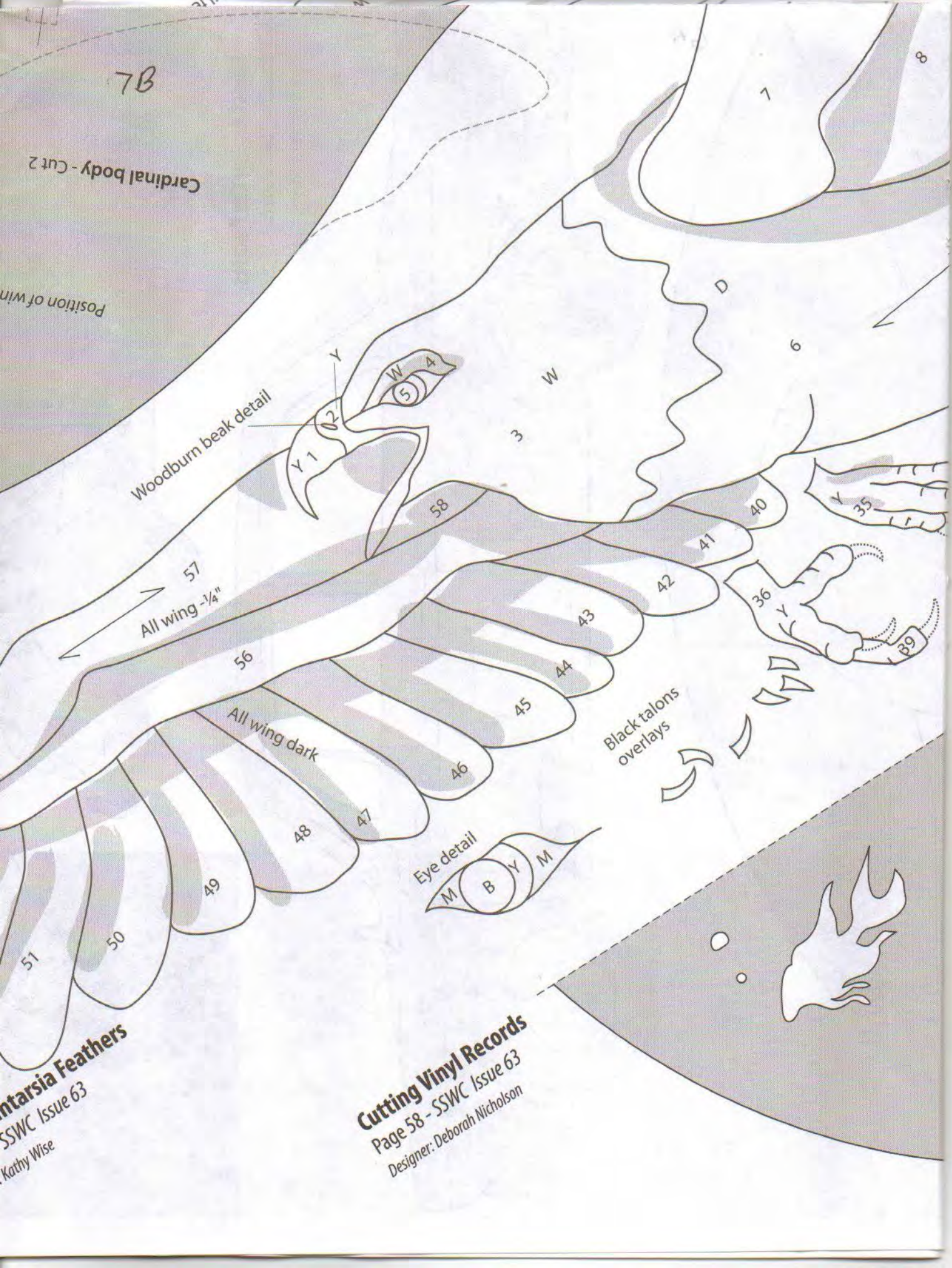
All wing dark

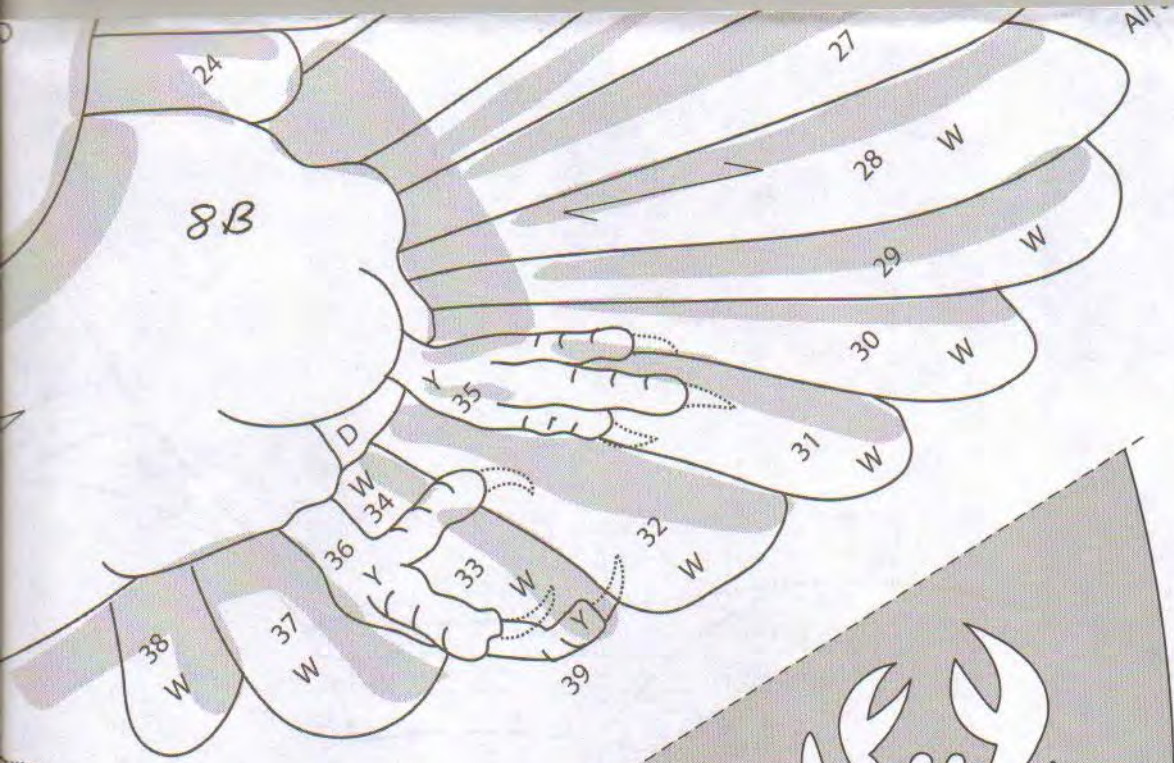
Black talons overlays

Eye detail

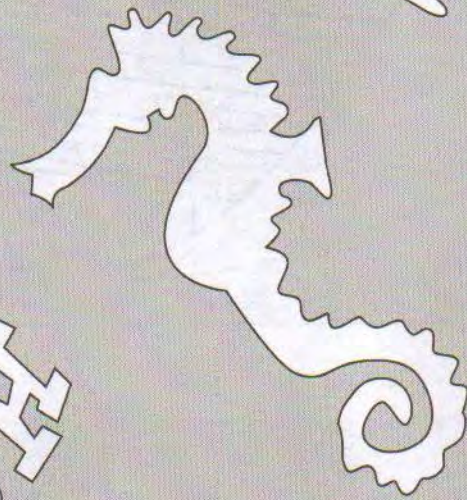
Antarsia Feathers  
SSWC Issue 63  
Kathy Wise

Cutting Vinyl Records  
Page 58 - SSWC Issue 63  
Designer: Deborah Nicholson



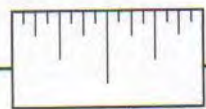


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**Notice about photocopying patterns**

Some photocopiers and home printers can distort patterns when you print them, making them slightly off-size or stretching the image. Use the 1" bar printed below as a guide when copying the patterns and hold the photocopies of the pattern up to the original to check for any distortion.



One inch

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SPRING/SUMMER 2016  
ISSUE 63

SCROLLSAW

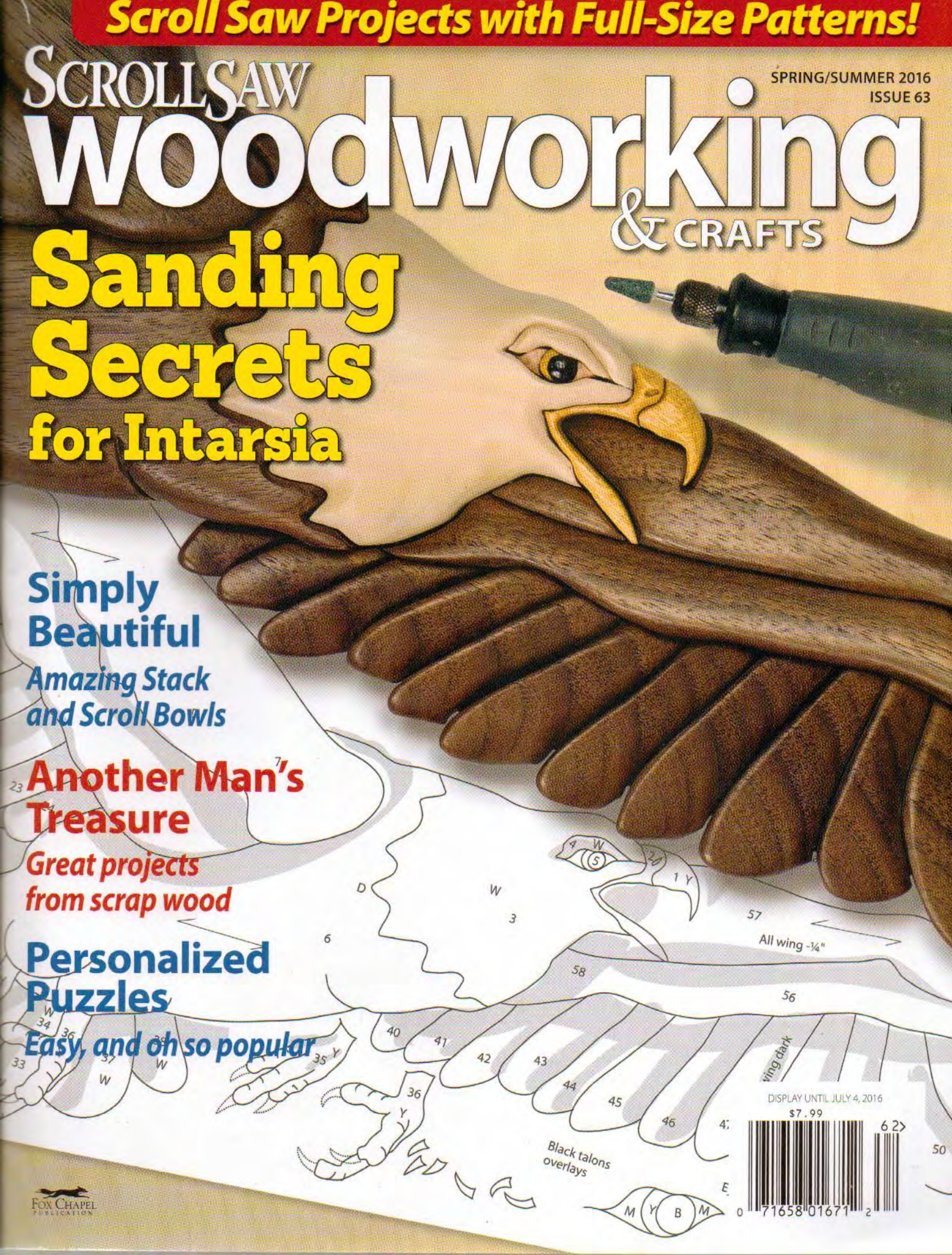
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22



40



## FEATURES

### 18 *Fishing for Success*

By Brian D'Ambrosio

A. L. Swanson's line for Orvis brings custom woodworking to the public

### 44 *Summer 2016 Roundup*

By Kathleen Ryan

Say hello to summer with these fun projects

### 48 *And the Winner Is...*

Announcing the first winners in the 2016 People's Choice Contest

### 54 *Chinese Opera Masks*

By Kathleen Ryan

Western craftsman creates Zen moments when scrolling Eastern motifs

### 56 *Scrolling for a Song*

By Kathleen Ryan

Woodworker gives new life to old vinyl records

## PROJECTS

### 22 *Making a Basket with a Scroll Saw*

By Carole Rothman

Build a unique blank to create a bowl that looks like a basket

### 32 *Cheery Spring Wheelbarrow*

By John A. Nelson

Easy trick creates perfect "paint" design every time

### 34 *Shaping Intarsia Feathers*

By Kathy Wise

Easy tips for making a realistic eagle

### 40 *Cardinal Bird Feeder*

By Paul Meisel

Create an attractive holder for seed bells

### 50 *Harold the Hurried Hummingbird*

By David Wakefield

Simple mechanism makes the wings flutter fast



32



28



43



56

## PATTERNS

### 20 Vintage Golf Club

By Janette Square

Careful wood color and figure selection highlight this popular project

### 28 Sailboat Puzzle

By Will Richards

Freestanding puzzle captures the essence of the sea

### 30 Grapevine Welcome Plaque

By Keith Fenton

Greet guests with a colorful symbol of hospitality

### 38 Freestanding Car Puzzles

By Eric Van Malderen

Celebrate the joy of summer road trips with a classic BMW 700 and VW Beetle

### 43 Fretwork Wall Clock

By Sue Mey

Large frets are fun & easy for beginners, quick for pros

### 46 Lucky Charms Name Puzzle

By Tim Gilman

Clever design lets you create a custom puzzle quickly and easily

### 58 Cutting Vinyl Records

By Deborah Nicholson

Turn a vintage record into an attractive clock

### 60 Animal Doorstops

By Carl Hird-Rutter

A quick and easy solution to unwanted wood scraps

### 62 Western Heritage

By Don Calhoun

Celebrate the wildlife of North America with a fretwork portrait

### 66 Clown Portrait

By Michael Kelley

Fretwork design shows the two sides of our personalities

## SCROLLSAWER.COM

#### • Video

Watch Harold the Hummingbird hurry across the floor (pg. 50).

#### • Bonus Projects

Download designs for your wheelbarrow (pg. 32) and make a fretwork Chinese fan (pg. 54).

#### • More Info

Read an in-depth review of the SuperMax Drum Sander (pg. 65).



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## DEPTS.

4 Editor's Note

6 Letters

8 Reader Gallery

10 Info Exchange

12 News and Notes

49 Contest Call for Entries

65 Product Review

70 Scroll Saw Basics

71 Coming Features

71 Ad Directory

72 Sawdust



## Cherry Picking

Sometimes a project just speaks to you. We try not to play favorites—and we wouldn't publish a project unless we were confident in its ability to captivate readers—but some designs stand out while we're working on an issue.

For example, the entire staff is crazy about Carol Rothman's open-segment bowl (page 22). The bowl—or, as I insist on calling it, "basket"—is gorgeous in its simplicity, while at the same time showing a sophisticated knowledge of woodworking and use of a scroll saw. As Bob Duncan, our technical editor, so aptly put it, "I love the way she stretches the tool to the limit to bring the vision in her head to life in wood." Jon Deck, our art director, concurs. "I love the dimensionality and openness of the design, the positioning of the vertical and horizontal grain directions, and the natural finish that give this project an honest beauty."

Oddly, another project that grabbed me was Janette Square's "Vintage Golf Club" intarsia. I say "oddly" because I don't golf. But I really like the way Janette focused on the club and gave it dimension through both artistic perspective and actual shaping. The club is nicely detailed, the naturally colored background is reminiscent of rolling greens, and the spalted curly maple accents suggest sand traps. It makes me smile every time I see it.

Design is a major factor in another project's appeal for Jon. He said of John Nelson's "Cheery Spring Wheelbarrow" (page 32), "It could have been something clunky and utilitarian, but it's got a bit of elegance. It's painted, which sometimes detracts from a design for me, but it's done in a way that's a plus for this project."

Bob has a completely different reason for being drawn to Michael Kelly's "Clown Portrait" (page 66). We originally chose the project after we published a photo in the Reader Gallery and several people requested the pattern. However, we learned from Michael's introduction that his experience as an adult with ADHD inspired the design. Bob notes, "As someone who was also diagnosed with ADHD as an adult, I can understand Michael's struggle and can really own the inspiration for his design."

I could list the reasons we like every article in the magazine or think they will be fun, appealing, or inspiring for you. Instead, flip through and see what makes you stop to look more closely, read the story, or check your wood stash. And when you've made your list for the issue, let us know what you liked. If, by chance, nothing did it for you this time, I'd love to know what we missed. You've been hoping for a complicated fretwork project and the wall clock wasn't enough? You've cut your way through the last *Gizmos* issue and the hummingbird didn't scratch the itch? Either way, let us know—and we'll go looking for more projects we'll all love.

*M Kinsey*

Mindy Kinsey  
kinsey@FoxChapelPublishing.com

**Mounding Carol Rothman's bowl with fruit shows off the beauty of the woodworking and the bounty of the season.**



# SCROLLSAW woodworking & CRAFTS

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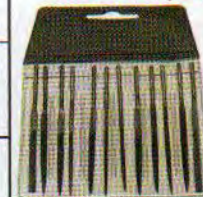
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## Scraps of Wood + Grandchildren = Tons of Fun!

Ever wonder what to do with all the scraps of wood you've collected over the years?

I've been letting my grandchildren have at them, and they are having a ball creating wooden sculptures with these scraps and some hot glue. The only thing I did for them was scroll their initials.

**Pierre Falzon**

*Pickering, Ont., Canada*



Little hands and a lot of imagination make fanciful sculptures from scrap wood.

Left: Kameron Kirk's take on "Osprey Intarsia" by Janette Square and Bruce Worthington; the original is shown below. Kameron carved each feather to add realism to the piece.



### Intarsia Adaptations

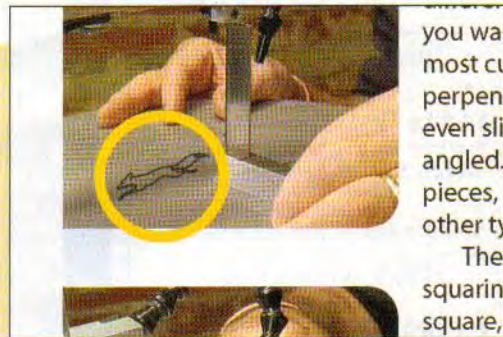
I usually follow all of the instructions to the letter the first time I take on a project. After I feel comfortable, I modify the shape, size, species of wood, and finishing techniques to make the project my own. I've altered a number of patterns by different scrollers, including the "Great Horned Owl" by Kathy Wise and "Osprey Intarsia" by Janette Square and Bruce Worthington (both featured in *Scroll Saw Woodworking and Crafts*, Issues 52 and 60, respectively). I have been active duty Air Force for 23 years and I am constantly tasked with making retirement/going away gifts when I have the spare time.

**Kameron Kirk**

*Warner Robins, Ga.*

### Correction:

The materials list for the "Tiered Display Shelf" by Paul Boers, page 44 of *Scroll Saw Woodworking & Crafts* Winter/Spring 2016 (Issue 62), calls for 1/4" (6mm)-thick material for the shelves. This is incorrect. The shelves are made from 1/2" (13mm)-thick walnut. We apologize for the error.



you want most cut perpendicular even slightly angled. pieces, other type. The squaring square,

### Fox Hunt

Wesley Wheelock of Neopit, Wisc., and Boyde Fields of Beaumont, Texas, were randomly drawn from the participants who located the fox in our last issue (Winter/Spring 2016, Issue 62). The fox was hiding on page 70, in the *Scroll Saw Basics*.

Find the fox in this issue, and tell us the page number and location. Two readers randomly selected from all correct replies will receive a \$25 Fox Chapel Publishing gift certificate. Entries must be received by April 18, 2016, to be eligible. *NOTE: The contest fox is an outline drawing that would face left if his feet were on the "ground" (other foxes appearing in SSW&C don't count).*

Send your entry to SSW&C, Attn: Find the Fox, 1970 Broad Street, East Petersburg, PA 17520, or enter online at [www.ScrollSawer.com](http://www.ScrollSawer.com).

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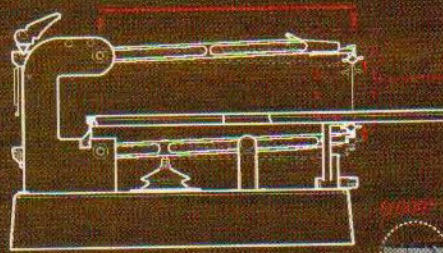
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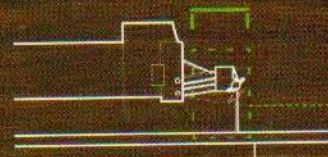
**HAWK SM-20**

Turning circle = 1/20"

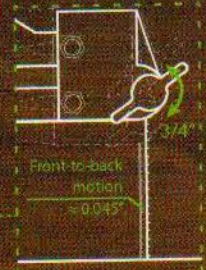
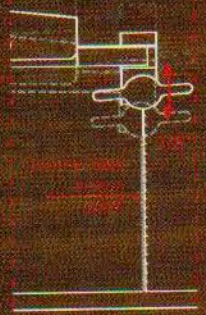
With a #5 blade, a **HAWK** scroll saw has half the turning circle for double the accuracy.

Turning circle = 1/10"

### The competition



≈ 0.045"



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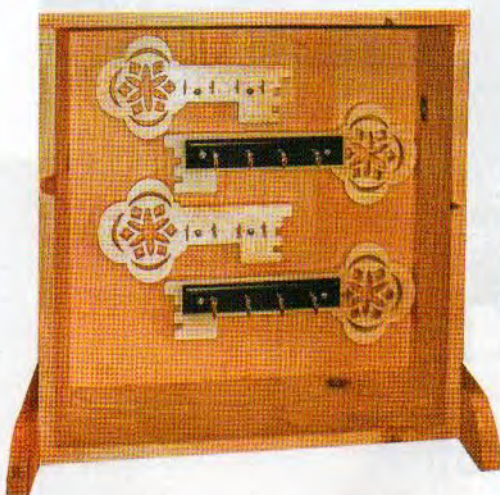
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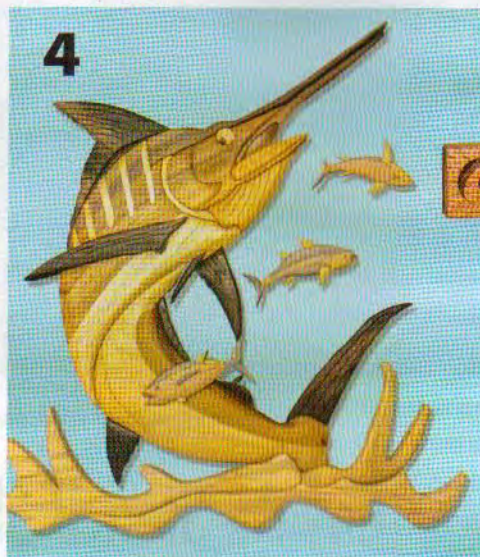
2



3



4



5



**1 Spiral Seashell**

Bob Collins, of Kangaroo Flat, Vic., Australia, cut this amazing shell on the scroll saw. He cut 45 segments out of marine plywood, purple heart, and Osage orange wood. He sanded the shell and finished with polyurethane. The base is a piece of iron bark stump that he shaped, sanded, and finished with polyurethane.

**2 Whitetail Intarsia**

Tom Kaldunski of Farmington, Minn., designed and scrolled this whitetail intarsia piece. He used 19 different varieties of wood to create the forest scene. He finished the piece with a clear coat.

**3 Key Hanger**

Lew Riggins of Doty, Wash., scrolled these key hangers from a pattern designed by Sue Mey. It was featured in *Scroll Saw Woodworking & Crafts* Spring 2015 (Issue 58).

**4 Hungry Marlin**

Luis Martinez of Aguadilla, Puerto Rico, used 10 varieties of wood to create the Hungry Marlin. It has 65 pieces total and is 3/4" (19mm) thick. He used acrylics to dye the smaller fish blue and yellow.

**5 Compound Crosses**

Donald Nichols of San Antonio, Tex., made these compound crosses from Sue Mey's patterns in *Ultimate Scroll Saw Woodworking Patterns*. He enlarged her patterns slightly to make each cross 1 1/2" (38mm) thick. He cut each cross from red oak and finished the hearts in the center with a red oak stain.

**Share Your Latest Work!**

Send a slide, professional print, or digital image (300 dpi minimum) with 100 words about you and your piece. Include your hometown, the name of the pattern maker, and a list of wood and materials used. Send to Reader Gallery, *Scroll Saw Woodworking & Crafts*, 1970 Broad Street, East Petersburg, PA 17520, or e-mail [editors@scrollsawer.com](mailto:editors@scrollsawer.com).

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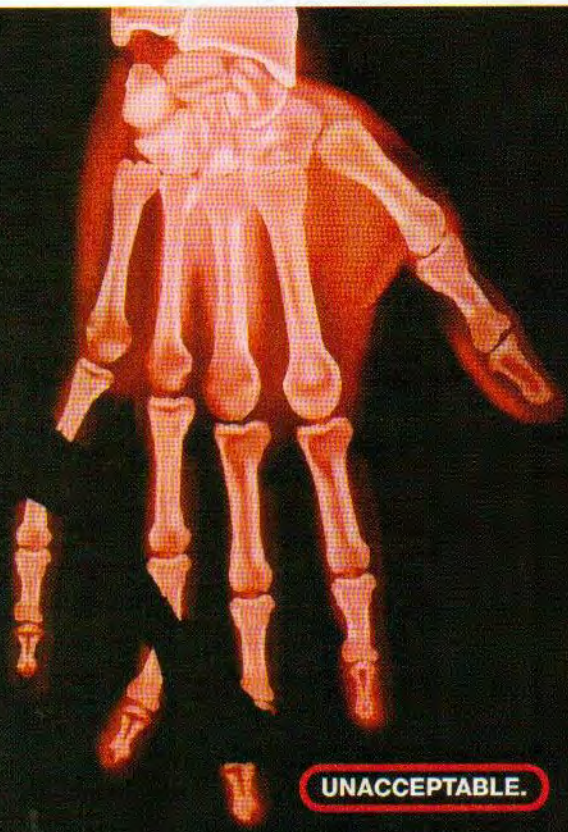


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# Shake It Up!



When arthritis made shaking a bottle of paint a real challenge, I salvaged an old scroll saw to do the job for me. I made a wooden box and clamped it to the saw. The box holds three bottles of paint firmly without additional clamping. A few minutes on the scroll saw does the job for me. No achy wrists!

**Ray Hall**

*Jeromesville, Ohio*



A wooden box clamped to the arm of a scroll saw makes a great paint shaker.

## Table Saw Tips

Here are some tips for cutting on your table saw. Try the GRR-RIPPER. It's a 3-D push block system that grips onto wood to help you guide the wood on the saw. I've been using it since Micro Jig came out with it and find it to be one of the most useful tools I ever bought. It's really helpful when cutting small pieces.

Or, if you'd rather not spend money, you can easily make two pusher sticks by breaking a wooden coat hanger. Cut

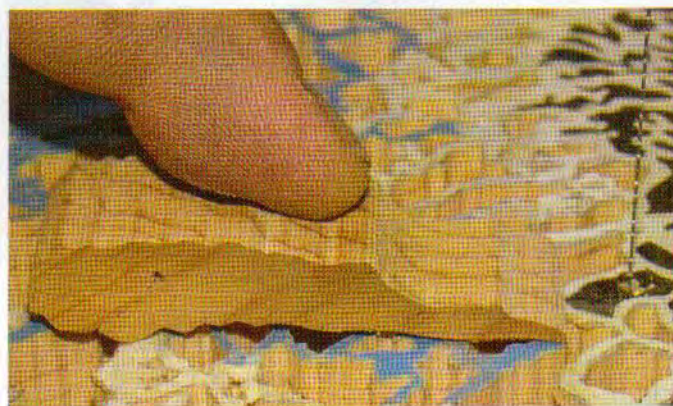
a notch into each side, and you're done. You can also attach a piece of sandpaper to the miter to keep wood from slipping while you're cutting it.

**Howard Hill**

*Via e-mail*



The GRR-Ripper may be the ultimate push stick.



Use a 3" piece of scrap cut to a point to hold down a pattern that has come loose.

## Fretwork Pattern Fix

While doing my latest fretwork piece, some of the pattern came loose from the wood. Normally when this happens I try to hold it down with my finger or thumb, but the pattern on the remaining wood was so small that it wasn't working. So I cut a piece of wood to help me hold it down. The wood is  $\frac{3}{4}$ " (19mm) thick and about 3" (76mm) long with a slight concave on the bottom. The front edge is cut almost to a point to aid in seeing my work, and the back end is big enough for my finger. Use the front end to hold the pattern down.

**Rick Bartels**

*Prairie du Chien, Wis.*

**TOP TIP** in our Summer/Fall issue wins a \$25.00 Fox Chapel Publishing Gift Card. Send your tips or techniques to: Info Exchange, *Scroll Saw Woodworking & Crafts*, 1970 Broad Street, East Petersburg, PA 17520, or e-mail [Editors@ScrollSawer.com](mailto:Editors@ScrollSawer.com).

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"German-made HEGNER Precision Scroll Saws have earned singular respect from scrollers world-wide for 35+ years."

**val·ue** (vāl'yōō) n. – An amount considered to be a fair and suitable equivalent for something else; a fair price or return, i.e., "Exceptional performance that continues for decades makes HEGNER Saws an unparalleled value among their peers."

**sat·is·fac·tion** 'sa-təs-'fak-shən' n. – a happy or pleased feeling, i.e., "Desirable features and superior results provide lasting, everyday satisfaction for owners of HEGNER Saws."



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# Fox Chapel Open House & Woodworking Show 2016

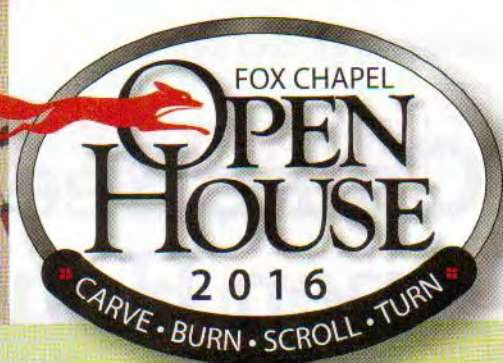


- 1 It's like Spring Break for woodworkers!** Many of your favorite authors, designers, and online personalities will be there to share their knowledge and hang out with you.
- 2 Classes, classes, classes!** Judy Peterson will be sharing her secrets for making "diabolical jigsaw puzzles." Carole Rothman will demonstrate how to make her amazing boxes and bowls. Janette Square will have all the tips and tricks to make intarsia easier, more fun, and more gorgeous. For those still new to scrolling, Janette will take the mystery out of the machine with an intro class. George Ahlers will show you how to turn photos into portrait patterns. More teachers are registering every day, and with 40+ classes there's sure to be something for everyone.



**Whether it's scrolling, carving, turning, or crafts, you'll find a hands-on experience at Open House.**





## Join us May 13 & 14

- Gates, vendor hall, & demos will be open 8am to 5pm.
- Classes will run from 9am to 4pm.
- General admission is \$5 for both days in advance; \$5 per day at the gate.
- Order tickets early and save! Before March 31, a one-day class pass is \$35; a two-day class pass is \$55. As of April 1, a one-day class pass will be \$45; a two-day class pass will be \$75.

**Buy tickets online at  
[www.Wood-Show.com](http://www.Wood-Show.com)  
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- 3 Test-drive saws!** Meet representatives from four major scroll saw brands and learn what makes each saw unique: Excaliber (Seyco), Hawk (Bushton Manufacturing), Hegner (Advanced Machinery), and PS Wood Machines.
- 4 Need wood?** Groff & Groff Lumber, a leading supplier, will have a wide selection available. And if you don't see what you're looking for on Friday, ask—they might be able to get it for you by Saturday.
- 5 Cool tools!** King Arthur Tools will have their Guinevere sanding tool on hand to try out. It speeds up sanding for any woodworker. See the Sand-Flee portable drum sander in action—with attachments, it even sands irregularly shaped items. Or, see an Epilog laser turn out precision-cut pieces in no time flat.
- 6 Books!** The famous "Alan's Attic" Scratch-n-Dent Book Sale will be in full swing with great prices on all woodworking, home improvement, outdoor living, craft, and coloring books.
- 7 Authors!** Once you buy a book, get it signed at our first-ever Fox Author Book Signing Booth.
- 8 Free demos!** If you've always wanted to try carving, turning, woodburning, or crafts—or just a different brand of scroll saw—this is your chance.

Carole Rothman shares the art of making bowls with a scroll saw.

- 9 The Rough and Tumble museum is awesome!** You can see steam-powered marvels like an enormous saw mill, the oldest internal combustion engine running in North America, and the second oldest steam traction engine. Blacksmiths will have their forges fired. Fields will be tended with steam-powered plows. Admire antique cars and intricate miniature machines. And you might just have a chance to ride on the newly restored Shay Railroad, pulled by a steam locomotive.
- 10 Lancaster County is one of the East Coast's most popular tourist destinations.** Learn about the Amish, buy handmade quilts and furniture, shop the outlets, see a show at the innovative Sight & Sound Theater, visit the historic downtown, enjoy local wineries, breweries, and restaurants—there's plenty to see and do before and after the show.



# Come See Us at Open House!



There's plenty to see and do at Open House—and that includes lots and lots of shopping. We have more vendors than ever before and longer hours to make sure you have time to take classes, see the sights, and still visit the vendor barns. Shop for new tools, talk to the experts about the items on your wish list, or find a beautiful hand-crafted item. You can take your time and enjoy everything our vendors will have to share with you.

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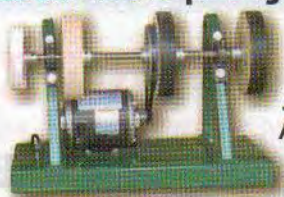
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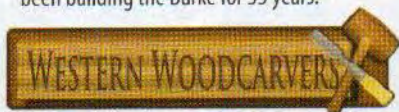
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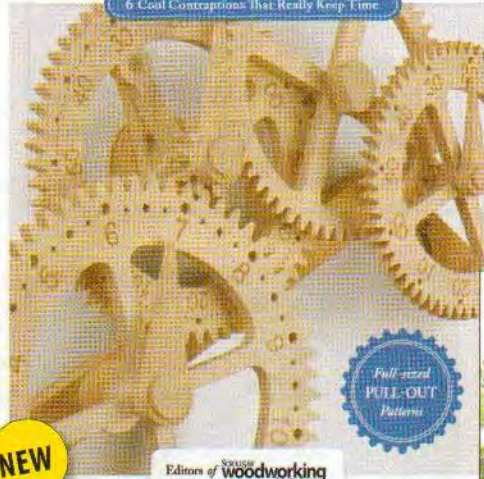
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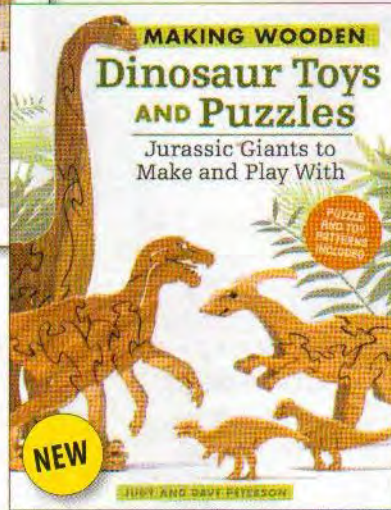
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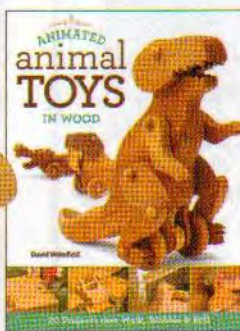
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Editors of Pyrography Magazine

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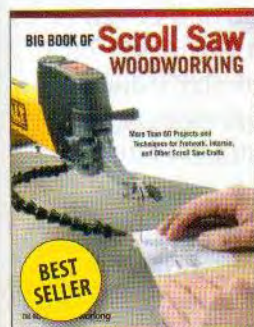
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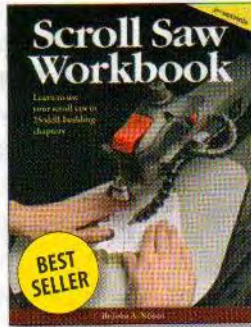


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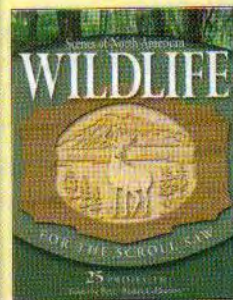
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# Fishing For Success

**A. L. Swanson's line for Orvis brings custom woodworking to the public**

By Brian D'Ambrosio



**T**he A. L. Swanson Gallery and Craftsman Studio in Helena, Mont., intermingles talent, trade, and toil. The gallery showcases handmade furniture, paintings, and artwork, while a large window reveals the building blocks and sawdust of the furniture-building component.

At a table, A. L. Swanson runs his fingers across a handsome walnut fly box decorated with abalone, mother of pearl, and various metals. Fly boxes are the most recent addition to Al's business portfolio.

Although he studied business and farming in college, Al chose to apprentice as a cabinetmaker and eventually open his own furniture studio. He started the gallery in 2004. A native of Maine, Al was familiar with the East Coast gallery vibe—all slate floors and austerity—and he wanted something different. “I wanted to create more of a home atmosphere,” said Al. “I wanted to do it in a way that would marry the handmade furniture to different types of art, be it painting, or glass, or ceramics. I wanted to let them interact together: hardwood, different colored walls, fresh flowers, candles.”

The idea worked. The gallery showcases Al's furniture as well as work by the region's premier artists and has been luring tourists to Montana for the past 12 years. “We took a loud, dusty woodworking facility and figured out a way, with engineering and architecture, to put it underneath an accounting firm in the middle of the city,” said Al. “It's unlike anything in Helena or anywhere else, really.”

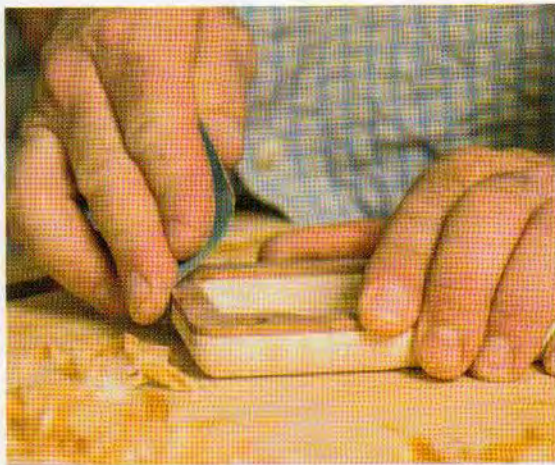
In 2007, Al decided to expand. “It is ironic, but with the recession bearing down

on us, and in a horrible economy, we made a conscious decision to grow. If we could weather the storm, our ship would sail. We knew we could position ourselves to be in a different situation. So we risked life and limb and economics and everything else.”

Al's plan was to bring the people to the process by offering the hands-on opportunity to make a table. You don't have to know how to use a sander or a grinder—the workshops are designed for true beginners—and at the end of the class, you will have made, say, a Shaker-style cherry end table. “We have the tools and the experience you need to further develop your inner artist,” said Al. “We are teaching people woodworking rather than just providing them with a table, a chair, and a desk. The mission at many woodworking schools or classes is to make woodworkers better woodworkers. Here, we want to make people better people, while exposing them to something they have never been exposed to.

“The beauty of it is that you can walk away with something that you've created,” said Al. “They can do some of it, or they can do all of it. But the minute that you make it, or I help you make it, and you sign it and you write a little note to your granddaughter, you've made a legacy. I can't do that—you can.”

Last year, Al tried yet another new direction: the fly boxes. A fishing enthusiast himself, Al worked with an employee, Jacob Franklin, to design the perfect fly box—one that is beautiful, but also highly functional. Now called the Classic Series, the box is 3½" by 5", available in four combinations of wood, and inlaid with a portrait of a fly



made of wood, abalone shell, and various metals. Each box has foam inserts to hold the flies, solid brass hinges, magnetic closers, a brass lanyard post, and a water-resistant finish. They are made from some of the same high-quality hardwoods—many of them domestic—that Al uses for his furniture. The boxes were designed by hand, but production pieces are now made with a computer-controlled router and finished by hand.

The boxes were launched with fanfare—they appeared on the cover of a new series of giftware catalogs from Orvis, the largest fly-angling retailer in the world, along with a profile of the company. They were such a success that they inspired a second series of fly boxes, each named for a Montana river and available in three sizes, as well as a set of cigar boxes and a landing net. All of the boxes can be personalized with a monogram, but Al has also launched a custom box program to create truly one-of-a-kind boxes.

A. L. Swanson is already looking for the next opportunity in a business brimming with potential, but he tempers the prospects with responsibility. “We have the responsibility to the artists we represent, as well as to the person who wants to learn how to build their own furniture. And now with our fly boxes, I look at it this way: the wood took 200 years to grow, so the box had better last that long. That’s another responsibility we have.”

*Visit the A.L. Swanson Gallery and Craftsman Studio at 863 Great Northern Blvd., Helena, Mont.; [www.alswanson.com](http://www.alswanson.com).*



Top to bottom: Landing Net; *The Smith*, 4" by 5½"; *The Blackfoot*, 4" by 5½"; *The Muddler*, 4" by 6"; and *The Trout* cigar box, 4" by 8".

# Vintage Golf Club

Careful wood color and figure selection highlight this popular project

By Janette Square

**T**ee up this project for the golf enthusiast in your life! The idea for this design came about when a customer wanted a special gift for an avid golfer. I wanted to create and emphasize the dimensionality to enhance the overall look. This project would make a great award for golf tournament winners.

This is a fairly simple project to cut, but it's surprisingly challenging to shape. You can simplify it by eliminating the thin walnut pieces or by keeping them the same height as the surrounding pieces. You could also leave the background out entirely and eliminate the risers to create a stand-alone piece showing just the club and ball.

## Selecting the Wood

The background coloring represents grass and sand, both of which you encounter while golfing. Select your wood based on this idea. Alternately, if you have some interesting wood you would like to highlight, use it for this project.

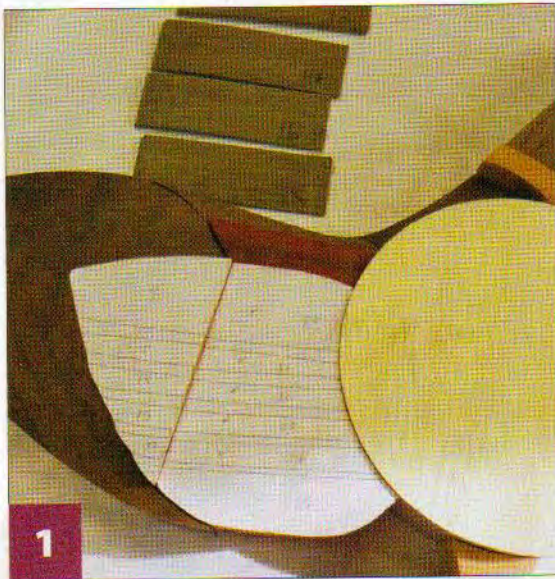
The dimensions in the Materials List are approximate; the larger the pieces are that you start with, the more opportunity you have to decide where the grain looks best for each piece. The thickness of the risers may vary depending on the initial thickness of the wood.



Pattern for the **VINTAGE GOLF CLUB** is in the pattern pullout section.



Janette Square lives in Yachats, on the Oregon coast. For more of her work, visit her website at [www.square-designs.com](http://www.square-designs.com).



**1 Cut the project.** Most of the cutting is pretty straightforward, except the club face. Apply the pattern for the thin walnut strips to a single piece of wood and number the pieces. Repeat the process for the padauk strips and the figured redwood strips. Cut the walnut pieces and number them, keeping track of the order and orientation. Cut the perimeter of the padauk and redwood pieces, leaving the interior intact. Leave the pattern in place as you glue the padauk and redwood together. Make sure the pattern lines are aligned, and let the glue dry completely. Then, cut the thin interior areas. Do not discard the thin cutouts. Once you have cut the pieces apart, reassemble them. Using double-sided tape, attach all of the pieces to a sanding shim and shape the section. Once you are satisfied with the shape of the section, remove the waste pieces and insert the walnut strips. Sand those to desired height (slightly lower than the others). Glue the entire face section of club together.

**2 Cut scraps of plywood for the risers.** Use varying thicknesses to create a nice 3-D look. The only area where you actually need thicker wood is where the shaft of the golf club is visible on the outer edge.

**3 Shape the rest of the project.** The club should appear "behind" the ball, so keep the club height  $\frac{1}{4}$ " (6mm) to  $\frac{1}{2}$ " (13mm) lower than that of the ball. Do not raise a piece so high that a riser will show beneath it. The toe of the club should curve gently from the face to the end and bottom with

a subtle taper. You could easily substitute the background material for thinner wood, such as  $\frac{1}{2}$ " (13mm) thick, but this will limit the thickness of the riser.

**4 Dry-assemble the project.** Then, edge-glue everything together and let the glue dry. Apply two coats of finish, such as satin gel varnish. Allow the finish to dry, and then glue the intarsia to the backing board.

**Materials & Tools**

**Materials:**

- Poplar,  $\frac{3}{4}$ " (19mm) thick: green background, 7" x 20" (178mm x 508mm)
- Spalted curly maple,  $\frac{3}{4}$ " (19mm) thick: background top, bottom, 3" x 16" (76mm x 406mm)
- Aspen, 1" (25mm) thick: ball,  $4\frac{1}{2}$ " x  $4\frac{1}{2}$ " (114mm x 114mm)
- Pine,  $\frac{3}{4}$ " (19mm) thick: tee, 1" x 3" (25mm x 76mm)
- Peruvian walnut, 1" (25mm) thick: 5" x 6" (127mm x 152mm)
- Figured claro walnut, 1" (25mm) thick: 2" x 4" (51mm x 102mm)
- Padauk, 1" (25mm) thick: 3" x 4" (76mm x 102mm)
- Figured redwood, 1" (25mm) thick: 2" x 3" (51mm x 76mm)
- Walnut,  $\frac{3}{4}$ " (19mm) thick: 2" x 4" (51mm x 102mm)

- Baltic birch plywood,  $\frac{1}{8}$ " (3mm) thick: backing board, 10" x 13" (254mm x 330mm)
- Plywood scraps: risers, shims
- Sandpaper
- Wood glue
- Packaging tape
- Spray adhesive
- Waxed paper
- Finish, such as satin gel varnish
- Hanger
- Tape: double-sided turners

**Tools:**

- Scroll saw blades: #7, #1 or #2 reverse-tooth.
- Sanders: flex drum or inflatable drum; 180-, 220-grit sanding mop

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*

# Making a Basket with a Scroll Saw

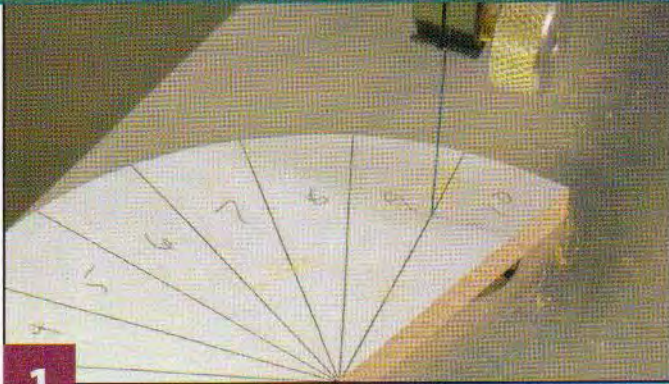
**Build a unique blank  
to create a bowl that  
looks like a basket**

*By Carole Rothman*

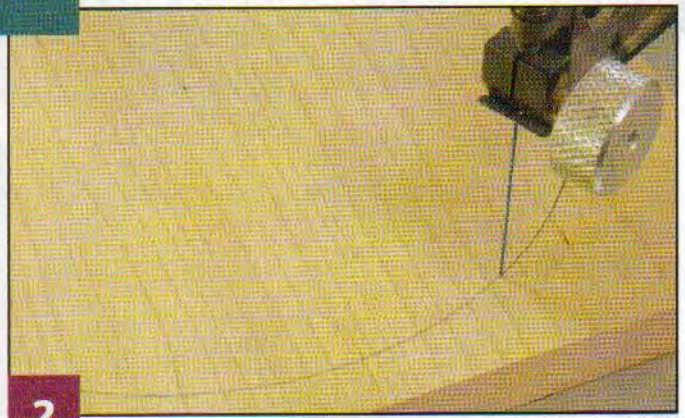


**O**pen segmented bowls are associated with lathes, not scroll saws, and discovering how to obtain this effect took more than a little trial and error. However, once you make the special blank, the cutting is quite straightforward. Using spindle and belt sanders makes the finishing process relatively painless.

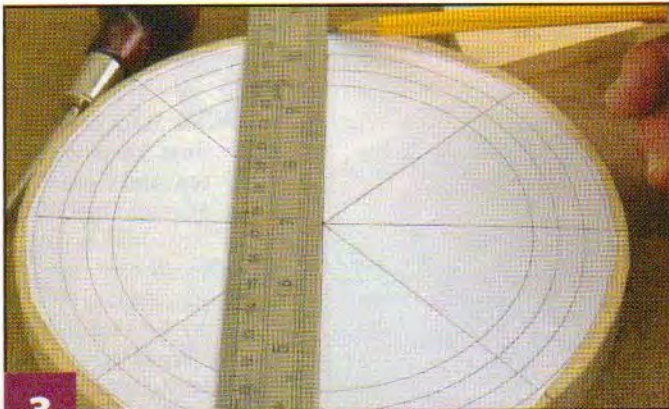
## BASKET: MAKING THE BLANK



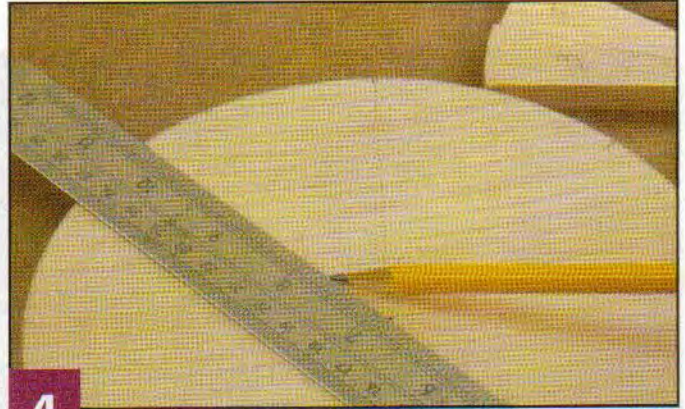
**1** Attach the 10-segment pattern to the appropriate blank. Align the bottoms of the pattern and wood. Cut the segments with a #3 blade. Remove the pattern and transfer the numbers to the segments. Two are extras. Clean any fuzzies off the bottom edges.



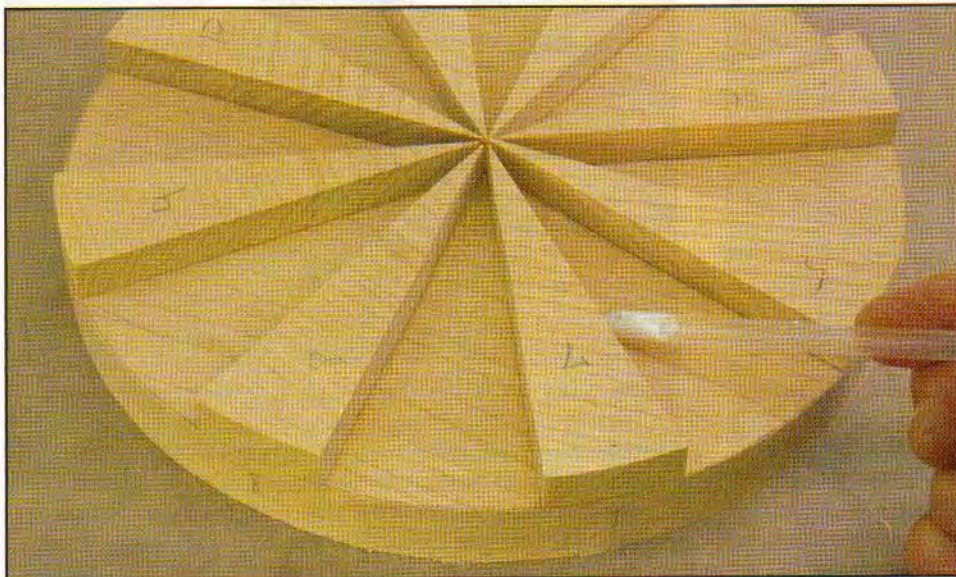
**2** Draw a 7½" (191mm)-diameter circle on the main blank. Mark the center with an awl. With the saw table level, cut the perimeter to the outside of the line.



**3** Trim the cutting pattern for the rings. It should fit inside the main blank cut in Step 2. Use an awl to center the pattern on the circle. Attach the pattern at the edges with dabs from a glue stick. Mark the end points of the segment lines on the wood. Remove the pattern.

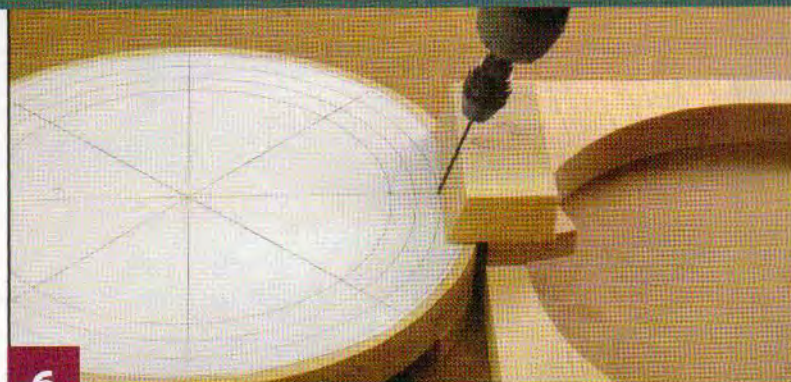


**4** Connect the end points with light pencil lines. This divides the main blank into eight segments. Drill a small through-hole at the center point of the base so you can center the pattern on the underside of the blank in Step 6.

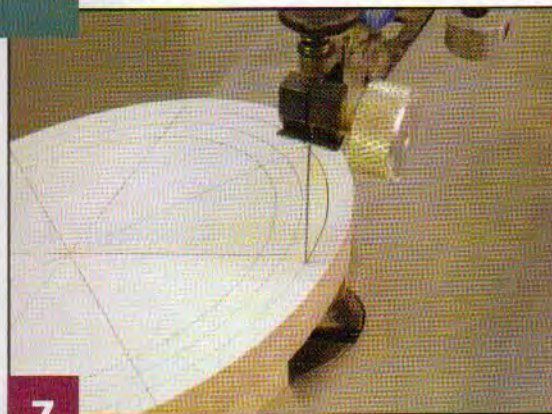


**5** Place the segments on the circle. Match the grain of the outer edges as closely as possible with that of the circle. Number the position of each segment on the corresponding edge of the circle. Glue each segment into place, sliding it back and forth until it drags to obtain a good bond. Use a toothpick or diagonally cut drinking straw to remove excess glue. Place the workpiece in a press and clamp firmly. Remove it from the press after five minutes to clean up any squeeze-out on the segment sides. Re-clamp and let dry.

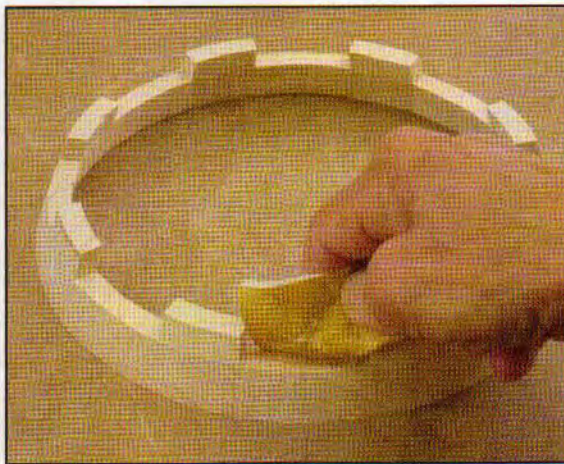
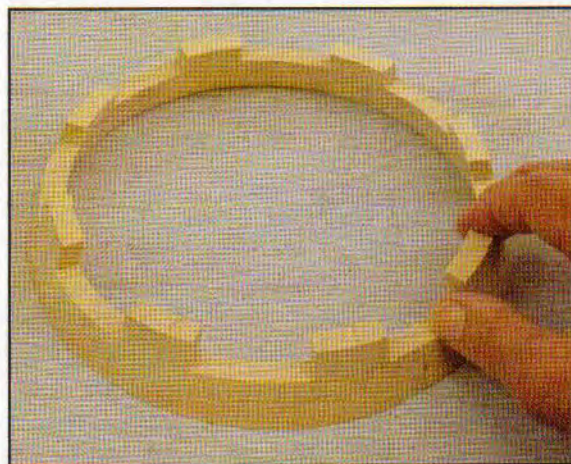
## BASKET: CUTTING & ASSEMBLING THE PROJECT



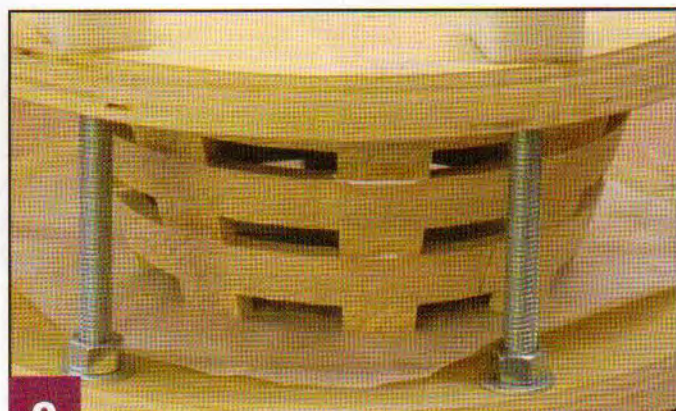
**6** Attach the cutting pattern for the rings to the underside of the base. Use the hole drilled in Step 4 to center the pattern. The location of the “top” is arbitrary, but the entry holes should be located above open spaces. Drill an 18° blade-entry hole at each of the three points indicated on the pattern, using an angle guide and drilling toward the center of the blank. The second hole is located opposite the others to avoid back-to-back drill marks on the same ring.



**7** Tilt the left side of the saw table down to 18°. Cut clockwise around the perimeter. Insert the saw blade in the outermost blade-entry hole and cut clockwise to complete the first ring. Transfer the “top” mark to the ring. Repeat for the second and third rings. The remainder of the blank is not used for this project.



**8** Stack the rings, keeping the tops and segments aligned. Check that the surfaces lie flat against each other, and then sand as needed. I use a sheet of sandpaper attached to a granite tile. Then, remove any fuzzies from all of the edges.

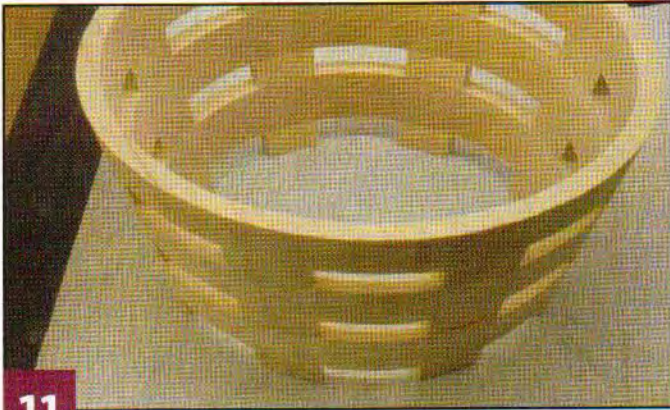


**9** Apply glue to the undersides of the segments of the two larger rings. Stack the three rings together, keeping the tops and segments aligned, and press down firmly. Place in the press, clamp, and let set for five minutes, being careful not to overtighten—the angled wedges are vulnerable to shear. Clean away squeeze-out between the segments, removing the clamp assembly briefly if needed for access. Let the glue dry fully.

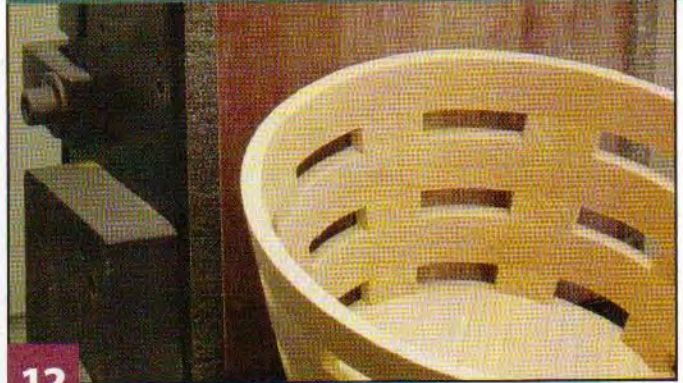


**10** Sand the insides of the rings. Use a spindle sander with the table set to 18°. Sand until the inside is smooth and free of glue residue and blade marks. Switch to a 4" (102mm)-long pneumatic drum and sand through the grits up to 220. You can also use a standard long drum provided you can sand through the grits. Check the underside frequently to be sure you leave enough wood to attach the bottom.

## BASKET: SANDING & SHAPING THE PROJECT



**11** **Trim a copy of the cutting pattern for the rings to fit the base blank.** Attach the pattern and set the left side of the saw table down to 18°. Cut the smallest circle on the pattern in a clockwise direction. Sand the bottom of the ring assembly flat and glue it to the base, using the procedure from Step 9. Be sure that the grain of the bottom and top run in the same direction.



**12** **Sand the outside of the basket.** Use a belt sander with the table tilted to 18°. Sand until the surface is smooth, all glue and blade marks are removed, and the upper edge is even. Draw a circle on the underside of the base to help guide the shaping.



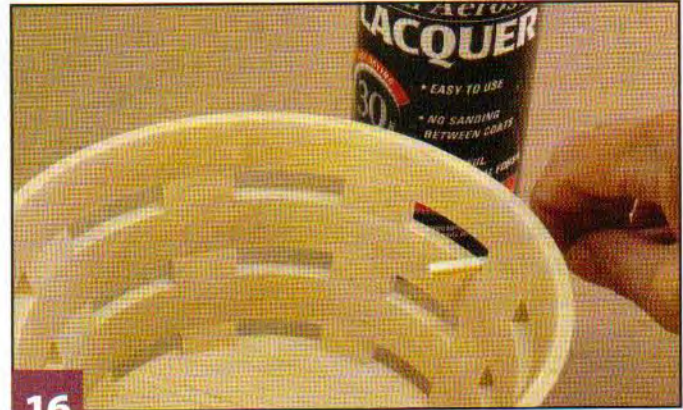
**13** **Tilt the belt sander table to 30°.** Sand a bevel on the bottom that extends about halfway up the base. Tilt the table to 45° and sand a bevel that extends about halfway up the previous bevel.



**14** **Finish sanding the basket exterior.** Use a 2" (51mm)- or 3" (76mm)-diameter flexible pad sander. Use a firmer pad to correct irregularities and a softer one to sand without changing the shape. Sand through the grits to 220, softening the lower curve and removing any scratch marks.

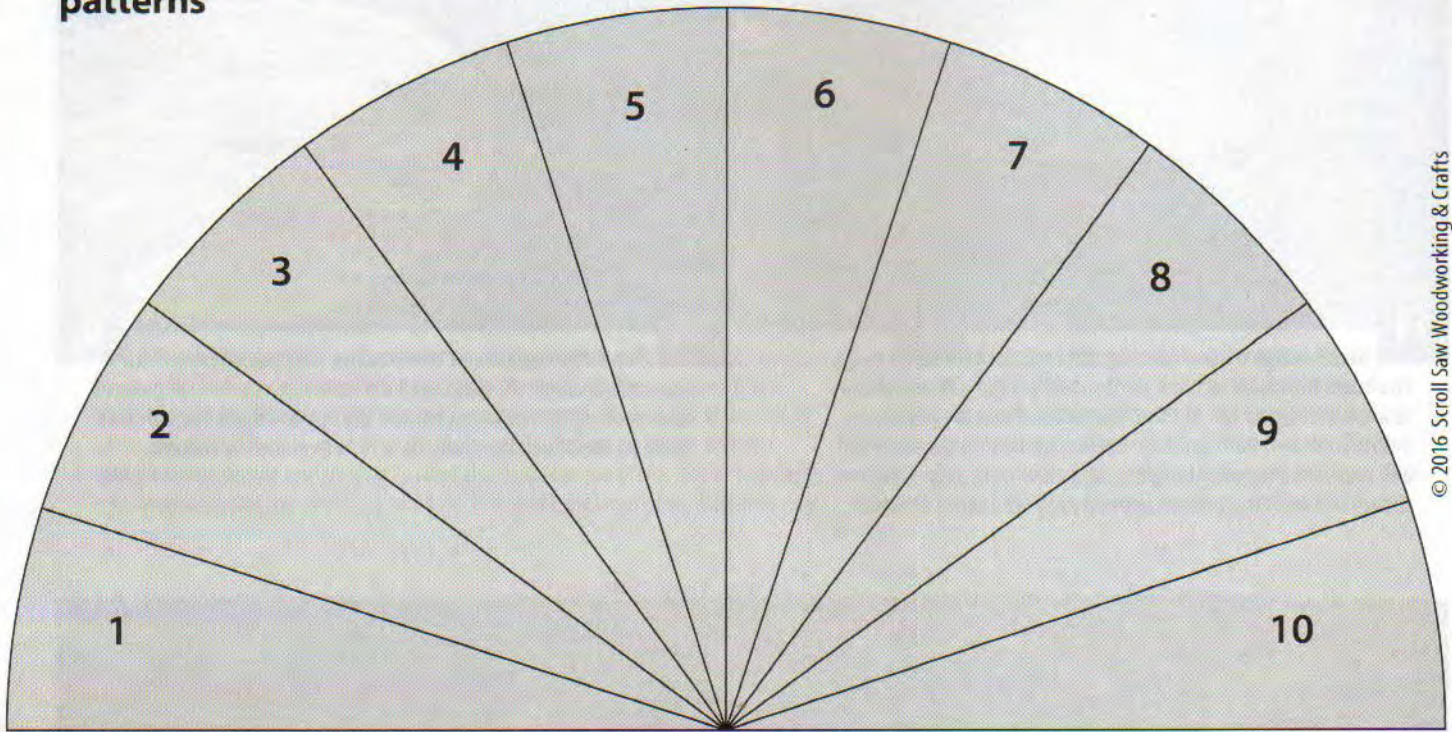


**15** **Soften the top and bottom edges.** Use a pneumatic sanding drum. Then, hand-sand the edges. Use a small 320-grit sanding mop to soften the edges of the segments and remove fuzzies. Finish sanding by hand.



**16** **Apply several coats of clear gloss lacquer.** Buff between coats as needed, using 320-grit sandpaper or 0000 steel wool. A sanding twig is useful for sanding between the segments.

## Scrolled basket patterns



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### Materials & Tools

#### Materials:

- Maple,  $\frac{5}{8}$ " (16mm) thick: main blank, 8" x 8" (203mm x 203mm)
- Maple,  $\frac{3}{8}$ " (10mm) thick: segments, 4" x 8" (102mm x 203mm) [the combined thickness of this piece and the main blank must total 1", or 25mm]
- Maple,  $\frac{5}{8}$ " (16mm) thick: base, 4" x 4" (102mm x 102mm)
- Repositionable adhesive
- Glue stick
- Sandpaper: assorted to 220 grit
- Sanding discs and drums
- Wood glue, such as Weldbond
- Spray lacquer: gloss

#### Tools:

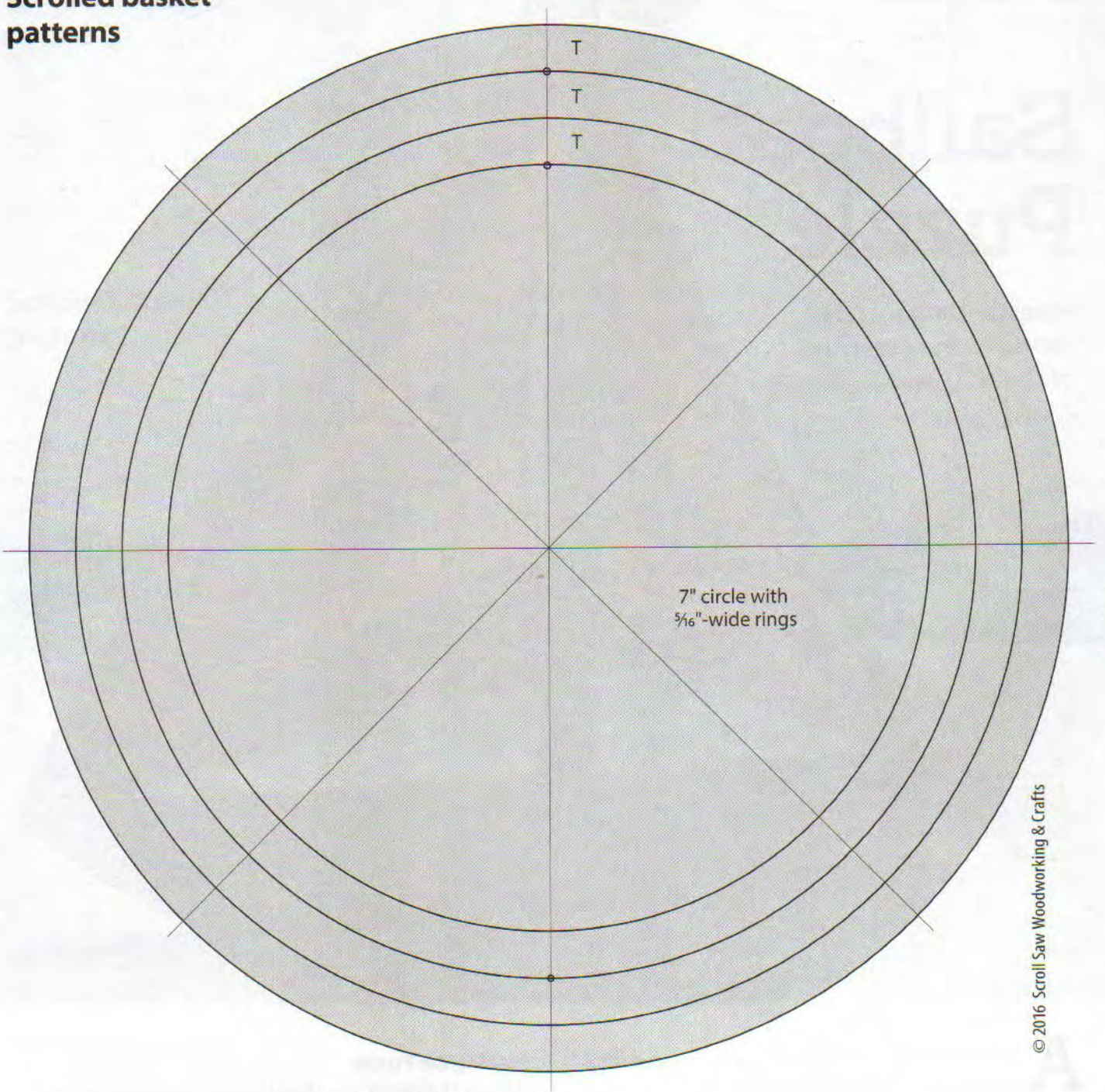
- Scroll saw blades: #5 premium, such as FD Polar; #3 reverse-tooth
- Drill with bit: #54 wire size

- Drafting tools: compass, straight edge
- Awl
- 18° shop-made angle guide
- Flexible pad sanders: 2" (51mm) or 3" (76mm) dia. (soft and mediums pads)
- Spindle sander with tilting table
- Pneumatic sanding drum, 4" (102mm) long
- Belt sander with tilting table
- Sanding twigs (recommended)
- Granite tile with 150-grit sandpaper attached (recommended)
- Bowl press, or clamps and boards for gluing

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*



## Scrolled basket patterns



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*Carole Rothman of Pawling, N.Y., is a retired psychologist and college professor. She is also an award-winning cake decorator. Visit Carole online at [www.scrollsawbowls.blogspot.com](http://www.scrollsawbowls.blogspot.com). You'll find her books Creative*

*Wooden Boxes from the Scroll Saw and Wooden Bowls from the Scroll Saw at [www.foxchapelpublishing.com](http://www.foxchapelpublishing.com).*

# Sailboat Puzzle

Freestanding puzzle captures the essence of the sea

By Will Richards



**A** swift wind ripples over the water. Spray surges up from the hull. The sun beams down, warming the water. All of these sensations can be captured in this sailboat puzzle.

A sure hit at craft shows or a wonderful gift for a boating enthusiast, this sailboat will also hone your scrolling skills. Beginners can cut the puzzle from a single piece of light wood and stain or dye the pieces. More advanced scrollers can make the piece from different hardwoods, intarsia style. Because of the changes in grain direction, plan the joints for the tabs and use dowels or small pin nails to reinforce the tabs.

## Making the Puzzle

Attach the pattern to the blank with spray adhesive and cover the pattern with clear packaging tape. Cut the pieces, reassembling the puzzle as you go. After cutting, remove the patterns and tape, and sand each piece, rounding the sharp edges and smoothing the surfaces. Remove all of the dust.

For a finish, I dip the individual pieces into a dish of Danish oil. Allow the pieces to dry for 30 minutes, dip again, and wait another 30 minutes. Wipe off any excess oil with a clean rag. Dispose of the rag carefully; oil-soaked rags can spontaneously combust. Allow the puzzle to dry for at least 24 hours before assembling it.

## Materials & Tools

### Materials:

- Hardwood, 3/4" (19mm) thick:  
8" x 8" (203mm x 203mm)
- Spray adhesive: temporary bond
- Packaging tape
- Sandpaper
- Wood glue (optional)
- Danish oil
- Rags

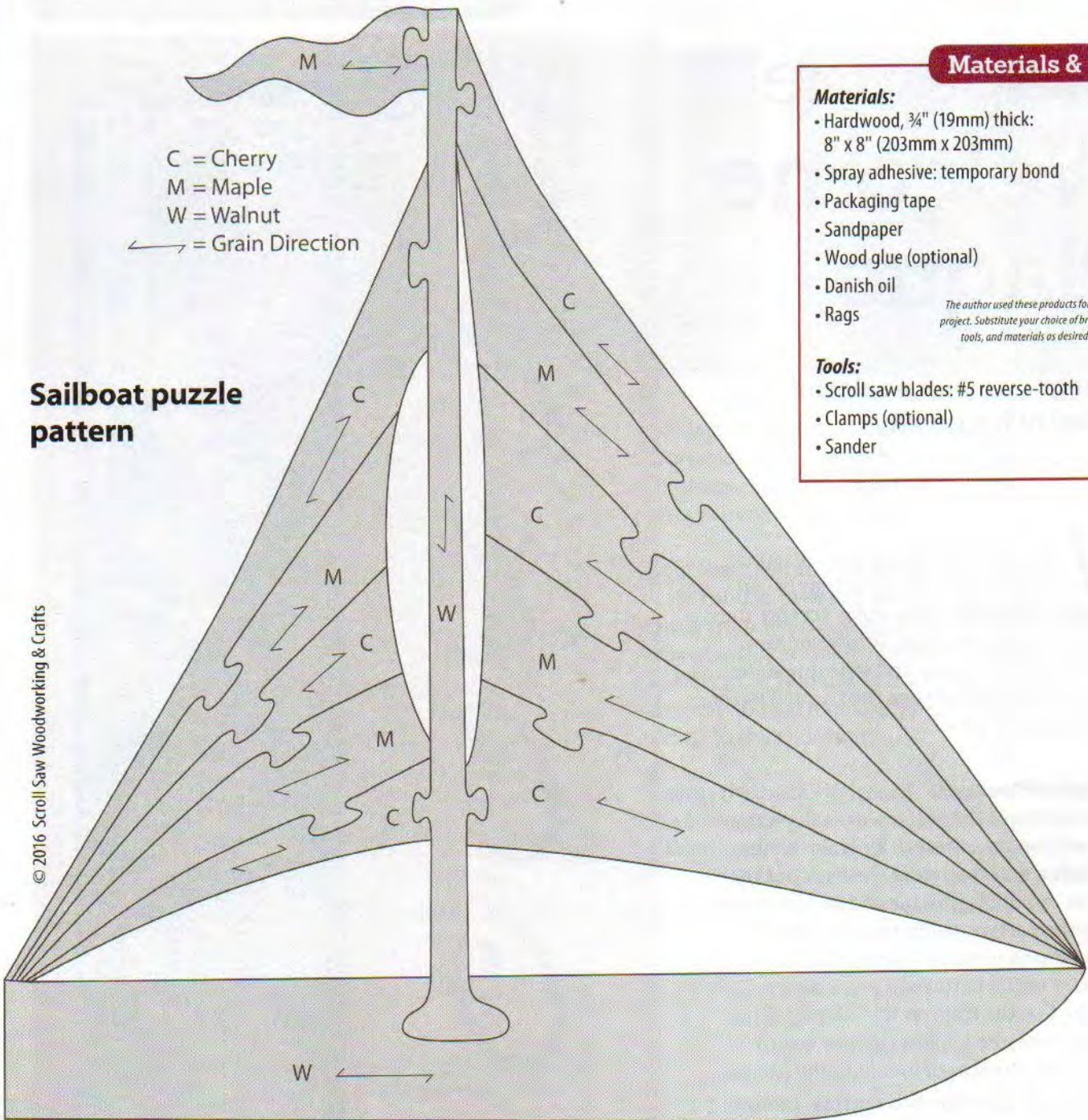
*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*

### Tools:

- Scroll saw blades: #5 reverse-tooth
- Clamps (optional)
- Sander

C = Cherry  
M = Maple  
W = Walnut  
← = Grain Direction

## Sailboat puzzle pattern



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Will Richards has been scrolling since his grandfather gave him his first scroll saw. When Will is not working wood, he enjoys chess, percussion, and speech team. To see more of his work, go to [woodbywill.com](http://woodbywill.com).

# Grapevine Welcome Plaque

Greet guests with a colorful symbol of hospitality

By Keith Fenton

**W**hile the natural color and grain pattern of wood are attractive on their own, carefully added color accents the look of this welcome sign. While you can leave the grapes, leaves, and vine unpainted, I like the contrast between the painted parts and the natural wood.

## Cutting the Plaque

Attach a copy of the pattern to each piece of wood with spray adhesive. Drill the blade-entry holes, and then sand the back of the board to remove any tear out. Use the dotted line on the pattern to cut the plywood backing board with a #2 blade. Cut the perimeter of the hardwood piece with a #5 blade. Cut the frets on the plaque with a #2 blade. Save the longest cuts for last to reduce your chances of breaking the leaves.

When you are finished cutting, remove the pattern, and carefully use a random orbital sander and progressively finer grits of sandpaper up to 220 grit to sand the pieces smooth. Thoroughly remove the dust.

Pattern for the **GRAPEVINE WELCOME PLAQUE** is in the pattern pullout section.

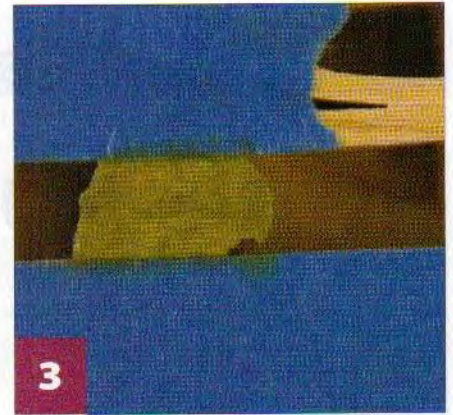




1



2



3

**1 For best results, mask off glue areas on the backing board and fretwork to ensure a good glue joint.** Mix 1 part bittersweet chocolate paint with 1 part medium and paint the backing board. Allow the paint to dry. This gives you a dark backing board with good paint coverage.

**2 Mask the edges of the fretwork.** Thin the other colors in a ratio of 2 parts medium to 1 part paint. Pick up enough paint on the brush that you don't dry-brush, but not so much that it's difficult to control. Brush from the inside areas toward the edges. I apply the thinned paint and immediately pat it off with a clean paper towel. Work in small areas because the paint dries quickly.

**3 Mask off the straight lines.** This is especially important if you want the lattice to appear to be in front of the leaves. Use the factory edge of the masking tape for perfectly straight lines. The paint

dries fast, so you don't have to wait very long before moving on. You can always paint the whole leaf green, if you prefer, and it will look like the leaf twists in front of the lattice.

**4 Allow the paint to dry. Apply spray varnish that is safe for use over the paint.** I spray the main plaque from the back before assembly so I can spray into the fretwork from behind. I also give a light coat or two to the backing board before assembly so that it gets even coverage. Allow the varnish to dry thoroughly.

**5 Glue on the backing board.** Remove the masking tape and apply glue where appropriate. Clamp or weight the pieces and allow the glue to dry. Attach a hanger to the back. I used a sawtooth hanger attached with two-part epoxy. Be generous with the epoxy and spread it around to make sure that it holds the hanger securely.

## Materials & Tools

### Materials:

- Maple, ¼" to ½" (6mm to 13mm) thick: 7" x 16" (178mm x 406mm)
- Baltic birch plywood, ⅛" (3mm) thick: 7" x 16" (178mm x 406mm)
- Spray adhesive
- Blue painter's tape
- Sandpaper
- DecoArt spray varnish
- Staining and antiquing medium, such as DecoArt Americana
- Acrylic paint, such as DecoArt Americana: avocado, red violet, bittersweet chocolate, and milk chocolate

- Wood glue
- Sawtooth hanger
- Two-part epoxy

### Tools:

- Scroll saw blades: #2, #5 reverse-tooth
- Drill press and bits: assorted small
- Random orbital sander
- Paintbrushes: ¾" (19mm), small, flat #6 or #8 shader brush

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*



Keith Fenton has been designing scroll saw patterns for several years with his partner, Sheila Landry. They have contributed patterns and articles to several woodworking and painting magazines and e-zines. Visit their website at [www.sheilalandrydesigns.com](http://www.sheilalandrydesigns.com). If you have any questions about this project, you can reach Keith at [sheilalandrydesigns@gmail.com](mailto:sheilalandrydesigns@gmail.com).

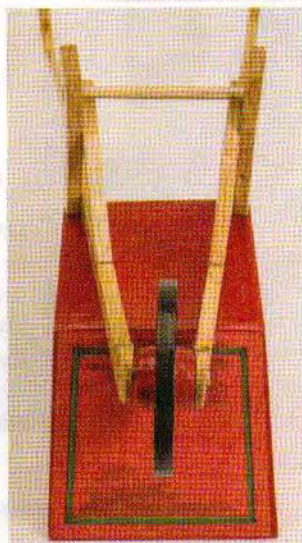
# Cheery Spring Wheelbarrow

Easy trick creates perfect "paint" design every time

By John A. Nelson



**B**ring a bit of the outdoors in with this charming wheelbarrow. Use it as a planter, centerpiece, or other display. You can paint or finish the wheelbarrow as you like or use my easy trick: use white glue or a clear-drying glue sealer like Mod Podge to attach a downloaded flower motif, creating the appearance of an expert paint job in minutes.



The long handles angle toward the wheel and are beveled at the front end. The legs angle in to support the handles. Beveled spacers are situated on both sides of the wheel.

## Making the Wheelbarrow

Several parts require you to cut the pieces to the dimensions listed. Cut the wood for the other parts to the rough sizes, stack if desired, and attach the patterns. Cut the pieces, separate the stacks, and sand as needed.

Use the top view of the handles to taper them properly. Sand a bevel into each spacer and then glue and clamp them to the wheel. Drill the axle holes. Glue the axle to one handle, position the wheel, and glue the axle to the other handle. Use glue and brads to assemble the wheelbarrow box and to attach it to the handles. Glue the legs and braces to the handles. Drill angled holes through the legs and attach the spreader. Paint the wheelbarrow box and wheel and let them dry. If desired, download and print the flower motifs and use Mod Podge or a similar glue product to attach them. Seal the project with clear finish.

## Parts List

Item	Quantity	Materials	Dimensions	Presentation	
<b>A</b>	Handle	2	Oak, ¼" (6mm) thick	1¾" x 16½" (44mm x 422mm)	Pattern
<b>B</b>	Legs	2	Oak, ¼" (6mm) thick	1" x 3¾" (25mm x 98mm)	Pattern
<b>C</b>	Spreader	1	Dowel, ⅜" (5mm) dia.	5" (127mm) long	Dimensions
<b>D</b>	Brace	2	Oak, ¼" (6mm) thick	¼" x 3¼" (6mm x 83mm)	Dimensions
<b>E</b>	Spacer	2	Plywood, ⅜" (10mm) thick	1⅞" (29mm)-dia. circles, beveled	Pattern
<b>F</b>	Axle	1	Dowel, ⅜" (5mm) dia.	2" (51mm) long	Dimensions
<b>G</b>	Wheel	1	Oak, ⅝" (16mm) thick	3¾" (95mm) square	Pattern
<b>H</b>	Side	2	Oak, ¼" (6mm) thick	3" x 7" (76mm x 178mm)	Pattern
<b>I</b>	Front	1	Oak, ¼" (6mm) thick	4¾" x 4¾" (111mm x 121mm)	Pattern
<b>J</b>	Back	1	Oak, ¼" (6mm) thick	3" x 3⅞" (76mm x 79mm)	Pattern
<b>K</b>	Bottom	1	Oak, ¼" (6mm) thick	2½" x 3⅞" (64mm x 86mm)	Pattern

## Materials & Tools

### Materials:

- Oak, ¼" (6mm) thick: 6" x 33" (152mm x 838mm)
- Oak, ⅝" (16mm) thick: 3¾" (95mm) square
- Dowel, ⅜" (5mm) dia.: 7" (178mm) long
- Plywood, ⅜" (10mm) thick: 1½" x 2½" (38mm x 64mm)
- Wood glue
- Brads
- Acrylic paints: red, green, black
- Decoupage medium, such as Mod Podge (optional)
- Clear finish
- Hammer or brad nailer
- Clamps
- Drill with bits: ⅜" (5mm) and assorted small
- Paintbrushes

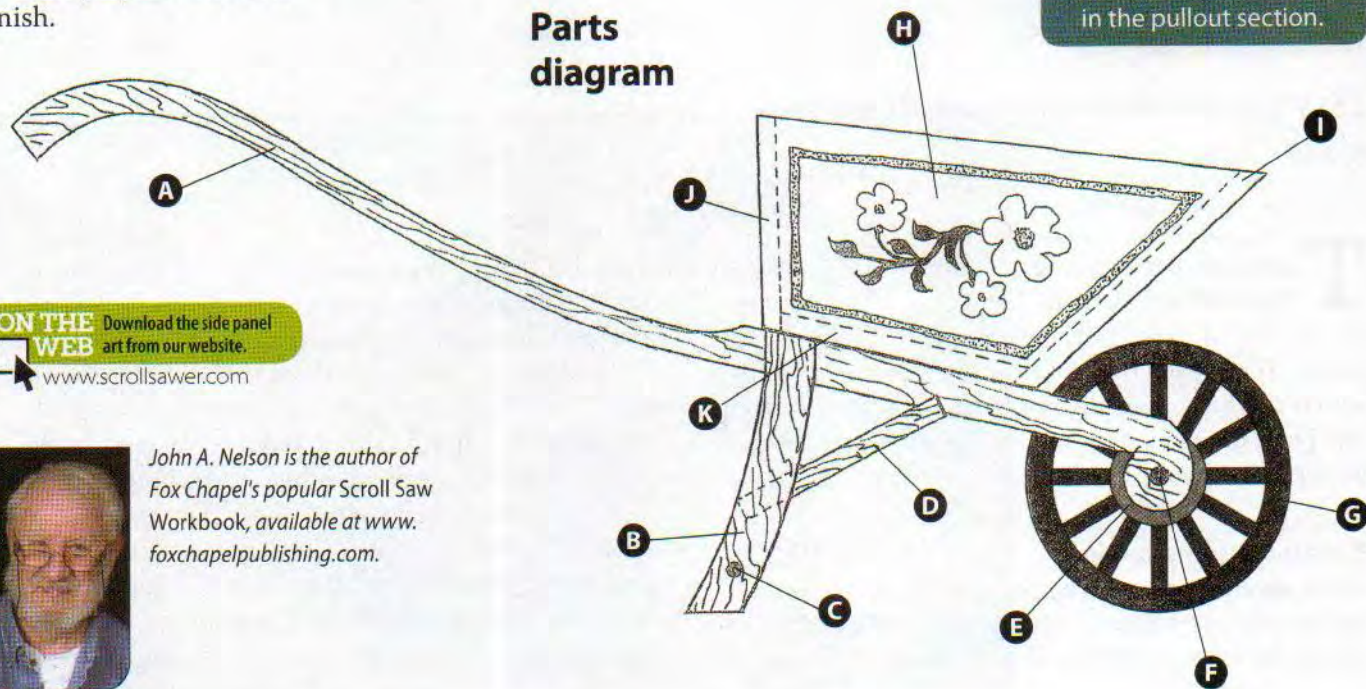
### Tools:

- Scroll saw blades: #3 reverse-tooth

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*

Patterns for the **CHEERY SPRING WHEELBARROW** are in the pullout section.

## Parts diagram



**ON THE WEB** Download the side panel art from our website.  
www.scrollsawer.com



John A. Nelson is the author of Fox Chapel's popular Scroll Saw Workbook, available at [www.foxchapelpublishing.com](http://www.foxchapelpublishing.com).

# Shaping Intarsia Feathers



## Easy tips for making a realistic eagle

By Kathy Wise

**T**his eagle pattern is perfect for showing how easy it is to shape feathers. I will also show you how to use clear silicone glue/caulk to correct for the kerf (material removed by the blade) and create a tight fit, which can be challenging for pieces that are cut from one piece of wood. You can enlarge or reduce the patterns to fit your needs.

### Basic Intarsia Instructions

Make several copies of the pattern, keeping one as the master copy. Tape the master copy to a flat board. Select the wood and plane it to the desired thicknesses.

I use 1" (25mm)-thick wood for most of the project, but  $\frac{3}{4}$ " (19mm)-thick wood for the back wing, so it shapes faster. Cut the pattern pieces, spray the backs with adhesive, and attach them to the shiny side of Con-Tact brand clear shelving paper. Peel and stick the patterns onto the wood. Use a #5 reverse-tooth blade to cut the pieces, numbering the bottoms with a pencil as you complete each one. Place them on the master pattern and check the fit. As you push the feathers together tightly, there will be a gap at one end. By using silicone glue in our last steps, we can have a perfect fit.



## EAGLE: SHAPING THE PIECES



1

**Mark the sanding area on each feather.** Use the wing-sanding guide found on the pattern pullout section. Determine which feather is under the one next to it, and mark the edge with a pencil or a blue grease pencil. If you sand in the order below, it will be faster with less re-sanding. Often there are many feathers, and they are small and hard to handle. If you are using a drum sander, use forceps or needle-nose pliers to hold them as you sand.



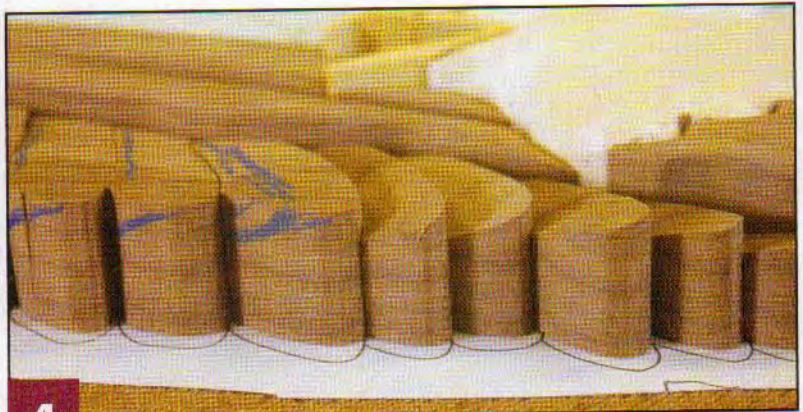
2

**Mark and sand the head, body, and upper wing sections.** Sand down to the line, always keeping the line side up and in sight. I use a drum sander for the larger pieces and an oscillating sander for the small inside curves. On the wing sections, I round the edges on these pieces first just a bit. Place them on the master pattern to see if the level is where you desire. Don't take off too much, too fast. Check each piece often and mark again as needed.



3

**Remove about ¼" (6mm) from each feather in the next row.** I start with the drum sander with a 100-grit drum and sand each feather. Sometimes you can hold two or three feathers together. Sand them to just below the upper wing sections. Sand all of the feathers under the wings and the tail section. Re-mark the lines that you sanded off between the feathers.



4

**Sand a sharp angle on each feather at the marked edge.** Leave the other edge sharp and not rounded. Work from one side to the other. Return the feather to the pattern and check that it is sanded at the correct level. You may have to re-sand each feather two or more times before it looks right. Move on to the next feather and repeat until all of the feathers are sanded to your satisfaction. Continue until you have rough-sanded all of the wing and tail feathers. Then, use a smaller drum sander with a 220-grit drum to finish-sand the pieces.



5

**Carve the details on the feet, eye, and body.** Use a rotary tool or hand tools. You will overlay the ebony talons and glue them in place after you pre-glue the entire piece together.



6

**Buff the pieces.** Use a sanding mop. Then, check for fit on the main body and adjust as needed—you will adjust the feathers later.

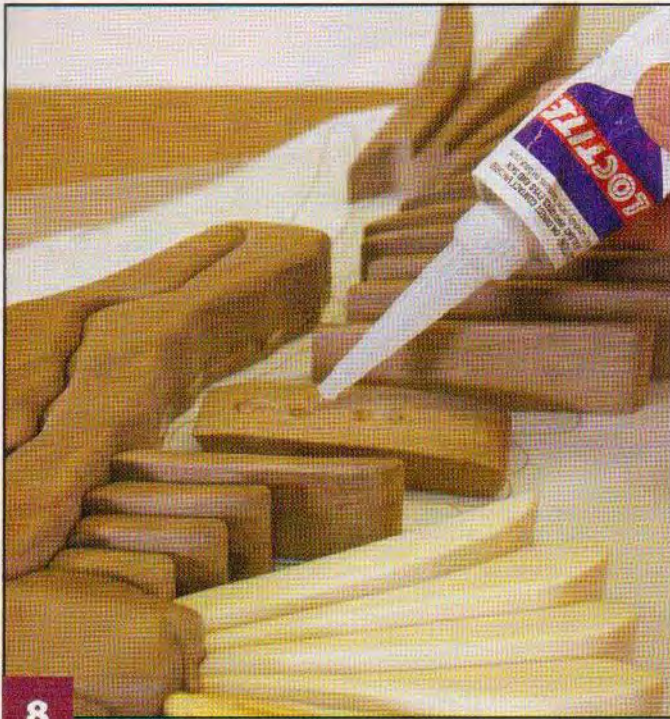
## EAGLE: ASSEMBLING THE INTARSIA



7

**Pre-glue the head, tail, and body together.**

Use cyanoacrylate (CA) glue and assemble three to four pieces at a time. Cover the master pattern with waxed paper, place the pieces on it, and let them dry. Glue sets of pieces until you have glued all of the sections. Don't use too much glue or it may ooze through the seams. Glue the tops of the wing sections (57-58), but don't glue the feathers to the wings or the upper wing to the body yet. This way the eagle will be in two pieces and be easier to handle for final gluing. Flat-sand the eagle sections on a portable drum sander, such as a Sand-flee, to create a flat bottom that will glue to the backer board well. You can CA glue the tail-section feathers to the body because the end edges don't fit up to another piece so the saw kerf won't affect the fit. Attach the talon overlays and carefully shape them.



8

**Glue the wing and tail pieces together.** I use 100% silicone glue/caulk. Place the body sections on the master pattern. Place dots of silicone glue along the upper wing and between each feather. Start at the body and move to the tip of the wing. Silicone glue needs to set overnight, so you have lots of time to adjust the feathers. Space each feather equally, following the pattern beneath.



9

**Place the pre-glued eagle onto the backing board.**

Trace the outline, cut the board, and spray it with accelerator. Place the body section onto the board, but don't glue it. Apply dots of CA glue and wood glue to the back of the wing section. Place and quickly adjust the wing section—you have about 8 seconds if you use accelerator—and apply pressure. Repeat on the other body and wing section. Spray the eagle with a coat of finish and let dry overnight. Use clear gloss on the eye to give the eagle a lifelike look. Attach a hanger to the back.

## Materials & Tools

### Materials:

- White wood, such as poplar, aspen, or wavy maple, 1" (25mm) thick: neck and tail, 7" x 10" (178mm x 254mm)
- Dark wood, such as black walnut, 1" (25mm) thick: wing, body, 8" x 16" (203mm x 406mm)
- Dark wood, such as black walnut, 3/4" (19mm) thick: back wing, 5" x 14" (127mm x 356mm)
- Yellow wood, such as yellowheart, 1" (25mm) thick: beak, eye, 4" x 4" (102mm x 102mm)
- Medium wood, such as sycamore, 1" (25mm) thick: eye, 1" (25mm) square
- Black wood, such as ebony, 1" (25mm) thick: eye, 1" (25mm) square
- Tempered hardboard, 1/4" (6mm) thick: 15" x 29" (381mm x 737mm)
- Finish: clear gloss

- Glue: cyanoacrylate (CA) & accelerator; wood; 100% silicone
- Shelf paper, such as Con-Tact brand: clear
- Spray finish: clear satin
- Spray adhesive
- Mirror-style hanger
- Waxed paper

### Tools:

- Scroll saw blades: #5 reverse-tooth
- Sanders: pneumatic drum, oscillating spindle, sanding mop
- Rotary tool with bits or hand-carving tools
- Portable drum sander

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*

Patterns for the **EAGLE INTARSIA** are in the pattern pullout section.



A nationally acclaimed intarsia artist, Kathy Wise has written three books and more than 40 articles. For a free catalog of 500 patterns, contact Kathy Wise Designs Inc., P.O. Box 60, Yale, Mich. 48097; fax 810-387-9044; [www.kathywise.com](http://www.kathywise.com); [kathywise@bignet.net](mailto:kathywise@bignet.net).



**Red Tail Hawk**  
#710



# Freestanding Car Puzzles

Celebrate the joy of summer road trips with a classic BMW 700 and VW Beetle

By Eric Van Malderen

One of the things I enjoy most is designing wooden puzzles of trucks, motorcycles, and cars. My special attention goes to cars that have sentimental value to someone or cars that have an exceptional appearance, design, or history.

A colleague asked me to design a BMW 700 as a present for a friend. In researching it, I found that this was not an ordinary car in the history of the BMW car factory. At the time of its release, BMW was close to financial ruin and needed a boost; it was thanks to this model's sales success that the company survived.

The 700 was the first BMW automobile with a monocoque structure (the body is integral with the chassis), an engine based on BMW motorcycles at the back, and a boot (trunk) with a spare wheel in the front. The company made three models: the coupé, the convertible, and the saloon. BMW's engineers also designed a special racing version, the 700 RS. I based the puzzle on a photo of a BMW 700 saloon, an LS Luxus, from 1962.

My neighbor, whose first car was a VW Beetle, inspired me to design the second car puzzle. The

Volkswagen Type 1 is the most famous VW and is regarded by some to be the most famous car ever made. It was originally designed by Ferdinand Porsche. More than 21 million cars were built between 1938 and 2003, making the VW Beetle both the longest-running and most-manufactured car of a single platform ever produced.

Until 1967, VW Beetle was called the Type 1, but because of its shape the nickname "Beetle" came into public use. The original Beetle is always called the Volkswagen Type 1, because it was the first model produced by Volkswagen. I based the puzzle on a second-generation VW Beetle model built between 1957 and 1967.

## Cutting the Puzzles

Puzzles with fine details, such as these car puzzles, rely on a good selection of wood. I chose homegrown oak for the BMW 700 and meranti, a type of hardwood from Southeast Asia, for the VW Beetle.

Attach the pattern to the blank wood, positioning it to avoid any knots. Cover the pattern with clear



packaging tape to lubricate the blade and reduce the chance of scorching the wood. Drill blade-entry holes in the windows and cut them first. If necessary, you can remove uneven parts with a file. Continue cutting the rest of the puzzle, sanding carefully. Because of the narrow and fragile pieces, I don't recommend using a flap sander to round the edges. Finish the pieces with clear Danish oil.

Patterns for the  
**FREESTANDING CAR PUZZLES**  
are in the pullout section.

### Materials & Tools

#### Materials:

- Hardwood, 3/4" (19mm) thick: 3 1/2" x 10" (89mm x 254mm), per puzzle
- Spray adhesive
- Tape: clear packing
- Sandpaper or sanding disc: 180-220 grit
- Danish oil

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*

#### Tools:

- Scroll saw blades: #5 skip reverse-tooth
- Drill press and bits: 1/16" (2mm)
- File (optional)

### Puzzle-making Tips

- These puzzles consist of small, sharp pieces and are not suitable for little children to play with.
- Some pieces are very thin and are easily breakable—handle your work with care.
- I recommend new scrollers practice scrolling sharp angles and straight parallel lines on waste wood first.
- Make sure that the blade is always perpendicular to the table. (See page 70 for details.)
- Change the blade regularly when working with hard woods.
- Lay out the pattern to avoid knots and small cracks. They can ruin your work when scrolling very narrow pieces and may cause the wood to break when sanding.
- Work safely and use a dust respirator.



*Eric Van Malderen lives in Dendermonde, Belgium, with his lovely wife, Rita, and awesome daughters, Mieke and Sarah. Eric works at the Belgium railways in Brussels as a G.I.S. designer. He received his Hegner scroll saw in 2002 as a 40th birthday present from his wife.*

# Cardinal Bird Feeder

Create an attractive holder for seed bells

By Paul Meisel



**S**eed bells attract all sorts of birds for your viewing pleasure. But you need to find a way to hang these tasty treats (made by compressing bird food into the bell shape). The colorful birds on this feeder do the job!

Two cardinals face each other with their beaks connected by a piece of wire. The seed bell hangs from this wire, which keeps it off the platform. I sized the pattern to provide adequate space for birds to land and enjoy their meal.

I chose cardinals for this project because they are colorful and easy to paint. You can paint both cardinals bright red or vary them by painting just the red highlights.

## Selecting the Wood

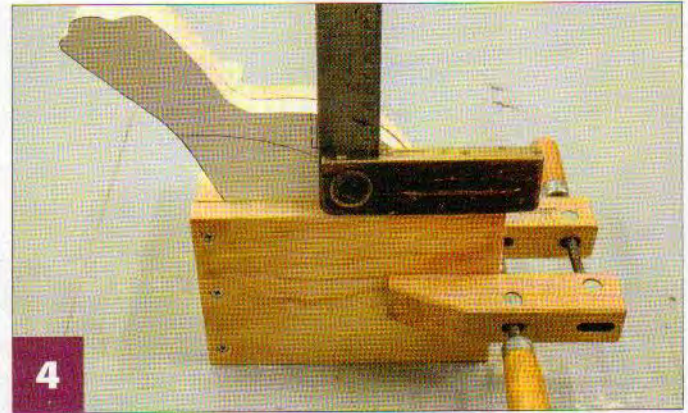
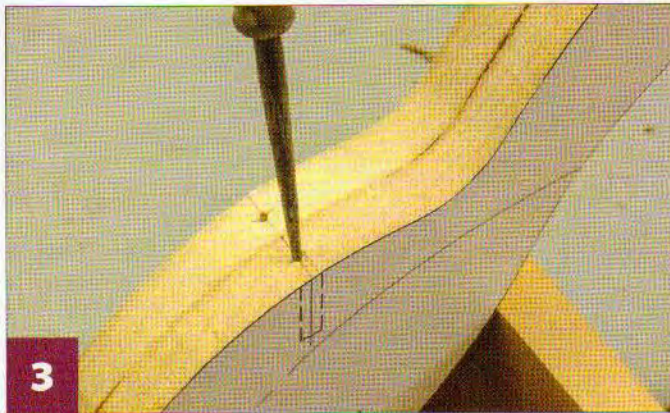
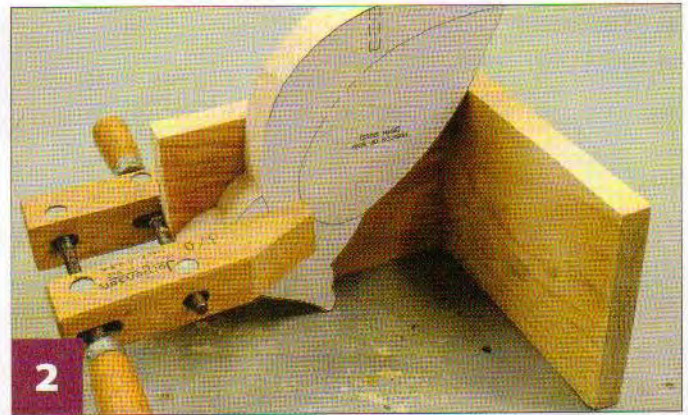
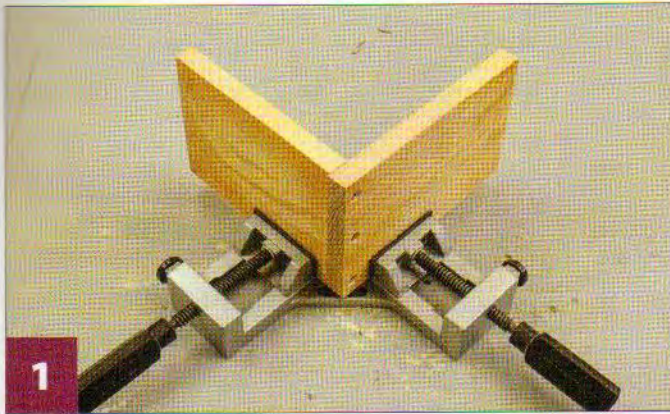
To keep material cost in check, I used cedar fence boards. Cedar fence boards are rough-cut to about  $\frac{5}{8}$ " thick by  $5\frac{1}{2}$ " (16mm by 140mm) wide by either 6' or 8' (1,829mm or 2,438mm) lengths. They are remarkably inexpensive—I found 6' (1,829mm) boards for less than \$2.50 each at my local store.

## Cutting and Assembling the Base

The cutting diagram shows one way to lay out the parts on an 8' (2,438mm)-long fence board. Two 6' (1,829mm)-long fence boards would provide extra material and allow you to cut around knots and other lumber defects.

Photocopy the patterns and attach them to the blanks with temporary-bond spray adhesive. The platform base is made using three separate pieces. The center piece can be the width of your fence board. The  $5\frac{1}{2}$ " (140mm) width promised is often closer to  $5\frac{1}{4}$ " (133mm). Cut the outside boards wide enough to bring the diameter to 14" (356mm). Use a compass to draw a 7" (178mm) radius, and then cut the perimeter of the base.

The parts for the base are connected with three cleats. I attached the cleats with water-resistant glue and 1" (25mm)-long screws. Because the wood was rough sawn, I didn't edge-glue the parts for the base. Drill  $\frac{1}{4}$ " (6mm)-diameter holes in the center of the base for the fiberglass rods that support the cardinal assemblies.



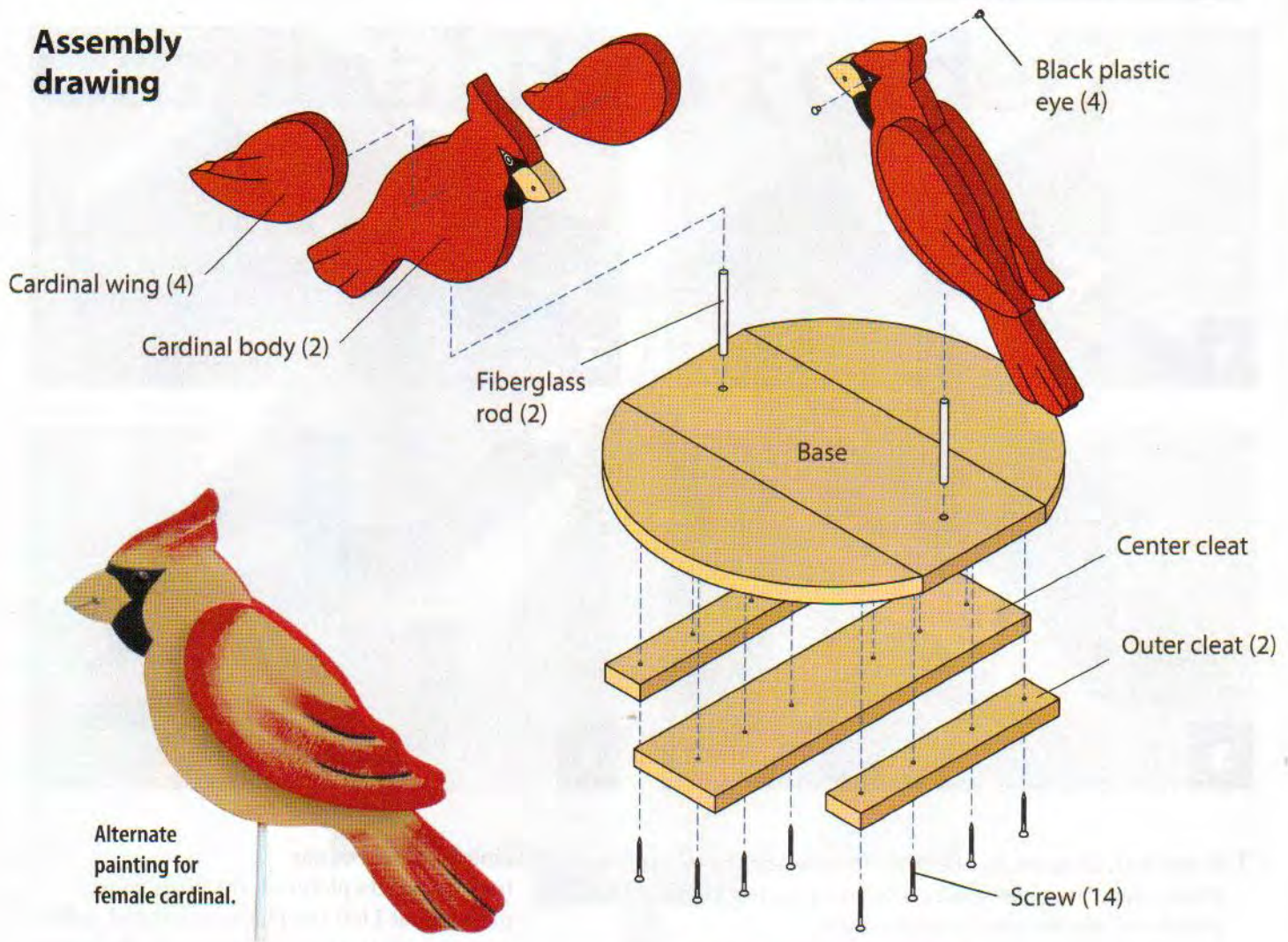
- 1 Make an L-shaped jig.** Butt-join two pieces of  $\frac{3}{4}$ " (19mm)-thick scrap. The easiest way is to use a corner clamp and to attach the pieces using wood screws.
- 2 Cut the cardinal bodies.** Drill an  $\frac{1}{8}$ " (3mm)-diameter hole in each beak and  $\frac{13}{64}$ " (9mm)-diameter holes for the plastic eyes.
- 3 Position the two cardinal bodies next to each other.** Clamp them in the L-shaped jig. Use a square to mark the locations of the bottom holes across the edge of the parts. Use a scratch awl to mark the hole location in the center of each body.
- 4 Use a square to make sure the bodies are clamped in the jig with the holes vertical.** Use a  $\frac{1}{4}$ " (6mm)-diameter Forstner bit in a drill press to drill the holes.
- 5 Glue a wing to each side of each body.** Cut two 5" (127mm)-long sections of  $\frac{1}{4}$ " (6mm)-diameter fiberglass dowels. Insert the dowels into the holes to attach the cardinals to the base. The tips of the cardinal beaks should be at the same height and almost touch each other.

### Finishing the Feeder

In the projects pictured, the birds were painted but I left the platform natural. After painting, reattach the cardinals to the base. Slip a length of annealed wire through the holes in the cardinal beaks and twist the ends. Use a second piece of annealed wire (or even a twist tie) to connect the seed bell to the wire loop.

To keep cats, squirrels, raccoons, and other predators from killing your birds or stealing the seeds, mount the project on a post rather than hanging it from a tree. A piece of  $\frac{1}{2}$ " (13mm)-diameter pipe (pipe is measured on the inside diameter) and a floor flange make an excellent mounting post. Discourage squirrels and other predators from climbing onto the platform by greasing the pole and adding a sheet metal predator guard to the pole.

## Assembly drawing



## Materials & Tools

### Materials:

- Cedar fence board,  $\frac{5}{8}$ " (16mm) thick:  $5\frac{1}{2}$ " x 8' (140mm x 2,438mm)
- Seed bell, 1-lb. size:  $4\frac{1}{4}$ " dia. x  $5\frac{1}{2}$ " tall (108mm x 140mm)
- Scrap wood,  $\frac{3}{4}$ " (19mm) thick: 2 each 4" x 6" (102mm x 152mm)
- Fiberglass dowels (rods),  $\frac{1}{4}$ " (6mm) dia.: 2 each 5" (127mm) long (Cut from a #8637  $13\frac{1}{2}$ ", or 343mm, rod)\*
- Black plastic eyes,  $\frac{7}{16}$ " (11mm) dia.: 4 each (#8627)\*
- Wood screws, flat head: 14 each #6 x 1" (25mm) long (#WS1006)\*
- Annealed wire, 18 gauge: 4' (1,219mm)-long roll (#5084)\*
- Acrylic paint: red (#02077)\* black (#02506)\*
- Spray adhesive: temporary-bond (#1447)\*
- Pipe,  $\frac{1}{2}$ " (13mm) dia.: 6' (1,829mm) long, threaded on one end (optional)
- Floor flange:  $\frac{1}{2}$ " (13mm) national pipe thread (optional)

### Tools:

- Scroll saw blades: #5 reverse-tooth
- Compass
- Drill press with bits:  $\frac{1}{8}$ " (3mm),  $\frac{9}{64}$ " (3.5mm),  $\frac{13}{64}$ " (9mm)-dia. twist;  $\frac{1}{4}$ " (6mm) dia. Forstner; countersink
- Square
- Corner clamps
- Scratch awl
- Screwdriver

Patterns for the **CARDINAL BIRD FEEDER** are in the pattern pullout section.

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*

### SPECIAL SOURCES:

Seed bells are available at most home improvement stores. Parts marked with an asterisk above are available from Meisel Hardware Specialties. To order parts or to request a catalog, contact Meisel Hardware Specialties, P.O. Box 70, Mound, MN 55364-0070; 800-441-9870; [www.meiselwoodhobby.com](http://www.meiselwoodhobby.com).



Paul Meisel of Mound, Minn., has designed more than 3,000 woodworking plans. For more ideas of what to

build, to order parts, or to request a catalog, contact Meisel Hardware Specialties (see Special Sources).

# Fretwork Wall Clock

Large frets are fun & easy for beginners, quick for pros

By Sue Mey

This attractive wall clock dresses up a room without looking too fussy or ornate. It's impressive to look at but easy enough that a beginner can cut it.

## Making the Clock

Attach a copy of the pattern to the  $\frac{1}{8}$ " (3mm)-thick overlay stock. Stack the overlay, if desired, to make more than one clock and to support the fragile fretwork. Determine the size of the hole you need for the clock insert and use a compass to draw a circle of that size in the center of the clock. Drill blade-entry holes and cut the fretwork. Separate the stack, and stack the overlay with the backing board. Cut just outside the perimeter line, and sand up to the line. Separate the two pieces, remove all of the patterns, sand everything smooth, and remove the dust. Glue and clamp the overlay to the backing board; let dry. Apply a clear spray finish. Attach a hanger to the back of the backing board, and insert the clock.

Pattern for the **FRETWORK WALL CLOCK** is in the pattern pullout section.

## Materials & Tools

### Materials:

- Hardwood,  $\frac{1}{8}$ " (3mm) thick: 11 $\frac{1}{2}$ " x 12" (292mm x 305mm)
- Hardwood, contrasting color,  $\frac{3}{4}$ " (19mm) thick: 11 $\frac{1}{2}$ " x 12" (292mm x 305mm)
- Spray adhesive
- Sandpaper
- Wood glue
- Clear spray finish

- Clock insert: 2 $\frac{3}{8}$ " to 2 $\frac{3}{4}$ " (60mm to 70mm) dia.

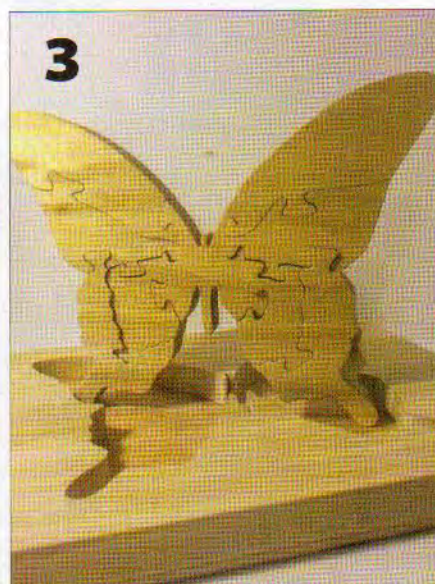
### Tools:

- Scroll saw blades: #2, #5 reverse-tooth
- Drill with bits: assorted small
- Compass
- Sander
- Clamps

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*



Sue Mey lives in Pretoria, South Africa. To see more of her work, including a wide variety of patterns and pattern-making tutorials available for purchase, visit [www.scrollsawartist.com](http://www.scrollsawartist.com). She can be contacted at [suem@storage.co.za](mailto:suem@storage.co.za). Her pattern book, *Lighted Scroll Saw Projects*, is available from [www.schifferbooks.com](http://www.schifferbooks.com) and other outlets.



# Summer 2016 Roundup

Say hello to  
summer with  
these fun  
projects

By Kathleen Ryan

## 1 Summer Fun

Reminding us that summer and ice cream go hand in hand, this 16" by 24" door hanger was designed and crafted by Jenna Payton of Designs by Jenna Door Décor in Central City, Ky. She cut the design and painted it with acrylics. Contact Jenna at [www.facebook.com/designsbyjennadoordecor](http://www.facebook.com/designsbyjennadoordecor).

## 2 Woodpecker Whirligig

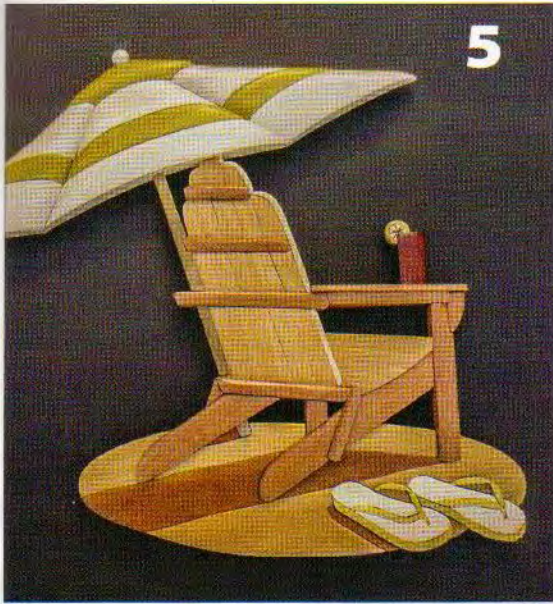
Perfect for a summer breeze, this 16" by 16" by 28" whirligig was made by Dale C. Maley of Fairbury, Ill., using an Anders S. Lunde design. Dale cut the design from plywood and painted it with enamel. E-mail Dale at [DaleMaley@gmail.com](mailto:DaleMaley@gmail.com).

## 3 3-D Butterfly Puzzle

Billy and Heather Worthen of Hobbyholica in Las Vegas, Nev., adapted a pattern to create their framed butterfly. Cut from poplar wood, it measures 5 3/4" by 7 1/2" without the frame. Contact Billy and Heather at [www.Hobbyholica.etsy.com](http://www.Hobbyholica.etsy.com).

## 4 Seashell Candle Tray

Bring the flavor of the sea into your home with this candle tray by the scroll saw pattern designer Sheila Landry. Cut from mahogany, the tray measures 8" in diameter. Contact Sheila at [www.sheilalandrydesigns.com](http://www.sheilalandrydesigns.com).



### 5 Summer Daze

Steve Wavro of Baytown, Texas, created this 78-piece beach chair intarsia scene based on a Judy Gale Roberts design. It measures 18" by 21" and is made of western red cedar, yellowheart, aspen, mahogany, and bloodwood. Contact Steve at [stevewavrointarsia.shutterfly.com/pictures](http://stevewavrointarsia.shutterfly.com/pictures).

### 6 Conch Trivet

Mike Jamgochian of MJ Scrollworks in Rockwall, Texas, cut this 6" by 9½" walnut trivet, which was designed by Jacob Fowler. E-mail Mike at [mike@mjscrollworks.com](mailto:mike@mjscrollworks.com).

### 7 Flower Box

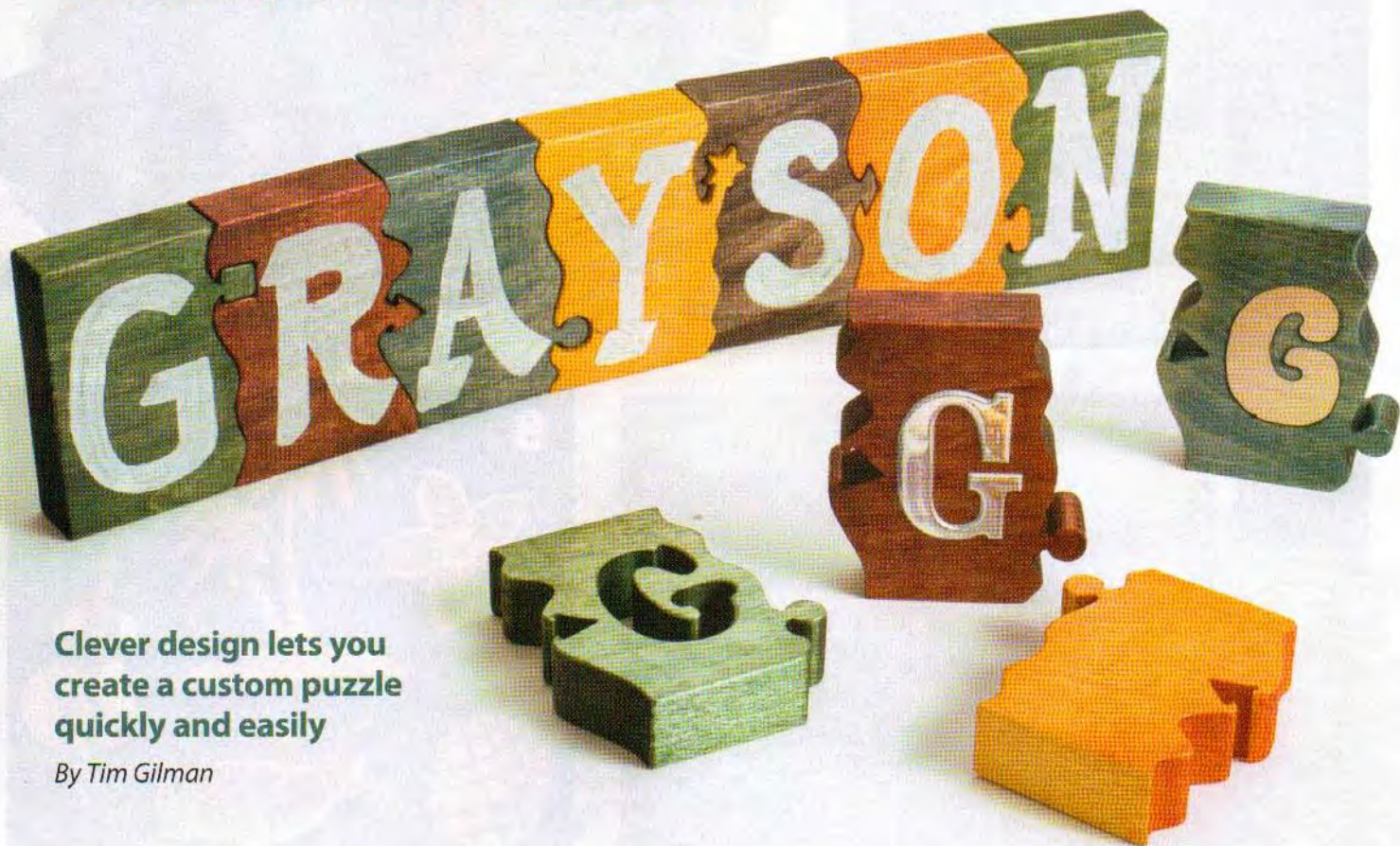
This flower box (3½" by 23" by 34") was designed, cut, and painted by Lisa Barton of Lisa Bees Craft and Design in Santaguin, Utah. Contact Lisa at [www.lisabees.etsy.com](http://www.lisabees.etsy.com).

### 8 Island Fridge Magnet Set

This five-piece Hawaiian luau set of magnets was created by Jason and Rebekah Wade of XyKit in Escondido, Calif. Contact Jason and Rebekah at [www.etsy.com/shop/XyKit](http://www.etsy.com/shop/XyKit).

*Note: These projects are intended as inspiration only. The patterns are not in this issue, nor are they necessarily available from the designers.*

# Lucky Charms Name Puzzle



**Clever design lets you create a custom puzzle quickly and easily**

*By Tim Gilman*

**P**eople love to see their name on things. Whether you scroll for craft shows or friends and family, this is the perfect project. I designed it for kids by making each key a different shape, which makes it easier for a younger child to assemble. The puzzle can be used to teach names, shapes, and colors.

I usually make each puzzle piece a different color and then add one letter to each puzzle piece. The Grayson puzzle is an example of this method, which works well for craft shows. We take prefinished blank puzzles in a variety of lengths and use a metallic silver oil-based paint marker to write the name. The customer comes back in 15 minutes and leaves the show with a custom piece.

## **Making the Puzzle**

Copy the pattern at 100%; the pattern is designed to allow you to create a puzzle that is 3" (76mm) tall and 2 to 9 pieces long. The gray dashed lines represent the

possible ends for the puzzle, and the measurements to the left of the line are the length the stock would need to be. Cut off the extra pieces you will not need at the gray dashed line, and the pattern is ready to be attached to the wood.

Make sure the blade is sharp, tensioned properly, and square to the saw table. Cut one piece at a time. After cutting each piece, test the fit of the key from both sides; adjust as needed until the key fits smoothly. Use a 180-grit mop to smooth the surfaces and to lightly round the edges.

## **Coloring the Pieces**

I use H. Behlen Solar-Lux Stain. It doesn't raise the grain and doesn't come off when I dip the pieces in a clear finish. Dip the pieces in the stain, blot off the excess with paper towels, and place them on a drying rack overnight. Solar-Lux stains are available in most primary colors, and you can mix them to make

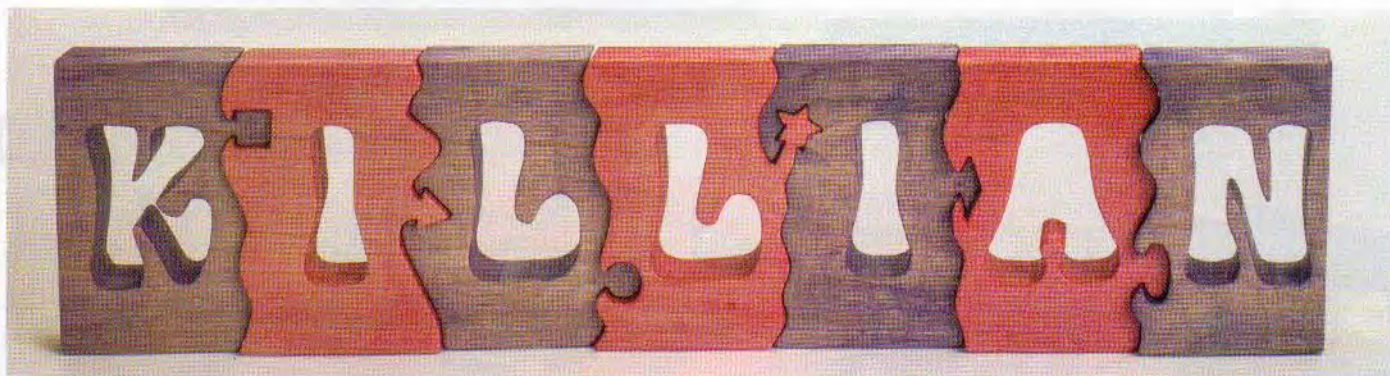
secondary colors. I made purple by mixing 4 parts Sea Blue with 1 part Medium Red Mahogany. For more colors, I mix TransTint liquid dye or TransFast powdered dye with Behlen Solar-Lux Reducer, a product intended to thin Solar-Lux stains. Unlike dyes mixed with water, this mixture does not raise the grain and does not come off when I dip the pieces in finish. After the stain dries, dip the pieces in clear finish, such as Arm-R-Seal urethane. I let them soak for about five minutes; don't leave them in too long, because the urethane will eventually start to dissolve the dye. Remove the pieces from the finish, blot them dry with paper towels, and let them dry overnight.

### Adding the Letters

At shows, I use a medium-point oil-based paint marker, such as Sharpie brand, to write letters on puzzle pieces. I searched online for "calligraphy lettering practice pages" until I found one I liked. I take a printout of it to shows and refer to it as I draw the

letters. The paint will be dry to the touch in about five minutes. Take scrap wood and pattern printouts so you can practice before you write on a puzzle. I usually practice in the morning, and then my hand seems to be programmed for the rest of the day.

If you are making name puzzles for friends or family members, let your creativity and available time determine how you add the letters. Letter stickers are a neat, easy way to add a name to the puzzle. If the child is old enough, you could let him or her choose and apply the stickers. You could also decoupage paper letters or write them with a woodburner. Cutting fretwork letters creates the feeling of a classic toy, while inlaying the letters makes a more durable and heirloom-quality puzzle. To lay out the letters for fretwork or inlay, use stencils or a computer printout of the letters with carbon paper, or gently attach stickers for cutting and then remove them.



### Materials & Tools

#### Materials:

- Maple ¾" (19mm) thick; 3" (76mm) wide; length depends on name (see pattern)
- Blue painter's tape
- Spray adhesive, such as Weldwood
- H. Behlen Solar-Lux Stain
- Behlen Solar-Lux Reducer
- TransTint liquid dye
- TransFast powdered dye
- Finish, such as General Finishes Arm-R-Seal
- Oil-based paint marker, such as Sharpie brand

#### Tools:

- Scroll saw blades: #5 skip-tooth, such as Pegas Modified Geometry
- Sanders: random orbit, 180-grit sanding mop
- Drill press (for sanding mop)

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

Pattern for the **LUCKY CHARMS NAME PUZZLE** is in the pattern pullout section.



*Tim Gilman has been teaching middle school tech ed for 11 years in Harrisburg, Pa. With the birth of his first child, Grayson, he started cutting scroll saw puzzles and now sells them at several arts and crafts shows a year and at [www.graysonsworkshop.com](http://www.graysonsworkshop.com). He also teaches scroll saw classes at the Harrisburg Woodcraft.*

# And the Winner Is...

Announcing  
the first  
winners in the  
2016 People's  
Choice Contest

SCROLLSAW  
**woodworking**  
& CRAFTS

**People's  
Choice**  
A W A R D S

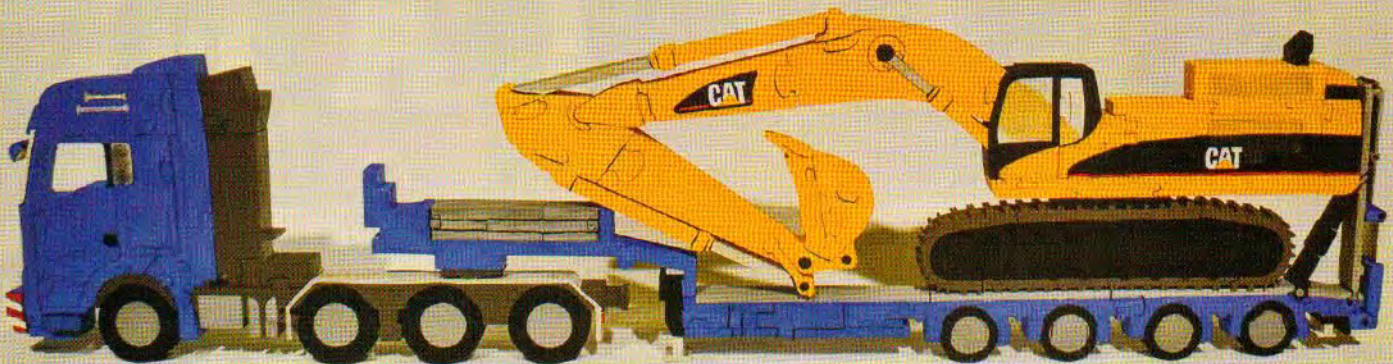
**C**ongratulations to the first winners in the 2016 People's Choice Contest!

We are trying something new this year. Instead of running one big competition, we are breaking it into ongoing mini matches. Plus, we are offering cash prizes! Special thanks to our first contest sponsors, The Wooden Teddy Bear and Mike's Workshop.

The first category, announced last fall, was Toys. Although we didn't receive many entries, they were strong designs that demonstrated creative scrolling and finishing. We'll be talking to some of these scrollers about sharing their patterns in future issues.

For information on the current and upcoming contests, see page 49 or visit [www.scrollsawer.com](http://www.scrollsawer.com).

## TOYS

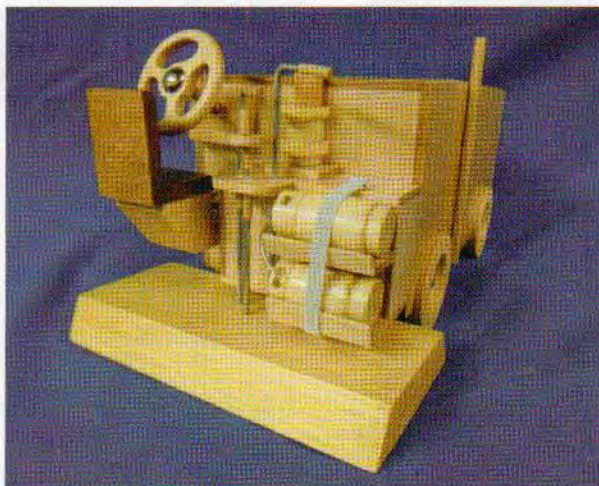


### **First Place: 3-in-1 Heavy Exceptional Transport Puzzle Set**

**Eric Van Malderen** of Dendermonde, Belgium, designed this set of three puzzles, each of which depicts a piece of heavy construction equipment: a heavy-duty tractor, type M.A.N. TGX XXL (21 pieces); a lowbed semitrailer (21 pieces); and an excavator, type Caterpillar (29 pieces). "Sometimes we all are impressed with the things and machines we see," said Eric. "Exceptional transports are one of those. The drivers of these special transports must be heroes in our busy daily traffic." The project is about 24" long and made of 3/4" plywood.

### Second Place: Kia Sportage Model

**Elzear Guignard** of Bathurst, N.B., Canada, built this model car to resemble his own 2008 Sportage. The car is 6" by 14" and made mostly of maple with walnut trim. Elzear noted, "The steering wheel actually steers the front wheels of the car." He also made the matching showcase.



### Third Place: Zamboni Model

**Nick Sabetti** of Ottawa, Ont., Canada, designed this Zamboni, 4" by 10", using photos and sketches of machines he worked on during his career as a technician. He made the model from basswood with some pine and cedar.

## call for entries

Everyone loves ornaments! Submit your best original designs—fretwork, compound, intarsia, etc.—for a chance to win cash prizes! Your ornaments can be any size, any material, and painted or unpainted, but they must be made mostly with a scroll saw. Special thanks to our friends at CarveBuddy for sponsoring the cash prizes for Contest 3—Ornaments: Painted & Unpainted.



### Entry Information:

- Please e-mail one high-resolution photo or mail one professionally printed photo of your entry, along with the following information: Category, piece name, size, type of wood, and story/inspiration, if any. Also, include your name, address, and e-mail address. If you do not have e-mail, include a phone number instead.
- E-mail your entries to: [Editors@scrollsawer.com](mailto:Editors@scrollsawer.com) with a subject of SSW Contest #Ornaments. Or, mail to: SSW Contest #Ornaments, Fox Chapel Publishing, 1970 Broad St., East Petersburg PA 17520. Entries must be received by June 1, 2016.
- All entries must be original designs created by the entrant. They cannot be made from, inspired by, or variations of anyone else's pattern; they cannot be class projects; and no one else can have helped with the piece. By entering, you verify that your entry is your own creation.
- See the Rules for important entry details. Visit [www.scrollsawer.com](http://www.scrollsawer.com), or send an SASE to the address above to request a printed copy.

Contest	Category	Entry Period	Online Voting	Winners Published
3	Ornaments: Painted & Unpainted	March 16 – June 1, 2016	June 15-30, 2016	Fall/Holiday 2016 issue
4	Functional: Kitchen or Office (items to use in either room)	May 17 – September 1, 2016	September 15-30, 2016	Winter/Spring 2017 issue



Special thanks to our friends at CarveBuddy for sponsoring the cash prizes for the contest!



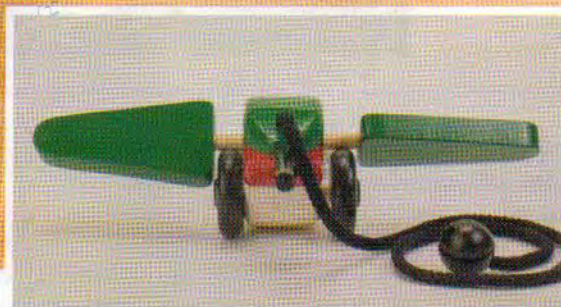
# Harold the Hurried Hummingbird

**Simple mechanism makes  
the wings flutter fast**

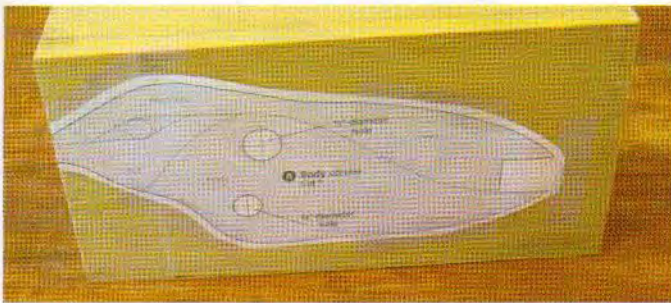
*By David Wakefield*

**T**his fellow was in my first book, *How to Make Animated Toys*, but I decided to revisit him because I thought that he was too small for a pull toy. He needed to be more substantial, so I scaled him up.

Harold's mechanism is fairly simple, but this is the only toy I have used it on so far. (Watch for a bee in my next book!) The axle of the little wings rests on the wheels. Because the axle is much smaller in circumference than the wheels, the wings spin very quickly, like the whirring of hummingbird wings.



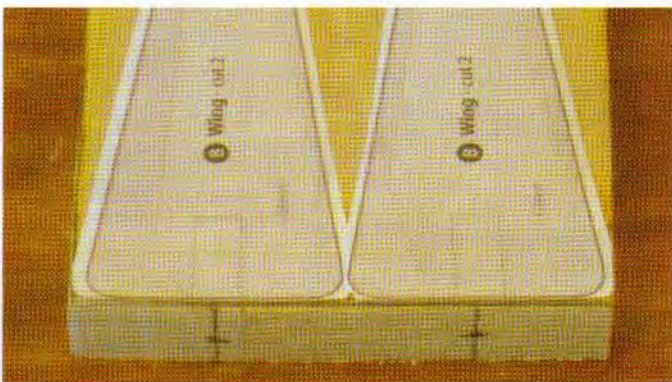
## CUTTING THE PIECES



**▲ Step 1: Lay out the side view of the body.** Orient the pattern on the blank with the beak hole perpendicular to one sawn end-grain edge. Stand the other parallel edge on the drill press table and drill the beak hole.

**Step 2: Drill the holes for the eyes, axle, and wing dowel.** Cut the perimeter on a band saw or scroll saw. Edge-sand the perimeter, and then round the edges with a router and a 1/4" (6mm)-radius quarter round bit. I use a carbide-tipped bit with a roller bearing to route the edges of my toys to avoid burning the sides. It saves a lot of sanding time.

**Step 3: Attach the bottom-view pattern to the body.** Cut the perimeter. Mark a 1/2" (13mm)-dia. hole under the chin for the pull cord knot. Drill that hole partway through, switch to a 1/4" (6mm)-dia. bit, and drill the rest of the way through. Drill a 1/4" (6mm)-dia. hole in the back for the tail pin. Edge-sand it and rout the edges that you can (the central flat areas). Use a four-in-hand to round the remaining edges. Hand-sand the routed edges and set it aside for painting.



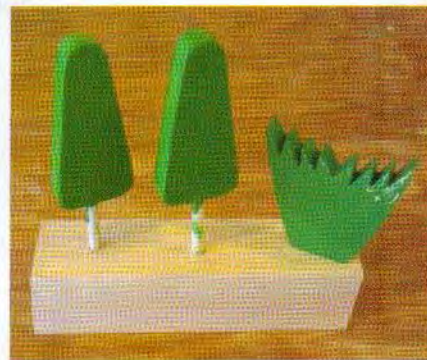
**▲ Step 4: Attach the patterns to the wings.** Orient the patterns so the axle hole for each wing is at a right angle to an end-grain sawn edge. This makes it easier to drill the axle holes with a drill press. Drill the holes.

**Step 5: Cut the perimeter of each wing.** Use the scroll saw or band saw. Edge-sand and flat-sand the wings. Then, hit the corners with sandpaper. Drill the hole for the tail pin, and then cut the perimeter of the tail. Sand the tail and round the edges. Set both aside for painting.

## PAINTING THE TOY

**Step 6: Transfer the paint lines to the body.** I use the colored carbon paper made for transferring patterns to material. You'll find it at any fabric store. Transfer the paint lines to the body sides. Draw a line from one side to the other to clarify where the red and white meet under the chin.

**Step 7: Paint the hummingbird body.** It is easier to paint the body before gluing the beak in place. Paint one color at a time and let it dry thoroughly before adding the next color. It's a bit tricky where the colors meet. I found that by the time I finished the second or third coat I got the hang of sweeping along the joining lines. A smooth line is more important than perfect accuracy. Once the body is done, glue the beak in place and paint it as well. For the wings, I put a temporary dowel in the hole, drilled a matching hole in a scrap of wood, and propped the wings upright so the paint can dry without touching anything. The tail can simply sit on the front edge to dry, as that won't be seen after assembly. Paint the wheels and the pull handle.



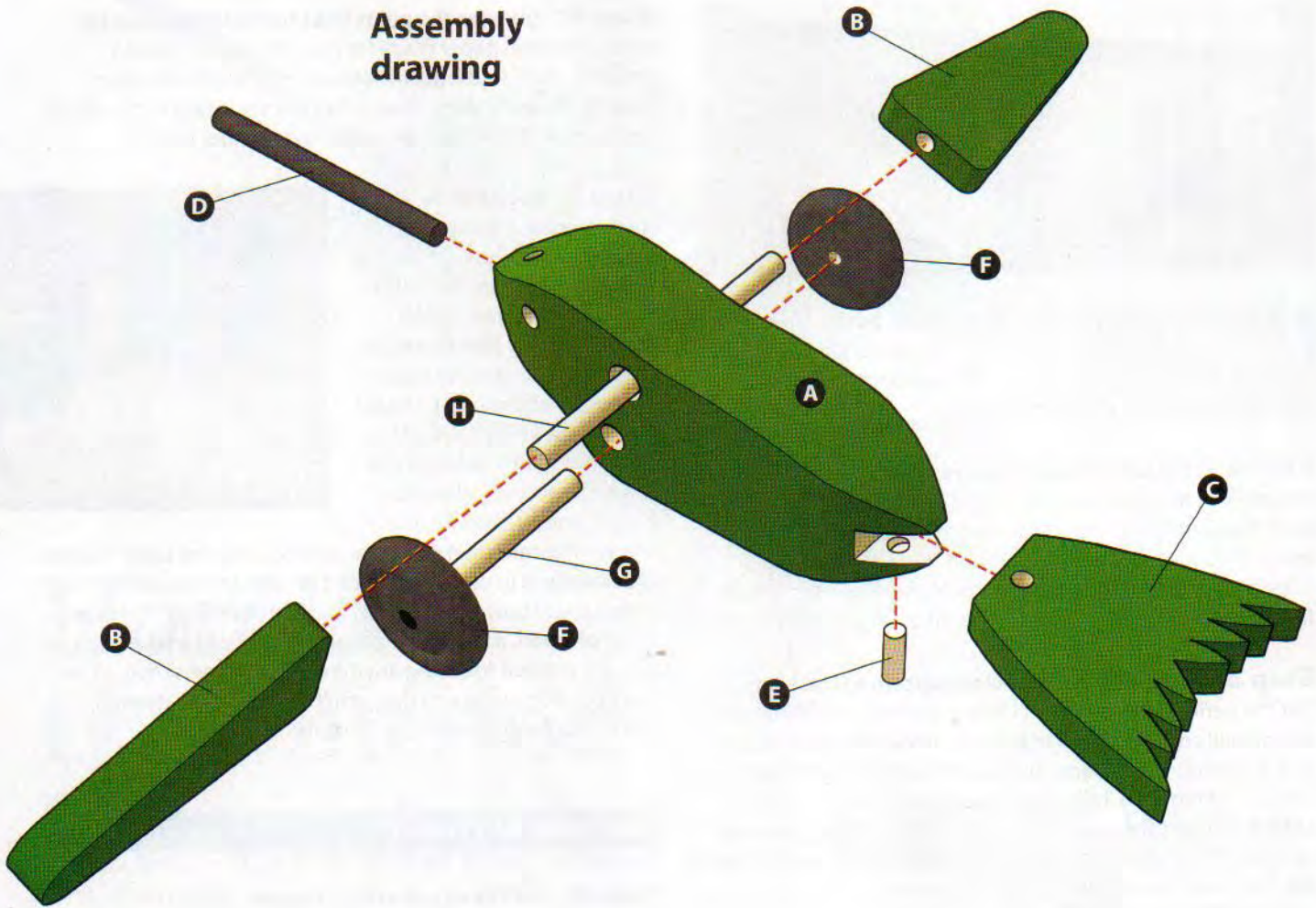
## ASSEMBLING THE TOY

**Step 8: Cut the wheel axle to length.** Round the ends slightly with sandpaper, so they don't push all the glue out of the holes during assembly. You can crimp the ends with pliers for more glue surface if you like. Put glue inside each wheel hole. Place one wheel hub down on waxed paper and use a 16oz hammer to drive the dowel into the hole. Wipe off the excess glue, slide the axle through the body, and repeat for the other wheel. When the glue has dried, edge-sand the axle hubs and touch up the paint.

**Step 9: Attach the wings.** Use the process for attaching the wheels. Rotate the wings so they are at right angles to each other. This makes them look more fluttery, and they will have less of a tendency to shift off the wheels when you pull this fellow along. Glue the tail into place and insert the tail pin to reinforce the joint. Touch up the paint as needed.

**Step 10: Cut the pull cord to length.** Melt the ends to prevent unraveling. Tie an overhand knot in one end and pull it through from the bottom until the knot sits in the hole under the chin. Thread it through the pull cord handle and tie a knot in the other end. Pull it through until the knot seats in the hole in the handle. You've brought one more (rather large) hummingbird into the world to delight a small child or grace an executive's desk.

## Assembly drawing

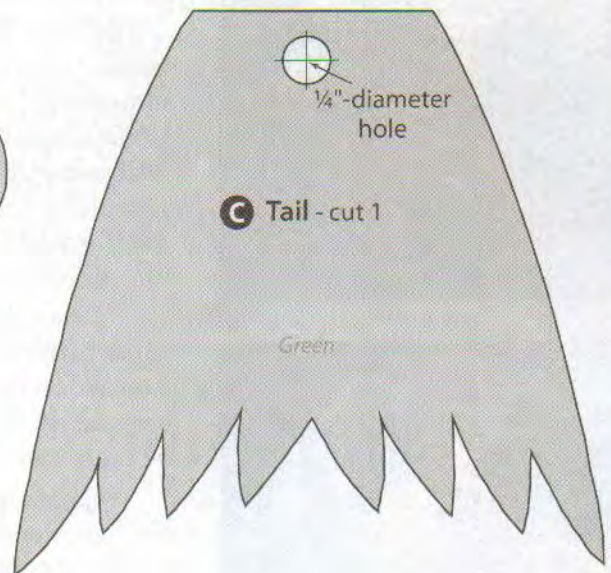
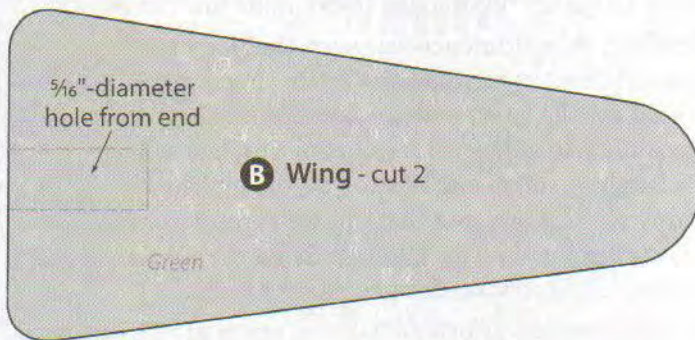
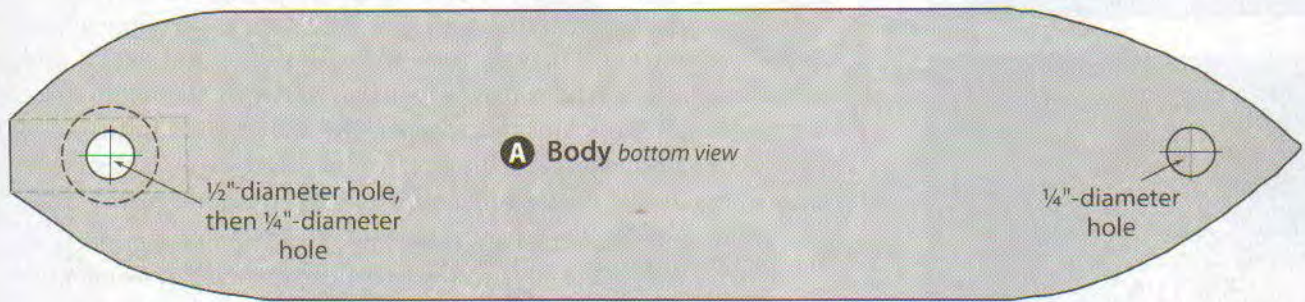
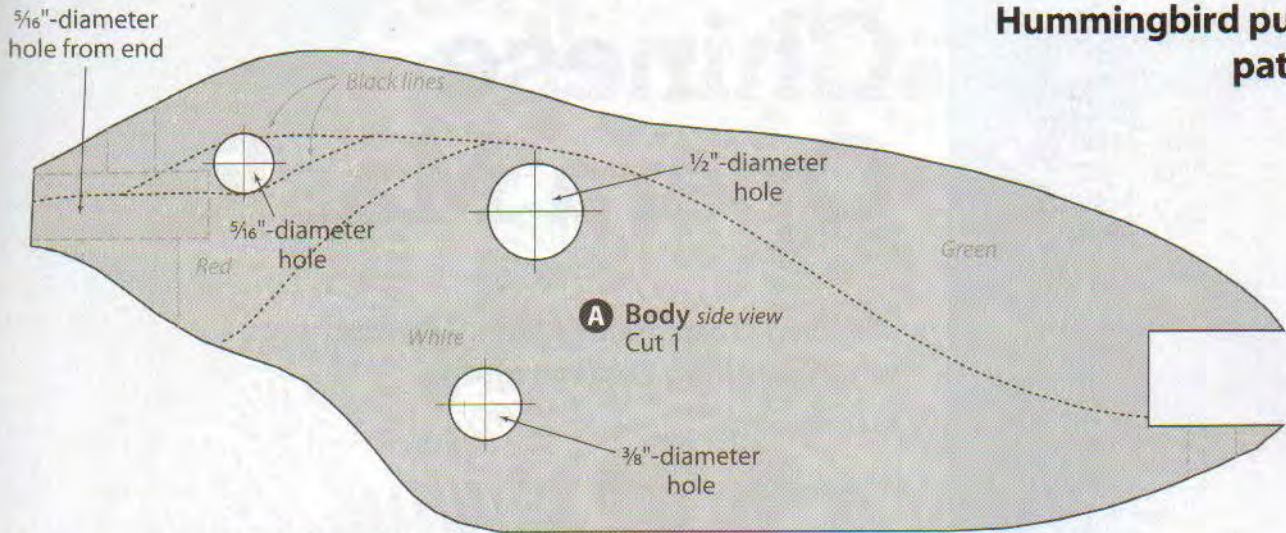


**ON THE WEB** See a video of the pull toy in motion on our website.  
[www.scrollsawer.com](http://www.scrollsawer.com)

### Parts List

	Item	Quantity	Materials	Dimensions	Presentation
<b>A</b>	Body	1	Hardwood, 1½" (38mm) thick	2½" x 7" (64mm x 178mm)	Pattern
<b>B</b>	Wings	2	Hardwood, ½" (13mm) thick	2" x 4" (51mm x 102mm)	Pattern
<b>C</b>	Tail	1	Hardwood, ½" (13mm) thick	3" x 3" (76mm x 76mm)	Pattern
<b>D</b>	Beak	1	Dowel, ⅝" (8mm) dia.	4" (102mm) long	Dimensions
<b>E</b>	Tail pin	1	Dowel, ¼" (6mm) dia.	¾" (19mm) long	Dimensions
<b>F</b>	Wheels	2	Commercial wheels	1¾" (44mm) dia.	NA
<b>G</b>	Wheel axle	1	Dowel, ⅝" (8mm) dia.	3" (76mm) long	Dimensions
<b>H</b>	Wing axle	1	Dowel, ⅝" (8mm) dia.	4¼" (108mm) long	Dimensions

# Hummingbird pull toy patterns



## Materials & Tools

### Materials:

- Hardwood, 1 1/2" (38mm) thick: 2 1/2" x 7" (64mm x 178mm)
- Hardwood, 1/2" (13mm) thick: 4" x 7" (102mm x 178mm)
- Dowel, 5/16" (8mm) dia.: 11 1/2" (292mm) long
- Wheels: 2 each 1 3/4" (44mm) dia.
- Soft black cord, 1/4" (6mm) dia.: 24" (610mm) long
- Wooden handle bead, 1" (25mm) dia. with 1/4" (6mm) dia. through-hole and 1/2" (13mm) dia. stopped hole

- Acrylic paint: green, red, black, white
- Wood glue

### Tools:

- Scroll saw blades, #7 reverse-tooth
- Drill with bits: 1/4" (6mm), 5/16" (8mm), 1/2" (13mm), 3/8" (10mm)
- Hammer
- Paintbrushes

The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.



David Wakefield's love for wildlife, combined with his down-to-earth designing and woodworking skills, results in an uncanny ability to capture the character and movement of creatures in hardwood for children (and adults) to play with. David lives in Ohio, where he has been designing toys for 35 years.

# Chinese Opera Masks

Western craftsman creates Zen moments when scrolling Eastern motifs

By Kathleen Ryan

California scroller Paul Senko refers to himself as a jack-of-all-trades. When he is not earning a living, the 52-year-old can be found at his scroll saw. Paul took to scrolling about 10 years ago, making toys, animals, trains, and puzzle boxes. As his confidence grew, he began to focus on fretwork. "I'm all in for cutting anything I think looks nice, especially if it involves fretwork. After a bad day, it's like Zen meditation for me," said Paul. Paul enjoys scrolling so much that his personal motto is, "Fretting life away."

Like many new scrollers, Paul shied away from complex projects at first. "I used to look at the advanced patterns and wonder how people could ever do them," he said. "I bought a really advanced pattern and realized that it's the exact same process as the easy patterns. It doesn't matter if there are 10 cuts or 1,000 cuts. It's all done one cut at a time!"

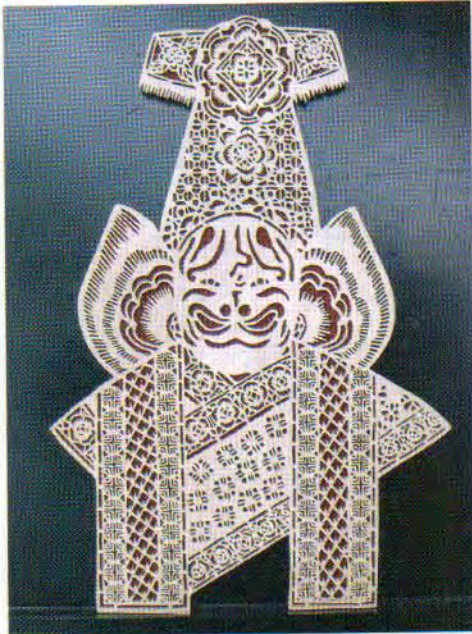
By 2013, however, his confidence was such that Paul was searching for new and unusual projects to work on. "Every time I thought I'd found something, I would get the latest issue of *Scroll Saw Woodworking & Crafts* magazine, only to discover that someone else had already done it!" Paul said with a laugh. "I spent a lot of time on the internet trying to find something I hadn't seen before, and that's how I came across the Chinese opera masks." Long fascinated with Chinese culture, Paul was instantly drawn to the history and intricate designs of the masks.

To date, Paul has created 17 ornate wooden opera masks based on paper patterns he finds online. Depending on its complexity, each mask can take 30 to 40 hours to complete. "I like to take my time with them, because when you get in a hurry, that's when you make mistakes," he cautioned.

To make a mask, Paul transfers a paper pattern onto a piece of Baltic birch plywood and digs in. After hours of precise cutting, he lightly sands the completed mask and mounts it on a luan plywood backing. He paints the masks with environmentally friendly water-based stains.

Ralph Waldo Emerson once said, "The reward of a thing well done is having done it." Paul Senko feels the same way about his masks. Although he does not sell them, he shows them every chance he gets, because, he said, "I really enjoy seeing the smiles on people's faces."

Contact Paul Senko at [paulsenko@hotmail.com](mailto:paulsenko@hotmail.com).





### **History of Chinese Opera Masks**

Chinese opera masks can be traced back 3,500 years, which is when shamans first used them during religious ceremonies and healing rituals. The masks became part of traditional Chinese culture, playing an intricate role in welcoming the gods, protecting homes, totem worship, and casting out evil spirits. The masks also have a long history in the arts, particularly in dance and opera. During the Ming Dynasty (1368 to 1644 A.D.), different mask colors began to signify the personality

traits of the characters in theatrical productions. The masks were made from cloth, leather, shells, metal, and wood. Depending on the craftsman and the purpose of the mask, it would either possess a true-to-life appearance or represent different emotions. Today, Chinese opera masks are used in dance performances, cultural celebrations, festivals, and opera. Many traditional Chinese opera masks are now displayed in museums and prized by collectors.

# Scrolling for a Song

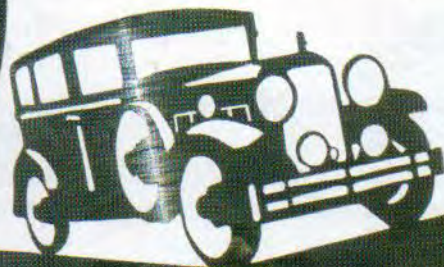
Woodworker gives new life to old vinyl records

By Kathleen Ryan

**B**arry Wright's vinyl record artwork venture is humming along quite nicely. In fact, ever since the New Zealand woodworker began scrolling old vinyl records, it has become somewhat of a compulsion for him. "I started experimenting with them on my scroll saw and was immediately hooked. From there it just snowballed!" he said.

For those who might be cringing at the thought of ripping through vintage or collectible record albums, rest assured. Barry only uses records that are already scratched, chipped, or otherwise damaged beyond repair and are unplayable. He and his wife, Tina, scour secondhand shops and garage sales in search of such records. "I do not cut any vinyls of significance," said Barry. "They are mostly old classical music and symphony recordings—things that are dime a dozen today and rarely played. Many of our friends have left boxes of them on our doorstep!"

A carpenter by trade, Barry began scrolling as a hobby about 20 years ago by making wooden toys for his children. This evolved into scrolling plaques, which he donated to local organizations. After seeing photos of scrolled vinyl records in a magazine, he decided to give it a whirl in February of 2015. Now, he's turning them out one after another and selling them on the weekends from his home workshop and at a local marketplace. Not only does the couple turn



vinyl records into wall art, they also cut and press vinyl into bird feeders, fruit and egg bowls, and mirror frames. They cut other vinyl scraps into butterfly and dragonfly shapes for garden art. They even recycle the old album covers. "My wife and I trim the sleeves, then turn them inside out and re-tape the edges for packaging," Barry said.

Having worked with wood all of his adult life, Barry appreciates combining the capabilities of the scroll saw with the unique properties of vinyl. "What I enjoy most about working on a scroll saw is the quietness and cleanliness of the machine and its capability to do intricate work," he said. "Scrolling vinyl is quite pleasant. There are no fumes or mess whilst cutting because the residue clings together in the catchment area."

Barry sources his basic patterns from magazines, photographs, and the internet and adapts them accordingly. "People may see a picture and want other details, so I cut and paste, moving things around to achieve the desired effect." Although he does take special requests for designs and sentiments, he most often draws inspiration from the record label itself. "I try to link the patterns I select to the record label whenever possible. For instance, if the original pattern I came across had a couple dancing with a four-piece band alongside, I'd try to find a record label that has the word 'dance' or 'dancing' on it to link the two together," Barry explained.

After Barry selects and adapts a pattern, he adheres it to a vinyl disk with masking tape and begins cutting. According to Barry, not all records are a standard thickness; some are very fragile, which he usually determines after the first three or four cuts. If the record proves to be problematic, he will abandon it and start again. Even with the strongest records, cracks and mishaps can and do occur. "That's when I have to be clever enough to recut around a mistake," said Barry with a chuckle. "This is what makes each piece an individual work of art."

Contact Barry at [barrytina@xtra.co.nz](mailto:barrytina@xtra.co.nz).

## Tips for Scrolling Vinyl

By Barry Wright

- Involve your spouse or partner, because this is very addictive—it may consume your thoughts 24/7!
- Look around for patterns that inspire you, and think outside of the box.
- Practice different ways to mask/tape, and experiment with various types of blades before you start to avoid disappointment.
- Tape a record onto the scroll saw table to give it a smooth surface to glide the working record over (this also provides a smaller tolerance hole around the blade).
- Keep your work area tidy and clean, as little bits of vinyl can stick to clothing.
- For the initial cleanup of the vinyl, use a toothbrush with medium to hard bristles to get rid of most of the bulky residue. Follow with deburring tools and files.
- A quality deburring tool and small files are essential to smooth the cut edges. A sheet metal tool works for me, while my wife sometimes uses emery boards.
- To remove glue or stickiness from tape residue on the record, apply isopropyl alcohol to a clean cloth and gently wipe.
- Always store your record away from direct sunlight and heat to avoid warping.
- Doing delicate work requires your full attention. Be sure there are no distractions or interruptions while cutting, as this is when mistakes happen.



# Cutting Vinyl Records



## Turn a vintage record into an attractive clock

By Deborah Nicholson

If you go to a thrift store, you can find bunches of old vinyl records. After making sure you're not choosing a rare or valuable record, transform a record into an attractive project. I added a beach scene to this beach-related record and turned it into a clock. You can cut any sort of silhouette into the record.

### Cutting Records

Cover the surface you plan to cut on both sides with masking tape, to keep the cut shavings from melting back to the record. Then, cover the surfaces with thin cardboard and tape it in place to support the fragile record. Attach the pattern to the cardboard.

When cutting, use a slow speed to reduce the heat generated. The slower speed also gives you better control. After cutting, remove the cardboard and tape. Drill a hole for the clock mechanism and secure the mechanism to the record. For a different look, I attached some of the silhouettes I cut to the record with Goop adhesive. If your mechanism doesn't include a hanging hook, use Goop to attach a small piece of wood to the back of the clock and attach a hanger to the wood.

### Materials & Tools

#### Materials:

- Vinyl record
- Masking tape
- Thin cardboard
- Spray adhesive
- Adhesive, such as Goop
- Clock mechanism

#### Tools:

- Drill with bits: assorted small
- Scroll saw blades, #2/0 reverse-tooth

#### SPECIAL SOURCES:

Clock mechanisms are available at most large retailers and craft stores.

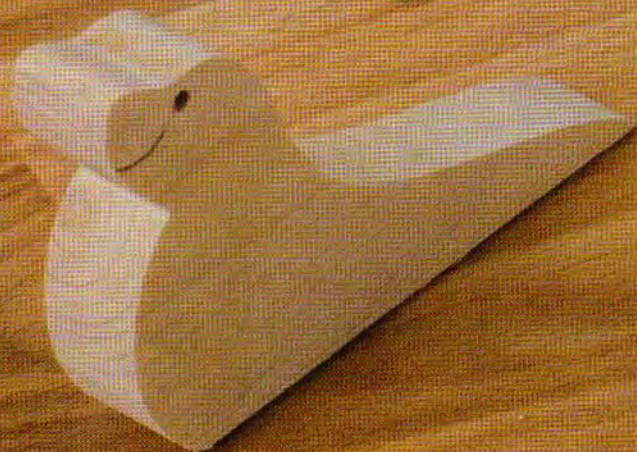
The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.



Deborah Nicholson grew up in Chicago and has lived in Hernando Beach, Fla., since the late 1990s. An artist all of her life, she works in various mediums, including mosaics, clay, and paint; she especially enjoys combining media. Deborah began working with wood by making frames with her father, who is also an artist.

Patterns for **CUTTING VINYL RECORDS** are in the pattern pullout section.

# Animal Doorstops



A quick and easy solution to unwanted wood scraps

By Carl Hird-Rutter

**M**y shop is full of scraps, which I find hard to throw out. I thought of a way to remedy this problem with doorstops that can be cut from  $\frac{3}{4}$ " (19mm) scraps or even 2x4 offcuts.

## Making the Doorstops

Photocopy and attach the pattern, placing the pattern on the milled edge of the wood to ensure a straight cut. Cut the pattern using a #5 reverse-tooth blade. Drill holes for the eyes. Perform an inside cut on the beak of the owl. Sand and finish, or leave natural. If the doorstop slips on the floor, glue a piece of foam shelf liner to the bottom.

## Materials & Tools

### Materials:

- Wood scraps: at least  $\frac{3}{4}$ " (19mm) thick
- Sandpaper

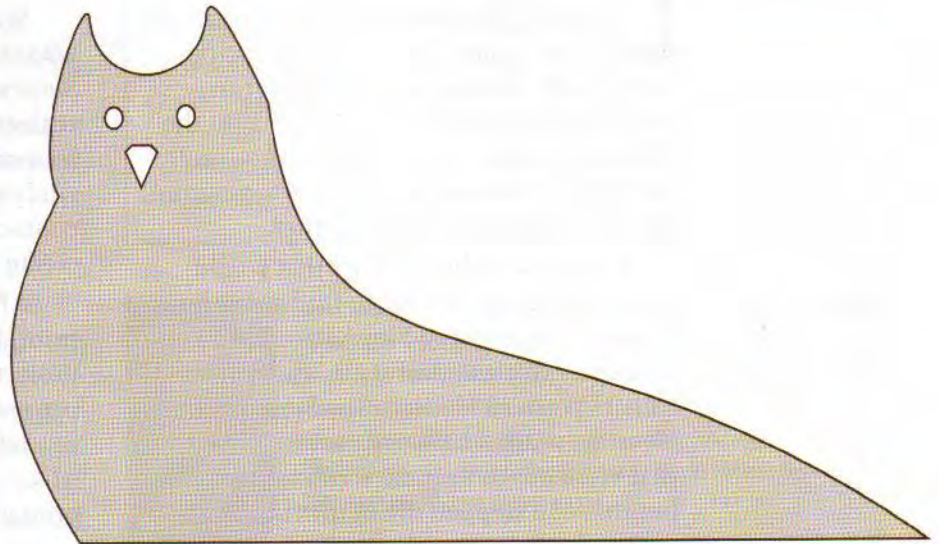
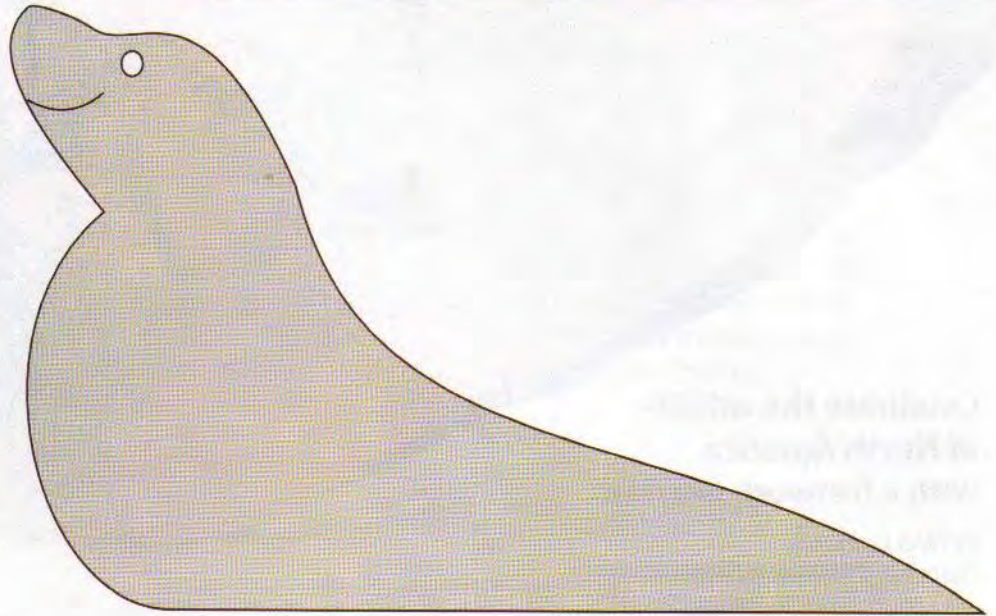
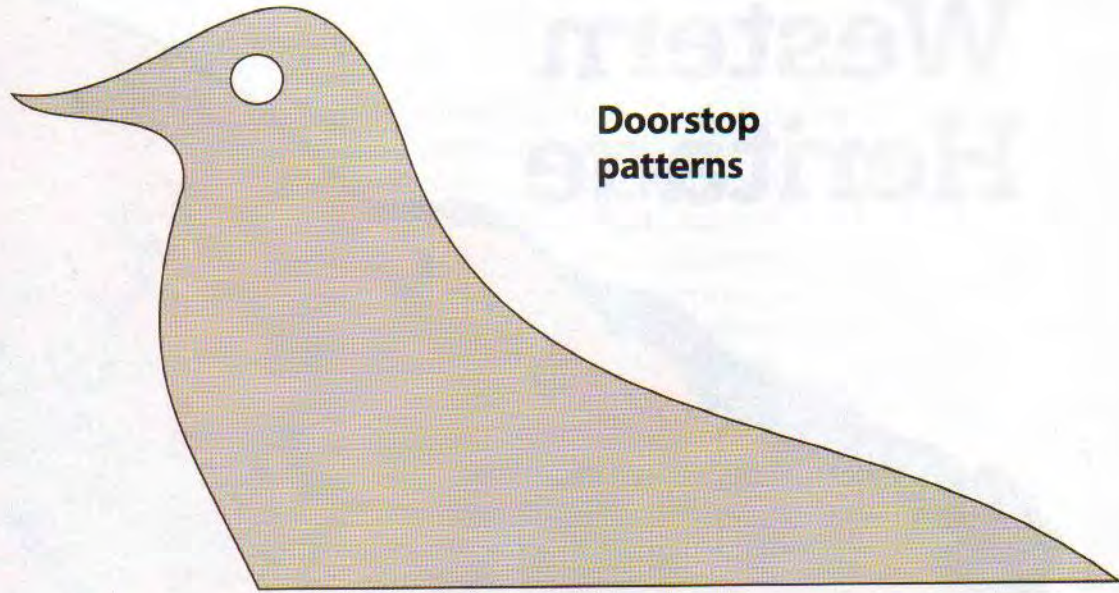
### Tools:

- Scroll saw blades: #5 reverse-tooth
- Drill and bit:  $\frac{1}{8}$ " (3mm)

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*



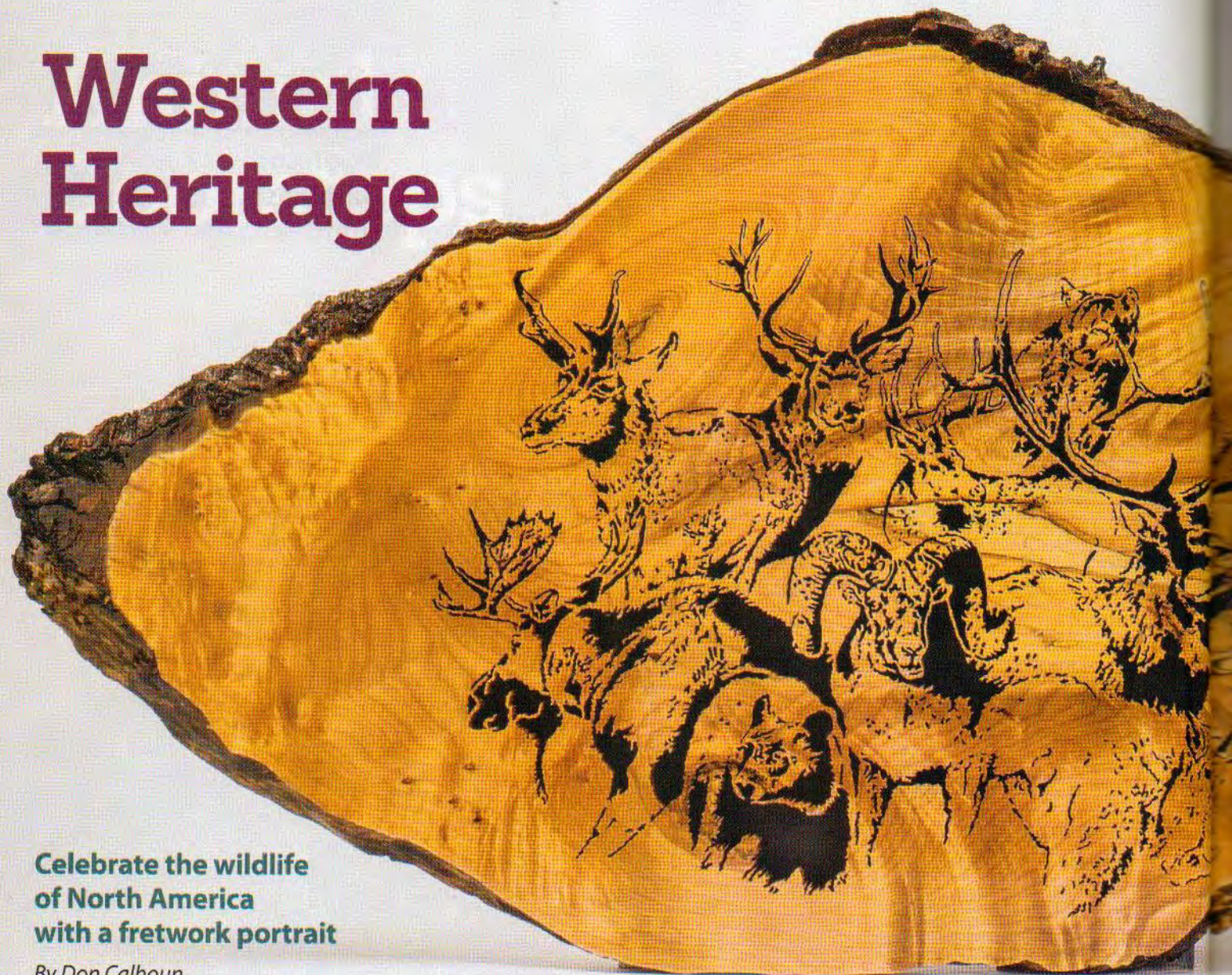
## Doorstop patterns



Carl Hird-Rutter has been scrolling for more than 15 years. Four years ago he suffered from a stroke, which slowed his creative process. With the arrival of his grandson Max, he has a renewed interest in scrolling and hopes to produce many more patterns.

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# Western Heritage



**Celebrate the wildlife of North America with a fretwork portrait**

*By Don Calhoun  
Pattern by Mike Williams*

**L**iving in Washington State surrounded by the natural beauty of the Pacific Northwest, I do not have to look far to find inspiration. During a journey into the wilderness, I got the idea to create a scroll saw design showing several of Washington's native animals clustered together.

I began searching for art that would work as a design, hoping to find something unusual. I discovered FineArtAmerica.com, a website with wonderful art, and a print called "Western Heritage" by Steve Spencer. Over the years, I have seen several images that cried out to become scroll saw designs, but this one stopped me in my tracks.

Steve is an Idaho native and a self-taught wildlife, landscape, and portrait artist. Steve's touch is an astonishing degree of realism—the kind that can only be achieved by someone who has spent long hours studying his subjects from life. I immediately contacted Steve to request permission to create a derivative of "Western Heritage."

After studying the "Western Heritage" print, I knew this was going to be an intense project. In order to achieve the intricate pattern design I wanted, I enlisted the help of a fellow pattern designer, Mike Williams. Mike's attention to detail and artistic flair brought this design to life.



Special thanks to both Steve Spencer and Mike Williams, who together made this project possible. See more of Mike's work at [www.mikesscrollsawpatterns.com](http://www.mikesscrollsawpatterns.com). View more of Steve's work at [www.fineartamerica.com/profiles/steve-spencer.html](http://www.fineartamerica.com/profiles/steve-spencer.html).

### Making the Project

Sand the wood with progressively finer grits until the surface is smooth and you have removed all irregularities and mill marks. Remove the sanding dust. Attach the pattern, drill the blade-entry holes, and start cutting. Make all veining and internal cuts first, and cut the large sections of the design

last. To prevent breaking delicate areas, set the saw speed to slow, install a zero-clearance insert, and adjust the feed rate to slow. Take your time and let the saw do the work. Do not push the wood through too fast.

*Note: I do not recommend reducing the pattern size. In fact, you may want to consider increasing the pattern size. You can easily calculate pattern enlargement or reduction using a C-Thru Proportional Scale.*

### Finishing the Fretwork

Using an orbital sander fitted with 220-grit sandpaper, remove all burrs from the back of the piece. Then, use 320-grit sandpaper to lightly sand the front of the piece. For a supersmooth surface, use #000 steel wool for a final rubdown. Remove the dust.

An interesting hardwood does not require a stain, but you can use it if you like. I prefer using a high-gloss varnish or lacquer. Apply a coat of finish, allow it to dry thoroughly, and lightly sand the surface using 320-grit sandpaper before applying the next coat. Continue this process until you have achieved a deep high-gloss finish. Choose a darker element for the backing. Cut the backer material to size and attach it to the back of the cutting using permanent-bond glue. Attach a sawtooth hanger to the back, and the project is ready for display.

### Materials & Tools

#### Materials:

- Wood,  $\frac{3}{4}$ " (19mm) thick:  
14½" x 19" (369mm x 483mm)
- Sandpaper: 220, 320 grits
- Steel wool: #000
- Backing to fit behind design
- Finish, such as high-gloss varnish or lacquer
- Sawtooth hanger

#### Tools:

- Scroll saw blades: #2 spiral and #2 flat
- Drill with bits: #60
- Sander: random orbital

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*



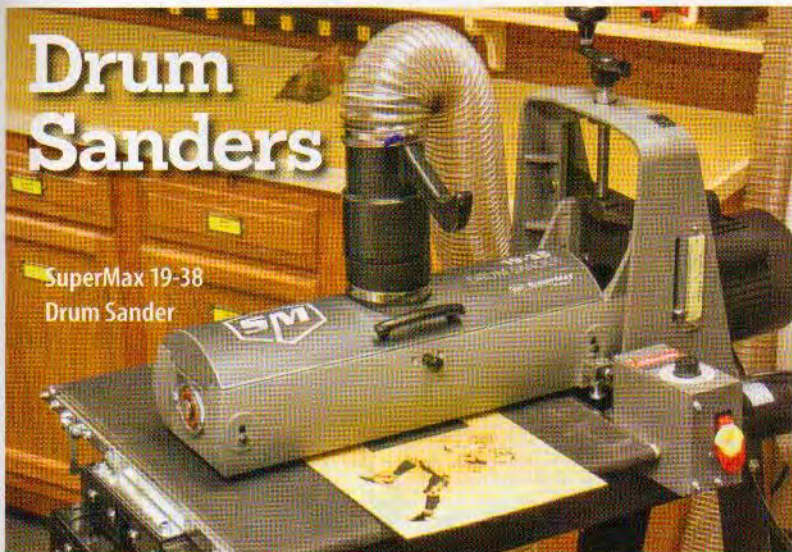
Don Calhoun began scroll sawing 14 years ago. It opened his hidden talents and helped him connect with his childhood love of nature. Don enjoys cutting and modifying patterns to create artwork that evokes the beauty of nature. He participates in craft shows, has won awards for scrolling, and is the owner of Don and Inge's Creations, where he and his wife make gifts to sell at craft shows. Visit his website at [pacificscrollsawart.com](http://pacificscrollsawart.com).

**Western Heritage  
pattern**



# Drum Sanders

SuperMax 19-38  
Drum Sander



If you regularly work with thin blanks, and especially if you resaw your own stock, you probably need a drum sander. This tool can surface wood and reduce its thickness without damaging it.

## What is a Drum Sander?

Scrollers often use the terms “sanding drum” and “drum sander” interchangeably, but they are not the same tool. A sanding drum attaches to a rotary carver and is often used to shape intarsia or clean up small cuts. A drum sander has an abrasive-wrapped spinning drum attached to a precision-flattened table. On stationary drum sanders, a variable-speed conveyor belt moves lumber at a consistent speed under a spinning drum wrapped with sandpaper, allowing you to sand thin and short pieces of wood. The drum moves up and down using a screw drive, which allows you to create a perfectly flat surface and control the amount of wood removed in each pass. The drum sander smooths without cutting, which reduces the risk of damage to the blank. A planer has similar controls and works more quickly, but its blade can damage thin and/or figured wood.

## The “Dream Shop” Drum Sander

My top choice of drum sanders is the SuperMax 19-38. Its 19"-wide table is open on one end, allowing you to sand wood up to 38" wide in two passes. It has a powerful 1 3/4 HP motor that removes wood quickly and a patented quick-change system for the abrasive (custom-cut rolls of sandpaper). It has a system that reduces the feed rate if the motor starts to bog down, which reduces burns, dips, and low spots without requiring you to monitor the motor as you feed the wood. The shaped dust collection hood catches the majority of the sanding dust. Because you can quickly remove stock with a coarse abrasive, this tool can in some cases remove the need for a planer. With the flat table, you can even use the tool to joint the edges of blanks less than 4" wide.

One of our contributors, Dave Van Ess, considers this tool a must-have. “I would put this as the first tool (after a scroll saw) a serious scroller would buy,” Dave said.

**ON THE WEB** See a detailed review of the SuperMax 19-38 online. [www.scrollsawer.com](http://www.scrollsawer.com)

Carole Rothman, the author of many articles and two books about scroll saw boxes and bowls, uses her SuperMax 19-38 for everything from dimensioning lumber to rescuing cupped and twisted wood and flattening and smoothing laminated blanks. Carole is impressed with the SuperMax 19-38's quick and easy sandpaper changing system.

*The SuperMax is available for around \$1,399. Visit [www.supermaxtools.com](http://www.supermaxtools.com) to find a retailer. For a more comprehensive review of the SuperMax 19-38, visit [www.scrollsawer.com](http://www.scrollsawer.com).*

Jet 10-20 Benchtop  
Drum Sander

## More Options

For smaller shops, or for folks who work with small pieces of lumber, the Jet 10-20 Benchtop



Stationary Drum Sander is an economical way to get the many benefits of a drum sander without spending a lot. The Jet 10-20 has a 1 HP engine and will handle wood up to 20" wide in two passes.

*The Jet 10-20 retails for around \$765. Visit [www.jettools.com](http://www.jettools.com) to find a retailer.*



18" Sand-Flee®  
Portable Drum Sander

A portable drum sander, such as a Sand-Flee, forgoes the conveyor belt and requires you to move the stock by hand. It takes a bit of practice to keep the feed rate steady, but Rolf Beuttenmuller, an SSW test cutter, sees the hand control as a plus. He uses a Sand-Flee to remove the fuzzies from 1/16"-thick ornaments and then attaches a MacMop sanding mop to the power take-off shaft, which allows him to finish sanding the ornaments using just one machine. Additionally, because there is no top, this tool handles wood of any thickness.

*The 18" Sand-Flee is available for \$960 and the 9" Sand-Flee is available for \$786. Contact RJR Studios, [www.rjrstudios.com](http://www.rjrstudios.com).*

# Clown Portrait

**Fretwork design shows  
the two sides of our  
personalities**

*By Michael Kelley*

**I**t's safe to say that most people have two faces: the one they show to the world and the one they keep bottled up inside. As an adult with ADHD, I use medicine to control my symptoms, which means that I mask my true self. That experience inspired me to create this design.

## **Making the Portrait**

Cover the plywood with blue painter's tape and apply spray adhesive to the tape. Then, position the pattern on the adhesive. The blue painter's tape comes off the wood easily and lubricates the blade. Drill blade-entry holes, cut the fretwork, and sand any rough areas. Then, apply clear satin acrylic finish, such as Minwax Polycrylic, to protect the project. Use Aleene's tacky glue to attach a black felt backing.



*(Continued on page 68)*

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## Clown portrait pattern

### Materials & Tools

#### Materials:

- Baltic birch plywood, ¼" (6mm) thick: 8" x 14½" (203mm x 369mm)
- Black felt
- Glue, such as Aleene's Tacky
- Blue painter's tape
- Spray adhesive
- Clear satin acrylic finish, such as Minwax Polycrylic

#### Tools:

- Scroll saw blades: #5 reverse-tooth blades, such as Flying Dutchman brand
- Drill with bits: ¼" (2mm) dia.

*The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.*



Michael Kelley of Bartlesville, Okla., started drawing with pencils at a young age and moved on to acrylic and oil

paints. He started scroll sawing about five years ago and started designing his own patterns about three years ago.

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To avoid repetitive instructions, this page is included in each issue to assist novice scrollers with basic scrolling techniques.

## Squaring Your Table

Most scroll saws have an adjustable table that allows you to make cuts at different angles. There are times when you want the saw set at an angle, but most cutting is done with the blade perpendicular to the table. If the table is even slightly off-square, the cuts will be angled. This interferes with puzzle pieces, intarsia, segmentation, and many other types of scrolling projects.

The most common method for squaring a table uses a small metal square, or right angle tool. Set the square flat on the saw table against a blade that has been inserted and tensioned. Adjust the table to form a 90° angle to the blade.

The cutting-through method is also popular. Saw through a piece of scrap wood at least 3/4" (19mm) thick and check the angle of the cut using a square. Adjust the table until you get a perfectly square cut.

You can also use the kerf-test method. Take a 1 3/4" (44mm)-thick piece of scrap wood and cut about 1/16" (2mm) into it. Stop the saw, back the blade out, and spin the wood around to the back of the blade. If the blade slips easily into the kerf, the table is square. If it doesn't slide into the kerf, adjust the table and perform the test again until the blade slips in easily.

## Attaching Patterns

Temporary-bond spray adhesive is the most common method used to attach patterns to stock. Photocopy the pattern. Spray the adhesive on the back of the copy of the pattern, wait a few seconds, and then press the pattern down onto the blank. Rubber cement or glue sticks work similarly.

You can also use graphite or carbon transfer paper. Place the pattern on the blank and slip a sheet of transfer paper

in between the pattern and the blank. Use a few pieces of painter's tape to hold the pattern and transfer paper in place. Trace around the pattern with a red pen (so you know where you have traced). Choose a light-colored transfer paper for darker woods. Carbon paper costs less than graphite paper, but must be sanded off before finishing.

## Stack Cutting

Stack cutting lets you cut several pieces of a project—or even several projects—at one time. Essentially, you attach several blanks together and cut them as one unit.

One way to attach blanks is with tape. Line all the layers up and wrap a layer of tape around the outside edge. You can also wrap the whole stack in tape for extra stability. Use masking tape, painter's tape, or clear packaging tape.

Hot-melt glue is another option. Glue the blanks together with a dot of hot-melt glue on each side.

You can also join pieces by driving brads or small nails into as many waste areas as you can. Cut off any overhanging nails as close to the surface as you can, and then sand them flush to avoid scratching or catching on the table.

## Blade Tension

Before inserting a blade, completely remove the tension. Clamp both ends of the blade into the blade holders and adjust the tension. Push on the blade with your finger. It should flex no more than 1/8" (3mm) forward, backward, or side to side.

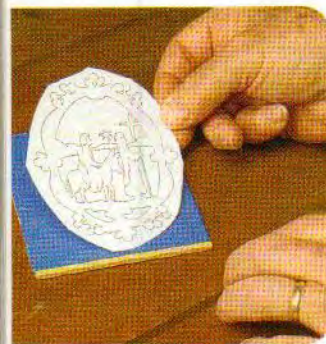
A blade that does not have enough tension will wander. It will also flex from side to side, making for irregular or angled cuts. If you press too hard on a loose blade, it will usually snap. A blade that has too much tension is more susceptible to breaking and tends to pull out of the blade holders. In general, it is better to make the blade too tight rather than too loose.

## Blade-Entry Holes

Some patterns have blade-entry holes marked. If the pattern doesn't, place the holes near a line to be cut to prolong the blade life, but don't place the hole on a curving line or inside corner (if possible). Drill the hole perpendicular to the blank. Use a drill press if you have one; otherwise, use a hand drill and make the holes as vertical as possible. Drill through the blank into scrap wood to prevent tear out on the back side of the blank. If you have the space, use a larger bit—it will make it easier to thread the blades through. For thin veining cuts, use the smallest bit the blade will fit through.

## Removing Patterns

Dampen a glued paper pattern with mineral spirits to aid in removal. Commercial adhesive removers work as well. A quick wipe of mineral spirits will remove most adhesives left behind on the wood.



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# Scrolling Alabama

Leldon Maxcy, a test cutter and designer for Fox Chapel Publishing, got hooked on scroll sawing at the age of 13. Nearly two decades later, he is still scrolling. "I love it more than ever!" said the Cullman, Ala., woodworker.

In 2015, Leldon was commissioned to build an 8' by 12' cutout of the state of Alabama with the 67 counties made from different types of reclaimed wood. Garlan Gudger of Southern Accents (an architectural salvage store) created the design for the annual Southern Makers, a two-day event in Montgomery, Ala. "We wanted something fun with a crazy, over-the-top design, and Leldon was the only one I knew who would take on such a challenge," said Garlan.

Leldon printed the outlines of each county and laid them on MDF backers. He cut the pieces into manageable sizes with a jigsaw and outlined the county shapes with a scroll saw. Next, he arranged and glued pieces of wood onto the cutouts. The salvaged wood consisted of old beadboard, barn wood, wood siding, and hardwood flooring that dated back to the 1800s. Leldon said, "It's pretty awesome knowing some of the wood is that old and being the lucky person to give it new life."

After gluing the salvaged wood onto the backers, Leldon recut the shape of each county, following the border lines of



Leldon Maxcy looks over his assembled Alabama artwork. He cut each of the 67 counties from vintage or salvaged wood.

the backers. "I only used a spiral blade on three counties," he explained. "The rest I cut with a flat blade, turning them around many, many times." Laying the counties out on his basement floor like a giant jigsaw puzzle, Leldon began piecing the state of Alabama together. He then delivered the pieces to Southern Accents, who fastened them together. "Everyone was blown away by Leldon's awesome skills," said Garlan. Leldon couldn't have been happier. "This was my favorite project to date. It proved to me that with enough will, you can pull off some pretty amazing things!" he said. The Alabama artwork currently hangs at the Good People Brewing Company in Birmingham, Ala.

*For information on the Southern Makers event, visit their website, [southernmakers.com](http://southernmakers.com). Contact Leldon Maxcy at [www.leldonsscrollsawing.com](http://www.leldonsscrollsawing.com).*

**This is the Alabama artwork hanging over the stage at the Southern Makers event.**



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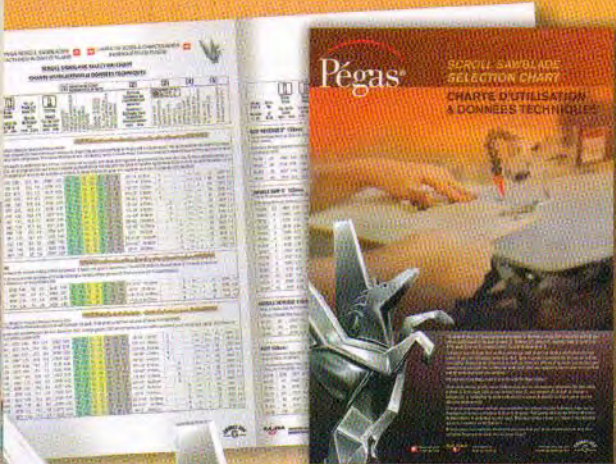
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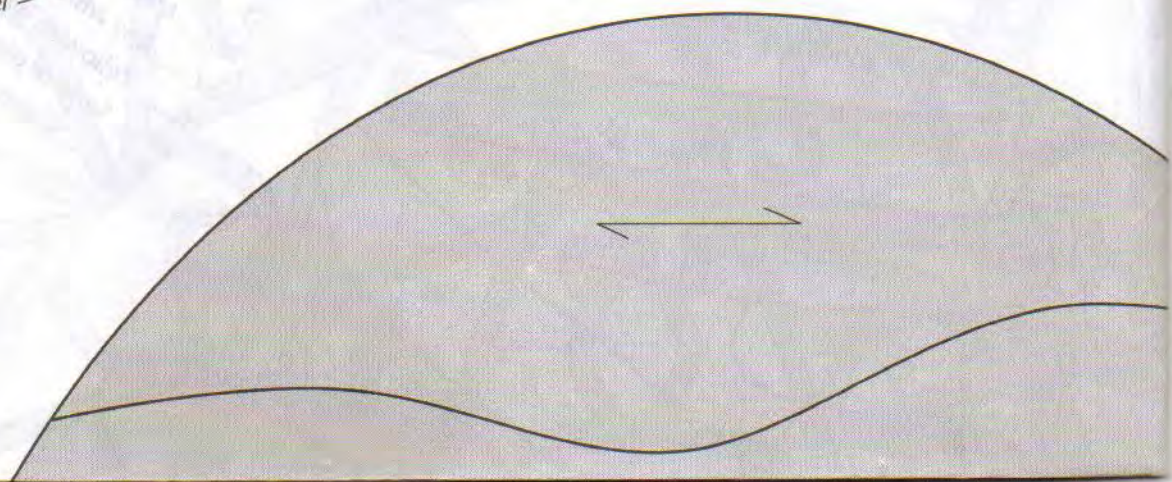
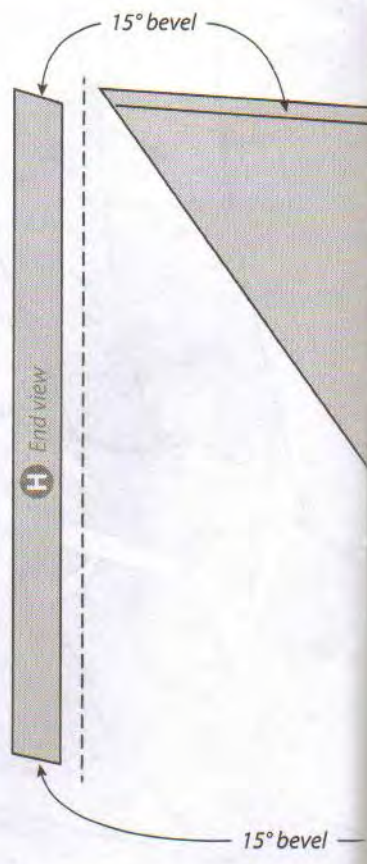
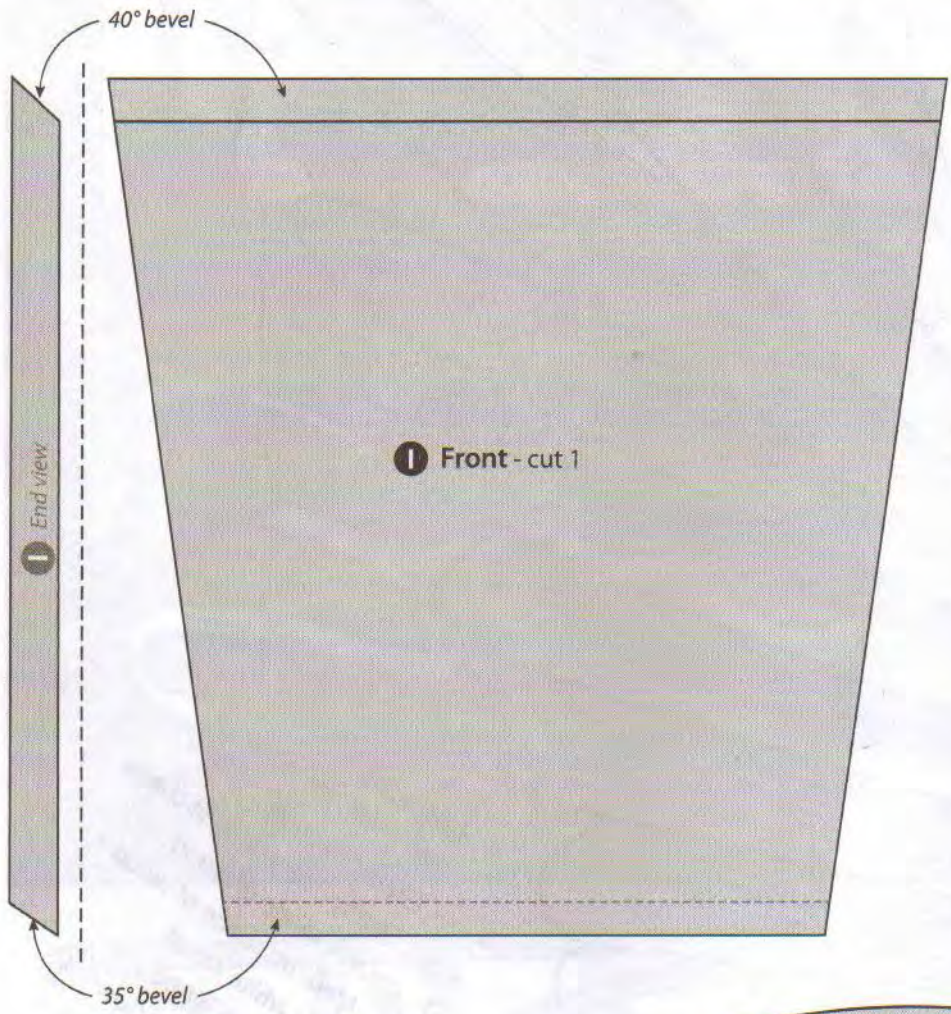
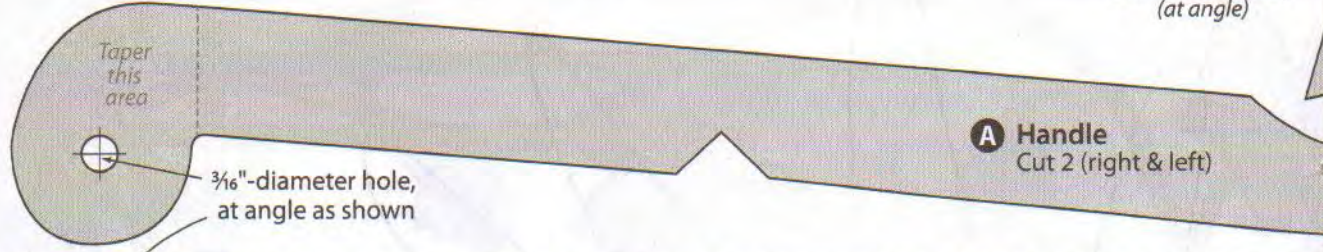


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[pegas@scies.ch](mailto:pegas@scies.ch)



1A

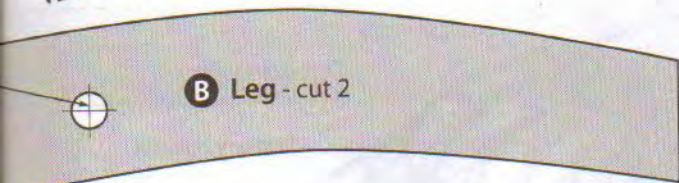
$\frac{3}{16}$ "-diameter hole  
Drill after assembly  
(at angle)



18 2A

S.F.

**B** Leg - cut 2

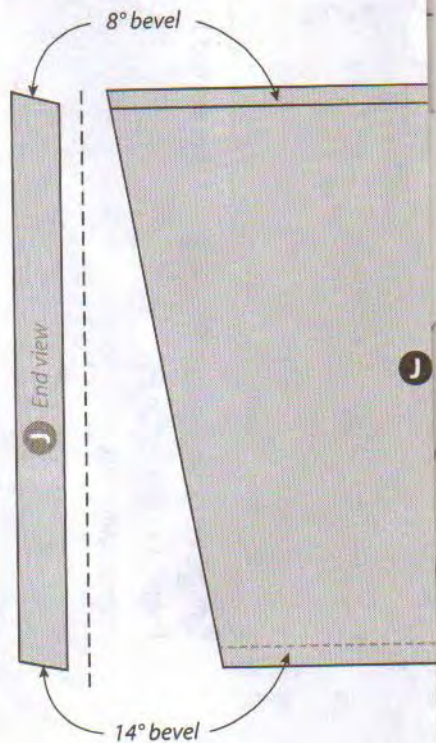
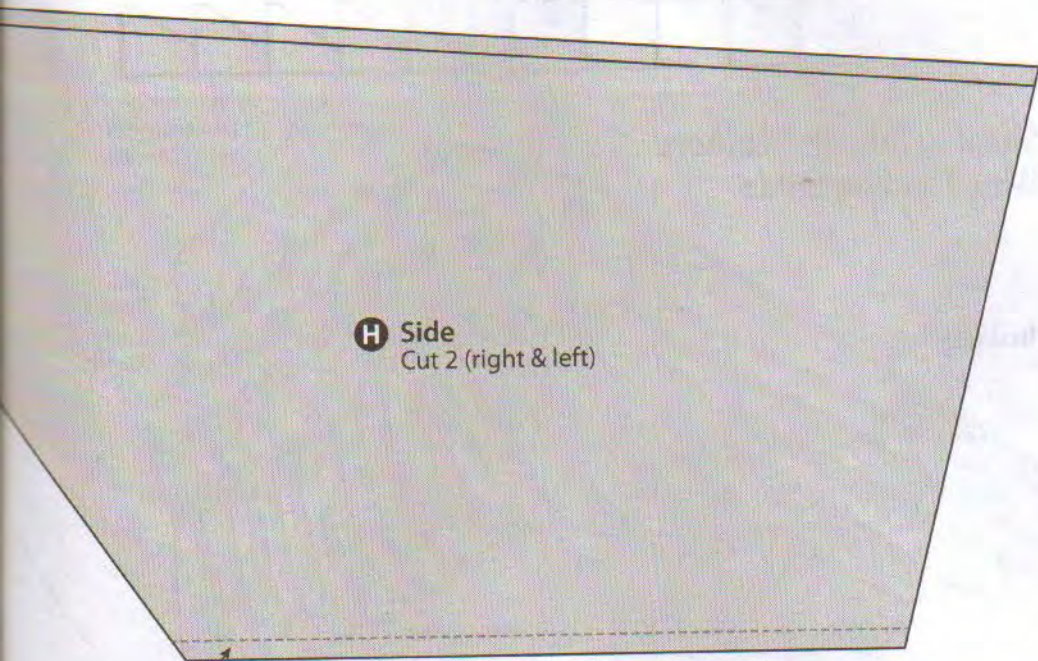


# Cheery Spring Wheelbarrow

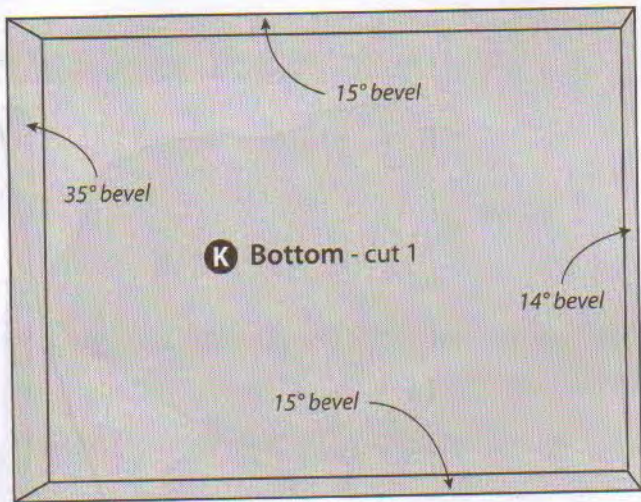
Page 32 - SSWC Issue 63

Designer: John A. Nelson

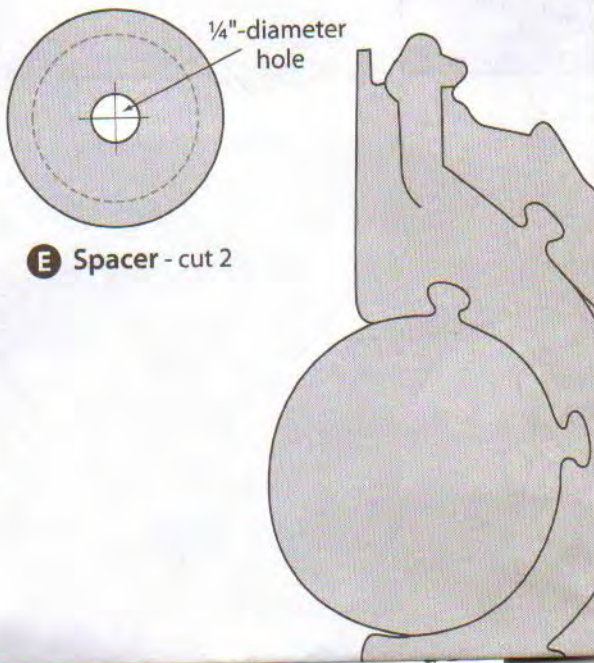
**H** Side  
Cut 2 (right & left)



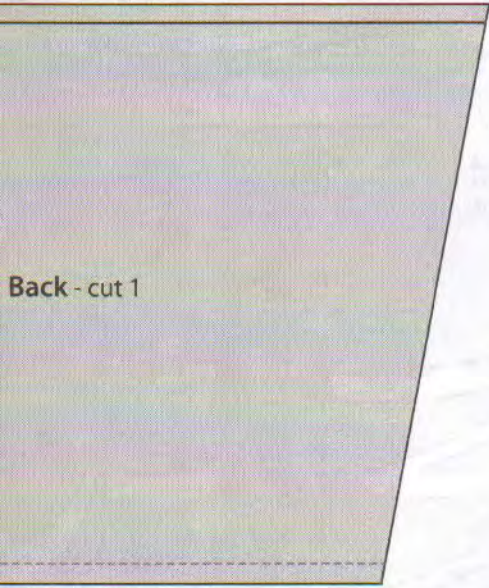
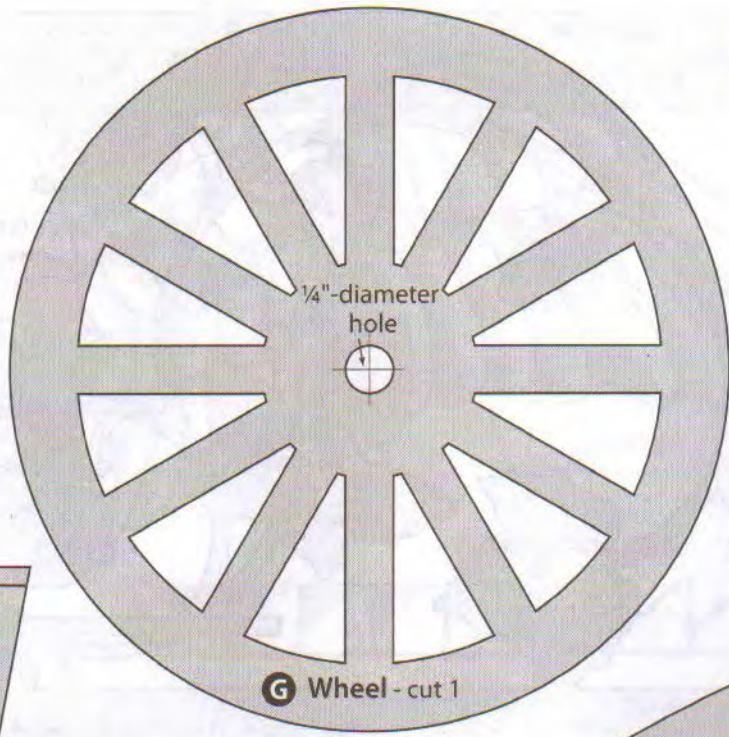
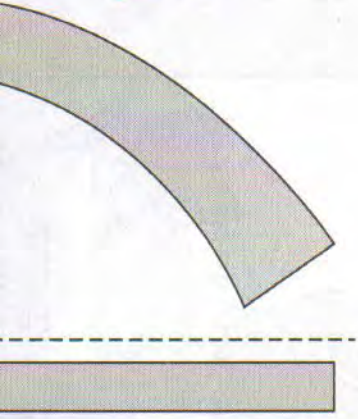
**K** Bottom - cut 1



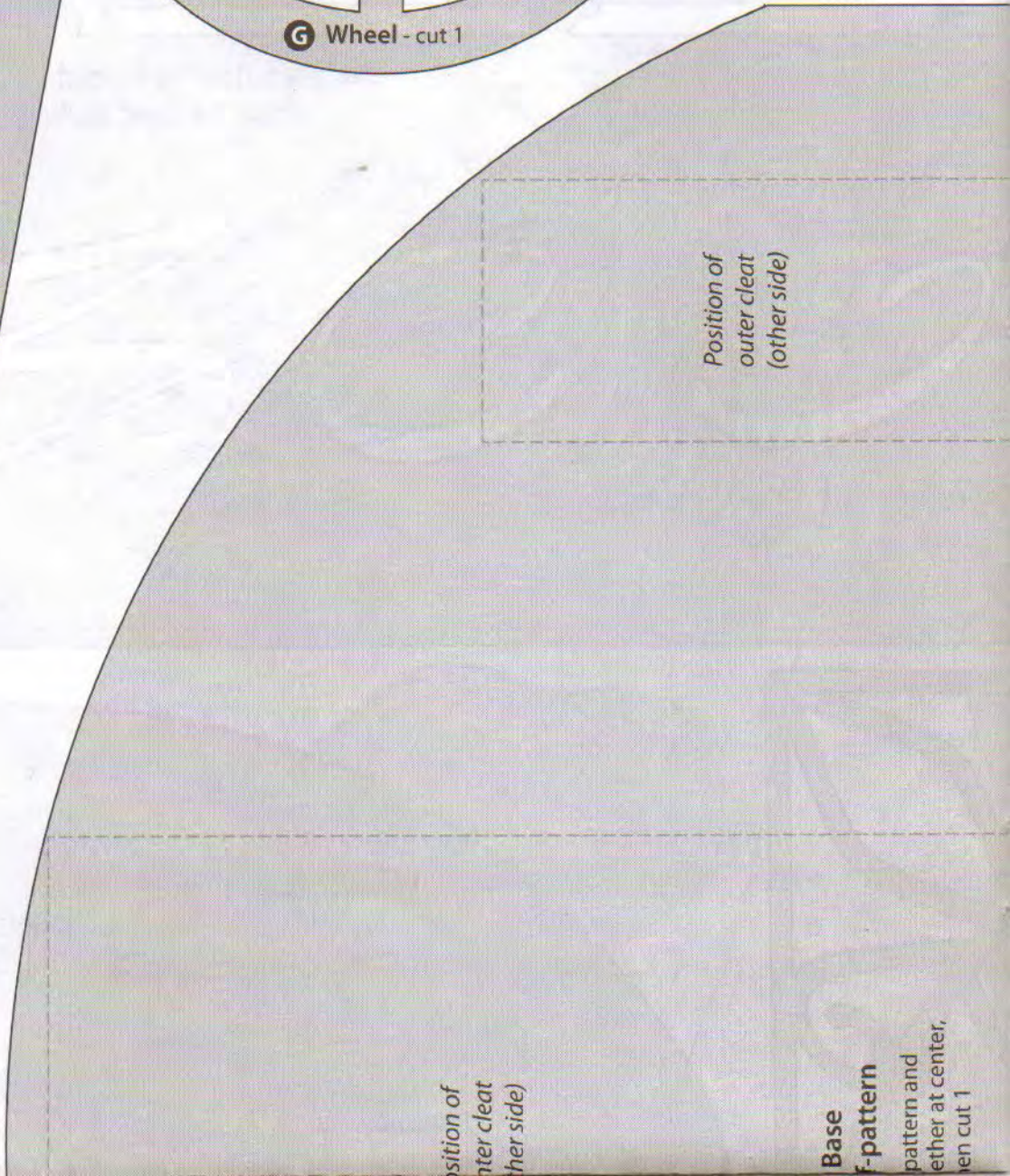
**E** Spacer - cut 2



3A



Back - cut 1



Position of  
outer cleat  
(other side)

Position of  
center cleat  
(other side)

Base  
f-pattern  
pattern and  
either at center,  
then cut 1

LA SA

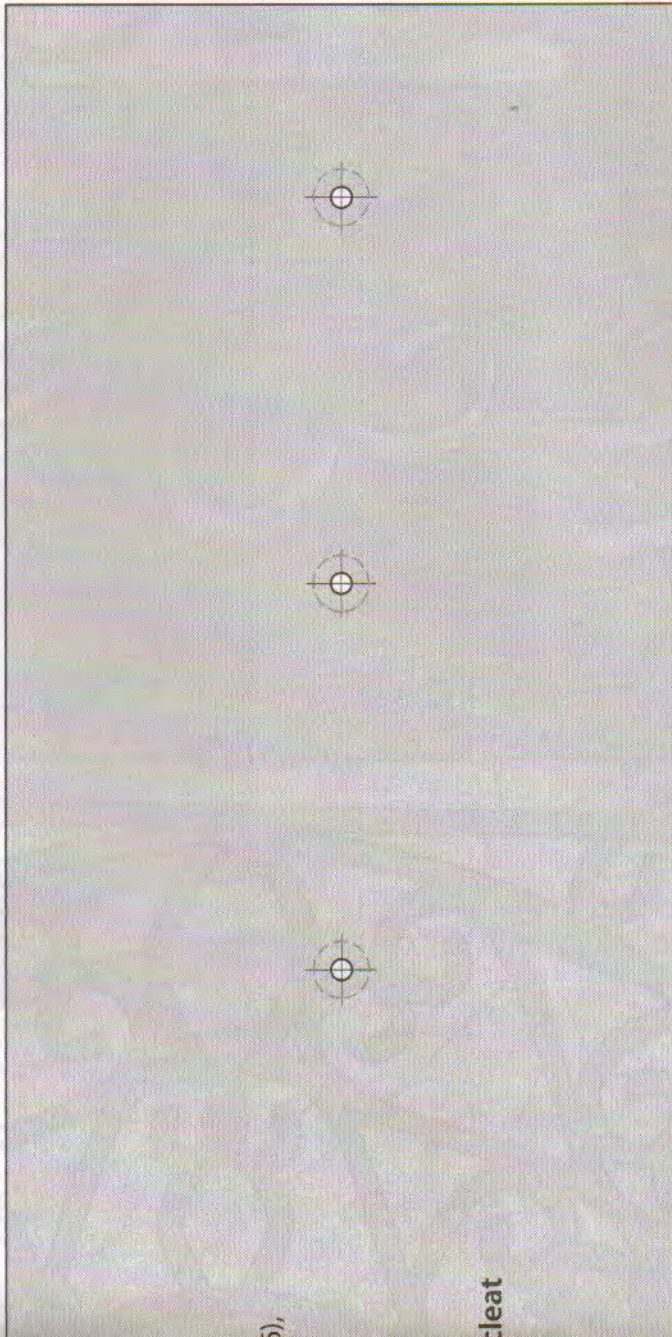
*All patterns to be copied at 100% unless otherwise indicated.*

*All patterns on this pullout section: © 2016 Scroll Saw Woodworking & Crafts*

Vintage Golf Club .....	20	Cardinal Bird Feeder .....	40
Grapevine Welcome Plaque .....	30	Fretwork Wall Clock .....	43
Cheery Spring Wheelbarrow .....	32	Lucky Charms Name Puzzle.....	46
Shaping Intarsia Feathers.....	34	Cutting Vinyl Records.....	58
Freestanding Car Puzzles.....	38		

Note to professional copying services. You may make up to ten copies of these patterns for the personal use of the buyer of this magazine.

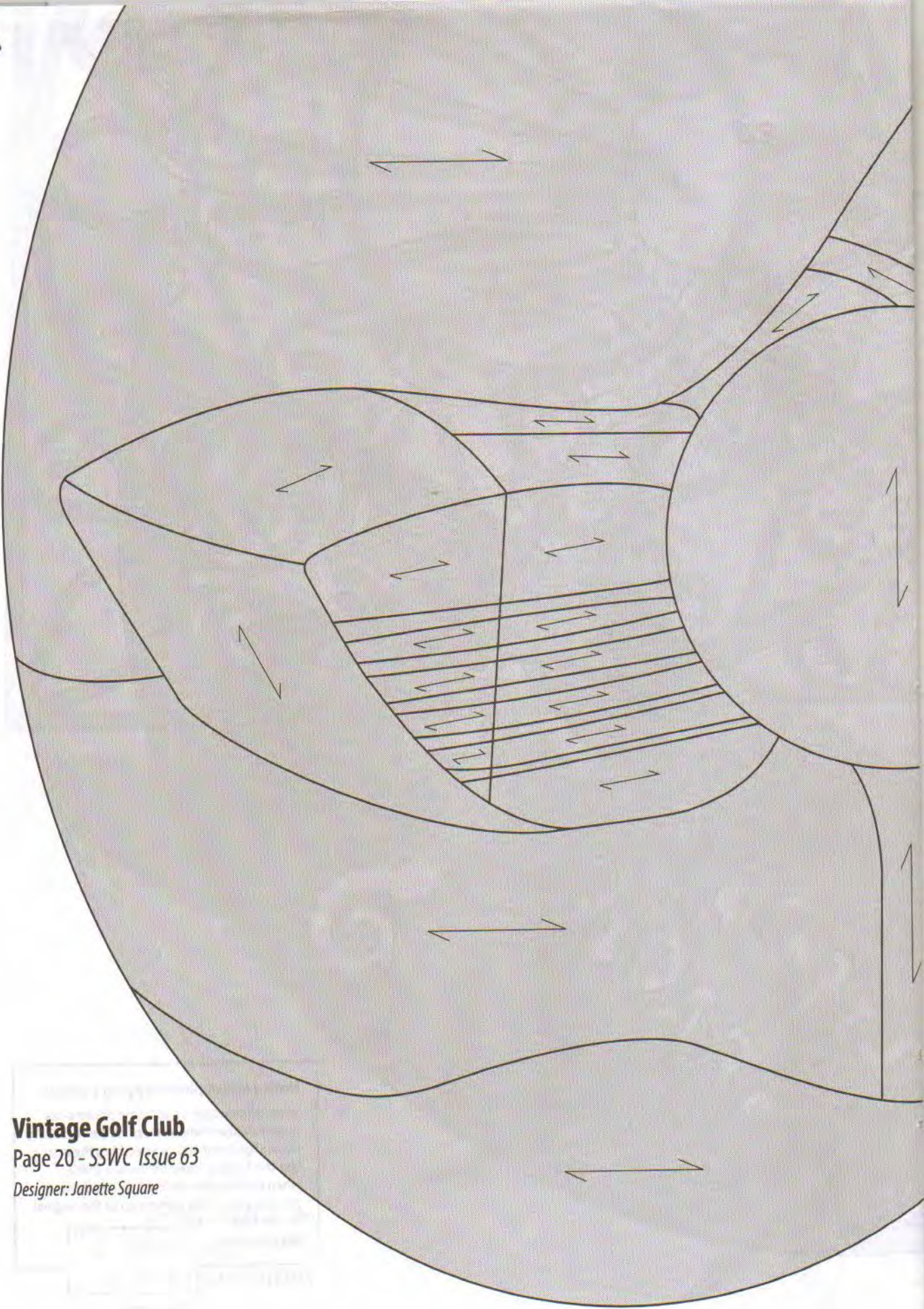
**Cardinal  
Bird Feeder**  
Page 40 - SSWC Issue 63  
Designer: Paul Meisel



oles (4),  
nk

eat - Cut 2

5A

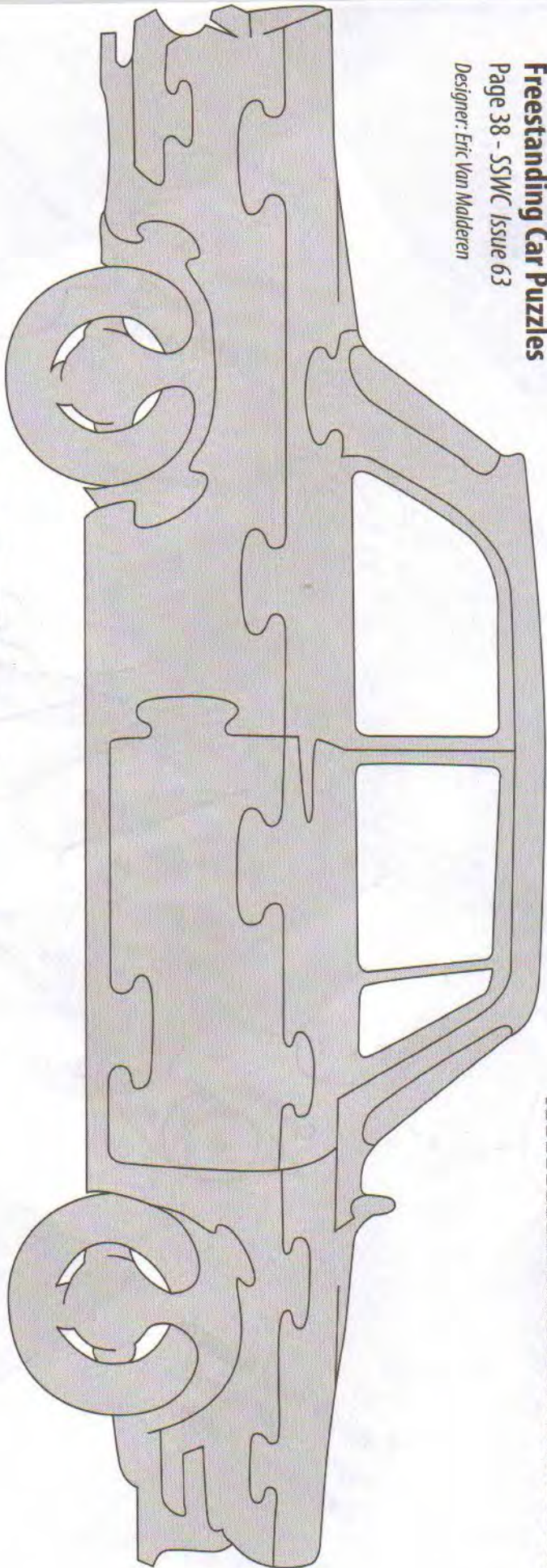


**Vintage Golf Club**  
Page 20 - SSWC Issue 63  
Designer: Janette Square

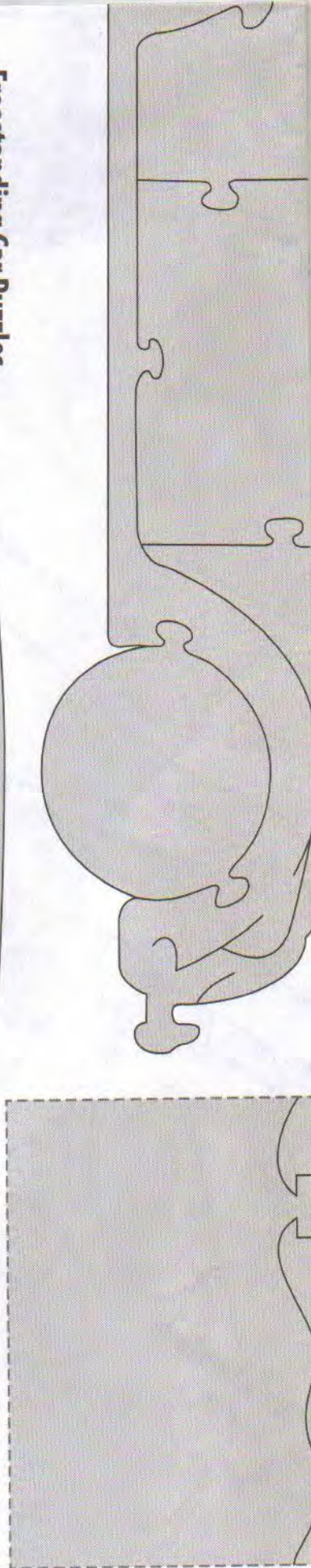
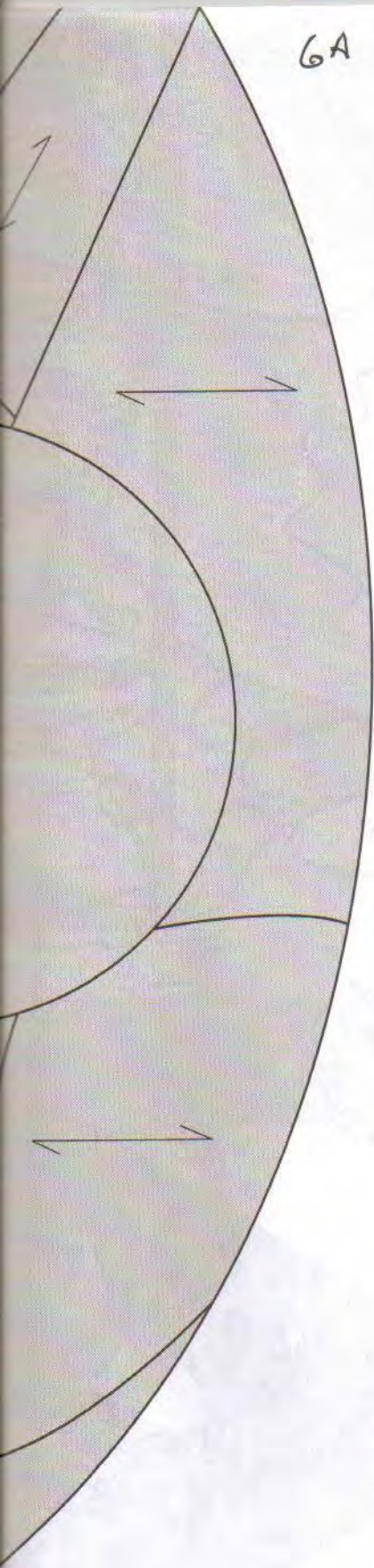
**Freestanding Car Puzzles**

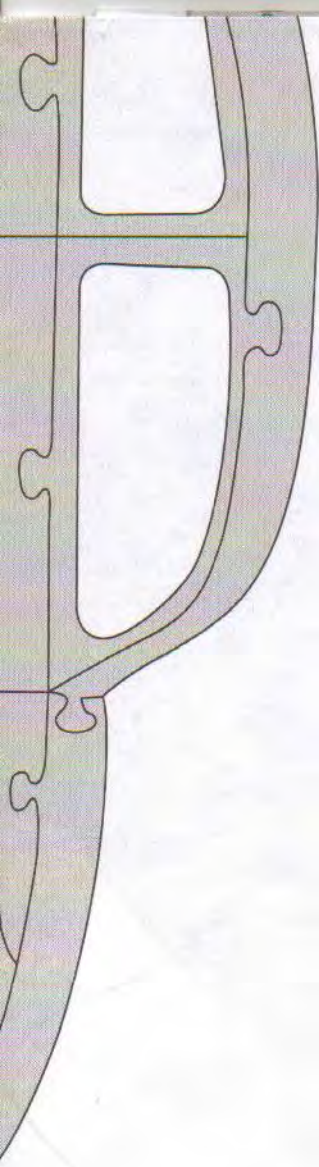
Page 38 - SSWC Issue 63

Designer: Eric Van Malderen



6A



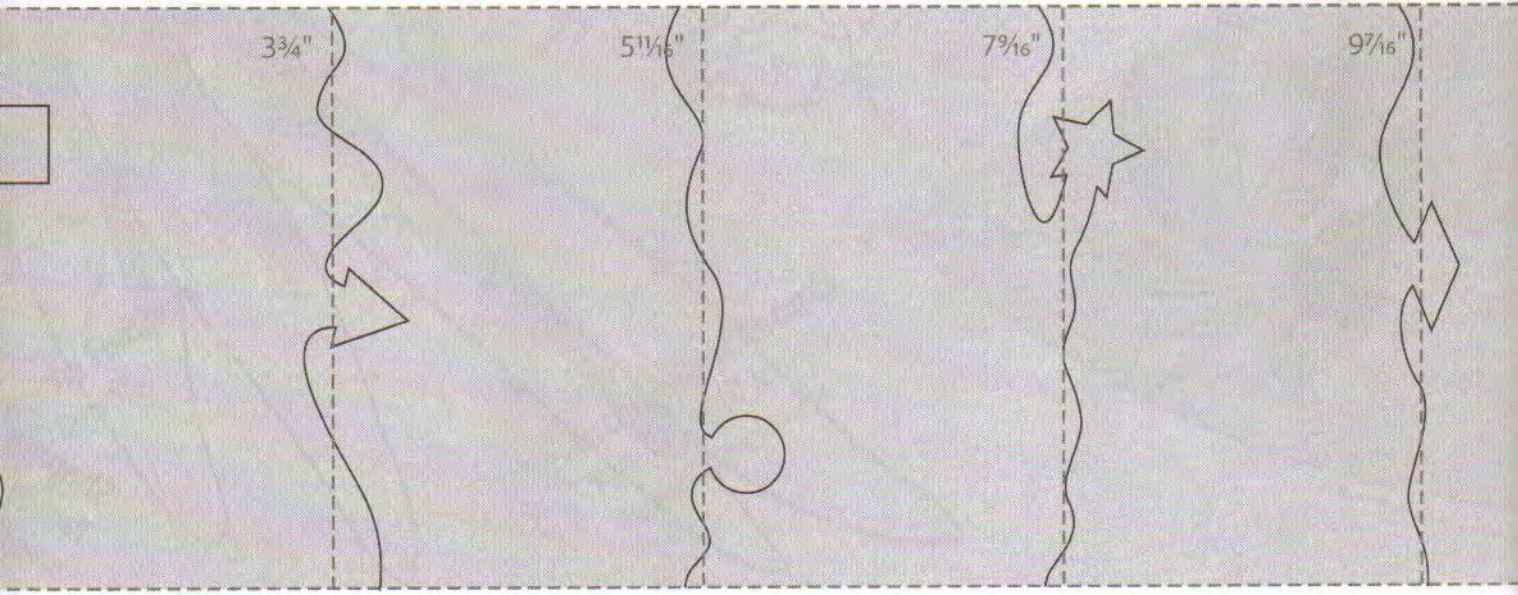


7A

PC  
ce  
(oi

hal  
Copy  
tape tog  
tt

Position of  
outer cleat  
(other side)



3 3/4"

5 11/16"

7 9/16"

9 7/16"

8A

1/4"-diameter  
holes (2)



3/64"-diameter holes (3)  
countersunk



Center

3/64"-diameter holes (2)  
countersunk



Outer c

### Lucky Charms Name Puzzle

Page 46 - SSWC Issue 63

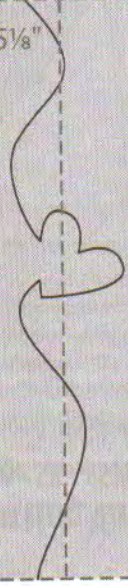
Designer: Tim Gilman

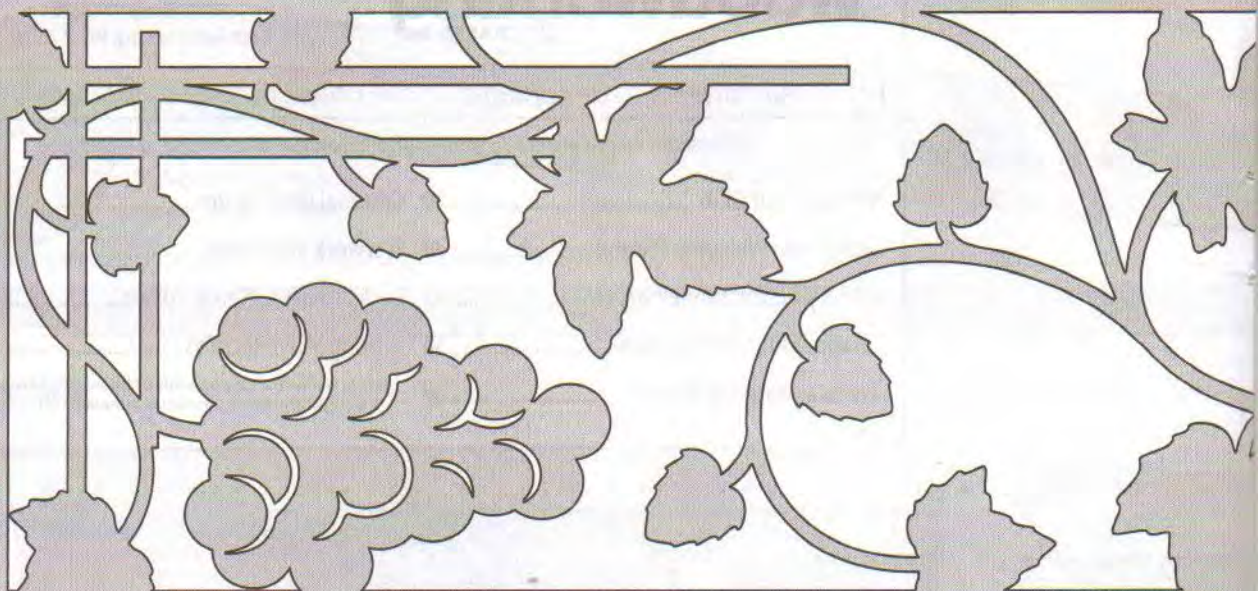
11 5/16"

13 3/16"

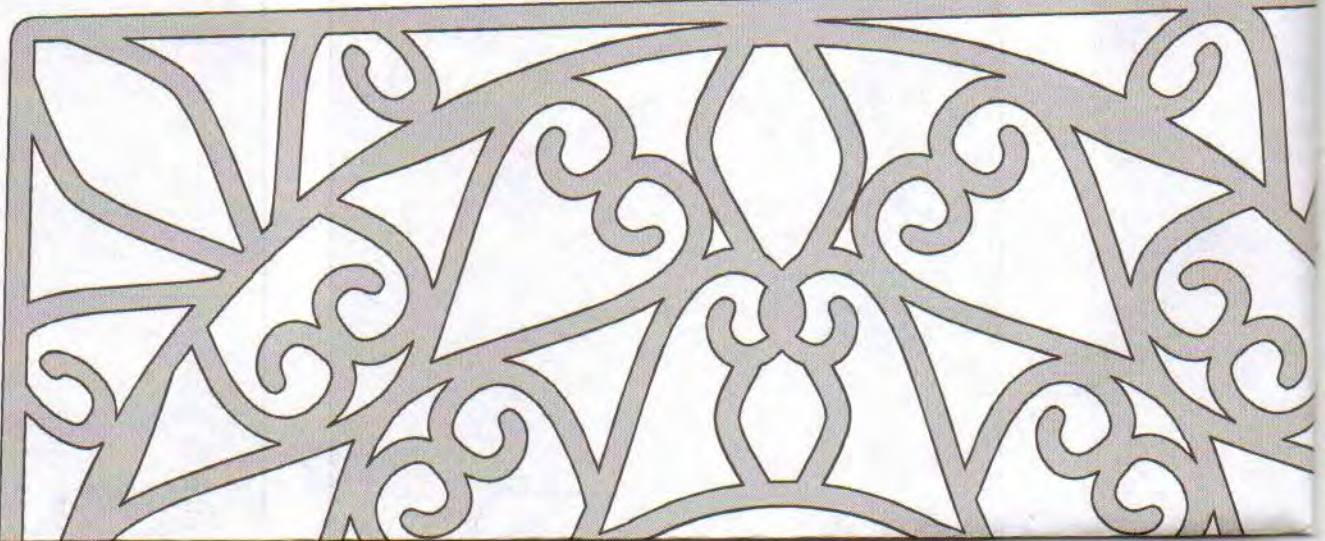
15 1/8"

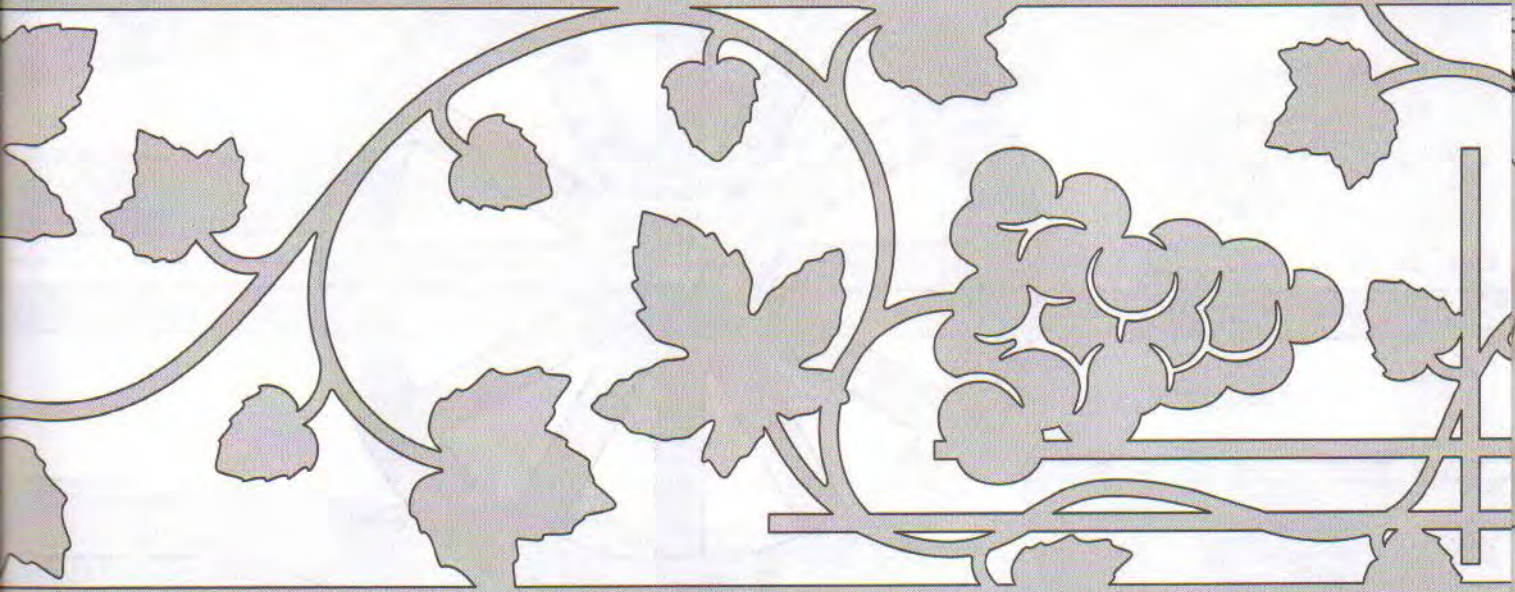
17"



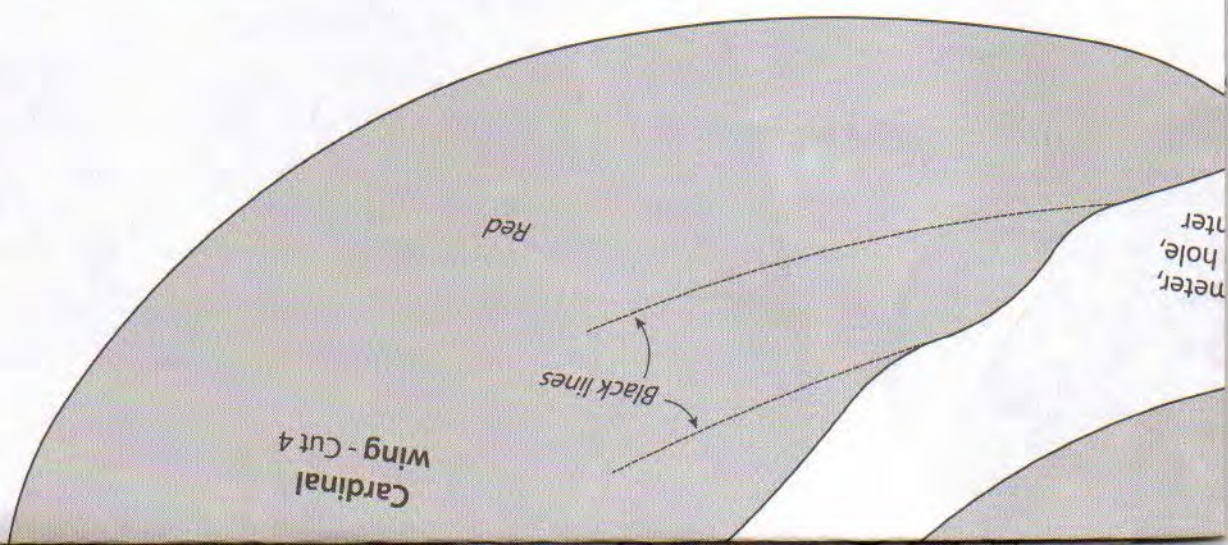


W E S T





C O M E



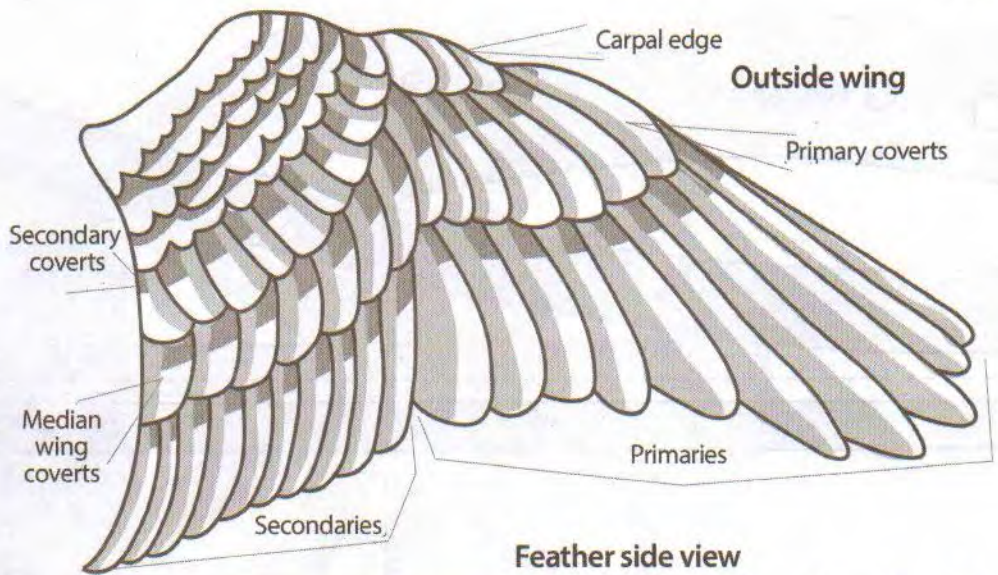
Cardinal  
Wing - Cut 4

Red

Black lines

meter,  
hole,

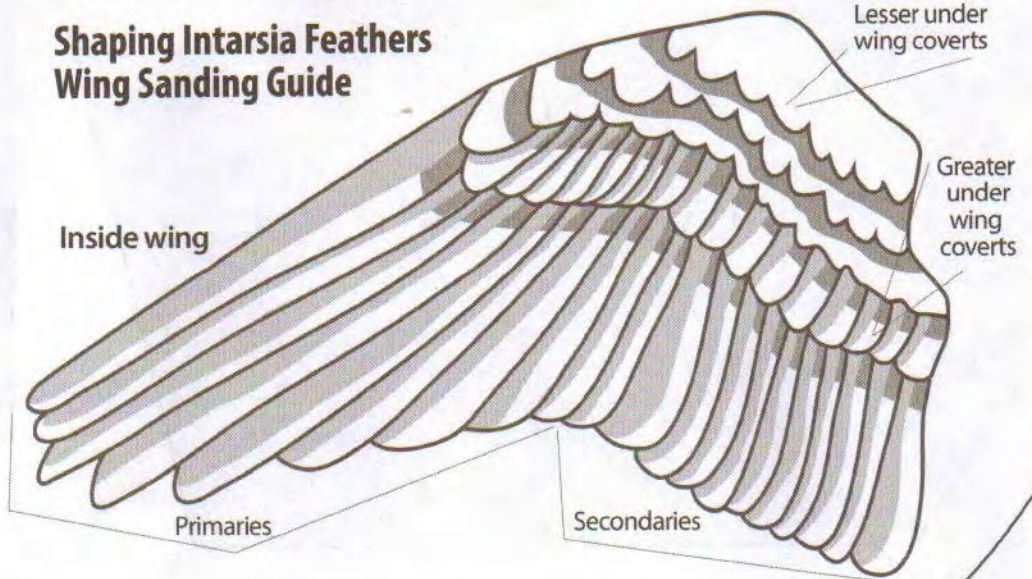
Use dotted line for cutting the backer.



Feather side view



### Shaping Intarsia Feathers Wing Sanding Guide



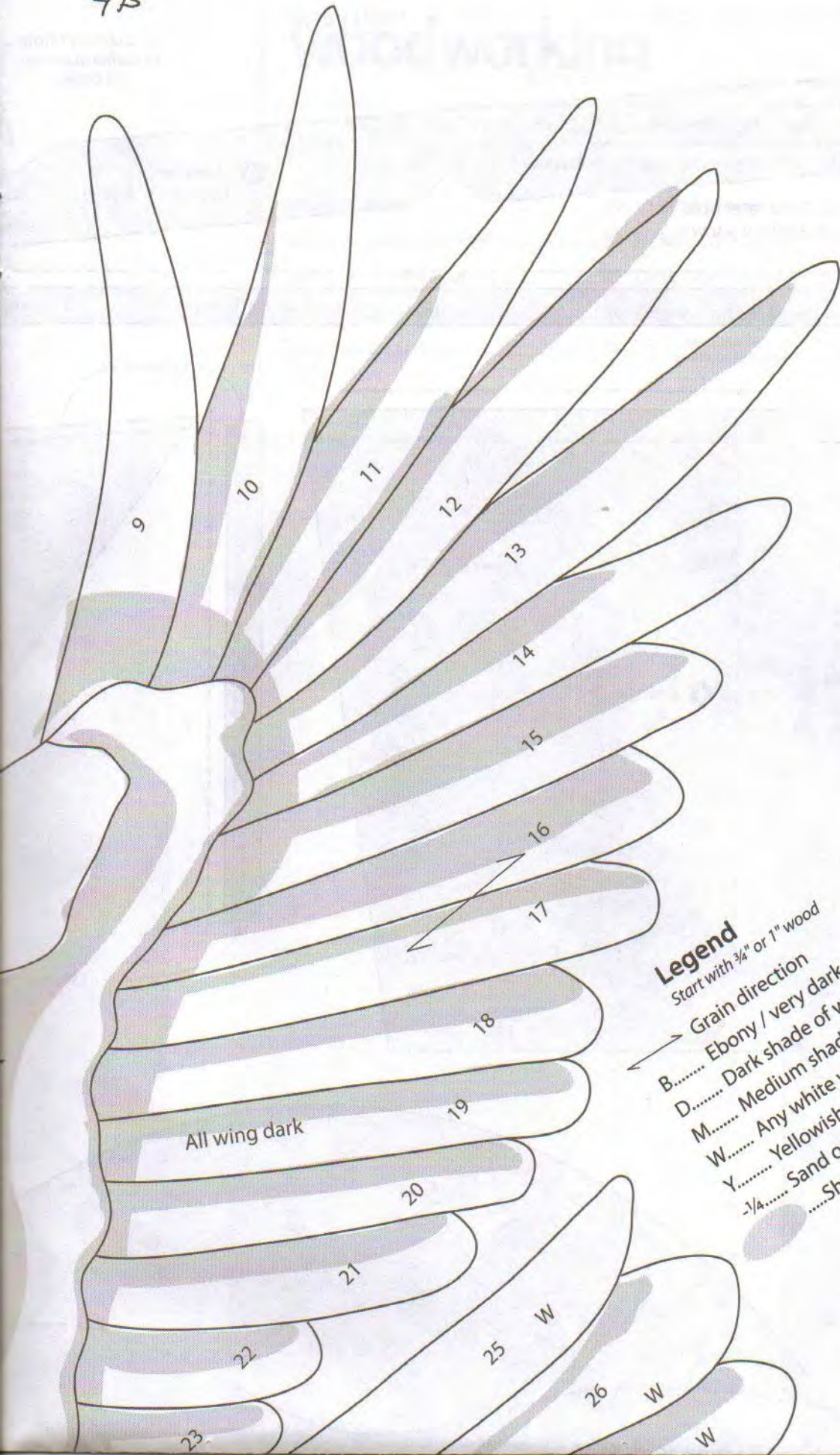
### Grapevine Welcome Plaque

Page 30 - SSWC Issue 63

Designer: Keith Fenton

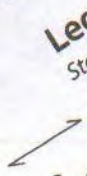
1/4"-dia  
1" deep  
on ce

Red



**Legend**

Start with 3/4" or 1" wood



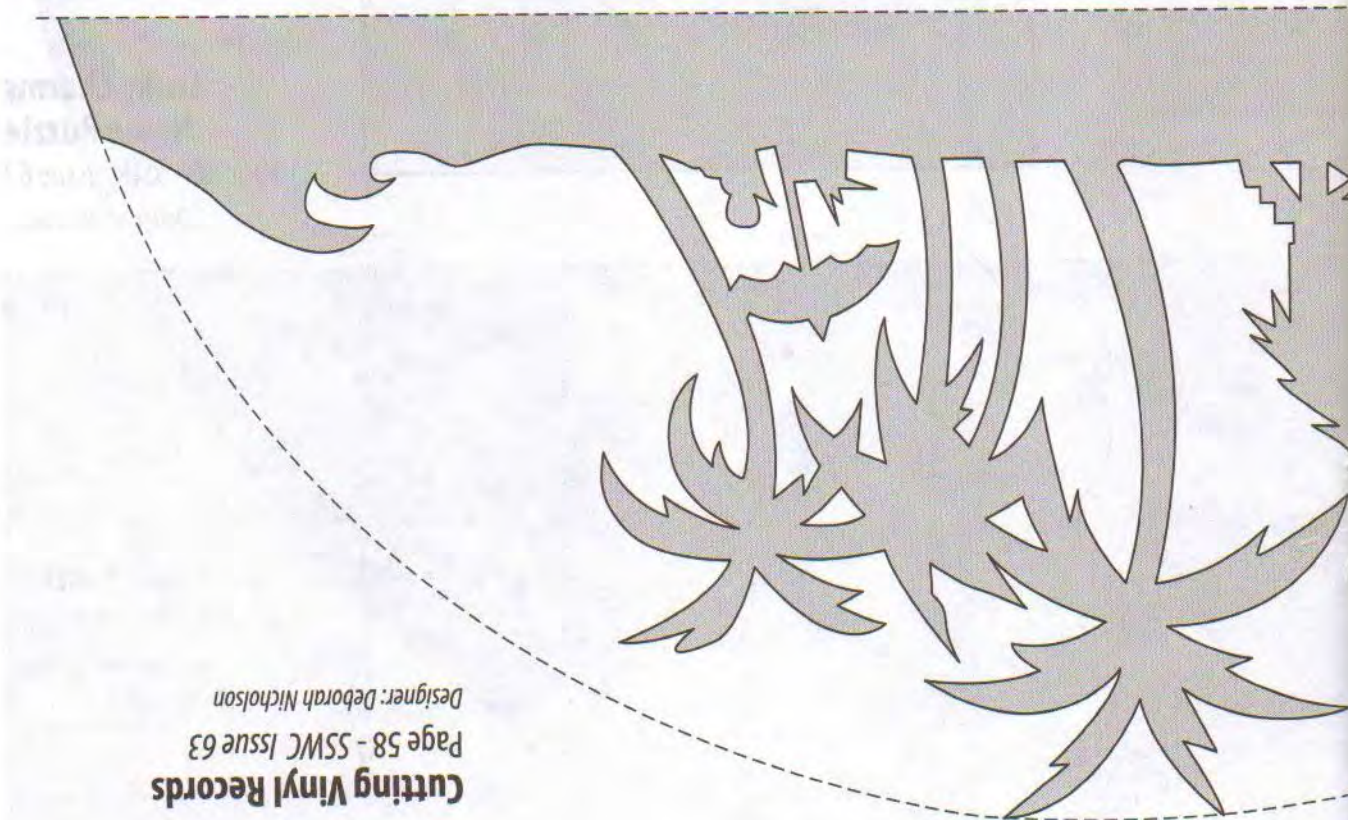
Grain direction

- B..... Ebony / very darkest shade
- D..... Dark shade of wood
- M..... Medium shade of wood
- W..... Any white wood
- Y..... Yellowish wood
- 1/4..... Sand or plane down 1/4"
- ..... Shaping guide

All wing dark

tail feathers -1/4

**Diamond Scrolls Wall Clock**  
Page 43 - SSWC Issue 63  
Designer: Sue Mey



**Cutting Vinyl Records**  
Page 58 - SSWC Issue 63  
Designer: Deborah Nicholson



6B

**Cardinal Bird Feeder**  
Page 40 - SSWC Issue 63  
Designer: Paul Meisel

1/8"-diameter hole

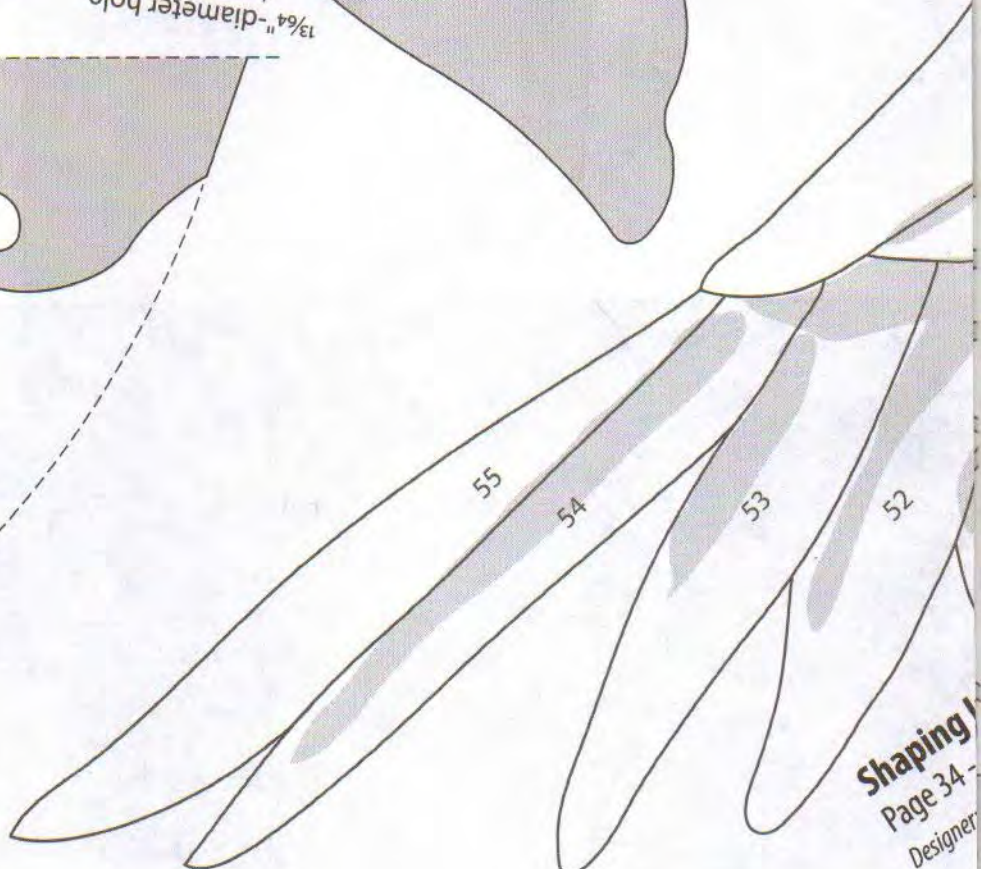
Black

Natural

Red

13/64"-diameter hole

Red



**Shaping**  
Page 34 -  
Designer

7B

Cardinal body - Cut 2

Position of wing

Woodburn beak detail

57  
All wing - 1/4"

All wing dark

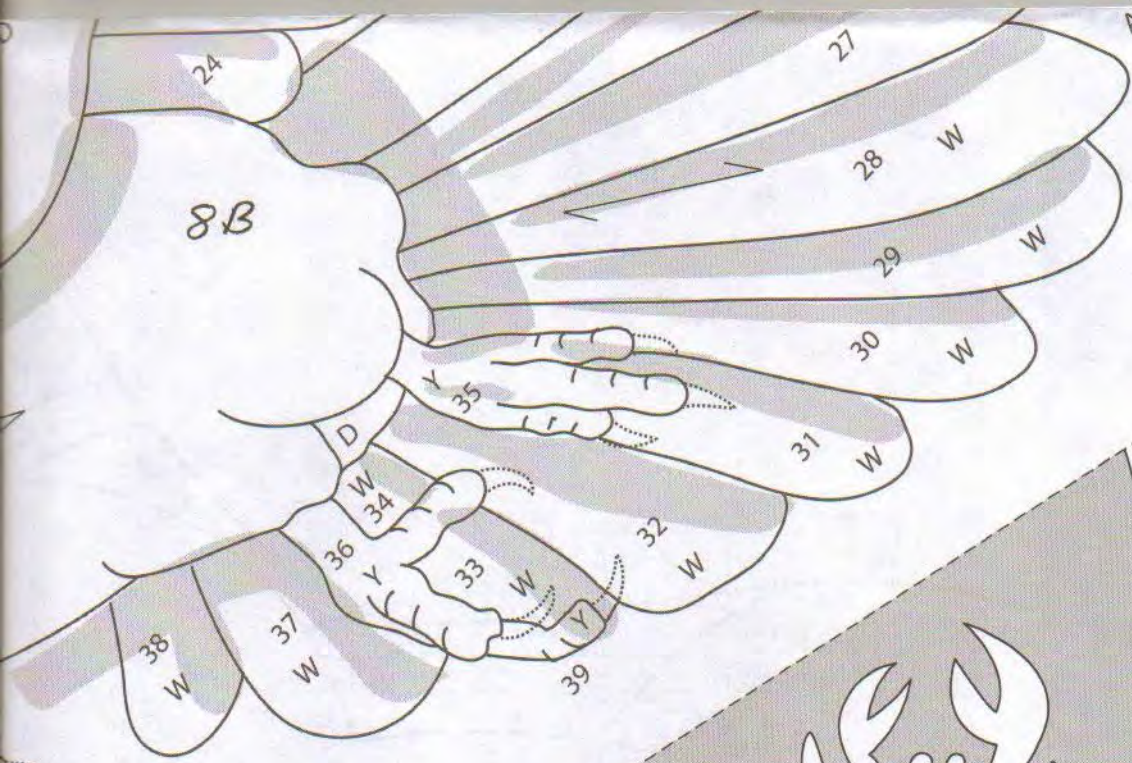
Black talons overlays

Eye detail

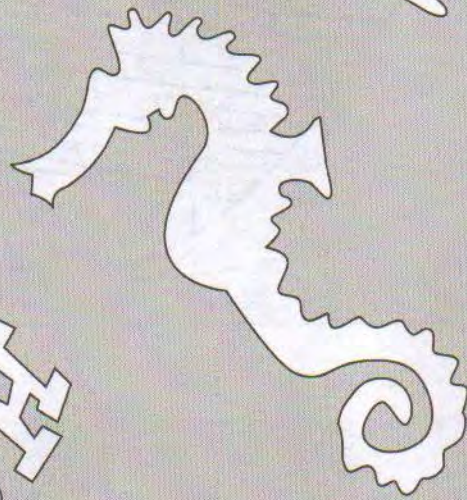
Antarsia Feathers  
SSWC Issue 63  
Kathy Wise

Cutting Vinyl Records  
Page 58 - SSWC Issue 63  
Designer: Deborah Nicholson





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Some photocopiers and home printers can distort patterns when you print them, making them slightly off-size or stretching the image. Use the 1" bar printed below as a guide when copying the patterns and hold the photocopies of the pattern up to the original to check for any distortion.



One inch