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SUMMER 2020
ISSUE 79

SCROLLSAW Woodworking & CRAFTS

25 Sizzlin'

PATTERNS &
PROJECTS

**Tree Frog
Intarsia**

**Stacked
Sunburst
Fretwork**

**3 Feisty
Flamingos**

**Easy Double
Bevel Inlay**

PLUS

**Kid-Friendly
Popsicle Toy Set**



*Red-Eyed
Tree Frog
by Janette
Square
(p. 17)*

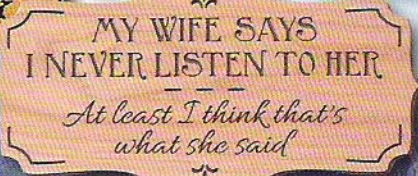
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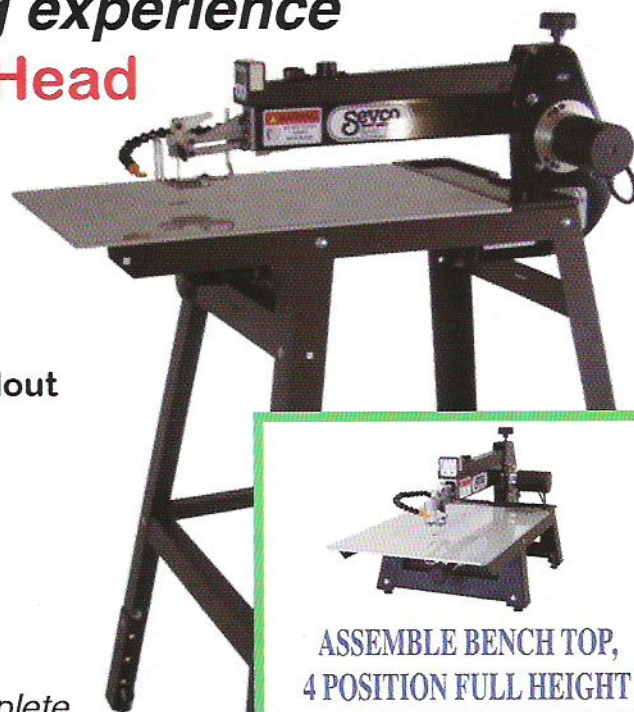
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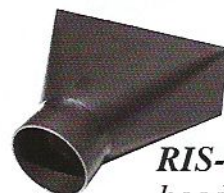
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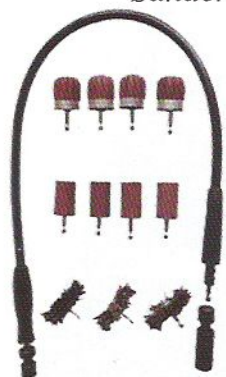
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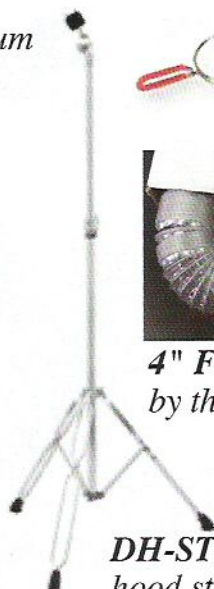
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Straightforward mechanism lets you skip right to the details in this whimsical scene

By Wanda Sowry

Find these free extras at

SCROLLSAWER.COM

• Bonus Video

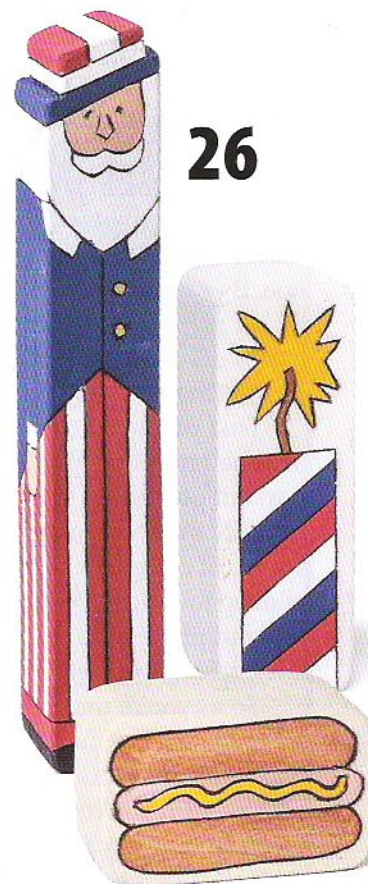
See Wanda Sowry's Frog Pond Automaton (page 60) in action!

• Extra Pattern

Download a bonus Hot-Air Balloon Puzzle pattern (page 57).

• Wood Profiles

Learn more about how to handle different kinds of wood in our How To section under Materials for Beginners.



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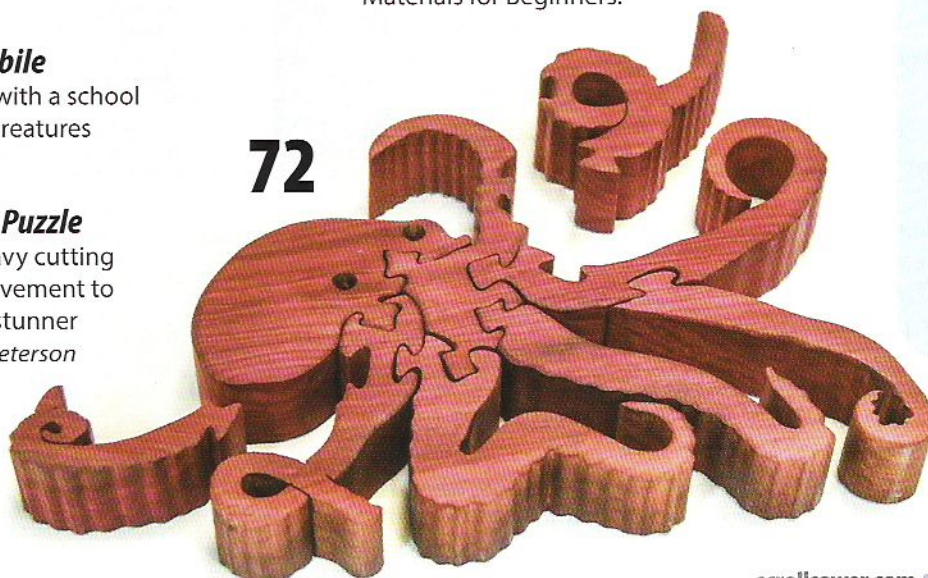
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The Perfect Getaway

For me, getting into the vacation mindset is a process. As someone who lives by written lists, both at home and at work, I find forced R&R mysterious at best and maddening at worst—at least on day one. By day two, my pace has slowed slightly. By the end, with any luck, I will have adjusted to accept whatever gifts the time away has to offer—namely, the opportunity to catch up with myself, so I can bring a better version of me back into the real world.

Isn't this what time in the workshop does, if we let it? The intense focus on a project, whether you're cutting a 500-fret portrait or finding that perfect contour on an intarsia piece, actually induces something psychologists call the "flow state"—a state of complete absorption in a task you care about. This state of deep focus can reduce blood pressure and stress; it can even seem to make time stand still. If all goes well (and sometimes even if it doesn't), you return better than you left.

So as you're making Jaime Costiglio's adorable popsicle toy set (page 21) or Charles Hand's stunning sunburst fretwork (page 38), and find yourself hankering for sand dunes on a distant beach—or if you're assembling Sue Mey's four-part Eiffel Tower (page 36) and dreaming of Paris—or even if you're envying the rainforest perch of Janette Square's red-eyed tree frog (page 17)—I offer this encouragement: all the projects within these pages can serve as little getaways in themselves. As the SSWE&C team has discovered after many hours in our own shop, the vacation mindset is achievable anywhere—and sawdust can be as much a balm for the soul as sand.

Happy scrolling!



Kaylee Schofield,
Managing Editor
editors@scrollsawer.com

Also, an important announcement:

Due to travel restrictions put in place to stop the spread of the coronavirus, the staff has made the difficult choice to postpone our housewarming event of May 1-2, 2020. We plan to reschedule for later in the year. Stay tuned for more updates in future issues!



Celebrate the season of the sun
as you scroll layer upon layer of
Charles Hand's glorious Geometric
Sunburst (page 38).



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SCROLLSAW woodworking & CRAFTS

Printed in the USA

SUMMER 2020
Volume 21, Number 2, Issue 79
scrollsawer.com

Our Mission

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

Publisher Alan Giagnocavo
Managing Editor Kaylee Schofield
Editorial Assistant Hannah Rachel Carroll
Art Director Jon Deck
Social Media Manager Stephanie Jordan
Contributing Photographer Mike Mihalo
Technical Illustrators Jon Deck, Carolyn Mosher

Chief Operating Officer David Miller
Vice President, Sales Michele Sensenig

Customer Service for Subscribers

Visit scrollsawer.com, call 888-840-8590, or write to
Scroll Saw Woodworking & Crafts, Subscriber Services,
903 Square Street, Mount Joy, PA 17552

Newsstand Distribution: Curtis Circulation Company
Circulation Consultant: National Publisher Services
Printed by Fry Communications

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Subscription Rates in US Dollars

One year \$29.99
Two years \$59.98

Canada

One year \$34.99
Two years \$69.98

International

One year \$39.99
Two years \$79.98

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Wholesale/Distribution

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on advantageous terms. Contact Fox Chapel Publishing Sales at
sales@foxchapelpublishing.com (800-457-9112 x115).

Identification Statement: Scroll Saw Woodworking & Crafts, vol. 21, no. 2
(SUMMER 2020) (ISSN#1532-5091) is published quarterly by Fox Chapel
Publishing Co. Inc., 903 Square Street, Mount Joy, PA 17552.

Periodicals Postage paid at Lancaster, PA and additional mailing offices.
POSTMASTER: Send address changes to Scroll Saw Woodworking & Crafts,
903 Square Street, Mount Joy, PA 17552.

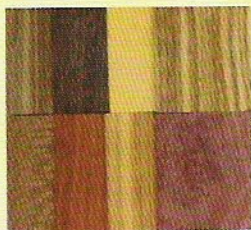
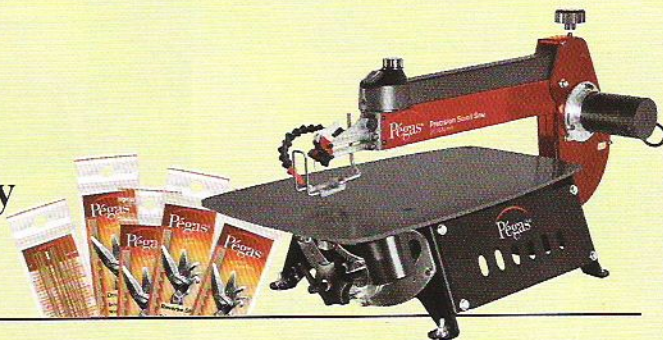
Publication Mail Agreement #40649125
Return Undeliverable Canadian Addresses to:
Station A, PO Box 54, Windsor, ON N9A 6J5
shannon@foxchapelpublishing.com

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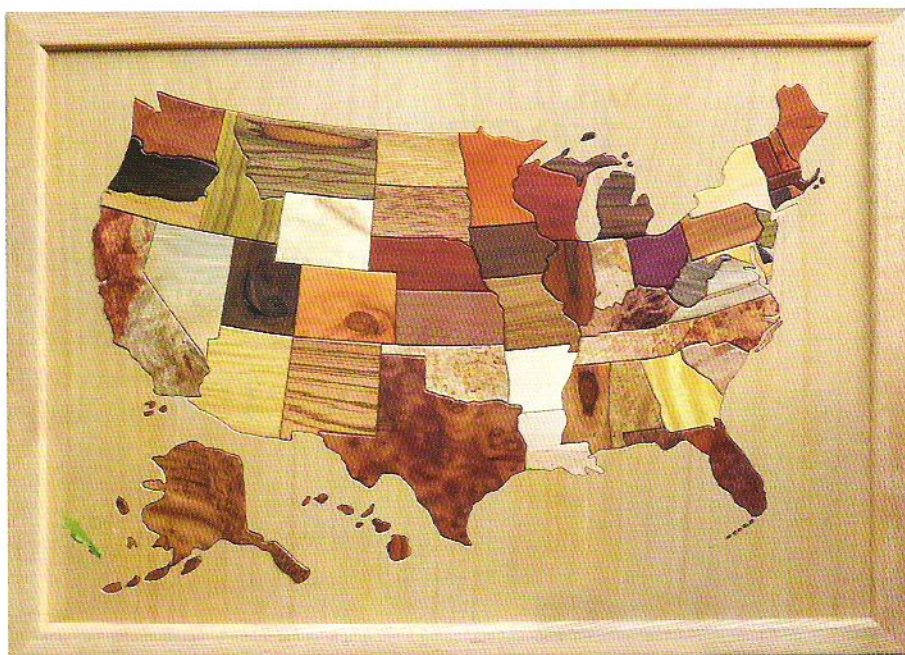
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Russell Anderson

Milwaukie, Ore.

Inspired by Dave Peck's early marquetry work, Russell Anderson picked up his first scroll saw nearly four decades ago. Having always admired maps, Russell started turning road maps of states and countries into intarsia patterns. With over 500 wood species and a plethora of patterns at his disposal, Russell can turn almost any location into a stunning work of art. Find his work on Etsy @misterrusswood.



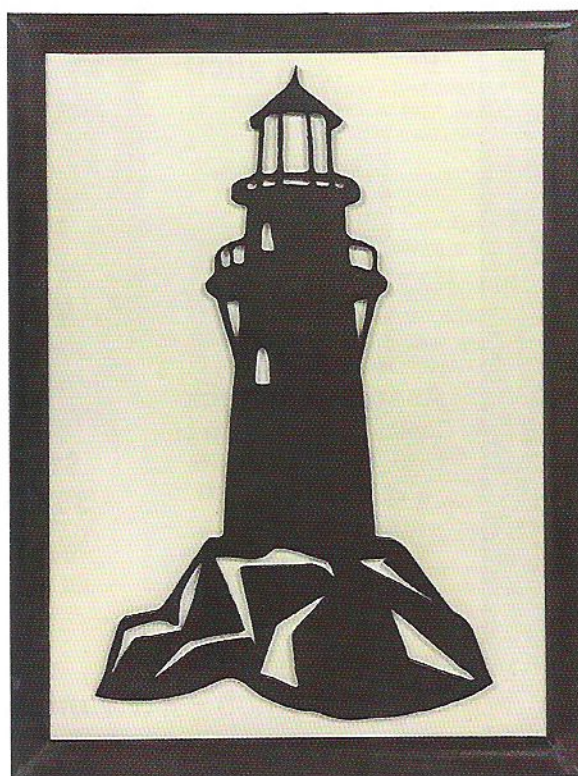
Reywiak Sandrine *Beziers, France*

Artist Reywiak Sandrine started her career working primarily with paint, then felt compelled to create pieces from wood. For the past year, she has been focusing on the art of intarsia. Using bold colors and realistic textures, Reywiak brings animals like tigers, horses, and this green parrot to life. Follow her on Instagram @reywiak.



Zac Horan *Huntley, Ill.*

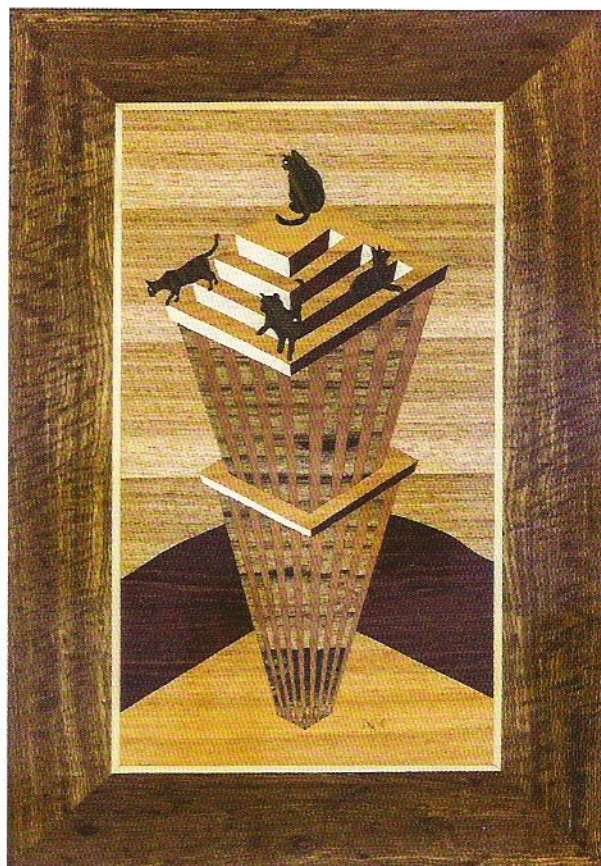
The three-member team of Zac Horan, Mitch Deem, and Steven Marcin make up Grey Wolf Customs, a business specializing in custom furniture and home décor. Each member of the team brings his own woodworking experience and artistic point-of-view to the items they create, which range from turned pieces to cutting boards to company logos. Zac designed, cut, and painted this lighthouse. See more from Zac, Mitch, and Steven on Facebook @Grey Wolf Creations.





Michael Cheshire *Queensland, Australia*

"I love numbers and shapes," said optical illusion artist Michael Cheshire. Michael harnesses that love to create impossible figures with intricate veneers. His most complicated piece to date, *The Cats in the Tower*, measures 15" by 27" (38.1cm by 68.6cm) and was made from hoop pine, copper walnut, Queensland maple, and other trees native to his home. Follow Michael on Facebook @woodenartzillmere to see more of his optical illusions.



Jessie Panasyuk *Edmonton, Alberta*

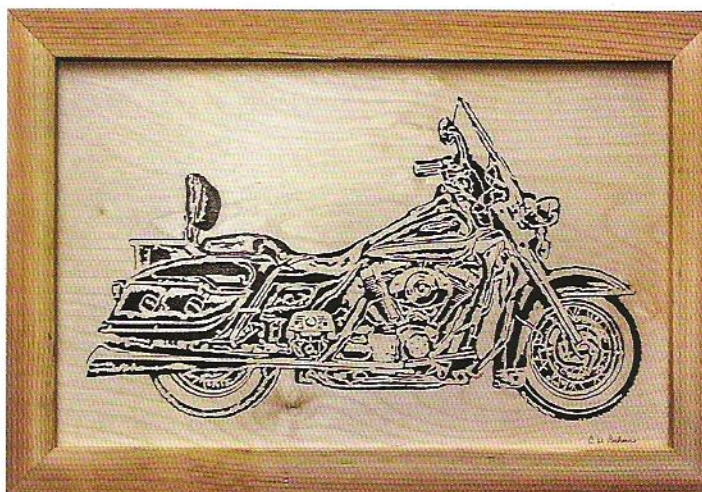
Jessie Panasyuk has come a long way since first setting up a scroll saw in the kitchen of her apartment. Now, Jessie is a full-time scroll saw artist and proprietor of The Pine Canvas, a keepsake art and ornament shop. Her botanical fretwork wall pieces reflect her love for nature and the environment. See more from Jessie on Etsy @ ThePineCanvas.



Curtis Parham

McAlester, Okla.

76-year-old Curtis Parham has been scrolling for six years—ever since he got his beloved Excalibur scroll saw. He scrolled this Harley Road King pattern by Andy Dean from 1/8" (3mm) Baltic birch plywood and completed it with a rough cedar frame. Curtis makes fretwork pictures and portraits, puzzles, and crosses, giving them as gifts to family and friends.



Share Your Latest Work!

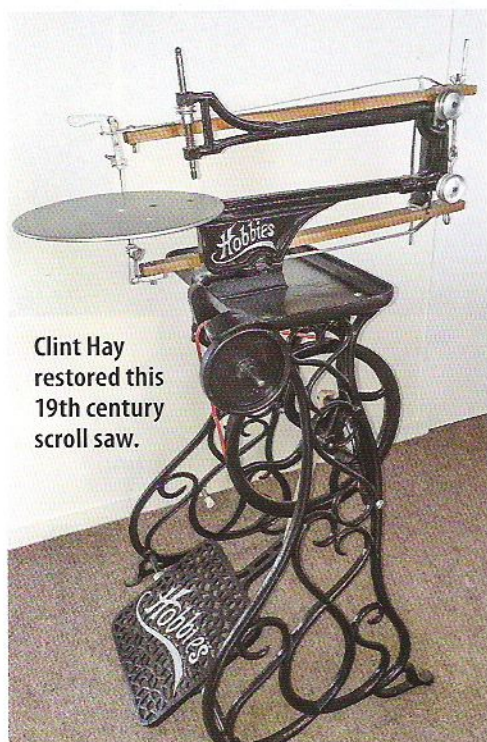
Send a slide, professional print, or digital image (300 dpi minimum) with 100 words about you and your piece. Include your hometown, the name of the pattern maker, and a list of wood and materials used. Send to Reader Gallery, *Scroll Saw Woodworking & Crafts*, 903 Square Street, Mount Joy, PA 17552 or e-mail editors@scrollsawer.com.

Scroller of Dragons

When I saw Sue Mey's dragon pattern in the summer 2019 issue (#75), I knew it would be perfect for a friend of mine who loves dragons and the color purple. I hope you like the result as much as she did!

Stephen Soldoff *Rancho Palos Verdes, Calif.*

Sue Mey's dragon continues to be a popular project.

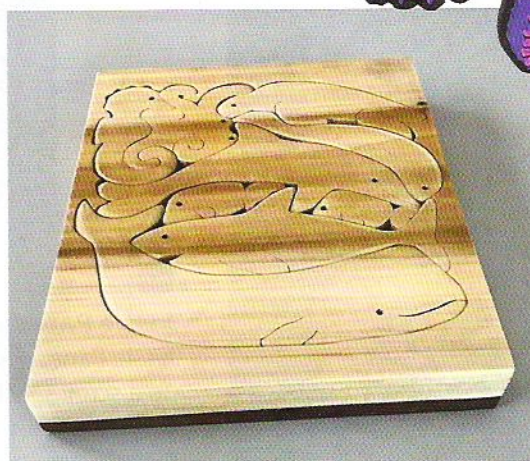


Clint Hay restored this 19th century scroll saw.

Antique Saw Restored to Former Glory

I received this Hobbies Imperial fret saw as a gift and immediately saw the potential! While online research was difficult, a few collectors dated it to the late 1890s. I'm a mechanic by trade, so I was determined to get the saw in working order. I salvaged what I could of the original and replaced the damaged parts with new ones I made in my workshop. The wood was in excellent condition; all it needed was a light sanding and a few coats of linseed oil. I plan on bringing the saw to craft shows so I can demonstrate historical sawing techniques—after I practice a bit!

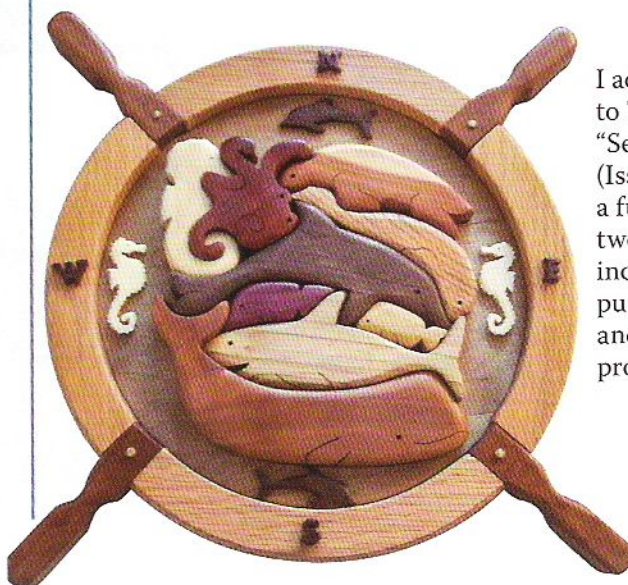
Clint Hay *Auckland, New Zealand*



Plenty of Fish in the Sea

I'd like to share my version of Tomer Markowitz's "Sea Creatures Puzzle" from the summer 2019 issue (#75). I used poplar with a black walnut backer to make this puzzle for my young grandson.

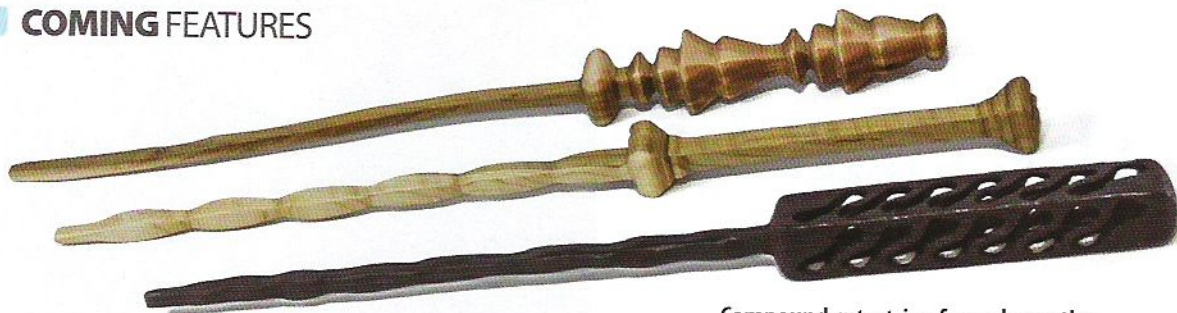
Joe Nemitt *Toronto, Ohio*



I added a nautical frame to Tomer Markowitz's "Sea Creatures Puzzle" (Issue #75), turning it into a fun wall piece. I used twelve different woods—including cherry, maple, purpleheart, and walnut—and gave the finished project to my grandson.

Steve Rutledge
Winter Haven, Fla.

Write to Us! Tell us your thoughts on our projects, ideas for new patterns, scrolling experiences, and woodworking show stories. Write to us at: Letters to the Editor, *Scroll Saw Woodworking & Crafts*, 903 Square Street, Mount Joy, PA 17552 or e-mail editors@scrollsawer.com. You can also send us your letters and photos via Instagram! Tag us [@scrollsawwoodworking](https://www.instagram.com/scrollsawwoodworking).



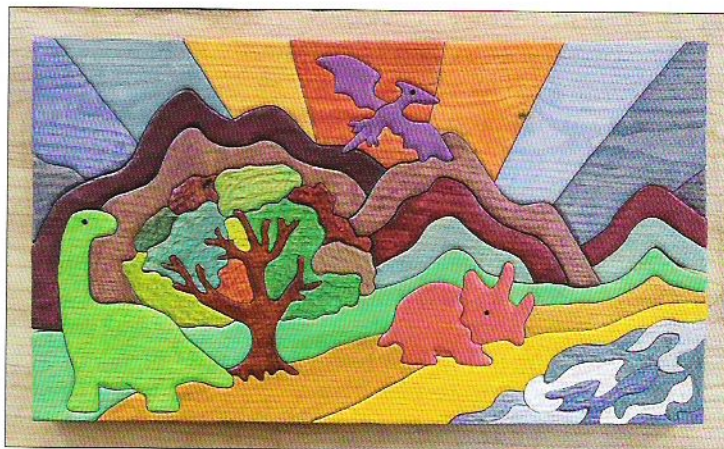
Look for the Fox Hunt Winners on Page 70!



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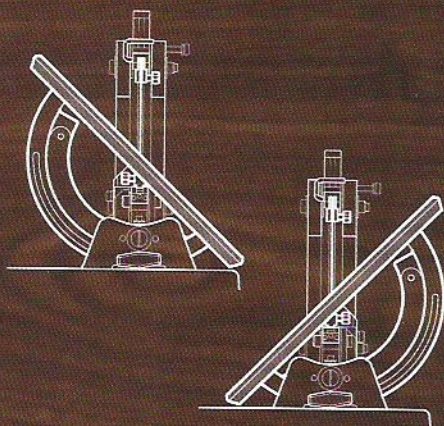
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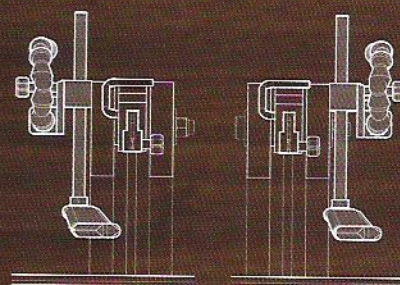


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All in the Family

Young sisters take to the scroll saw with ease

By Hannah Rachel Carroll

Need proof that the future of scrolling is in good hands? Look no further than Courtney and Brook Barnhart.

The Gen Z sisters from Zanesville, Ohio, have each been sawing for more than a year. Courtney, 13, enjoys scroll saw because it continuously challenges her.

"Courtney dislikes making the same piece twice," said Courtney's mother, Heather Barnhart. "She wants to do a new project each time."

Her daughter's goal is to create a 400-fret piece on the scroll saw. Most recently, Courtney's scrollsawn buffalo *Tatanka* won first place at a local art show. She has sold several pieces, including her buffalo, at markets, fairs, and online.

"She cut *Tatanka* entirely with spiral blades, which makes it even more intriguing," said Charles Hand, who designed the original pattern. "Many seasoned scrollers will not attempt this level of challenge, yet Courtney welcomed it with open arms."

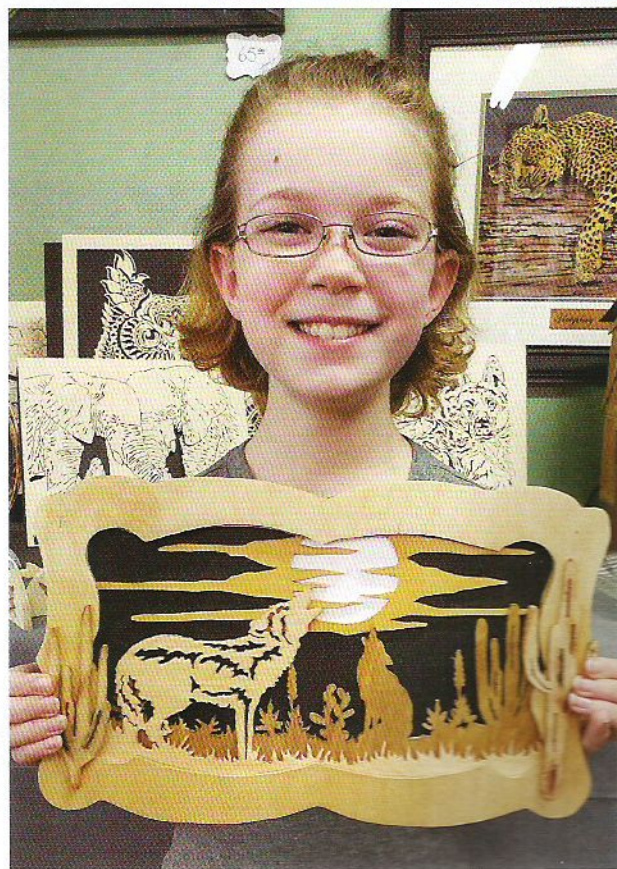
Courtney also shares her passion for the craft by helping others learn how to saw. She jumped at the chance to bring her best friend to her teacher and mentor's shop.

"Courtney quickly advanced and can tackle just about anything I push her to cut," said Thomas Taylor, Courtney and Brook's scroll saw teacher. "Her sister Brook tends to lean toward projects that can be done fast with immediate results, so keeping work prepped for her is a challenge in itself."

Brook, 11, said the most important lesson she has learned from Thomas is to take her time. Unlike her sister, Brook is happy to saw the same piece over and over, "as long as you are willing to pay her for it," joked Heather. "She is my little entrepreneur."

Heather added that Brook recently won first and third place in a local art contest for her *Tree of Life* and *Howling Wolves*, respectively.

"Their father and I are extremely proud," said Heather. "Our young ladies are fearless when it comes to trying new things. We can't wait to see what the future holds for them."



Courtney (above) and Brook (left) display award-winning pieces. The scrolling sisters seem to accept any challenge when it comes to their craft.



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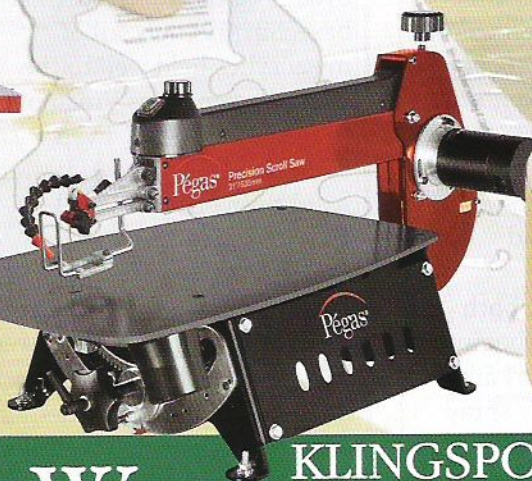
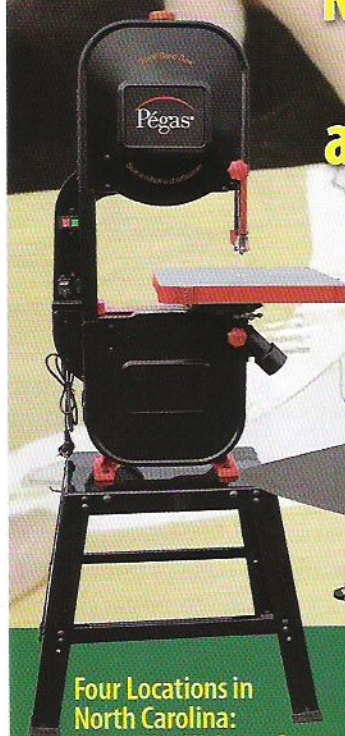
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COLORSHOT Spray Paint

Skip the priming step with this stylish
(and eco-friendly) 2-in-1 finish

By Lora Irish

MSRP: \$6 per 10oz. can
Mycolorshot.com

When SSW&C asked me to review COLORSHOT® Spray Paint, an eco-friendly, fast-drying paint and primer combination, I was delighted to say yes. As a scroller and carver, I often accent my work with bright, colorful acrylic paints. The idea of having a spray-on paint and primer—better yet, one without any toxic drying chemicals or petroleum-derived propellants—seemed perfect.

What Makes COLORSHOT Special?

First, COLORSHOT makes the following claims on their website:

- It is a paint-and-primer combination that does not require any independent priming steps
- It works on a variety of surfaces, including wood, metal, plastic, concrete, terra cotta, and glass
- It can be used for both indoor and outdoor projects
- It becomes dry to the touch in ten minutes

Rooting through my boxes of half-finished projects, I came across several ice fishing decoy body blanks worked out of basswood. Since fish come in all colors, these suited the review well. *Note: If you prefer colorful fish of the fretwork variety, try COLORSHOT on Bill Miller's Tropical Fish Mobile (page 68)!*

General Notes

As the product promised, I got a smooth, solid coloring with one coat of spray, following the instructions on the can. Within ten minutes, both decoys were dry enough to handle so I could begin my accent coloring work. I will note here that I am not heavy-handed when it comes to using any spray product and was thoroughly delighted that one light, even coat made for the perfect application.

For the first fish, primed with COLORSHOT's Lucky Penny (metallic copper), I added detail using thinned white and grey acrylic paints. They went on smoothly, without grabbing to the grainy effect that spray paints often have. I finished the project with



COLORSHOT proved to be an effective base for Lora's decoy fish.

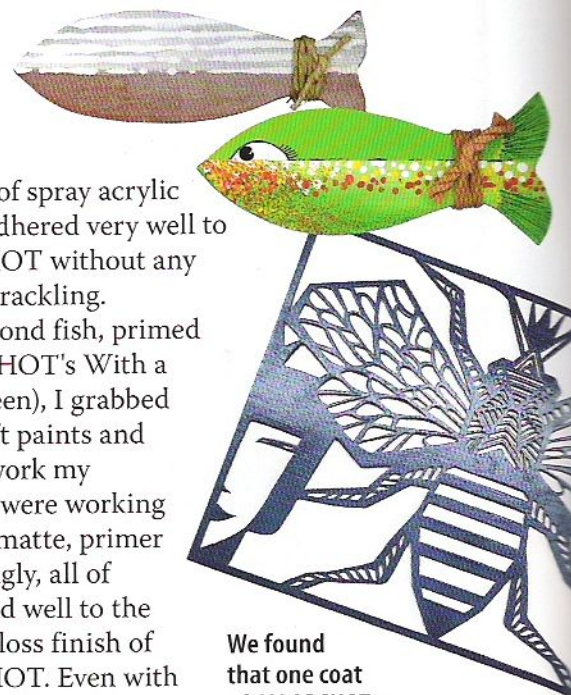
multiple coats of spray acrylic sealer, which adhered very well to the COLORSHOT without any cloudiness or crackling.

For the second fish, primed with COLORSHOT's With a Twist (lime green), I grabbed my acrylic craft paints and proceeded to work my coloring as if I were working over a regular matte, primer base. Surprisingly, all of my acrylics held well to the smooth, semigloss finish of the COLORSHOT. Even with my water-thinned acrylics, the paint didn't bead or peel off.

Conclusion

I was thrilled at how well this product enhanced my creations. COLORSHOT boasts a wide variety of colors that will work wonderfully as base primer coats for wooden projects, whether scroll sawn or carved. And at only one light coat for solid, smooth coverage, these COLORSHOT paint-and-primer spray paints will last forever—without harming the environment in the process!

Lora S. Irish is a scroller, carver, artist, author, and pattern designer. For more of her work, visit lsirish.com.



We found that one coat of COLORSHOT was plenty to give the Honeybee project (page 34) a rich hue.

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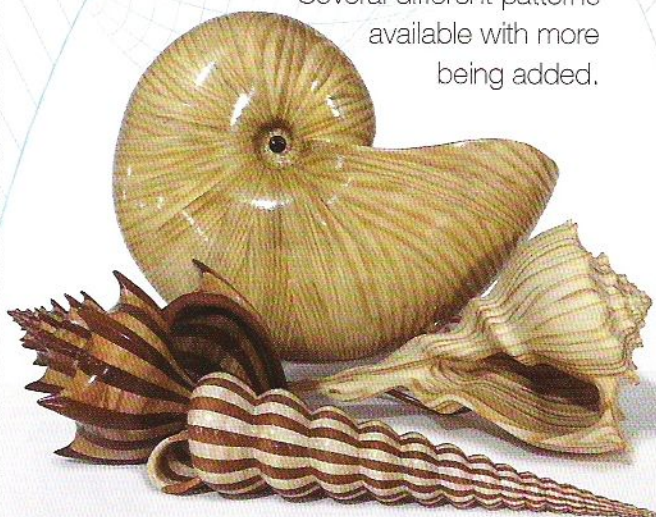
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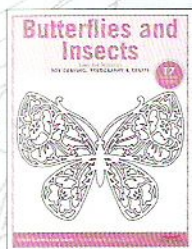
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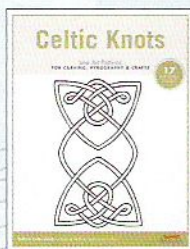
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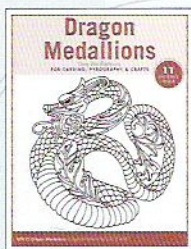
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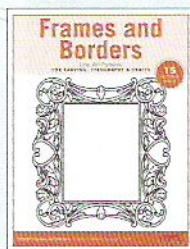
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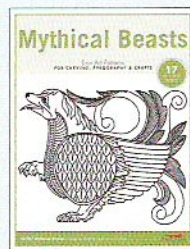
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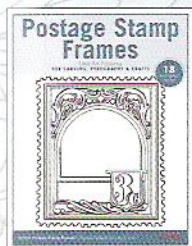
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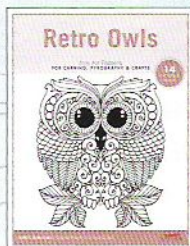
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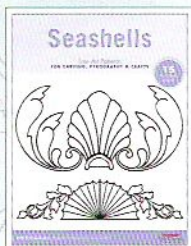
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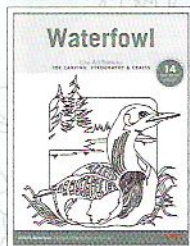
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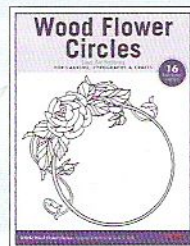
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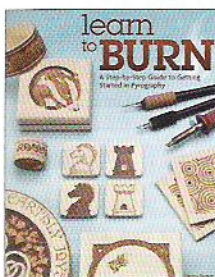


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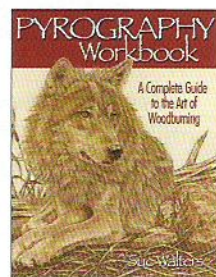


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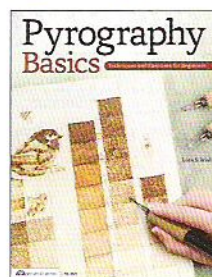
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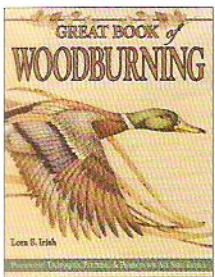
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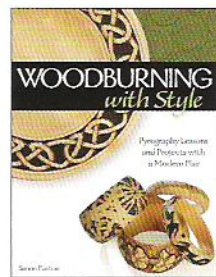
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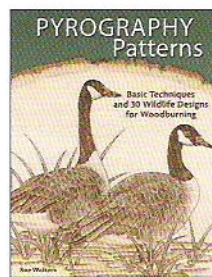
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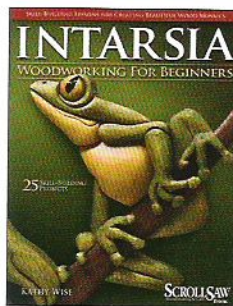


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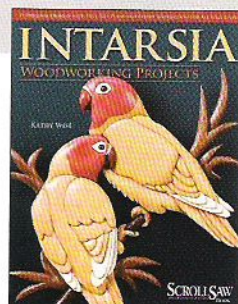
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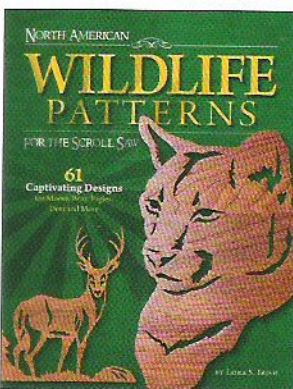
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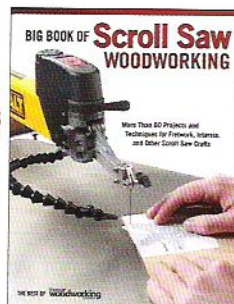
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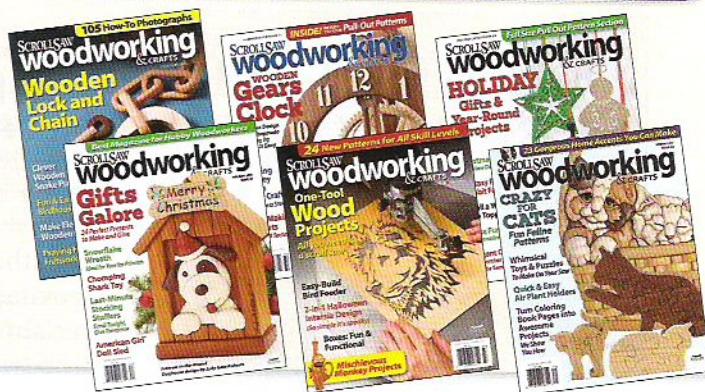
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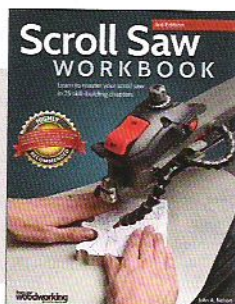
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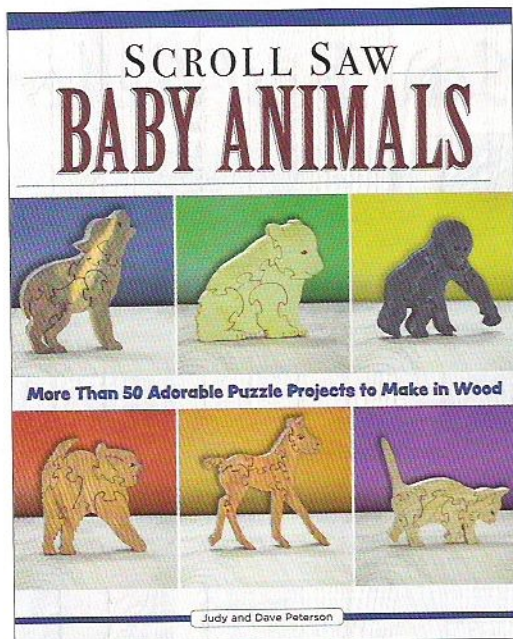


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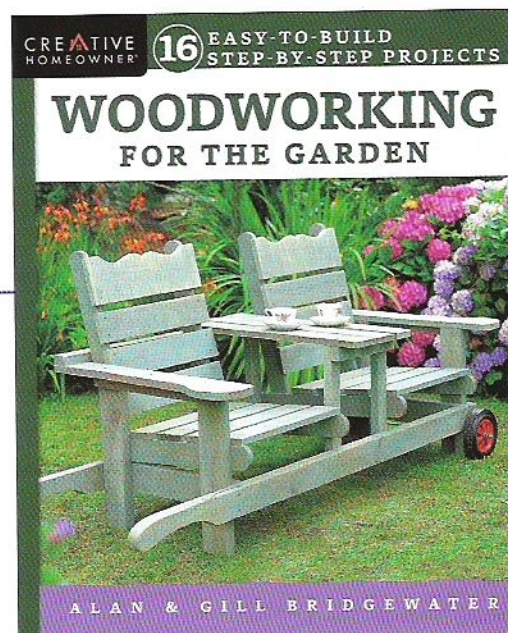
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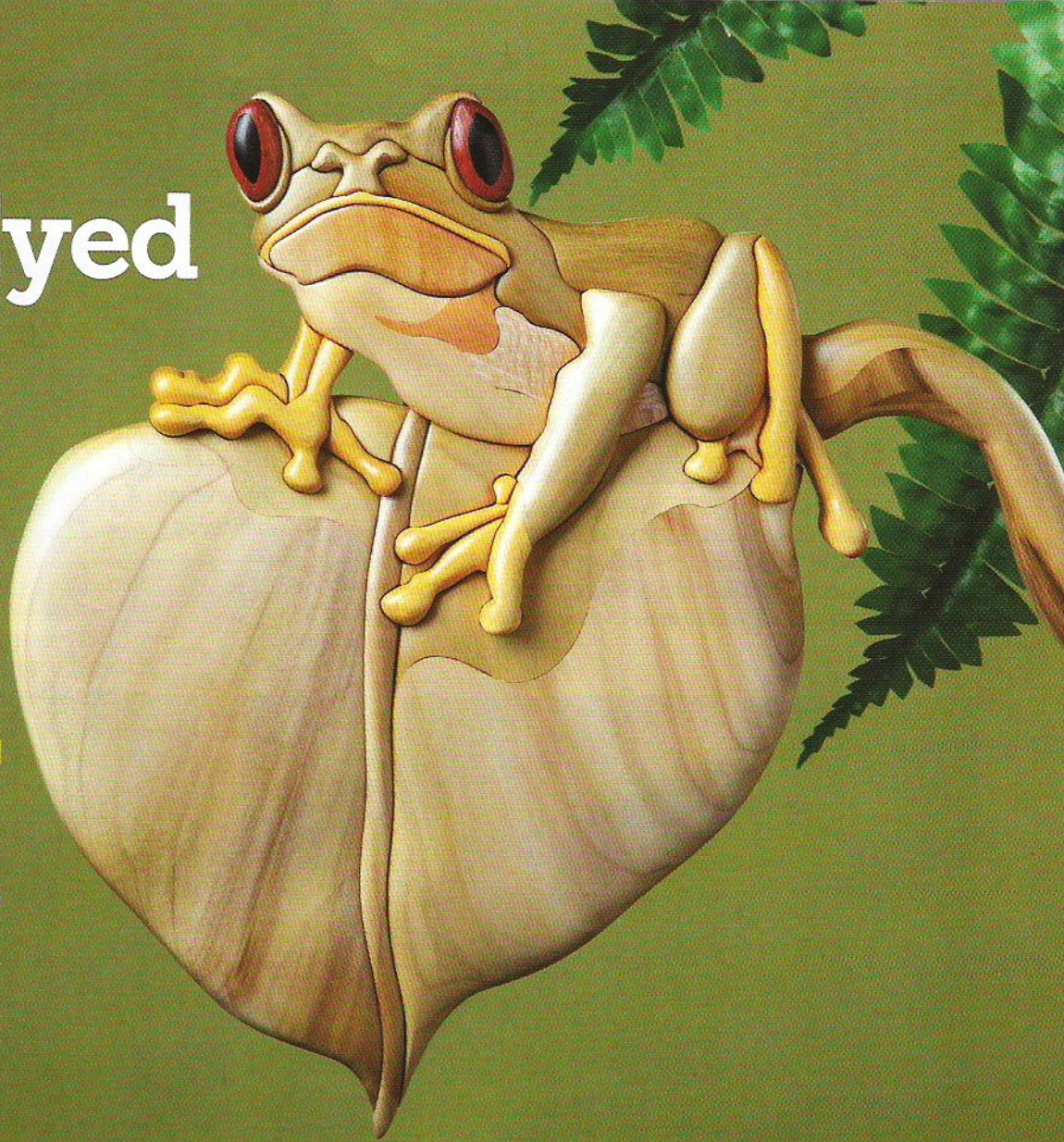
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Red-Eyed Tree Frog

Bring home a slice of tropical paradise with this bright-eyed intarsia climber

Text and step-by-step photos by Janette Square
Design by Bruce Worthington



The vividly colored eyes on tree frogs aren't just for show; the act of blinking actually helps them to swallow their food! These cute nocturnal creatures live in tropical rain forests, using their little suction-cupped feet to climb the massive trees in which they reside. Since they sleep stuck to the bottoms of leaves, I included a leaf for my version to perch on.

About Wood Sizes

With intarsia, the material sizes can vary greatly depending on the grain direction and actual look of the wood you are using. Sometimes that perfect grain and color might

be in the middle of a 6' (1.8m)-long board! The larger the piece of wood, the more options you have. The materials list represents approximate size needed, but this can vary depending on the orientation and placement of your pattern pieces. Keep this in mind when purchasing and preparing your components.

Getting Started

Make at least four copies of the pattern, saving the original to assemble the pieces on. Select the wood you plan to use and apply clear packing tape to the surface. Cut out all the pattern pieces and apply them to the tape using spray adhesive. *Note: Choose your wood based on color and grain orientation.* This project is a great way to use up small scraps that you've been saving. I've chosen to go realistic with my wood tones (yellowheart for the feet, poplar for the body, etc.), but you can go bold and fantastical, if you prefer.



CUTTING THE PIECES



1

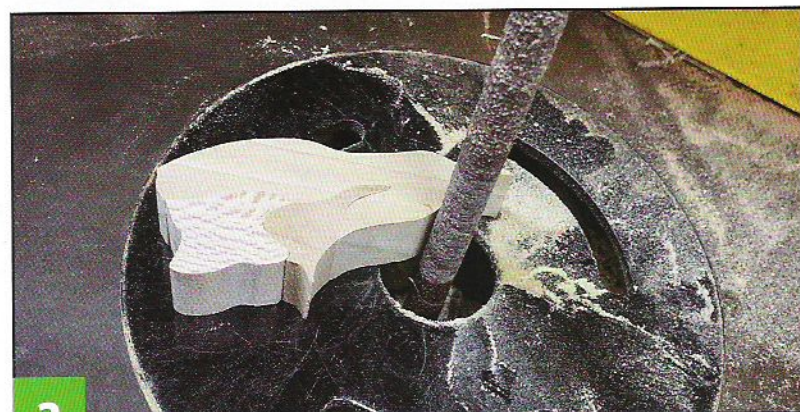
Drill blade-entry holes into the pupil parts of the eyes.

Use a 1/4" (6mm)-dia. drill bit. Make the inner cuts on the red parts of the eyes, and then cut the perimeters. I used a #7 reverse-tooth blade. Cut out the remaining project pieces. *Note: For tips on cutting curves effectively, see Making Perfect Curves at right.*

TIP

MAKING PERFECT CURVES

When going around tight or curvy corners, you produce a better cut by going past the curve, and then backing up to cut out a small hole. This gives the blade room to turn without flexing, which creates non-square edges. Nibble out around the curve and continue on.



2

Assemble the pieces and check the fit.

If any pieces don't fit well, use the smallest spindle on an oscillating spindle sander to go over areas that need adjustment. Use 80-grit sandpaper. Do this in very small increments and check your fit often. Sometimes, very hard woods like yellowheart can cause the blade to flex while you're cutting, creating a piece that flares out at the bottom. The spindle sander will square up the wood so that pieces fit at the top and bottom. Where the spindle doesn't fit, you can use the blade or a piece of sandpaper to nibble tight areas.



3

Glue select pieces together prior to shaping.

Use wood glue. You will be shaping the frog's belly, nose, chin, and eyes, as well as the leaf components, as one piece. *Note: This is a useful technique for melding multiple pieces, such as two slightly different skin shades, into one. It creates a smooth transition between colors rather than emphasizing individual pieces.* Allow the glue to dry thoroughly before shaping.

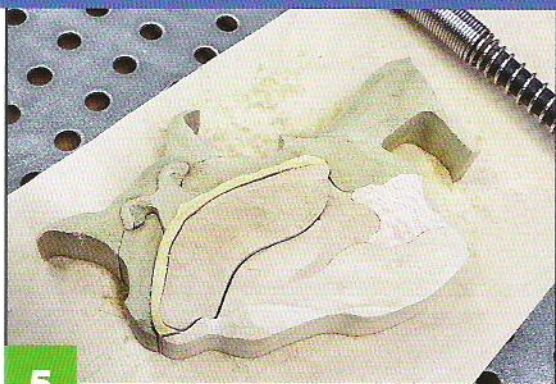


4

Add the risers.

I do this to add height to individual pieces—in this case, the chin, nose, and two visible legs—for even more variation in levels. 1/8" (3mm) and 1/4" (6mm) Baltic birch plywood scraps work well for this; you can use either, depending on your preference and the thickness of the wood you are using. (For example, I didn't add risers to the yellowheart pieces because they were already 7/8" (2.2cm) high.) Trace and cut inside the line; I used a #2 reverse-tooth blade. Check height and, when satisfied, glue the risers to the backs with wood glue.

SHAPING AND FINISHING



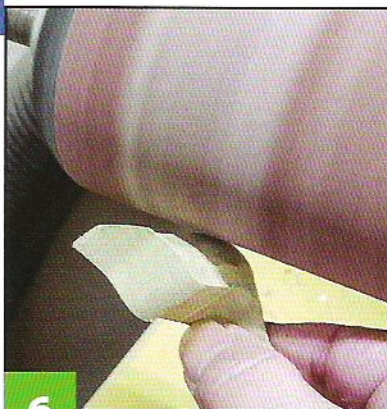
5

Begin to shape the pieces. A good trick, if you're not sure where to start shaping, is to mount the pieces on a piece of plywood with two-sided pressure-sensitive turner's tape. Rough shape the pieces, rounding the corners with a coarse-grit flame-shaped carbide-point bit in a rotary tool. Taper the chin slightly toward the chest, round the nostrils, and begin to create low points approaching the eye hollows. Don't remove too much wood; this will simply outline the basic shape of the project to get you started.

TIP

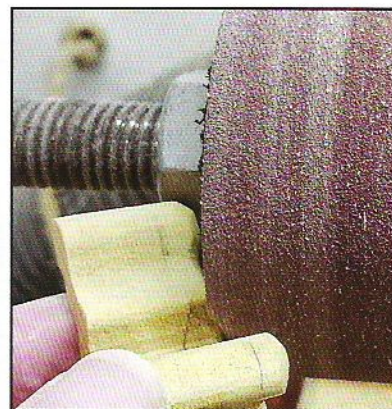
SHAPING THE FEET

Spend some extra time contouring the toes and feet. Indent in between the "knuckles" and round the ends of the toes. Hand-sanding with 180-grit sandpaper works best.



6

Rough shape all pieces. Use a 120- to 180-grit flex drum sander. Use the edge of the sander when needed to get into small areas, such as those between the toes. At the same time, remove any scratches made with the rotary tool in Step 5. As you go, ensure that each piece aligns with all adjacent pieces. With a pencil, mark the edge at the level where the adjacent piece sits; this will give you a stopping point when sanding.



7

Refine the details. Once satisfied with the shaping and overall look of your project, sand all pieces with 220-grit sandpaper on the flex drum sander. Then hand-sand to soften the edges and fine-tune the alignment. *Note: I used a foam sanding sponge and a piece of sandpaper, cut to the same size, for hand-sanding.*



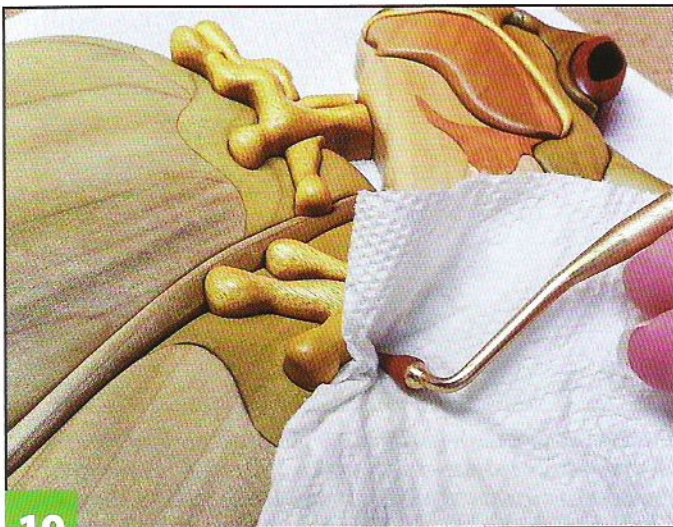
8

Buff the surfaces and edges of the pieces. Use a mop sander, going with the grain as much as possible. This gives the pieces a nice sheen, removes small scratches, and softens the overall look of the finished project.



9

Place a sheet of waxed paper over the original pattern. Then assemble the project on the surface. Using a skewer, carefully edge-glue all the pieces together. Frequently check the overall fit to ensure that the pieces don't skew out of alignment as you go. Allow the project to dry completely.



10

Finish the project. Apply at least two coats of gel varnish or your finish of choice. Remove excess finish with paper towels. I find rubber-tipped dental tools handy for getting into the small spaces. If desired, blow out excess finish with an air compressor, wearing the appropriate eye protection.

Materials & Tools

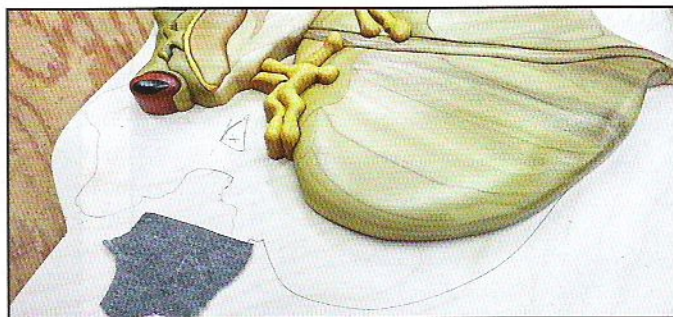
Materials

- Yellowheart, $\frac{7}{8}$ " (2.2cm) thick: toes and lip, 4" x 6" (10.2cm x 15.2cm)
- Padauk, $\frac{7}{8}$ " (2.2cm) thick: eyes, $1\frac{1}{2}$ " x 2" (3.8cm x 5.1cm)
- Sycamore, $\frac{3}{4}$ " (1.9cm) thick: main tummy parts, $1\frac{1}{2}$ " x 2" (3.8cm x 5.1cm)
- Ebony, $\frac{1}{2}$ " (1.3cm) thick (with riser): pupils, 1" (2.5cm) square
- Alder, $\frac{3}{4}$ " (1.9cm) thick: tummy accent, $1\frac{1}{2}$ " x $2\frac{1}{2}$ " (3.8cm x 6.4cm)
- Light green poplar, $\frac{3}{4}$ " (1.9cm) thick: main frog body, 4" x 7" (10.2cm x 17.8cm)
- Darker green poplar, $\frac{3}{4}$ " (1.9cm) thick: frog shading, 2" (5.1cm) square
- Light, creamy beige poplar or similar, $\frac{3}{4}$ " (1.9cm) thick: frog belly, 3" x 6" (7.6cm x 15.2cm)
- Green poplar, $\frac{3}{4}$ " (1.9cm) thick: leaf body, 7" x 12" (17.8cm x 30.5cm)
- Poplar (different shade), $\frac{3}{4}$ " (1.9cm) thick: leaf shading, 5" (12.7cm) square
- Baltic birch plywood, $\frac{1}{8}$ " (3mm) thick: backer, 11" (27.9cm) square
- Tape: clear packaging, double-sided turner's
- Spray adhesive
- Sandpaper: 180-, 220-grit
- Waxed paper
- Wood glue
- Wooden skewer (for applying glue)
- Finish: clear gel varnish
- Black marker: permanent
- Pencil
- Paper towels
- Hanger
- Soft cloths or old socks

Tools

- Scroll saw with blades: #2, #7 reverse-tooth
- Drill with bit: $\frac{1}{4}$ " (6mm)-dia.
- Rotary tool with bit: coarse-grit flame-shaped carbide-point
- Sanders: flex drum, oscillating spindle (optional), 180- to 220-grit mop
- Rubber-tipped dental tools (optional)
- Air compressor (optional)
- Clamps

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



11

Cut the backer. Trace your project onto $\frac{1}{8}$ " (3mm) Baltic birch plywood. Using a #2 blade, cut approximately $\frac{1}{8}$ " (3mm) inside the line. Drill a blade-entry hole into the area between the leg and chest and remove it. Lightly sand the backer, either by hand or with the mop sander. If desired, use a black marker to color the edges of the backer so that it disappears when hanging on the wall. List the wood varieties you've used on the back, and be sure to sign your finished piece.



12

Attach the backer. Apply wood glue to the "up" side of the backer and clamp securely to the "down" side of the frog. Use soft cloths or old socks to protect the surface of your piece, and allow to dry thoroughly. Remove the clamps. Using your thumb and forefinger, find the balance point and attach a hanger to the back.



Pattern for the
RED-EYED TREE FROG is in
the pullout section.

Janette Square lives in Yachats, on the Oregon coast. For more of Janette's work, visit her website at square-designs.com.

Popsicle Toy Set

Cute, customizable, and cheap to make, these sweet treats are a perfect first scrolling project

By Jaime Costiglio

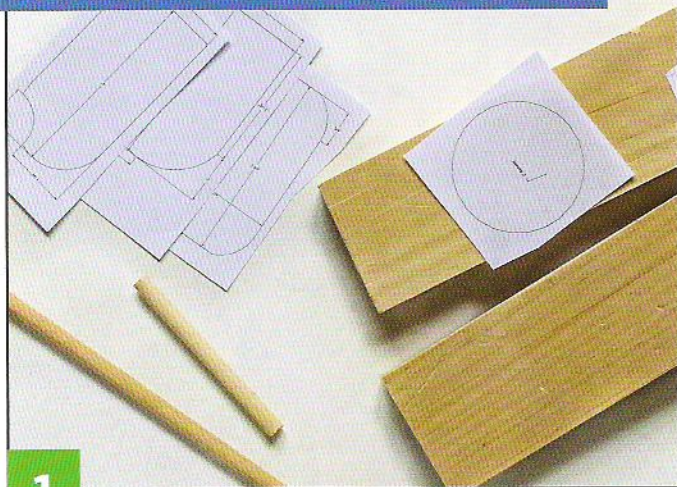
Pretend play food encourages kids to develop positive social behaviors—and what's more fun than play popsicles and ice cream?

This simple scroll saw project makes a great gift for kids of all ages; it's durable, customizable, and affordable to make. I designed the six components to mimic real ice pops and ice cream, with drippy chocolate and colorful sprinkle toppings, but you can paint them to look like any icy treats you prefer.

ScrollSchool
Family Workshop Project



CUTTING AND FINISHING



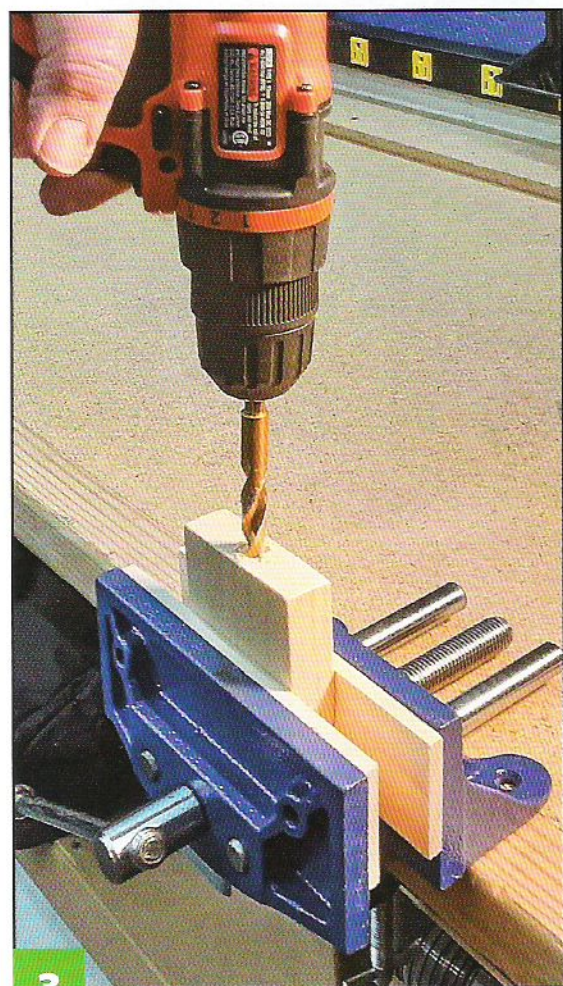
1

Gather your materials. I used several small pieces of scrap wood, but you can cut the flat popsicles from one larger piece, if desired. Adhere the patterns to the wood; I covered the blanks with contact paper and attached the patterns with spray adhesive, but you can use clear packaging tape if you prefer.



2

Cut the popsicles. I used a scroll saw with a #5 reverse-tooth blade. Sand the surfaces smooth and remove all sharp edges with an orbital sander, moving up through the grits from 80 to 220. *Note: When sanding, always wipe off excess dust with a clean cotton cloth before moving to a higher grit.*



3

Drill the dowel stick holes in the bottoms of the flat and round popsicle shapes. Clamp each shape into a vise before drilling. I used a $\frac{3}{8}$ " (10mm)-dia. drill bit, making sure to center each hole.

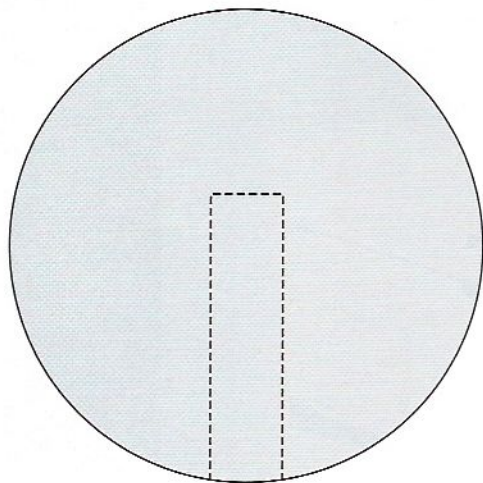
Before You Paint

The finish really makes these popsicles come to life—so the more colorful and exciting, the better. I used acrylic craft paint and painter's tape to create straight lines and clean designs. Be sure to add big sprinkles and other popsicle details for a slightly cartoonish flair.

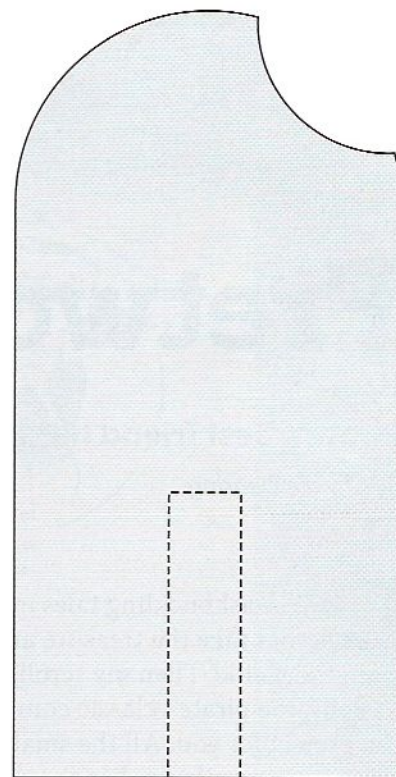
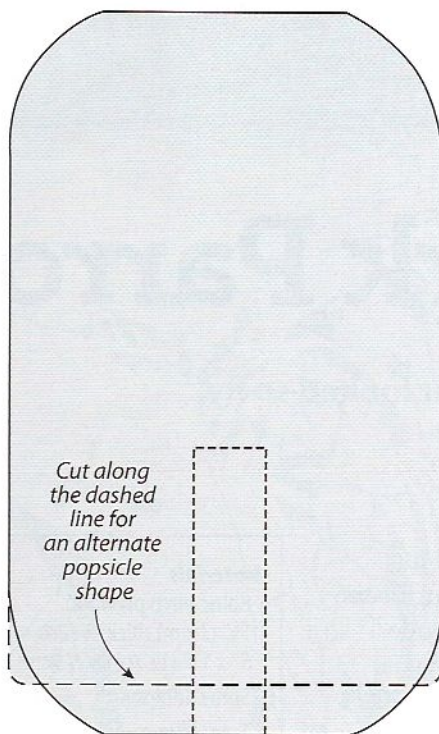


4

Paint as desired. I used acrylic craft paint. Dab a bit of wood glue onto the dowel and into the hole and insert the dowel firmly. Let dry, and seal all pieces using clear satin wipe-on polyurethane. Display as desired; I cut and drilled holes in a scrap wood block, which makes for easy storage.



Popsicle Toy Set Patterns



Materials & Tools

Materials

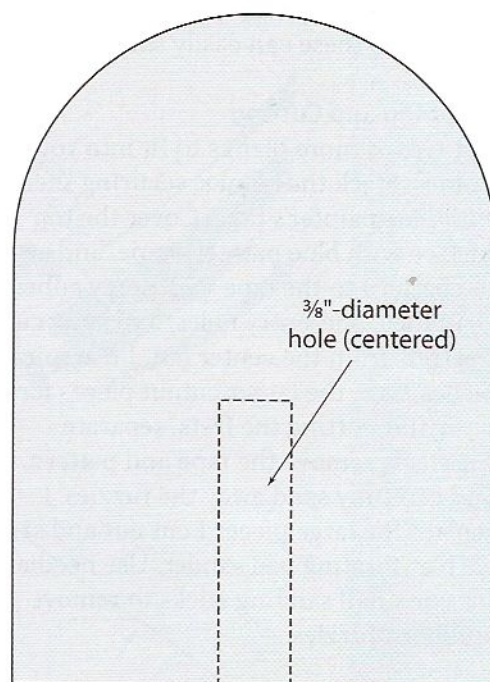
- Scrap wood, such as pine, $\frac{3}{4}$ " (1.9cm) thick: flat popsicles, 7" x 8" (17.8cm x 20.3cm)
- Wood dowel, 1" (2.5cm)-dia.: round popsicle, $3\frac{1}{2}$ " (8.9cm) long
- Scrap wood, $1\frac{1}{2}$ " (3.8cm) thick: base, $5\frac{1}{2}$ " x 6" (14cm x 15.2cm)
- Wood dowels, $\frac{3}{8}$ " (1cm) dowels: handles, 6 each 4" (10.2cm) long
- Contact paper
- Spray adhesive
- Sanding pads: 80- to 220-grit
- Tape: blue painter's (optional)
- Wood glue

- Acrylic craft paints: assorted
- Cotton cloths
- Finish: wipe-on clear satin polyurethane

Tools

- Scroll saw with blades: #5 reverse-tooth
- Sander: orbital
- Drill or drill press with bits: $\frac{3}{8}$ " (10mm)-dia.
- Paintbrushes: assorted
- Clamps or vise

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



TIP

DRILLING VERTICAL HOLES

When drilling holes for the handles in the popsicle bases, be sure to clamp the pieces securely. I find that a drill press works best to ensure a plumb hole, but a regular drill will work, too.



Jaime Costiglio is a DIY project enthusiast and author of a self-titled blog that focuses on building, painting, and sewing. She builds, paints, and sews just about everything in true DIY fashion and posts her projects in a tutorial format to share her experience with readers. In the last two years, she has shared many scroll-saw-focused projects and has become quite proficient with the tool. Her projects have been featured in Apartment Therapy, Better Homes and Gardens, Country Living, Bob Vila, Houzz, Real Simple, Good Housekeeping, and Woman's Day. For more of Jaime's projects, visit jaimecostiglio.com.

Fretwork Parrot

Pirate's best friend has never looked so fly

By Charlie Dearing

Love swashbuckling tales in which heroes take the treasure and mutineers walk the plank? Then my scrollsawn ode to Polly, the pirate's classic companion, is the project for you. All the small cuts make this piece a challenge, but the end product is worth it. When cutting, take extra care in the areas with close branch or feather texture, as these can easily snap.

Prepping and Cutting

Cut two or more blanks to fit into your frames. Stack the blanks, securing them with blue painter's tape. Cover the top surface with blue painter's tape, and attach the pattern to the tape with spray adhesive. Drill the blade-entry holes, and start cutting the frets from the center out. I use spiral blades. Save the larger cutout pieces for later.

After cutting the frets, separate the stack, remove the tape and pattern, and carefully sand away the fuzzies. I replace the large pieces I cut out and sand with a vibrating pad sander. Use needle files or small sanding sticks to remove stubborn fuzzies.

Finishing

Apply a few coats of clear spray finish. Use matte finish if you plan to use glass in the frame. I use semigloss if I'm framing it without glass. Install the portrait in your frame of choice, and add black felt backing if desired.

Pattern for the
FRETWORK PARROT is in
the pullout section.

Materials & Tools

Materials

- Baltic birch plywood, 1/8" (3mm) thick: 2 each 5" x 11" (12.7cm x 27.9cm)
- Spray adhesive
- Tape: blue painter's
- Sandpaper: assorted grits
- Backing: black felt, 5" x 11" (12.7cm x 27.9cm) (optional)
- Clear spray finish: matte or semigloss
- Frame: sized for pattern

Tools

- Scroll saw blades: #0 or #1 spiral reverse
- Drill with bits: assorted small
- Vibrating pad sander
- Needle files
- Sanding sticks: small

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

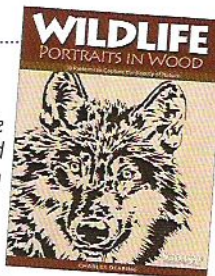
FURTHER READING

Wildlife Portraits in Wood

By Charles Dearing

30 portrait-style patterns for wildlife enthusiasts. Includes getting started section and helpful tips for finishing your work.

Item #3386. Available for \$14.95 + S&H from Fox Chapel Publishing, 800-457-9112, foxchapelpublishing.com, or check your local retailer.



Charlie Dearing says his artistic talents were evident at an early age, but he didn't discover the joys of scrolling until later in life. Scrolling became his passion, so Charlie started creating his own designs when he couldn't find commercial patterns to meet his needs.



Fourth of July Puzzle



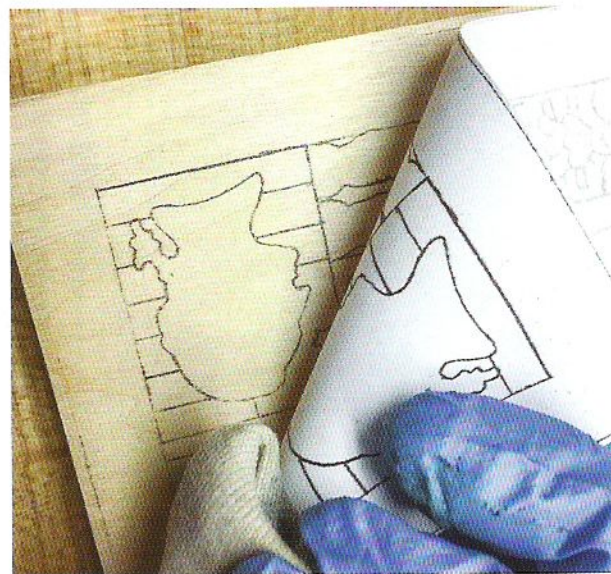
Jump into scrolling and woodburning with this firecracker of a project

By Carolea Hower

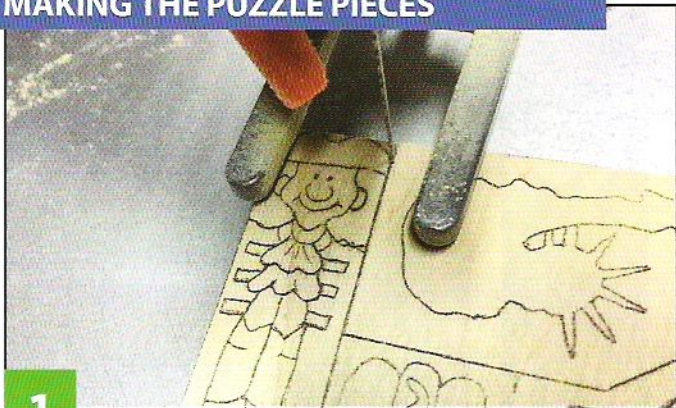
Growing up on a small farm, I really anticipated holidays. The Fourth of July was a special one because most years we had completed the wheat harvest by then. If the plowing was also done, my family purchased extra fireworks to celebrate. I hope this project fondly reminds you of your own Independence Day traditions—and even inspires you to start some new ones.

Getting Started

Transfer the puzzle piece and box patterns to the wood using your preferred method; I used a cloth to wipe acetone over the face-down pattern, being sure to wear gloves and to work in a well-ventilated area. Drill a $\frac{1}{16}$ " (2mm) blade-entry hole in the $\frac{3}{4}$ " (1.9cm)-thick basswood, just inside the area that will frame the puzzle. This way, you will avoid drilling into any areas that will later be used.

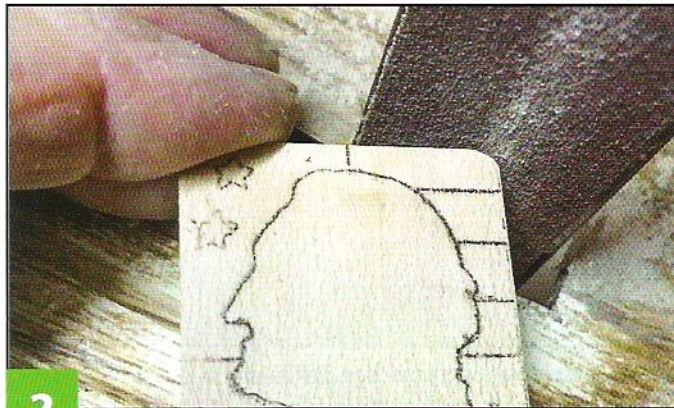


MAKING THE PUZZLE PIECES



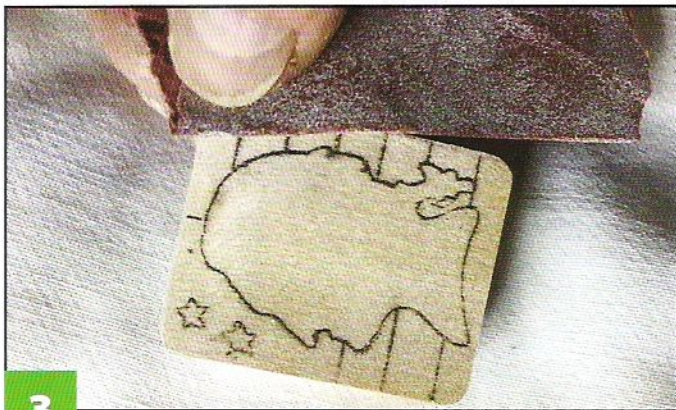
1

Cut the puzzle and box pieces. I used a #3 skip-tooth blade. *Note: As Layer B of the puzzle box (the part framing the puzzle pieces) will be cut from the same basswood block as the puzzle pieces, make sure to cut the perimeter of the pieces cleanly and steadily.*



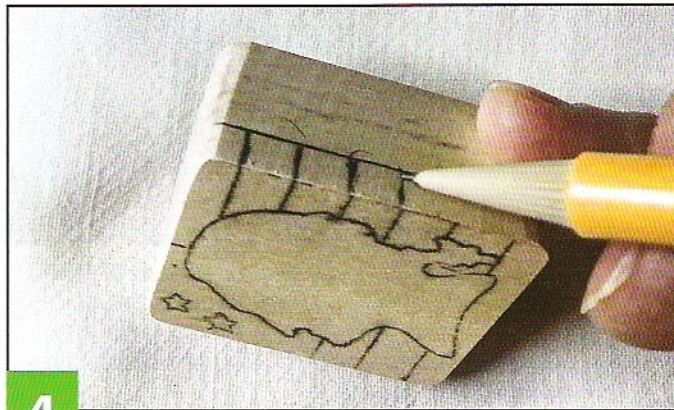
2

Round the sides and sharp edges of each puzzle piece slightly. Do the same for the box components, paying extra attention to the two pieces of Layer A (the doors). Use a belt sander.



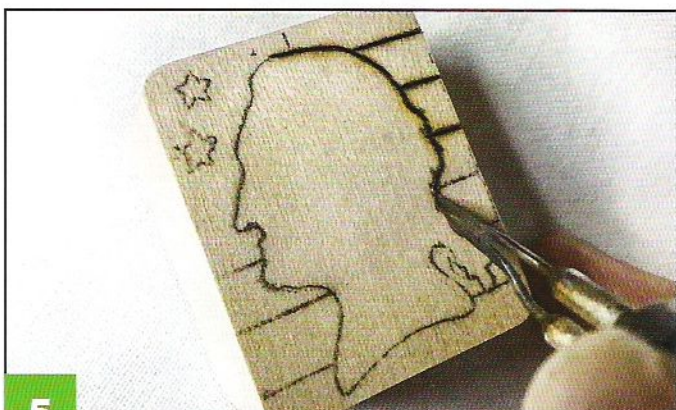
3

Hand-sand the top and bottom of each piece. Use 120-grit sandpaper.



4

Where applicable, transfer the side and back patterns to each piece. For example, I've given the pig a curly tail. *Note: As only the fronts will be visible from the box, you can leave the designs off the back and sides of each piece, if preferred.* Transfer the bell design to the inside of Layer C.



5

Wood burn the detail lines on the pieces and the inside of Layer C. I used a woodburner with a skew tip. Deep woodburned lines will keep the paint from bleeding between sections, so your lines remain crisp.



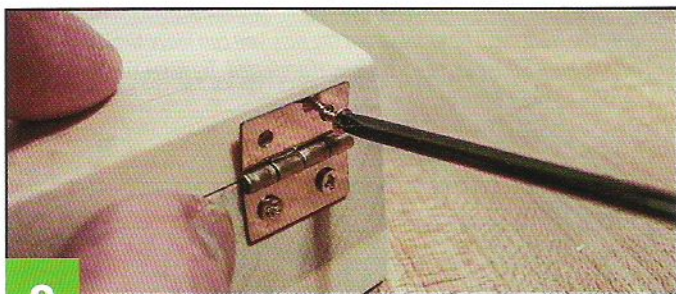
6

Paint the pieces. Refer to the Paint List on page 29.

Assemble the puzzle box. Nail Layer C to Layer B using wire brads.



Attach Layer A of the box to the front of Layer B. I used clear, double-sided tape. Then sand all sides of the box on a disc sander with a 120-grit sanding disc until all layers are even. Use a square to make sure all sides are straight. Then sand all sharp outer edges slightly. Remove the tape.



Attach the Layer A doors to the puzzle box. I attached small hinges about ½" (1.3cm) in from the sides with Phillips-head screws. Then transfer the patterns to the interior and exterior of Layer A and the exterior of Layer C. Follow the lines with the woodburner, using the thin edge of the skew tip.

Stain the puzzle box as desired; I use oil-based stains, such as Minwax gunstock. Let dry. Then mark the hasp placement in the center of the doors and attach the hasp with more Phillips-head screws. If desired, seal the pieces and box with satin spray lacquer and let dry.



Paint List

Uncle Sam

Coat, hat rim: navy blue (3)
Hat stripes, trousers: Santa red (1)
Trouser stripes, hat stripes, beard, shirt collar: white (3)
Shoes: black (3)
Face, hands: medium flesh (3)
Coat buttons: metallic splendid gold (2)

Colonial Man

Face, hands: medium flesh (3)
Socks, shirt, shirt trim: vintage white (2)
Shoes, trousers, hat top, coat trim: burnt sienna (3)
Coat, hat: Georgia clay (3)
Hair: burnt umber (3)
Grass: old ivy (2)
Shoe buckles: metallic gunmetal gray (2)

Watermelon

Rind: Christmas green (3), grass green shaded with fresh foliage (2)
Fruit: wash of Santa red (1)
Seeds: black (3)

Pie

Pan: metallic gunmetal gray (2)
Crust: spice brown (3)
Crust edge: autumn brown (3)
Pie top decorations: yellow brown (3)

Drum

Edges: metallic gunmetal gray (2)
Sides: Santa red (1)
Top, bottom: oyster white (3)
Drumsticks: autumn brown (3)
Buttons, ties: metallic splendid gold (2)

Ice Cream Cones

Cones: wash of autumn brown (3)
Ice cream: white (3), navy blue (3), Santa red (1)
Background: wash of steel gray (2)

Eagle

Eyes, bill: yellow (3)
Head feathers, eye highlight: white (3)
Chest feathers: spice brown (3)
Pupils: black (3)

Grill

Body: metallic aluminum (2)
Ground: spice brown (3)
Handles: burnt sienna (3)
Interior: wash of steel gray (2)
Hamburgers: spice brown (3)

Firecracker

Flash: yellow (3)
Fuse: spice brown (3)
Stripes: white (3), Santa red (1)
Background: oyster white (3)

George Washington

Silhouette: black (3)
Flag stripes: white (3), Santa red (1)
Stars: white (3)
Flag background: navy blue (3)

Hot Dog

Bun: wash of spice brown (3)
Hot dog: white (3) shaded with spice brown (3) and tompete red (3)
Mustard: yellow (3)
Background: sandstone (4)

Corn

Kernels: yellow (3)
Husks: leaf green (3) shaded with old ivy (2)
Background: linen (3)

Pig

Body: white (3) tinted with tompete red (3)
Feet: black (3)

Lady Liberty

Background: blue heaven (3)
Lady Liberty: blend 2 drops of Laguna blue (3) and 3 drops of Christmas green (3)

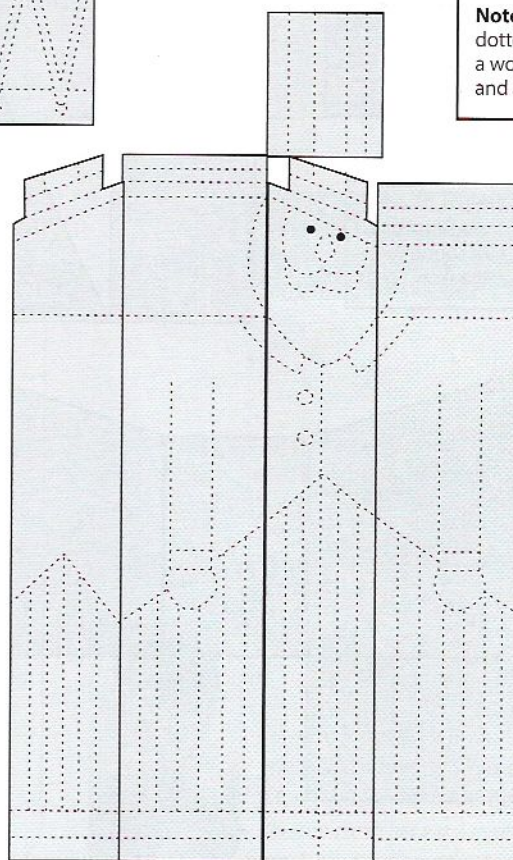
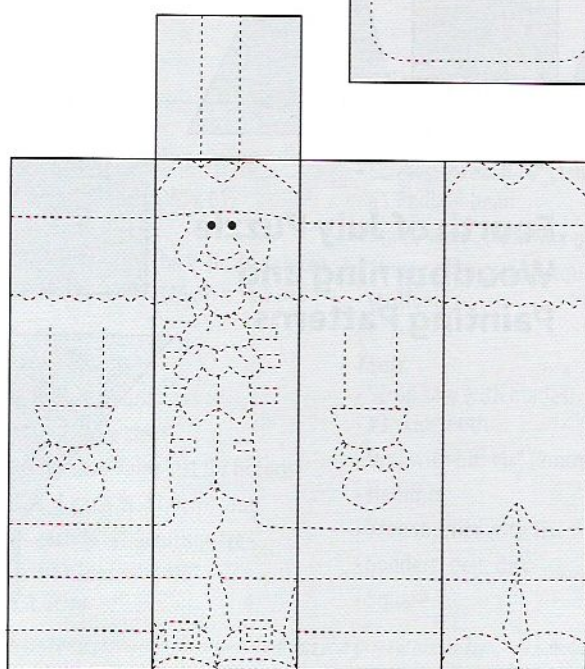
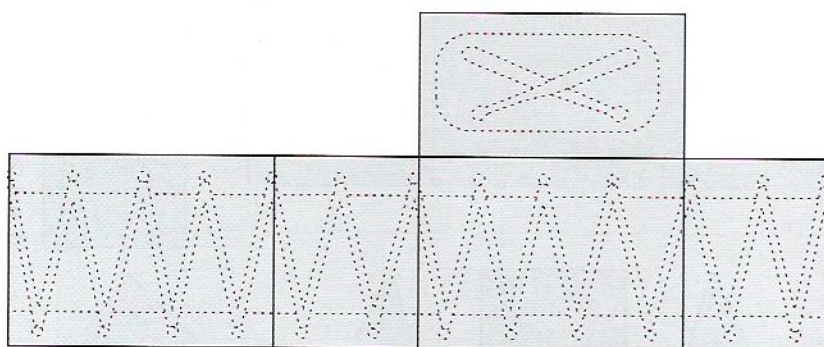
1 Americana

2 Folk Art

3 Ceramcoat

4 Apple Barrel

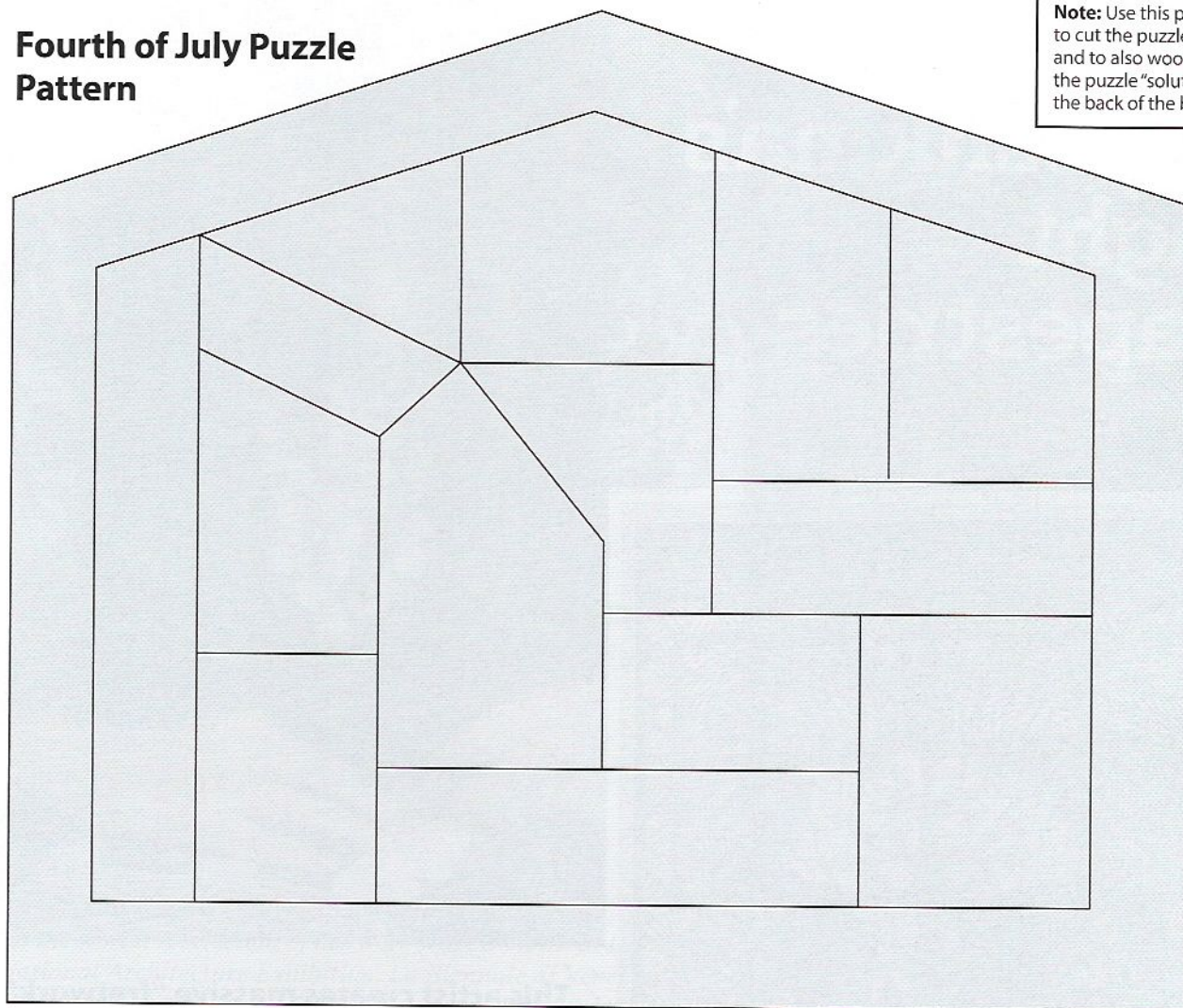
Fourth of July Puzzle Woodburning and Painting Patterns



Note: Follow the dotted lines with a woodburner and a skew tip.

Fourth of July Puzzle Pattern

Note: Use this pattern to cut the puzzle pieces, and to also woodburn the puzzle "solution" to the back of the box.



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Additional patterns for the **FOURTH OF JULY PUZZLE** are in the pullout section.

Materials

- Pine or basswood, $\frac{1}{4}$ " (6mm) thick: Layers A and C, 2 each $5\frac{1}{2}$ " x $6\frac{1}{2}$ " (14cm x 16.5cm)
- Basswood, $\frac{3}{4}$ " (1.9cm) thick: puzzle pieces and Layer B, $5\frac{1}{2}$ " x $6\frac{1}{2}$ " (14cm x 16.5cm)
- Acetone
- Sandpaper: 120-grit
- Sanding discs: 120-grit
- Double-sided tape: clear
- Acrylic paints (see Paint List for brands)
- Wire brads: 8 each $\frac{3}{4}$ " (1.9cm) long
- Hinges: 4 each $\frac{3}{4}$ " (1.9cm) square
- Brass-plated hasp: $\frac{3}{4}$ " x $1\frac{1}{8}$ " (1.9cm x 4.8cm)

Materials & Tools

- Screws: 20 each $\frac{3}{8}$ " (1cm) #1 Phillips-head
- Stain, such as Minwax gunstock
- Finish: satin spray lacquer (optional)

Tools

- Scroll saw with blades: #3 skip-tooth
- Drill with bit: $\frac{1}{16}$ " (2mm)-dia.
- Hammer
- Woodburner with tip: skew
- Sanders: belt, disc
- Square

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



Carolea Hower is a retired physical therapist who lives on a farm with her husband, Ken. You can reach her via e-mail at caroleahower@gmail.com.

Daria Alyoshkina's Light Tapestries



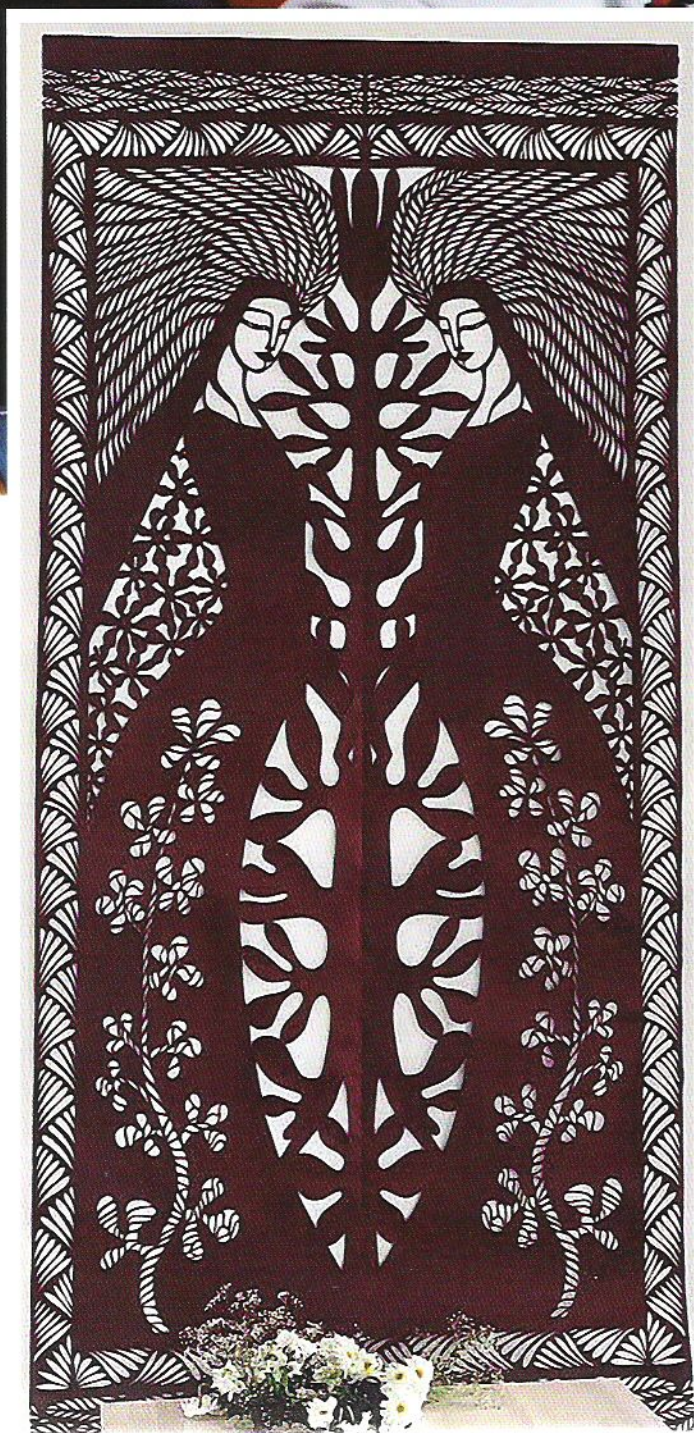
This artist creates massive “fretwork” panels using two simple tools

By Kaylee Schofield

Walking through one of Daria Alyoshkina's papercutting installations is a bit like walking through the woods: how you experience it has a lot to do with light. The quality, the color, how it falls across the objects in your field of vision. For Daria, light is an essential part of the display, with spotlights or sunbeams superimposing “negatives” of each tapestry on adjacent walls, like shadows on a forest floor.

“For me, watching sunlight pierce an ornament invites an interesting process of contemplation,” said Daria. “I usually use white paper for mine, as it allows for any backlight I choose.”

Vytynanky, or decorative paper cutouts, have been a popular art form in Ukraine for centuries, traditionally hung in windows like curtains. Daria, a sculptor by trade, always had a flair for the traditional arts that extended into her home life;



her husband, Gordiy, even makes hurdy-gurdies, musical instruments common to Slavic folk music. After their three children were born, Daria turned to vytynanky as a new form of self-expression.

But to produce the massive panels Daria is famous for (some reaching around 13', or 4m, high), she must balance that creativity with intense self-discipline: once mapped out, each piece takes her one to three days to cut. A careless slip of the scalpel or shears—her only tools—could ruin the scene, so precision and uniformity are key. (Luckily, using a solid 200gsm paper prevents this from happening too often.)

While Daria's "fretwork" creations, taken as a whole, are anything but uniform, a guest at her installation might notice recurring themes—serene women wrapped in leaves, fierce queens crowned by feathers and trees, contemplative girls whose features seem to meld with the dappled landscapes around them in a style reminiscent of fairy tales.

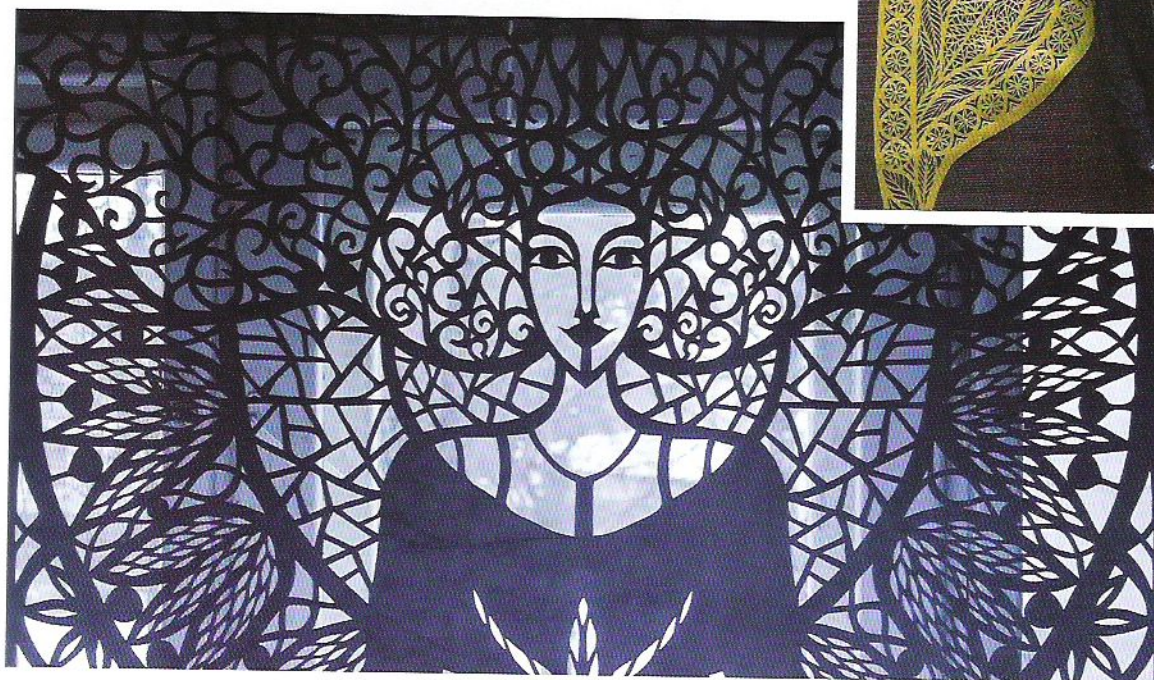
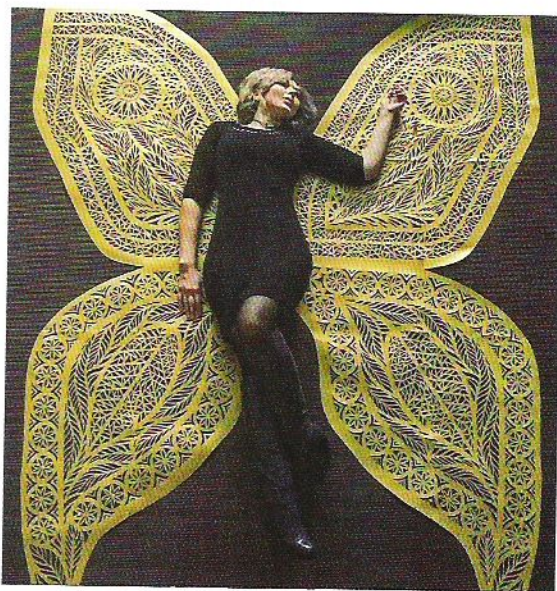
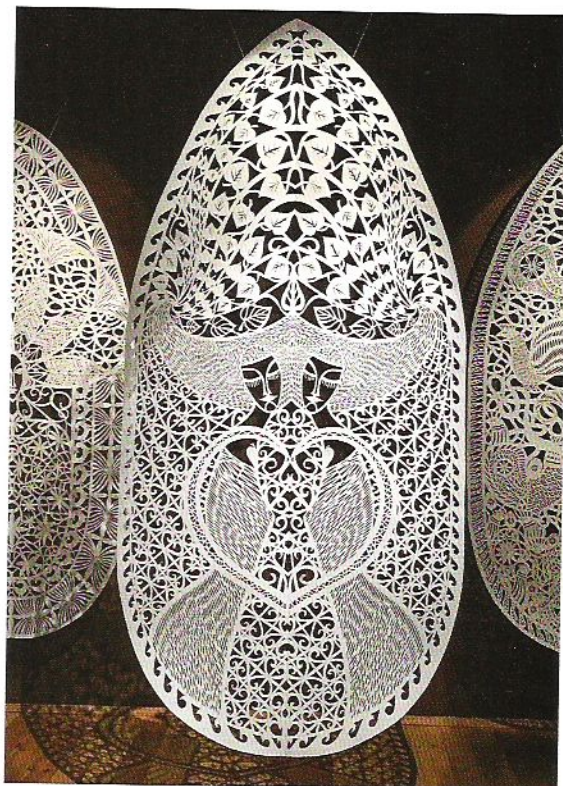
"Perhaps these are subconscious reflections of my different inner sides," Daria suggested.

Daria doesn't just restrict herself to panels, however. She's turned vytynanky into many items, from cards and dresses to set pieces at a concert—but always, like vytynanka artists before her, keeping the light in mind.

"I like to experiment, and the cutouts are so versatile," Daria said. "Once, for an exhibition in Paris, I even made myself golden butterfly wings."

Scroll one of Daria's intricate designs on page 34.

Daria's vytynanky are displayed in homes and galleries around the world. A selection of her work will be shown at the International Architecture Exhibition, La Biennale di Venezia, from May 23 to November 29, 2020. Find her on Facebook or on Instagram @vytynankaalyoshkina.



Vytynanky are traditionally hung in windows, making for interesting and varied light patterns.

Stylized Honey Bee

**Are you the queen (or king) of your workshop?
Show it with this dazzling stack-cut fretwork**

By Rolf Beuttenmuller
Design by Daria Alyoshkina

From the complex dances of forager bees to the ethereal glow of a honey jar, the world of the honey bee has fascinated humans for millennia. In fact, ancient Egyptian mythology holds that every bee is a living tear shed by the god of the sun. While this project contains over 250 individual frets, it's quite manageable as long as you take your time and let the blade do the work. And stack-cutting is a great way to maximize output, so you can always keep one for yourself!

Cutting and Finishing

Pre-sand your blanks with 150-grit sandpaper, working up progressively through the grits until you reach 320. Remove any excess sawdust with a clean cotton cloth and then stack the three blanks. Cover the surface of the top blank with clear removable

contact paper, and then attach the pattern to the paper with spray adhesive. Making sure the blanks are perfectly aligned, drive a wire brad into each of the large cut-out areas to keep the stack together during cutting. Then drill the blade-entry holes.

Cut the project; I used a #2/0 reverse-tooth blade for the smaller frets and a #3 reverse-tooth blade for the larger ones. I recommend securing the edges with blue painter's tape before cutting the pinned areas, which you should save for last. Gently remove the pattern and lightly hand-sand the finished pieces to remove any fuzzies. Complete as desired; I stained one with Minwax ebony, let it sit for 15 minutes, and then rubbed it down with paper towels for a smooth finish. I finished the others with COLORSHOT® spray paint (see product review, page 12).

Materials & Tools

Materials

- Baltic birch plywood, 1/8" (3mm) thick: 3 each 9 1/4" x 12 3/4" (23.5cm x 32.4cm)
- Sandpaper: assorted grits up to 320
- Contact paper: clear removable
- Spray adhesive
- Wire brads
- Tape: blue painter's
- Stain, such as Minwax ebony
- Spray paint, such as COLORSHOT® scuba (optional)

- Paper towels and/or clean cotton cloths

Tools

- Scroll saw with blades: #2/0 reverse-tooth (for small areas), #3 reverse-tooth (for large areas)
- Drill with bits: assorted small

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

Pattern for the
STYLIZED HONEY BEE is in
the pullout section.



Rolf Beuttenmuller started scrolling in 2004 after his wife, June, bought him a scroll saw for his birthday. He joined a local club and enjoys new and challenging projects. His motto is "I don't know that I can't, therefore I can." Rolf retired from Brookhaven National Lab after 34 years of designing and building special devices for high energy and photon science research. He lives in Bellport, N.Y.



Eiffel Tower Desk Sitter

Give your space Parisian flair with this chic compound-cut decoration

*By Sue Mey
Cut by Jon Deck*

Because large pieces of wood won't fit in a scroll saw, I have created a method of making larger projects by cutting small pieces and gluing them together. The success of this project depends on two factors—the precise cutting or sanding of the blanks to size before applying the patterns, and careful and consistent cutting on the pattern lines. If the clearance on your saw does not allow you to cut the $1\frac{7}{8}$ " (4.8cm)-thick material, reduce the size of the pattern slightly and use the largest wood your saw will accommodate.

Getting Started

You will use four identical patterns to make this project. Cut the four blanks to size using a table saw. (You can also cut them with your saw of choice and use a disc sander or belt sander to sand the blanks to the exact dimensions.) Cover the blanks with masking tape or blue painter's tape. Then fold the patterns on the centerlines, apply spray adhesive to the backs, align the folds with the corners of the blanks, and press the patterns into place.



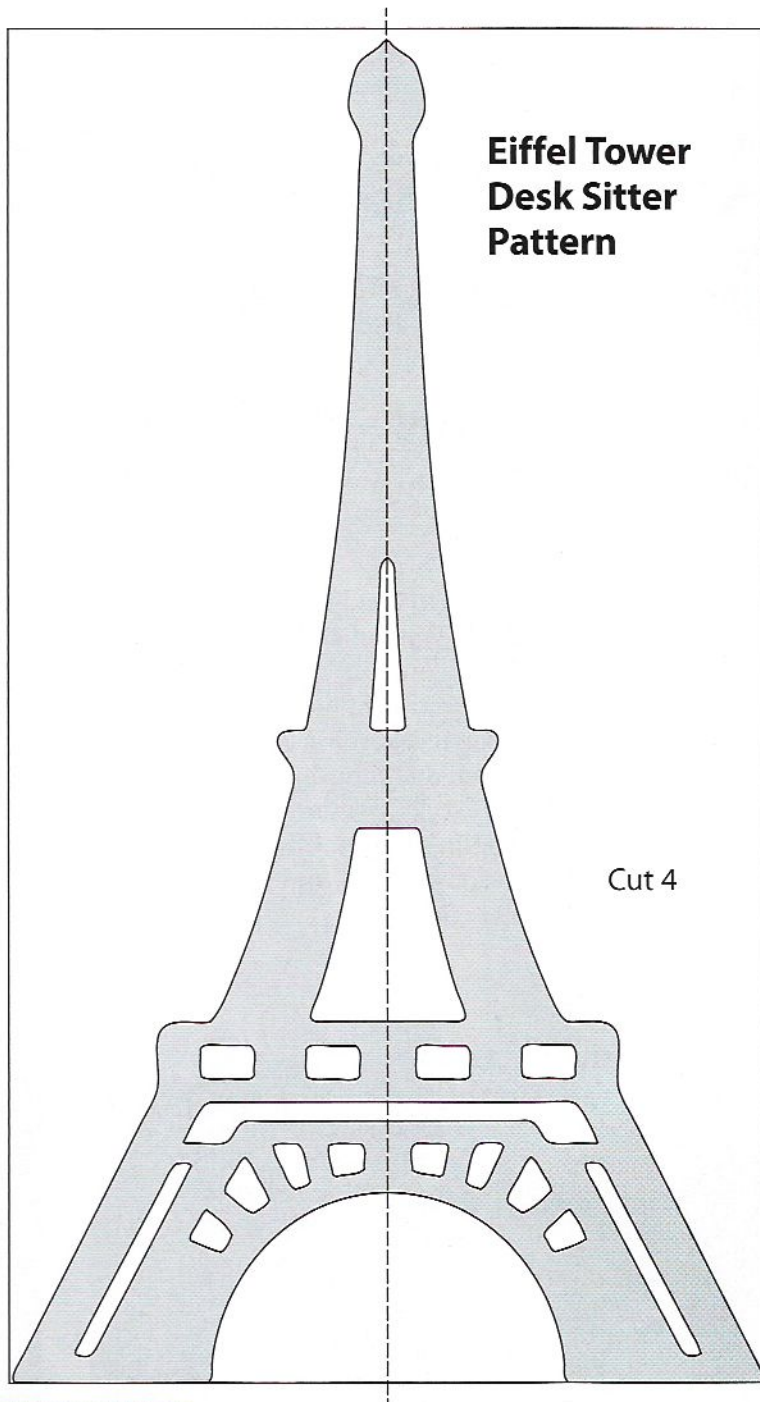
Cutting and Finishing

Drill $\frac{1}{8}$ " (3mm)-diameter blade-entry holes in both sides for the frets. Using a #9 scroll saw blade, cut the frets on one side, and then cut the perimeter. Saw all the way through the wood but stop just before cutting the paper free, leaving the pattern intact. This will make it easier to cut the other side. Vacuum away the dust and tape the waste pieces back in place with clear packaging tape.

Rotate the blank 90° and cut the second side. Carefully remove the completed section from the waste and peel off any remaining patterns or tape. After making the final cuts, save the outer waste pieces. An ice pick or similar tool is handy to remove small waste pieces. You can also blow out the pieces using an air compressor.

Carefully match up the outer waste pieces and the inner (non-waste) pieces—this will give you square sides to clamp to. Glue and clamp together two pieces (each representing a quarter of the completed project). *Note: Make sure the pieces line up nicely. Use great care not to get any glue on the outside of the project; otherwise, you will glue the waste pieces back onto the cut pieces.* Then assemble the other half using the same technique. Glue and clamp the two halves together. Once the glue has dried, remove the clamps.

Hand-sand the outside surfaces of the project to remove irregularities. Remove all sanding dust with a stiff-bristled paintbrush. Finish as desired; I used several thin coats of clear spray varnish on one version and Miss Mustard Seed's Milk Paint in farmhouse white on the other.



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Materials & Tools

Materials

- Wood, such as basswood, butternut, or cedar, $1\frac{1}{2}$ " (4.8cm) square: 4 each 7" (17.8cm) long
- Tape: masking or blue painter's; clear packaging
- Spray adhesive
- Sandpaper: assorted grits
- Wood glue
- Finish: such as clear spray varnish or Miss Mustard Seed's Milk Paint

Tools

- Table saw, or your choice of saw and disc or stationary 4" belt sander (to cut the blanks to size)
- Scroll saw with blades: #9 skip reverse
- Drill press with bit: $\frac{1}{8}$ " (3mm)-dia.
- Air compressor or ice pick (optional)
- Stiff-bristled paintbrush
- Clamps (or large rubber bands)

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 scrollsawartist.com. She can be contacted at suem@storage.co.za. Her pattern book, *Lighted Scroll Saw Projects*, is available from schifferbooks.com and other outlets.

Geometric Sunburst Fretwork

Brighten up your home with this sizzling layered design

By Charles Hand

In my youth, I loved to doodle with pencil and paper. I remember sketching designs throughout the day—hearts, boxes, initials, circles, or even simple scribbles to get the creativity flowing. Then in the early '70s, when I started working in engineering design, I found myself doodling again—this time, in an isometric or 3-D art style. This layered sunburst arose from one such doodling session. It's time-consuming without being too complicated, and you can display it year-round to great effect.

Getting Started

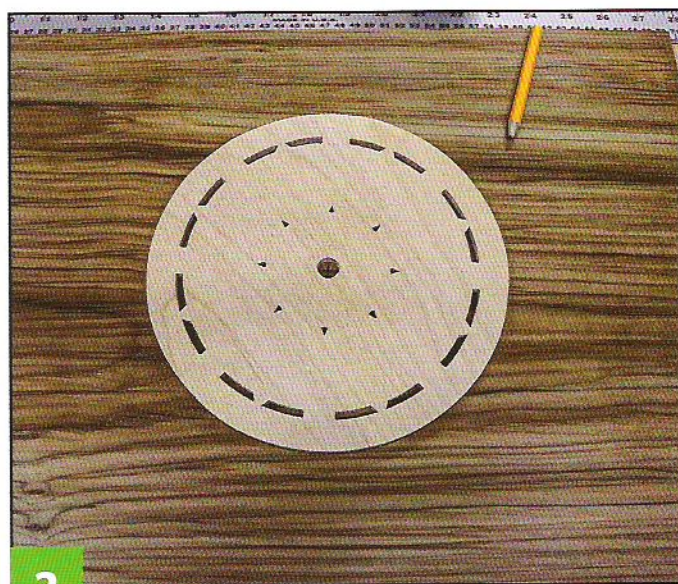
Sand the front and back of each blank (including the filler pieces and hardwood base) thoroughly. Blow off the dust or remove it with a tack cloth. Attach removable Con-Tact® creative covering paper to the top of each blank, and apply spray adhesive to the backs of the patterns. Let the adhesive set for about a minute, and then press the pattern down onto the paper, eliminating any air bubbles.

CUTTING AND FINISHING



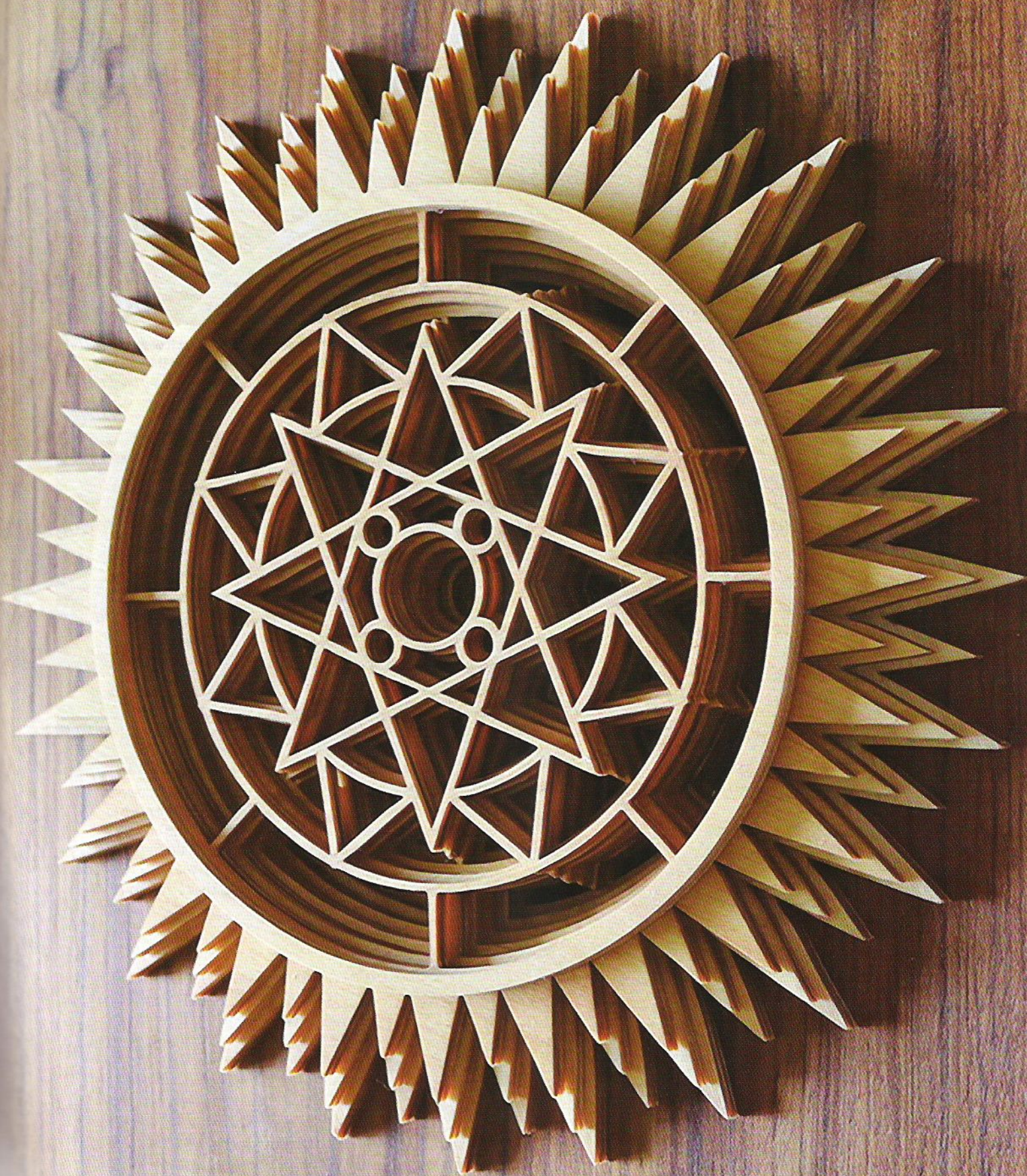
1

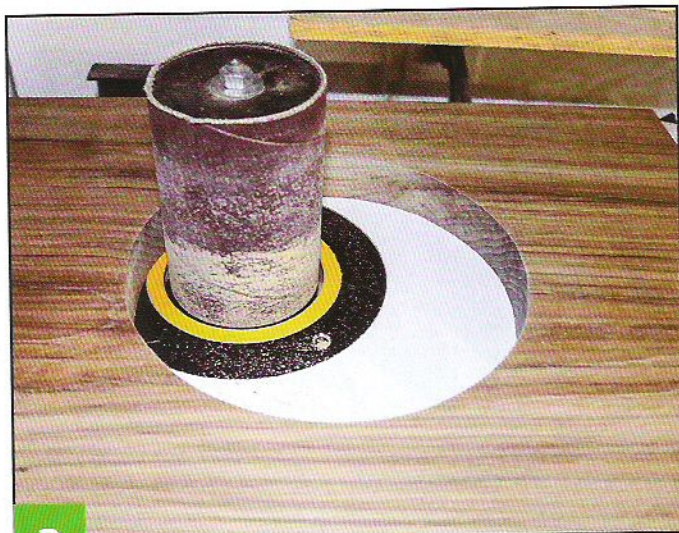
Drill the blade-entry holes and cut the frets. Start with the interior cuts and move outward, cutting the perimeters last. Sand the back of each blank with a palm sander or sanding block every 10 cutouts, if necessary, to remove fuzzies. Once all cuts are made, remove the patterns and Con-Tact paper. Carefully hand-sand all surfaces, moving up progressively through the grits until you reach 220. I use needle files for hard-to-reach places.



2

Prepare the base. Use the base cutout, or one of identical diameter, as a template, drawing a line around the perimeter with a pencil. Drill a blade-entry hole in the base blank. *Note: I centered my base hole in the blank, so the sunburst can be displayed horizontally or vertically depending on my preference.* Cut the base hole with a #9 skip-tooth blade, staying just inside the line.





3

Sand the interior of the base. Use an oscillating spindle sander for the initial smoothing, and then hand-sand, moving up progressively through the grits until you reach 220. Refrain from sanding off too much volume, as you want the first few fretwork layers to fit snugly inside the base.

Patterns for the **GEOMETRIC SUNBURST FRETWORK** are in the pullout section.

Materials & Tools

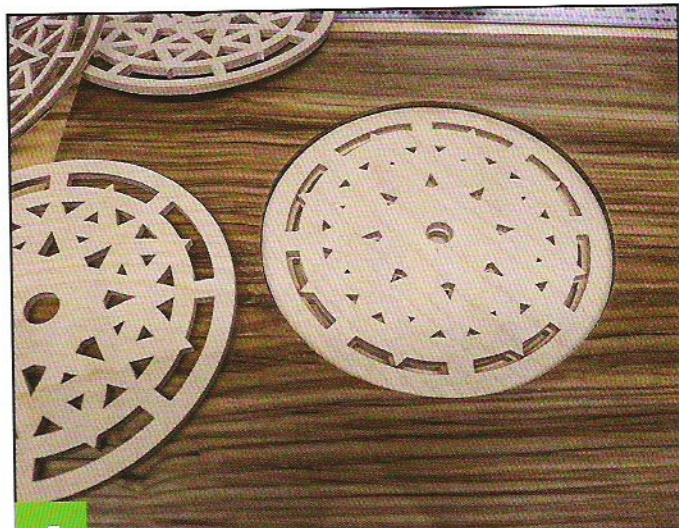
Materials

- Baltic birch plywood, 1/4" (6mm) thick: 9 each (including 2 filler blanks) 8 1/2" (21.6cm) square
- Walnut or wood of choice, 1 1/8" (2.9cm) thick: 13" x 17" (33cm x 43.2cm)
- Sandpaper: assorted grits up to 220
- Tape: blue painter's
- Tack cloth
- Self-adhesive shelf liner, such as Con-Tact removable creative covering
- Spray adhesive, such as Elmer's or 3M Super 77
- Wood glue
- Finish of choice, such as natural Danish oil
- Clear spray lacquer (optional)
- Felt backing, black: 7" (17.8cm)-dia. (optional)
- Hanger (optional)

Tools

- Scroll saw with blades: #3 or #5 reverse-tooth (for fretwork); #9 skip-tooth (for base cutout)
- Drill press with bits: 1/16" (2mm)-dia. or #53 wire size
- Sanders: palm (fine-grit), oscillating spindle
- Needle files (optional)
- Air compressor (optional)

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



4

Stack the cut layers to check fit. The first few should fit solidly inside the base. If the hole is too small, sand the edges of the circles until they fit snugly. *Note: Refrain from gluing the pieces just yet.*



5

Glue the layers in place. Insert one or two filler pieces of wood into the bottom of the base and glue them in place to the sides of the base cutout. If desired, glue a length of black felt on top of the filler pieces; this will show through the frets. Then carefully insert each section, gluing in place as you go. Let dry for 12-24 hours, and then apply a finish of your choice. I used natural Danish oil. Display as desired.



Charles Hand is retired from a career in electrical/mechanical design, graphic arts, and senior project management. He enjoys intarsia, fretwork, segmentation, inlay, and just about everything there is to cut with a scroll saw. Charles has won best of show and several other awards for his work and designs at local craft and woodworking shows. For more information and a tutorial on Charles' Con-Tact® paper method and framing technique, or for more of his patterns, visit scrollsawart4u.weebly.com.

PEDESTAL Dessert Stand

Pretty and practical double bevel inlay project lets you have your cake and eat it, too

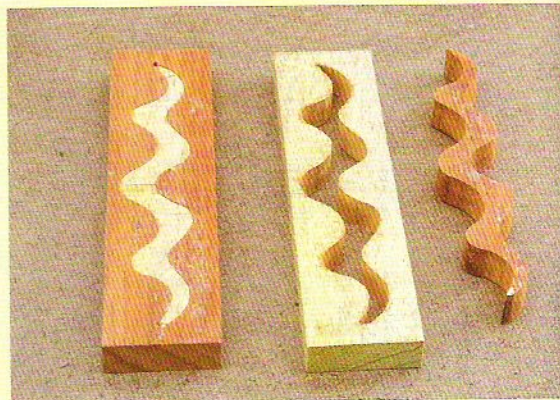
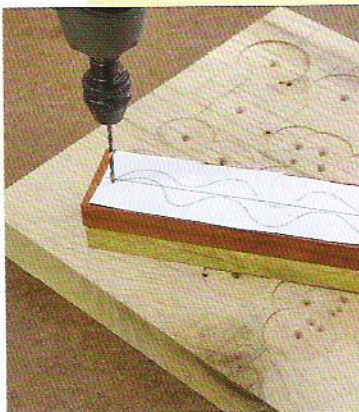
By Carole Rothman



Inspired by traditional slipware pottery designs, this decorative and functional cake stand is also a skill-building introduction to two basic techniques. You'll use the first—double bevel inlay—to insert the swirls into the substrate, and the second—cutting at a steep angle—to make the pedestal base. It can look precarious if you've never made a cut at 30°. However, in sizing the base, I've left ample wood for removal of irregularities, ensuring any novice reader an impressive final product.

Getting Started

Choose your wood varieties. Many contrasting hardwoods are suitable for this project; I chose padauk, yellowheart, and maple to simulate the colors found in many slipware pieces. Ease into the project by making test cuts to determine the cutting angle for the inlaid swirls. Follow the detailed instructions in the sidebar (Making Practice Swirls), using the provided test pattern and the same wood and blade you'll be using for the actual project. When the test swirl sits correctly, you can be confident that the swirls in the final project will do the same.

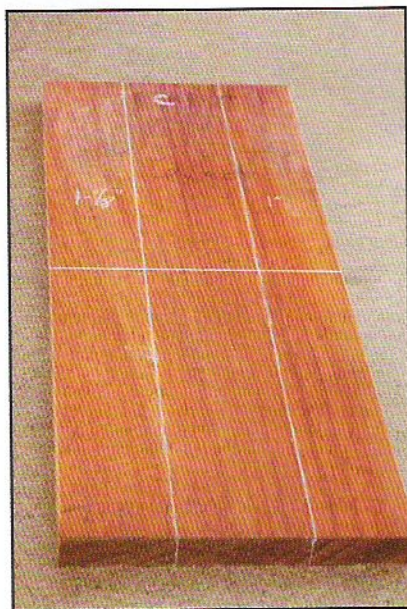


PREPARING THE BLANKS



1

Arrange the three pieces of padauk for the best grain match. Place the wider piece in the center. Mark the pieces (L, C, R) at the top edges so you can tell them apart later.



2

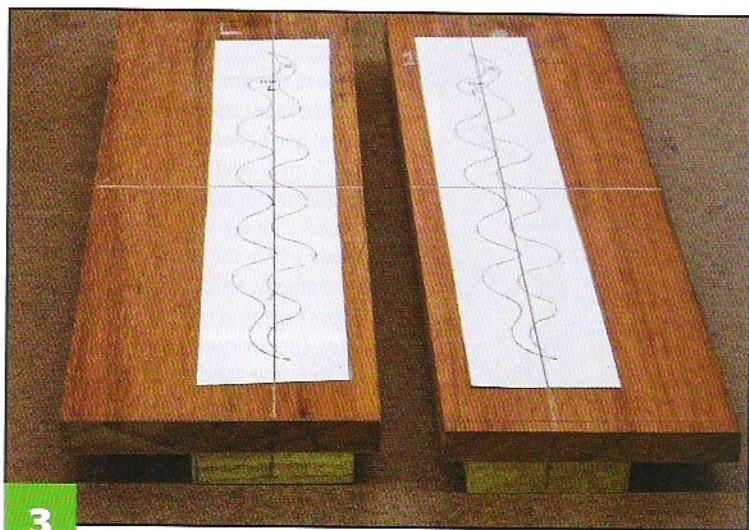
Draw the swirl pattern guidelines.

Start with the center piece. Draw two vertical lines, running from the top edge to the bottom edge. Position the first line $1\frac{1}{8}$ " (2.9cm) in from the left edge and the second 1" (2.5cm) in from the right edge. Extend the ends of both lines across the top and bottom edges. Next, draw a vertical line on the left side piece, located 1" (2.5cm) in from the right edge. Draw a vertical line on the right side piece, located $1\frac{1}{16}$ " (2.7cm) in from the left edge. Draw a horizontal line across each piece, located $4\frac{3}{4}$ " (12.1cm) down from the top.

Making Practice Swirls

Attach the test pieces of padauk and yellowheart to each other with small strips of double-sided tape. Clamp briefly to set the bond, and then attach the test pattern to the padauk with repositionable spray adhesive. Drill a blade-entry hole at the top point of the pattern. Tilt the saw table to 2° , left side down; alternately, if you have an adjustable saw arm, you can adjust that to 2° , right side down. For precise measurement and repeatability, I use a digital angle gauge.

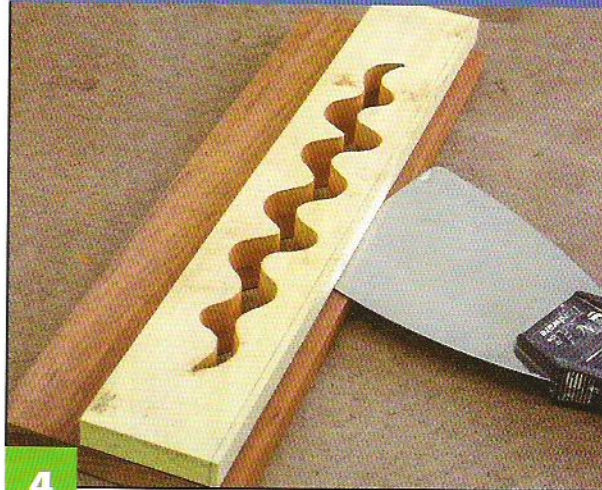
Insert a #7 reverse-tooth blade and cut around the pattern in a counterclockwise direction. To do this, cut down the left side of the pattern, pivot at the bottom, and then continue the cut to the blade-entry hole. Note that as you cut, the wood will remain to the right side of the blade. Avoid forcing the blade, or the angle may distort. Once the cut is complete, the attached swirls will drop out from the bottom. Separate all pieces. Place the yellowheart swirl against the underside of the recess in the padauk. Push upward, using gentle, even pressure. If the angle is correct, the swirl will sit flush or slightly above the padauk, without forcing. If it sits too high, increase the cutting angle by half a degree or less. If it sits too low, decrease the angle. Repeat until the swirl sits properly. You will use this angle to cut the swirls in Step 4.



3

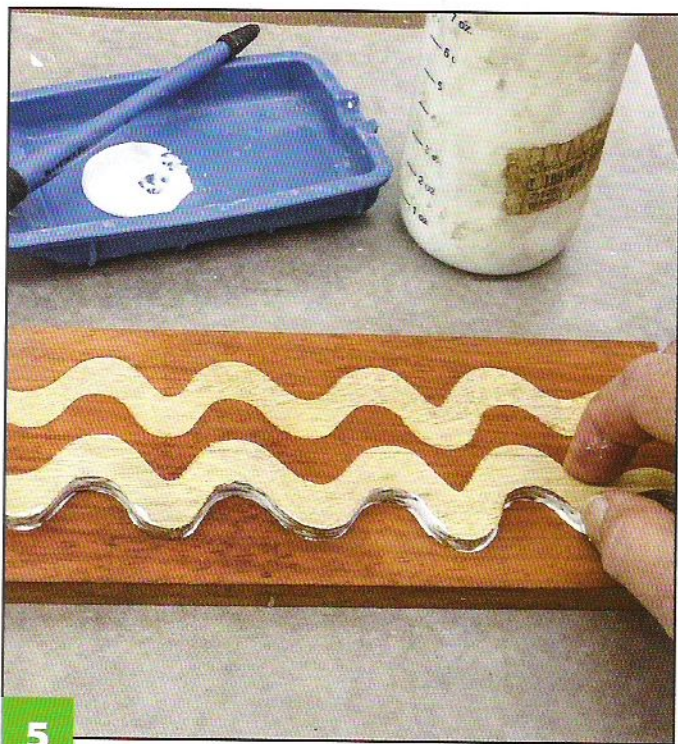
Align the patterns on the padauk. Use the A patterns for the center piece and the B patterns for the side pieces. Be careful to align the vertical and horizontal pattern lines with those on the padauk. Attach the patterns with repositionable spray adhesive. Center the 3" (7.6cm)-wide piece of yellowheart on the underside of the center piece of padauk. Attach the two pieces securely with narrow strips of double-sided tape across the top, middle, and bottom, and clamp briefly to secure the bond. Do the same with the side pieces. Use the 1½" (3.8cm)-wide pieces of yellowheart, centering each piece directly below the swirl pattern.

CUTTING & ASSEMBLING THE TOP



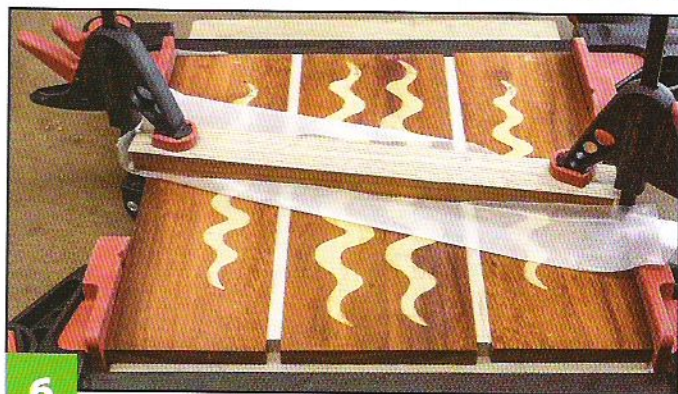
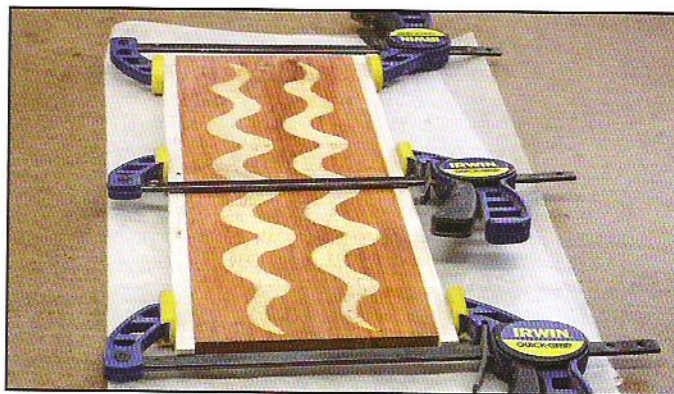
4

Cut the first side swirl on a scroll saw. Use the angle determined by your test cuts and follow the procedures in the sidebar (Making Practice Swirls, page 42). Separate the pieces and insert the inlay into the recess. It should sit easily and completely. Inlay the swirl into the second side piece, and then do the same for the two swirls on the center piece. As you separate the pieces, be sure to mark each swirl with its location and orientation. Then sand off any fuzzies that might interfere with fit.



5

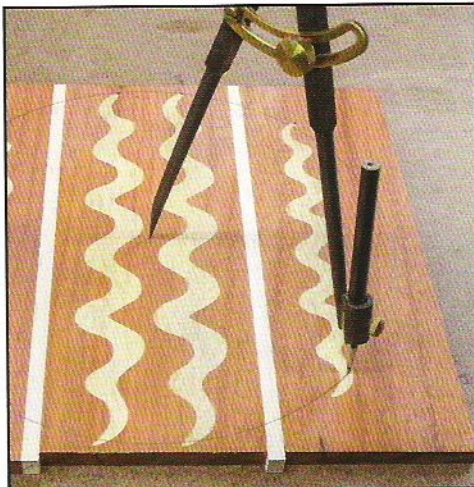
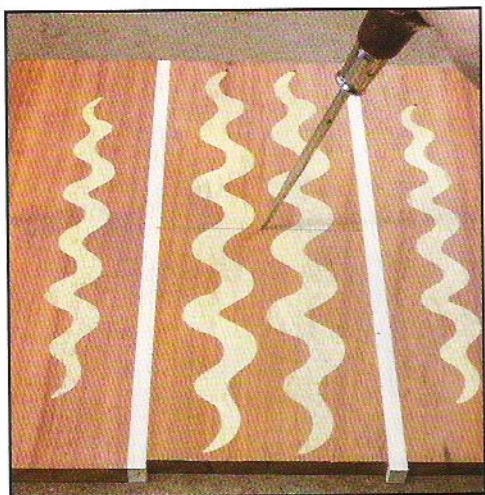
Place each piece of padauk facedown. Be sure that the tops of all pieces are oriented correctly. Working one swirl at a time, apply wood glue evenly to the edges and press the piece from the back into its matching recess. If necessary, tap gently with a wooden mallet to embed the inlay fully. Remove excess glue from both faces with a damp cloth or paper towel and let the pieces dry completely. To be sure the pieces will lie flat when glued together, sand away any glue or fuzzies from the underside.



6

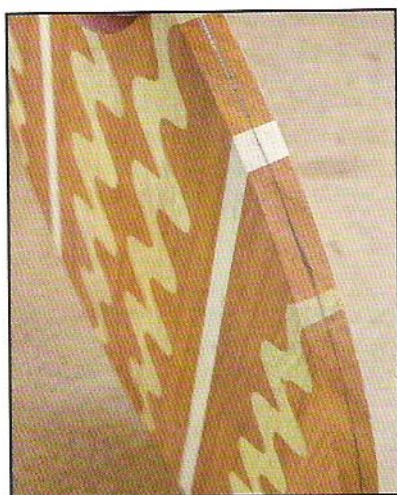
Glue one strip of maple to each side of the center unit.

Clamp and let dry. Then glue on the side pieces, matching the tops and horizontal centerlines. The workpiece must remain flat as it dries; to prevent distortion, use a caul and do not overtighten the clamps. When dry, sand the top face until it is even, and then sand the bottom.



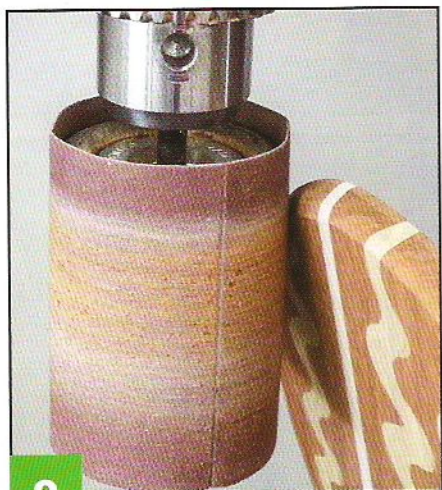
7

Invert the sanded blank so the underside faces upward. Draw a horizontal line between the maple strips, $4\frac{3}{4}$ " (12.1cm) down from the top edge. Locate the midpoint and mark it with a sharp pencil. Check for accuracy by measuring to this point from the edge of each strip. Mark the point with an awl, and then use a compass to draw a circle 9" (22.9cm) in diameter. The circle will pass through the ends of the curves and remove all blade-entry holes. Cut around the circumference, staying just outside the line, and then sand to the line with a belt sander.



8

Draw a centerline around the outer edge of the workpiece. It will be about $\frac{3}{16}$ " (5mm) down from each face. Tilt the table of a vertical belt sander to 30° . Holding the workpiece with the top facing upward, sand carefully around the circumference to create a bevel from the bottom face to the centerline. *Note: You can get the same results with the scroll saw by tilting the left side of the saw down to 30° and cutting clockwise from the line to the bottom face.*



9

Refine the top of the stand.

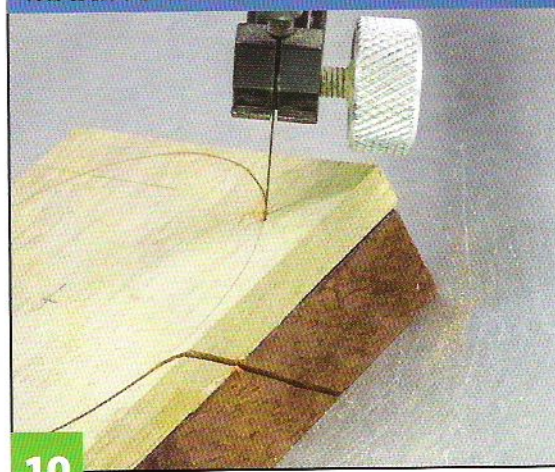
Use a pneumatic drum to soften the lower edge and round the underside into a gentle curve. Round the circumference by hand-sanding, and sand the circumference and upper face progressively through the grits to 220.

TIP

DUST COLLECTION

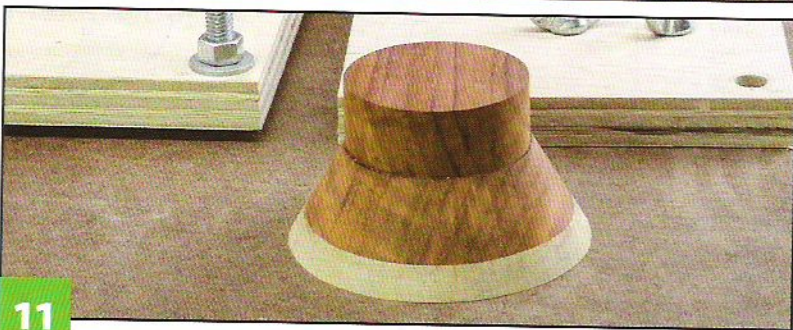
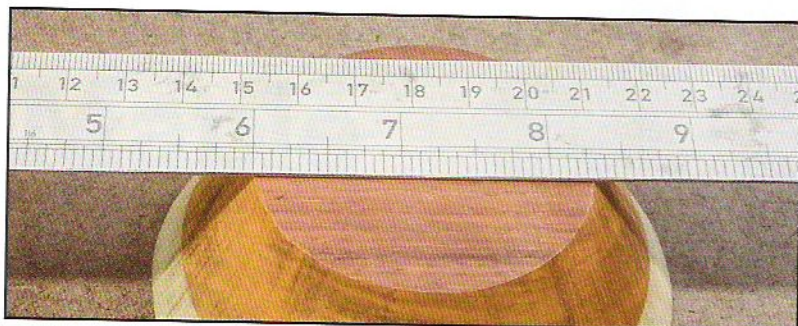
As you sand the upper face, vacuum frequently to control the migration of sanding dust from colorful wood into the pores of adjacent light-colored areas. Remove any remaining dust by selectively sanding the affected areas with narrow strips of sandpaper. Vacuum all surfaces thoroughly before applying the sealer coat of shellac.

MAKING THE BASE



10

Prepare the base blank. Stack and glue the 4" (10.2cm) squares of padauk and yellowheart together. Be sure to align the grain of the two pieces. Clamp and let dry. Then draw a $3\frac{3}{4}$ " (9.5cm) circle on the yellowheart face and tilt the left side of the saw table down to 30° . Cut clockwise around the circle to create the angled portion of the base. Sand the sides smooth with a belt sander, making sure the table is tilted to 30° .



11

Place the angled piece down on the bench with the padauk facing up. Measure the diameter; it should be about $2\frac{1}{4}$ " (5.7cm). Draw a circle with this diameter on the remaining piece of padauk. With the saw blade and table perpendicular to each other, cut the circle, staying just outside the line. Level the table of your belt sander, and sand the padauk to the line. Align the grain of the two base pieces, and then glue them together, clamp, and let dry.



12

Shape the sides of the base into a smooth curve. Use either a pneumatic drum with a coarse grit or a spindle sander. *Note: Be careful not to damage the bottom edge of the yellowheart as you shape the curve.* When the base is fully shaped, sand it progressively through the grits until you reach 220. Sand away any padauk dust that has migrated into the yellowheart border. Soften the bottom edge slightly using a belt sander with table level, and then hand-sand that edge into a smooth curve.



13

Complete the project. Place the top piece on the workbench with the underside facing up. Use the center mark to draw a circle with a diameter equal to that of the top of the pedestal. Apply blue painter's tape inside this circle, and to the top face of the pedestal. Apply a sealer coat of shellac to all surfaces of both pieces, spraying in light coats to prevent color bleeding. If any occurs, remove the affected areas by sanding with 320-grit sandpaper when the shellac has dried. Remove any particles with a clean cloth. Apply several additional coats of a clear finish, such as shellac or a clear gloss lacquer, to the pieces. Remove the blue tape.



14

Choose the best grain alignment for the top and base. Glue the two pieces together, using the circle on the underside as a guide to placement. Clamp in a bowl press, remove briefly to correct slippage and remove any squeeze-out, and then re-clamp. If you don't have a press, protect the top surface with a piece of waxed paper and center a weight over the pedestal area. Let dry fully.

Materials & Tools

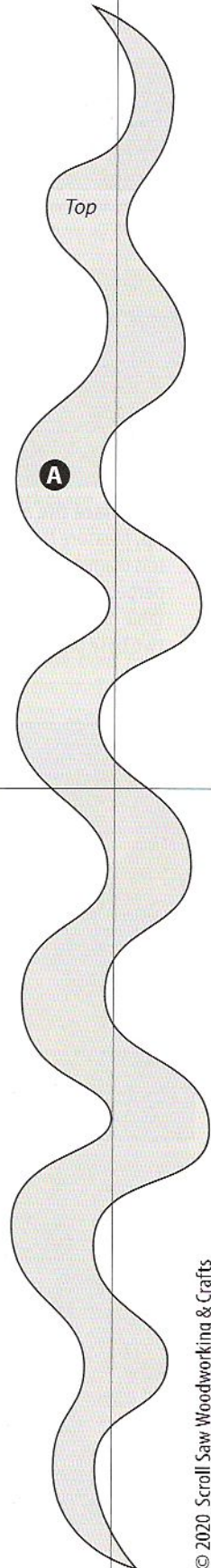
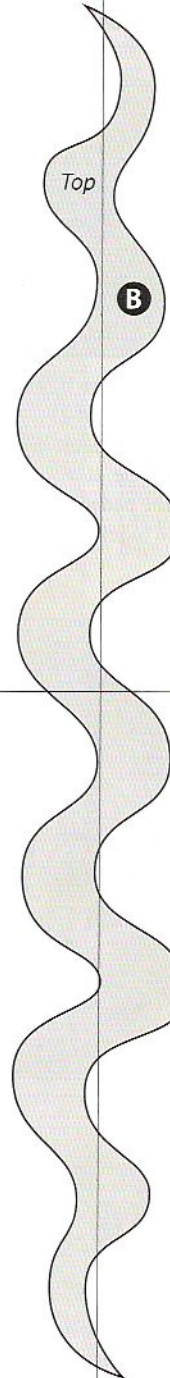
Materials

- Padauk, $\frac{3}{8}$ " (1cm) thick: center section, $3\frac{1}{2}$ " x $9\frac{1}{2}$ " (8.9cm x 24.1cm); sides, 2 each 3" x $9\frac{1}{2}$ " (7.6cm x 24.1cm); test piece, 1" x 5" (2.5cm x 12.7cm)
- Yellowheart, $\frac{3}{8}$ " (1cm) thick: center swirls, 3" x $9\frac{1}{2}$ " (7.6cm x 24.1cm); side swirls, 2 each $1\frac{1}{2}$ " x $9\frac{1}{2}$ " (3.8cm x 24.1cm); test piece, 1" x 5" (2.5cm x 12.7cm); pedestal base, 4" (10.2cm) square
- Maple, $\frac{3}{8}$ " (1cm) thick: strips, 2 each $\frac{1}{4}$ " x $9\frac{1}{2}$ " (6mm x 24.1cm)
- Padauk, $\frac{3}{4}$ " (1.9cm) thick: pedestal pieces, 3" (7.6cm) square; 4" (10.2cm) square
- Spray adhesive: repositionable (or glue stick)
- Pencil or chalk
- Tape: blue painter's
- Waxed paper (optional)
- Sandpaper: assorted grits up to 320
- Spray lacquer: clear gloss
- Spray shellac: clear
- Steel wool: 0000

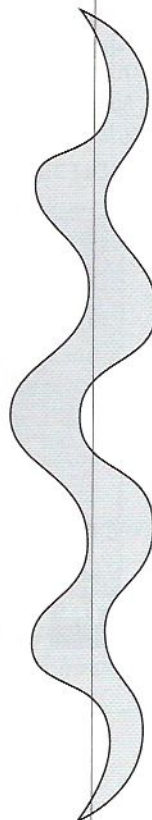
- Wood glue, such as Weldbond
 - Tape: double-sided
 - Clean cloths or paper towels
- ### Tools
- Drill with bit: $\frac{1}{16}$ " (2mm)-dia.
 - Scroll saw with blades: #7 reverse-tooth
 - Spindle sander with 2" (5.1cm) spindle
 - Pneumatic drum sander, 2"-2 $\frac{1}{2}$ " (5.1cm-6.4cm)
 - Drum sander or orbital sander: medium-grit
 - Belt sander with medium-grit belt
 - Clamps
 - Wooden mallet
 - Awl
 - Caul (optional)
 - Compass
 - Shop-made bowl press (optional)
 - Digital angle gauge (optional)

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

Pedestal Dessert Stand Swirl Patterns



Test Swirl Pattern



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 scrollsawbowls.blogspot.com. You'll find her books, *Creative Wooden Boxes from the Scroll Saw* and *Scroll Saw Wooden Bowls: Revised & Expanded Edition*, at foxchapelpublishing.com.

WOOD PROFILE

Maple

Looking for variety
and natural beauty?
Make it maple!

By Janette Square

Maple is a broad term for roughly 200 species of trees of the genus *Acer* that grow all over the world. However, the North American lumber industry mainly uses two types: hard maple and soft maple.

Hard maple, also known as sugar maple (*Acer saccharum*), is perhaps the most widely used variety in the furniture and woodworking industry. It is also one of the hardest domestic hardwoods in North America, with a Janka rating of 1450 (compared to white oak, which is 1360). Because of its density, it is favored for flooring, cabinetry, butcher blocks, baseball bats, and more. By comparison, soft maple varieties like bigleaf maple (*Acer macrophyllum*), box elder (*Acer negundo*), silver maple (*Acer saccharinum*), and red maple (*Acer rubrum*) have Janka ratings ranging from around 700 to 950.

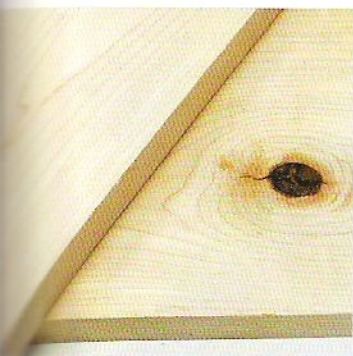
It can be difficult to tell the difference between hard and soft maple just by looking at them, but there are some indicators: hard maple tends to be lighter

I made the fish out of beautifully figured maple (top fish fins: curly maple, bottom fish body: maple burl). The cat's body is fashioned out of hard maple.

and more uniform in color, whereas soft maple is generally darker with more streaks. Attractive figured grain patterns occur in both. Birdseye, for example, is a hard maple figure recognizable by tiny knots in the grain. Curly maple, a figure named for its rippled grain, occurs most often in soft maple varieties (see below). You will pay a premium for these sought-after boards, but the beauty is worth the extra cost!

Cutting

Hard maple can be difficult to cut on a scroll saw because of its density. It burns easily, so apply clear packing tape to the surface prior to attaching your pattern. The size of your blade will vary depending on the thickness of the wood, as well as the brand of the blade. When cutting thicker pieces, I choose a more



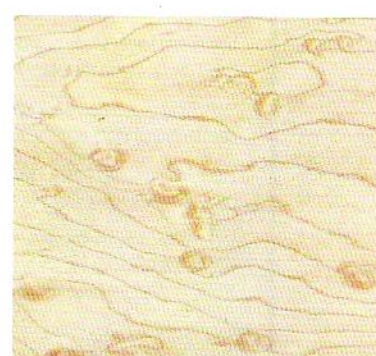
Prized for cabinetry and furniture making, hard maple is the most common and readily available type of maple.



Understated figures and a light color make soft maple an economical and beautiful wood to handle.



Curly maple comes in many varieties, each boasting different intensities of figuring. It is highly desirable for furniture and decorative pieces; the more figured, the higher the cost.



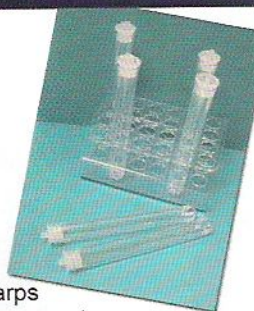
Birdseye maple has varying "eyes" throughout the wood, which add depth and interest.

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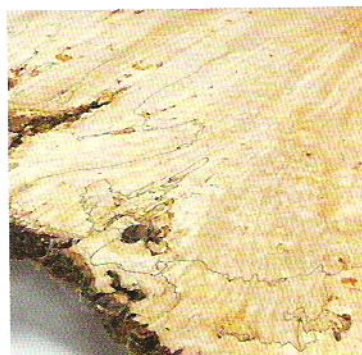
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aggressive blade, such as a #5 Flying Dutchman polar blade, to ensure clean and consistent cutting.

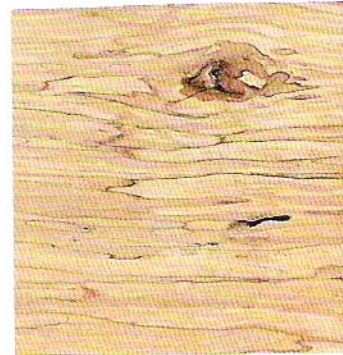
While hard maple tends to get all the attention, soft maple is a comparable alternative for scroll sawing. Generally less expensive and easier to work with, it is also more sustainable, growing at roughly twice the rate of hard maple.

Finishing

Finishing hard maple can be a challenge. If you want to add color, use a dye stain rather than a pigment; the amount of pigment required to properly color hard maple can hide the grain, resulting in an uneven, blotchy look. You can get incredible depth and dimension out of figured or curly maple with dye stains. However, if you want to highlight the natural beauty of both hard and soft maple, a clear finish is the way to go. Always experiment on scrap pieces before applying your finish of choice.



Flame figuring is one of the rarest types of maple figuring.



Spalting occurs when a piece of lumber begins the decaying process. If stopped in time, it creates some very unusual designs within the wood.

At a Glance

Although all maple varieties are technically hardwoods, the actual hardness can vary greatly depending on the species. Explore the wide array of choices and find the maple that suits your taste and budget. Sustainable, durable, and beautiful, this domestic wood is a great choice for a variety of scroll saw projects.

Maple burl is highly desired among turners and other woodworkers. Its intense figuring occurs due to a natural burl, or growth, forming on the tree.



Floral Trivets

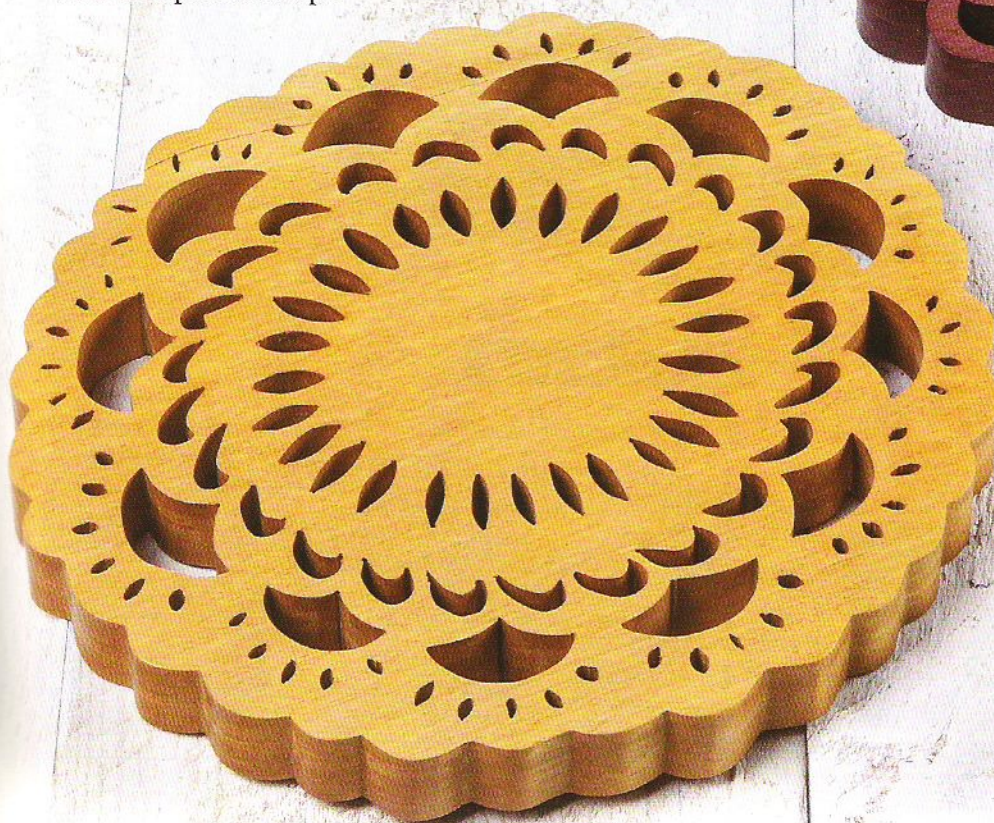
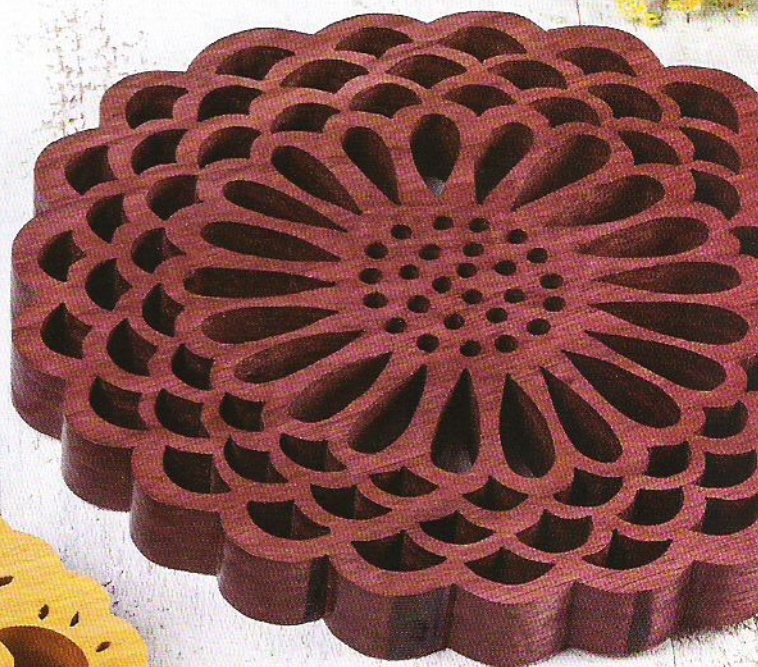
Turn rich hardwoods into delicate “doilies” you can use over and over again!

By Ghylenn Descamps
Cut by Dennis Knappen

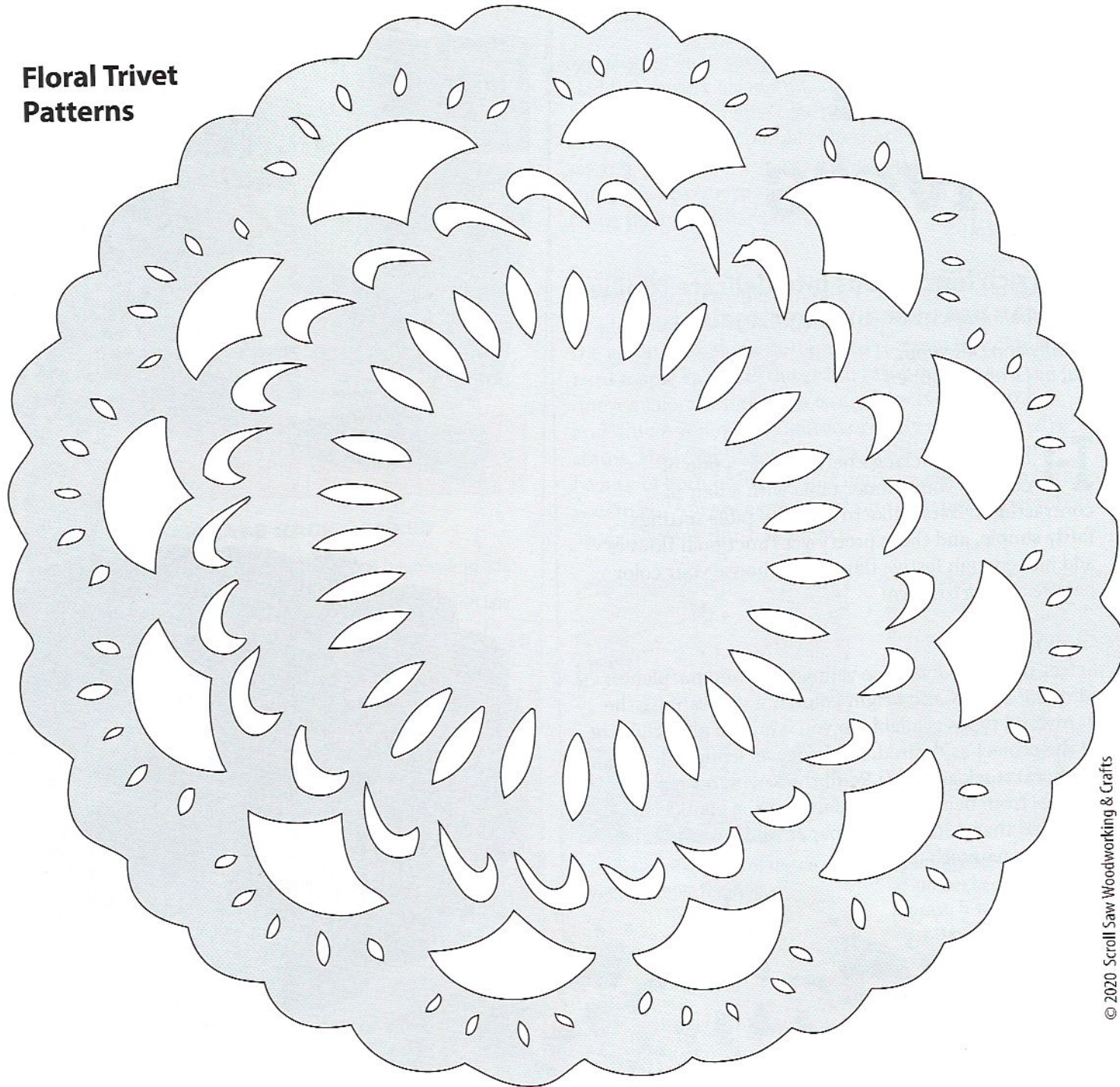
Hosting a special gathering? Add a pop of color to your dinner table with a pair of contrasting trivets. I like to keep my table settings fairly simple, and these pretty-yet-functional flowers add just enough festive flair. Now choose your color palette and go to town!

Getting Started

Select your wood; I chose yellowheart and purpleheart for their density and bright color, but you can use the hardwood types available to you. You can alter the size of the project as desired, but I suggest using at least 8" (20,3cm) stock at a $\frac{3}{4}$ " (1,9cm) thickness to keep the bridges from being too fragile. Sand the blanks with 120- and then 150-grit sandpaper, and cover them with blue painter's tape.



Floral Trivet Patterns



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Then attach the patterns using spray adhesive and drill the holes for the frets. *Note: For an easier version of this project, eliminate the frets along the outer edge of the yellowheart pattern.*

Cutting and Finishing

Cut the trivets; I used a #5 reverse-tooth blade, starting with the innermost cuts and moving outward. Cut the perimeters last. *Note: You may need to adjust blade size depending on the density and thickness of your stock.*

Sand both pieces, progressing gradually through the grits from 150- to 220-. Remove all fuzzies from the frets and round the edges of the perimeters slightly. Finish as desired; I used several coats of semigloss spray lacquer. Let dry and use as trivets or hang them up as wall decorations.

FURTHER READING

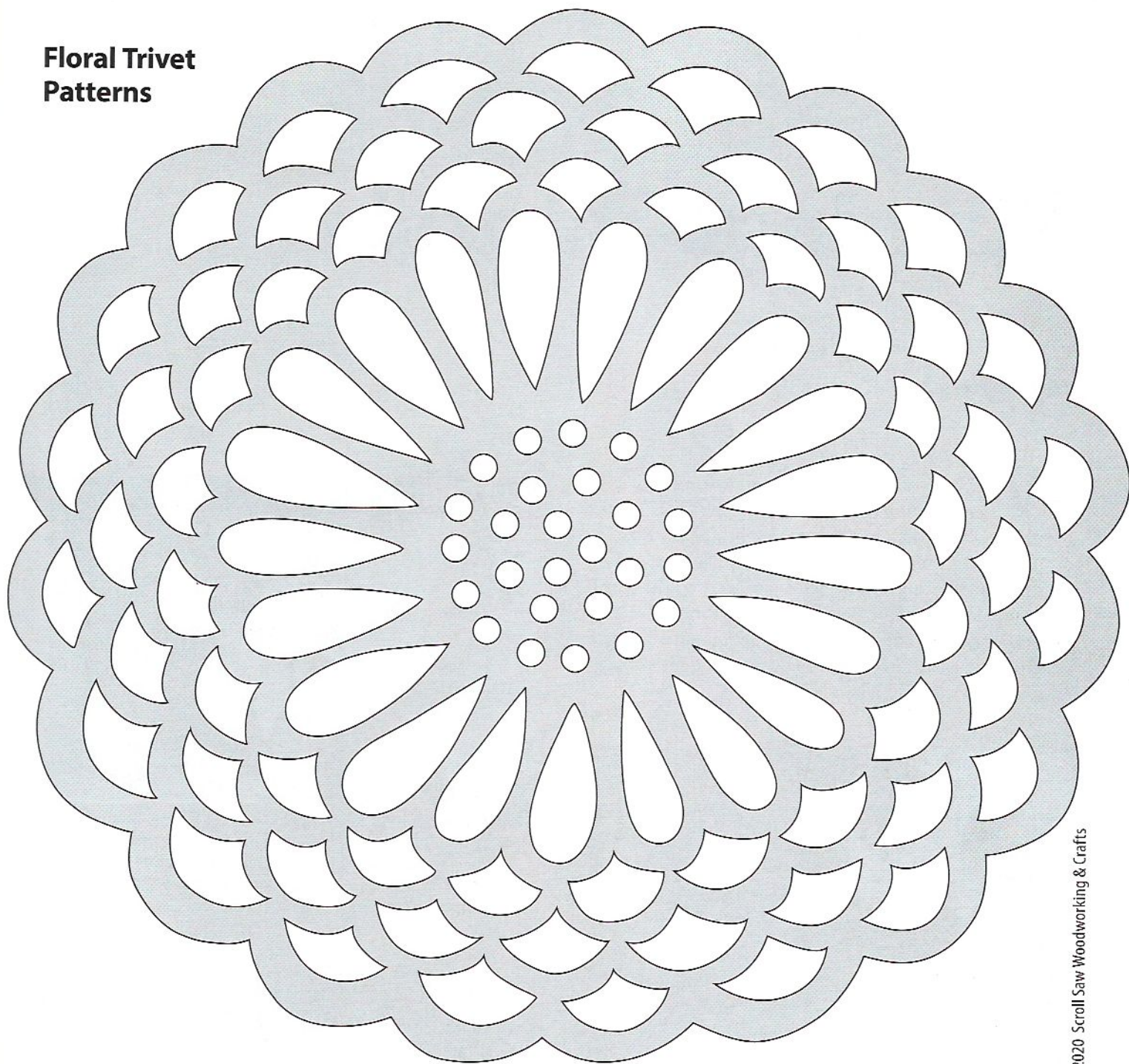
Beginner's Guide to Kirigami: 24 Skill-Building Projects Using Origami & Papercrafting Skills

By Ghylenn Descamps

Item 00169. Available for \$14.99 plus S&H (parcel post) from Fox Chapel Publishing, foxchapelpublishing.com, 800-457-9112, or your local retailer.



Floral Trivet Patterns



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Materials & Tools

Materials

- Wood, such as purpleheart, $\frac{3}{4}$ " (1.9cm) thick: $7\frac{1}{2}$ " x 8" (19.1cm x 20.3cm)
- Wood, such as yellowheart, $\frac{3}{4}$ " (1.9cm) thick: $7\frac{1}{2}$ " x $7\frac{3}{4}$ " (19.1cm x 19.7cm)
- Tape: blue painter's
- Spray adhesive
- Sandpaper: assorted grits up to 220

- Finish: clear semigloss spray lacquer

Tools

- Scroll saw blades: #5 reverse-tooth
- Drill with bits: assorted small

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



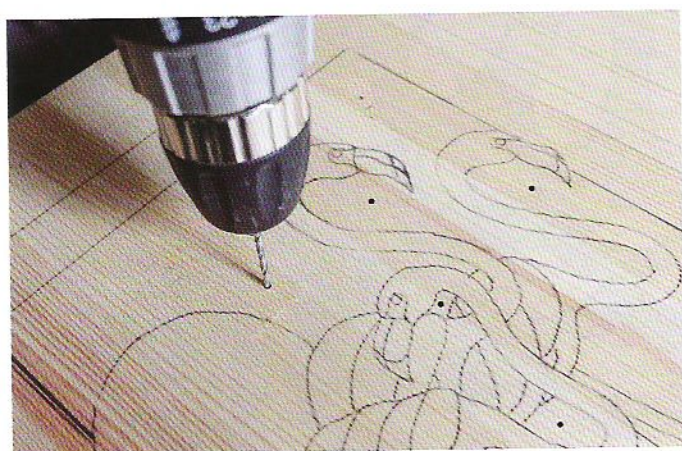
Ghylenn Descamps is a graphic artist, photographer, children's book illustrator, and author of numerous arts and crafts books. Always interested in experimenting with new techniques, Ghylenn is particularly fond of working with paper in all its forms. For more of her work, visit ghylenndescamps.com.

Flamingo Intarsia

Prep for your next beach party with this trio of tropical birds

By Anatoly Obelets

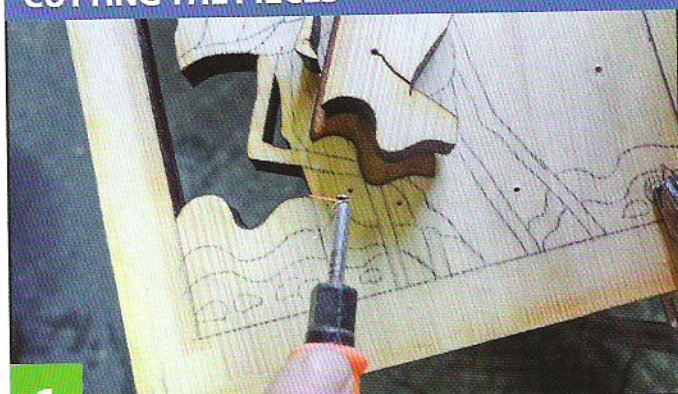
Whether you're preparing for a vacation or reminiscing about summers past, this fun flamingo scene is a great way to celebrate lazy days on the beach. The smooth curves in the waves and flamingo necks lend themselves perfectly to the scroll saw, and assorted stains and dyes add vibrancy to the otherwise bland pine I typically use. You can alter the beach details as desired, but I chose to keep it simple with a few rocks and a single seashell.



Getting Started

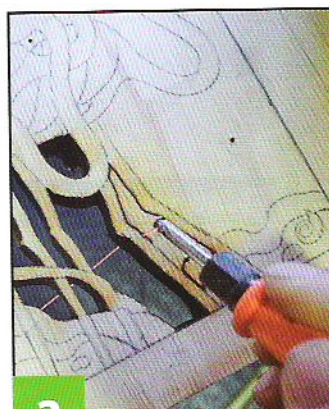
Cut the pine to size and sand it smooth with 100- and then 150-grit sandpaper. Photocopy the pattern and transfer it to the blank; I use graphite transfer paper and a pencil, but you can save time by attaching the design directly. Cover the wood with blue painter's tape and stick the pattern to the tape with spray adhesive. Cut the plywood backer. Attach the backer to the pine with clear packaging tape; you'll be removing it about halfway through the cutting process. Then drill all blade-entry holes; these will go around the perimeters of the sun and birds and between the birds' spindly legs.

CUTTING THE PIECES



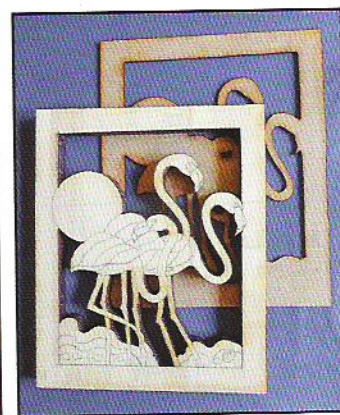
1

Make the outside cuts, starting with those around the birds' legs. Use a #7 blade or one of your choice. (I used a Pyrosegmentator (see page 55), but you can use a scroll saw.) Only make cuts in the areas with blade-entry holes; we will deal with the more intricate parts, such as the beach and wing details, later.

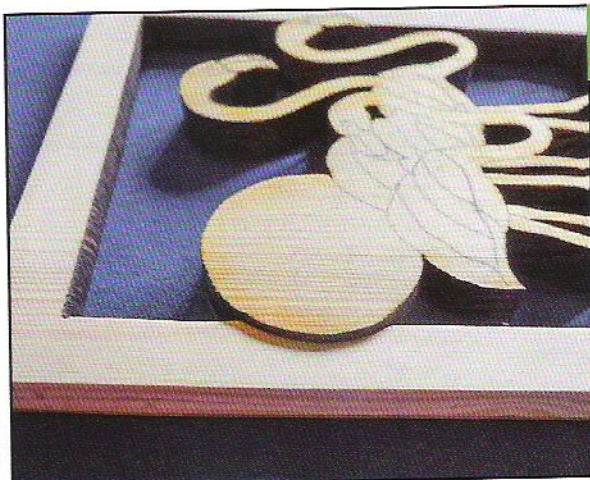
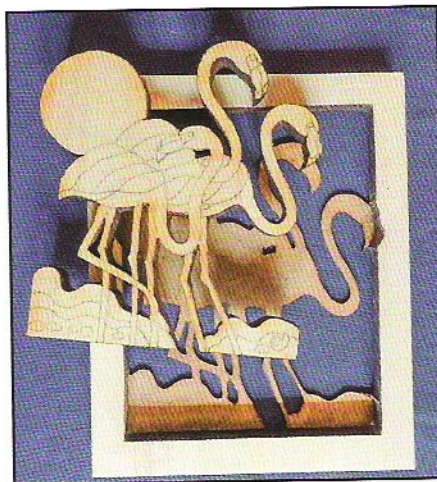


2

Gently work through the rest of the blade-entry hole areas. *Note: Keep in mind that you are cutting the plywood backer at the same time.* You should now see the outlines of the sun, birds, and beach. Make sure to maintain especially straight lines in the inner rectangle, as this will frame the finished piece. Separate the pine from the backer.



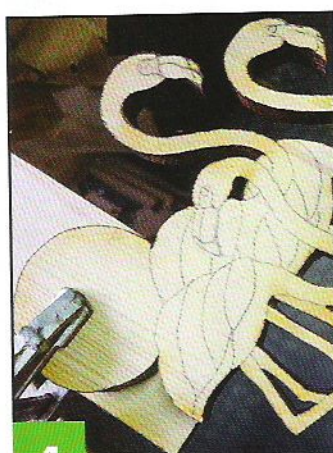




3

Separate the scene from

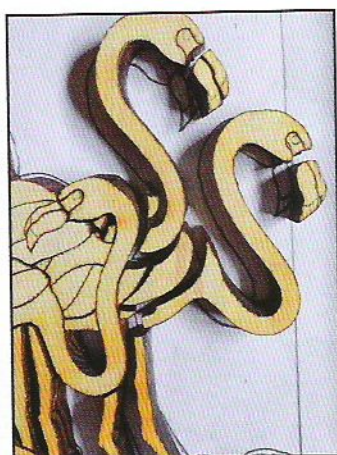
its frame. Only cut along the lines that connect the scene to the rectangle (i.e. the rightmost flamingo beak, the sun, and the bottom and sides of the beach). Sand down the pine frame $\frac{1}{4}$ " (6mm) using 150-grit sandpaper in a palm sander; this will make the scene stand out slightly from the frame, giving it volume and dimension. Place it on top of the completed backer, and glue and clamp the pieces together.



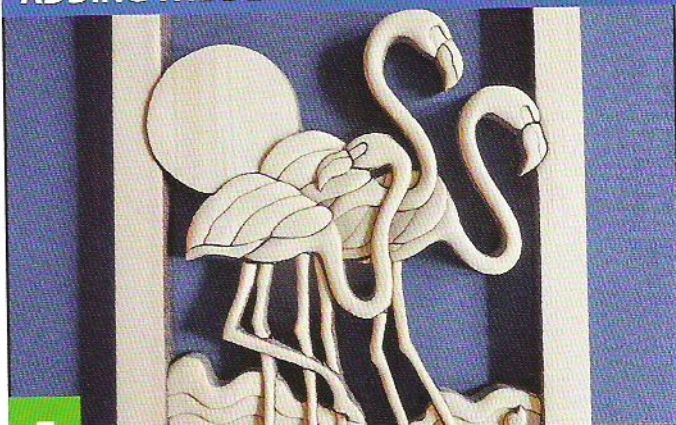
4

Carefully cut the remainder of the pieces.

Cut the pieces as you would a segmentation or puzzle. Use a #2 blade or one of your choice. Only cut the centerlines of the beaks and the larger eye areas; you'll add the beak tip details and eyeballs later.



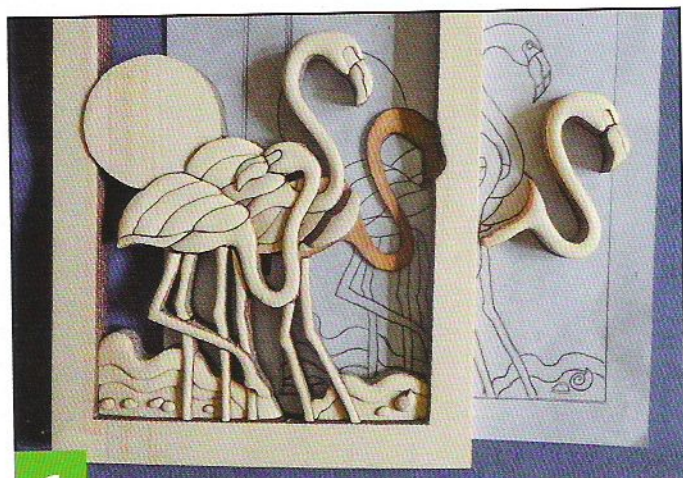
ADDING THE DETAILS



5

Add dimension to the pieces.

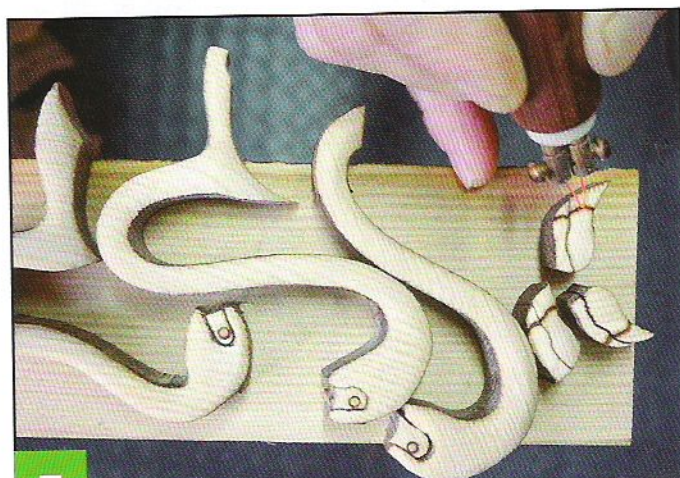
Round each feather and leg section, and give the rocks irregular shapes so they don't all look the same. Each feather and wave layer should have its own dimension separate from that of the other pieces. Use a flex drum sander. Then hand-sand the surface of each piece smooth, moving up progressively through the grits until you reach 320.



6

Dry-assemble the scene.

Look everything over to ensure even sanding, and eliminate any remaining gaps between pieces with sandpaper.



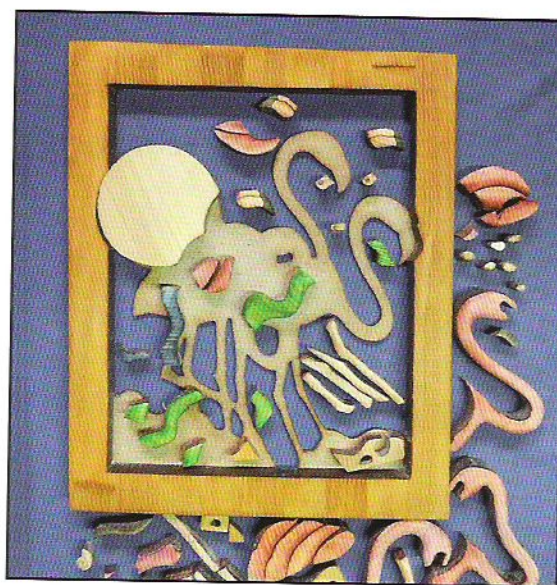
7

Add the remaining details.

Add the woodburned beak tips with a writing nib in a woodburner and the eyeballs with a nail punch.

8

Add color as desired. The advantage of a light wood like pine is that many colors will work for this project. I used alcohol-based stains and dyes. Once the stains or dyes have dried, gently sand along the edges to create a faded, antique look.



9

Assemble the scene. Glue the pieces to the backer and finish with water-based clear matte varnish. Display as desired; I added a bluish-green frame to bring out the color in the surf and attached a hanger to the back.



Materials

- Pine, $\frac{3}{4}$ " (1.9cm) thick: $9\frac{1}{2}$ " x 12" (24.1cm x 30.5cm)
- Plywood or similar, $\frac{1}{4}$ " (6mm) thick: $9\frac{1}{2}$ " x 12" (24.1cm x 30.5cm)
- Tape: blue painter's, clear packaging
- Spray adhesive: repositionable
- Sandpaper: assorted grits up to 320
- Graphite paper (optional)
- Assorted alcohol stains and dyes, such as light oak, fern, golden pine, mahogany, and teak
- Wood glue
- Varnish: clear matte

- Hanger: D-ring (optional)
- Frame, sized to fit (optional)

Tools

- Scroll saw blades: #2, #7 reverse-tooth
- Drill with bit: $\frac{3}{64}$ " (1mm)-dia.
- Sanders: palm, flex drum
- Woodburner with nib: round writing
- Nail punch
- Clamps
- Paintbrushes

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

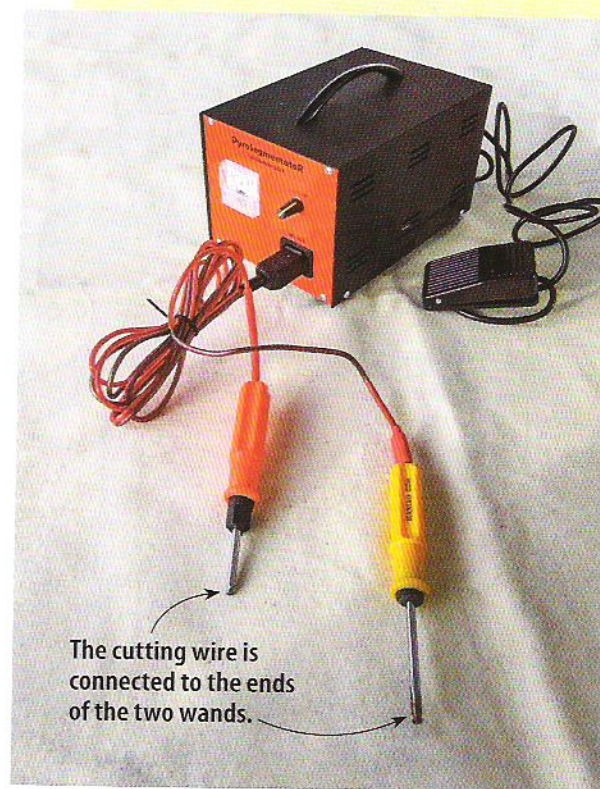
Materials & Tools

The Pyrosegmentator

The Pyrosegmentator is Anatoly's tool of choice for intricate intarsia and segmentation projects. Comprised of a portable power source and wand containing a (0.3-0.4mm)-thick metal wire, this unique machine allows him to make clean, decisive cuts in wood up to $1\frac{1}{2}$ " (3.8cm) thick. But what's the process?

- Drill blade-entry holes, as one would with a regular fretwork project.
- Pass the wire part of the first wand through the hole and attach the other end to a second wand.
- Turn the heat on. This will allow the wire to cut through wood with the precision of a scroll saw or laser (see photos 1, 2, and 4).
- Make the cuts, manipulating the wire with the wands at each end.

Slightly larger than an average woodburner, the Pyrosegmentator comes equipped with a transformer to lower voltage and boasts a simple, straightforward design. The pyrosegmentator is not currently sold by U.S. retailers. For pricing and details on how to order your own, contact Anatoly Obelets at obelets1960@gmail.com.

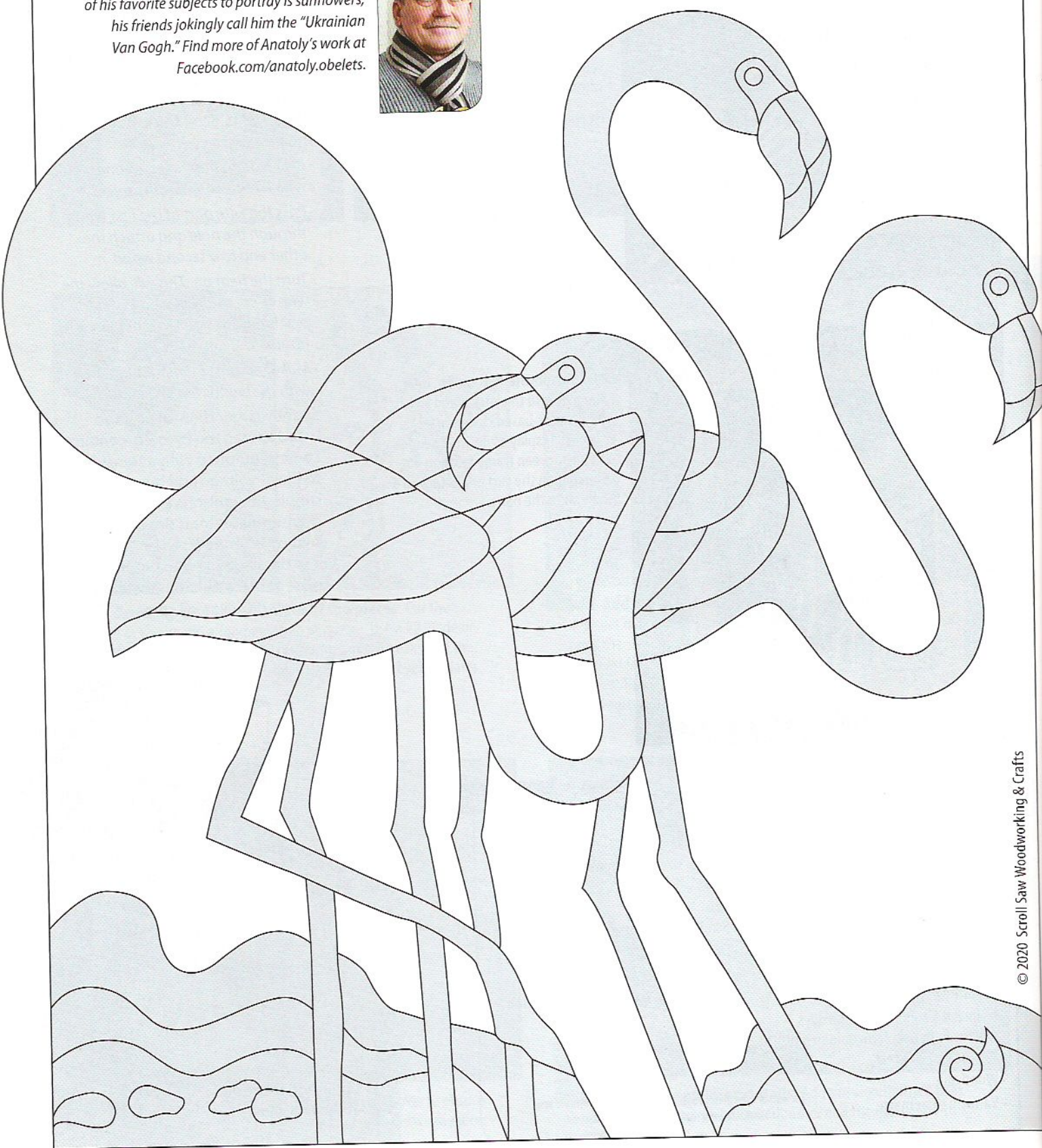


The cutting wire is connected to the ends of the two wands.

Anatoly Obelets of Kherson, Ukraine, has been engaged in intarsia work for over 15 years. One of his favorite subjects to portray is sunflowers; his friends jokingly call him the "Ukrainian Van Gogh." Find more of Anatoly's work at [Facebook.com/anatoly.obelets](https://www.facebook.com/anatoly.obelets).



Flamingo Intarsia Pattern



Hot-Air Balloon PUZZLES

Dreamy designs are satisfyingly simple to cut and finish

By Sarah Lyn Chamberlain

Hot-air balloons have fascinated adventurers and romantics alike since their advent in the late 18th century. Consisting of a fabric balloon (known as the “envelope”), a basket, and a mechanism that generates lift by means of heated air, the hot-air balloon may not be the fastest mode of air transport—but it’s certainly one of the most elegant. I designed my puzzles after the classic upside-down teardrop shape to give them a timeless feel, but advanced scrollers can tweak the profiles as desired. *Note: For very young children, woodburn along the lines of the smallest pieces instead of cutting them.*

Getting Started

Choose a kind of wood; I prefer $\frac{3}{4}$ " (1.9cm) pine, but any variety will do. Sand the blanks with 80-grit sandpaper, and cover the surfaces with blue painter’s tape. Photocopy the patterns, and then use spray adhesive to secure them to the tape. The grain should flow vertically.

Cutting and Finishing

Cut the outside shape of each puzzle, and then work through the rest of the cuts. It helps to start with unwieldy areas, like the baskets; this way, you can set them aside early on and maneuver the remaining stock more easily. When cut, remove the patterns, reassemble the puzzles, and use an orbital sander on the fronts and backs. Sand the edges by hand, moving up progressively through the grits until you reach 220. Stain as desired; I used several shades of Minwax. When all the pieces are dry, apply a clear gloss finish.



Sarah Lyn Chamberlain has loved woodworking since age five, but did not start scrolling until she purchased her first scroll saw as an adult. She taught herself how to use it and hasn’t stopped since. Sarah enjoys intricate projects, but her favorite thing to create is playful puzzle designs. For more of Sarah’s work, visit her website at creativestuff.ca.



Pattern for the above
HOT-AIR BALLOON PUZZLE is in
the pullout section.

ON THE WEB Wavy striped balloon pattern is on our website. scrollsawer.com

Materials & Tools

Materials

- Pine, $\frac{3}{4}$ " (1.9cm) thick: $7\frac{1}{4}$ " x $9\frac{1}{4}$ " (18.4cm x 23.5cm)
- Spray adhesive
- Tape: blue painter’s
- Sandpaper: 80-, 150-, 220-grit
- Assorted stains, such as Minwax: dark walnut, gunstock, red oak
- Finish: clear spray, such as Rust-Oleum 2X Gloss

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

Tools

- Scroll saw blades: #5 or #7 reverse-tooth
- Sander: orbital
- Woodburner with nib: writing (optional)

Bald Eagle Fretwork

Create feather texture so realistic,
your friends won't believe it's wood!

By Charles Hand

This fierce flier is anything but bald. In fact, I've zoomed in on his head so you can see practically every feather in detail! If you love fretwork but are nervous to try out a close texture like feathers or fur, I urge you to give this project a go. Sometimes all you need is a challenge to soar above the rest.

Prepping and Cutting

Sand the front and back of the blank thoroughly. Blow off the dust or remove it with a tack cloth. Attach removable Con-Tact® creative covering paper to the top of one blank. Apply spray adhesive to the back of the pattern. Let the adhesive set for two to three minutes, and then press the pattern down onto the paper, eliminating any air bubbles.

Stack the portrait blanks with the pattern on top. Hold the wood flat and the stack securely while you wrap blue painter's tape around the perimeter. Drill blade-entry holes and cut the frets. Since I use spiral blades, I sand the bottom of the stack every 10 cuts to remove the fuzzies.

Sanding and Finishing

Remove the tape from the perimeter and peel off the Con-Tact® paper. Sand the portraits carefully. For large, open areas, such as those around the moon, insert the cut-out pieces before sanding, to protect the delicate bridges. Use needle files to clean up tight areas.

Remove the sander dust with compressed air. Apply a clear spray finish if you don't plan to use a picture frame with glass. Remove the backing board and mat from the picture frame, and line up the portrait to the back side of the mat opening. Attach black felt to the back of the portrait with blue painter's tape. Add the backing board and secure the portrait in the frame.

Framing Notes

A standard 11" by 14" (27.9cm by 35.6cm) mat opening is normally 10½" by 13½" (26.7cm by 34.3cm), so I designed my patterns to suit that size. Take a tape measure when shopping for a picture frame, and make sure the mat opening is exactly 10½" by 13½" (26.7cm by 34.3cm).



Charles Hand is retired from a career in electrical/mechanical design, graphic arts, and senior project management. He enjoys intarsia, fretwork, segmentation, inlay, and just about everything there

is to cut with a scroll saw. Charles has won best of show and several other awards for his work and designs at local craft and woodworking shows. For more information and a tutorial on Charles' Con-Tact® paper method and framing technique, or for more of his patterns, visit scrollsawart4u.weebly.com.



Materials

- Baltic birch plywood, $\frac{1}{8}$ " (3mm) thick: 2 or 3 each 11" x 14" (27.9cm x 35.6cm)
- Sandpaper: 180- to 220-grit
- Tack cloth
- Tape: blue painter's
- Self-adhesive shelf liner, such as Con-Tact® removable covering
- Spray adhesive, such as Elmer's or 3M Super 77
- Finish: clear spray lacquer

- Felt backing, black: 11" x 14" (27.9cm x 35.6cm)
- Photo frame, matted: standard 11" x 14" (27.9cm x 35.6cm)

Tools

- Scroll saw blades: #2/0 to #1 spiral (interior cuts), #3 or #5 reverse-tooth flat (straight cuts)
- Drill press with bits: $\frac{3}{64}$ " (1mm)-dia. or #56 wire size, $\frac{1}{16}$ " (2mm)-dia. or #53 wire size

Materials & Tools

- Palm sander: fine-grit
- Needle files (optional)
- Air compressor (optional)

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

Pattern for the **BALD EAGLE** FRETWORK is in the pullout section.



Frog Pond AUTOMATON

Straightforward mechanism lets you skip right to the details in this whimsical scene

By Wanda Sowry

This cheery wildlife pond is full of color and delicate details. And because it contains a simpler mechanism than that of most automaton projects, it's also a great introduction to the art form. Use the colorful wood scraps you have on hand to create a scene unique to you!

Note: If you purchase standard cocktail skewers or dowels and find that they're slightly too wide for the pieces to be threaded onto them, simply sand them down with 220-grit sandpaper until you reach the required diameter.

Getting Started

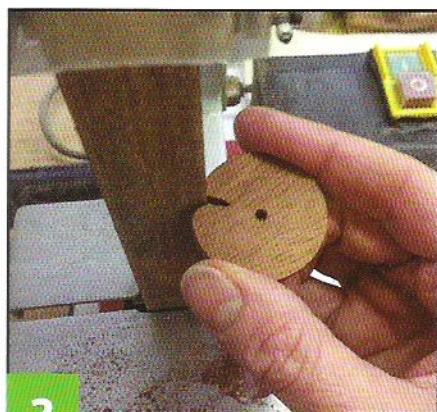
Sand the blanks, moving up gradually through the grits from 120 to 220. Make sure to wipe off the excess dust with a cotton cloth between grits. Then cover the blanks with blue painter's tape and attach the patterns to the tape with spray adhesive. (I prefer to just draw the patterns directly on the wood, but you can use whichever method works best for you.) Drill $\frac{1}{16}$ " (2mm)-dia. holes in the blanks for the butterfly spots and flower centers, and $\frac{1}{8}$ " (3mm)-dia. holes for the bulrushes (follow the instructions on the pattern). Drill $\frac{3}{16}$ " (3.5mm)-dia. holes for the lily pads and round stems. Then drill the $\frac{5}{16}$ " (8mm)-dia. holes in the blank for the mechanism pieces.

MAKING THE POND & LILY PADS



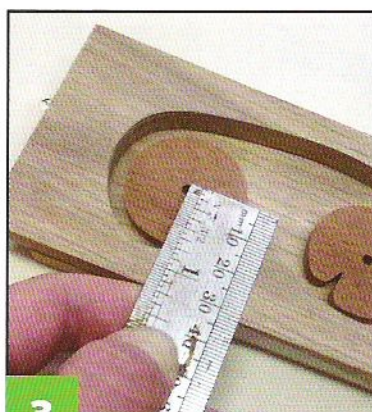
1

Cut the five base pieces. Use a table saw or scroll saw. Mark the pieces as top, middle, bottom, left, and right so you don't confuse them. Drill a $\frac{1}{32}$ " (8.5mm)-dia. hole in each side C for the mechanism to go through. Cut out the pond shape on a scroll saw. Hand-sand the inside edges, working gradually through the grits from 150 to 220.



2

Cut the lily pads and the round stems that will sit inside the top base layer (A). Sand the pieces by hand, using a 1" (25mm) mini belt sander to smooth the notch area in each lily pad.



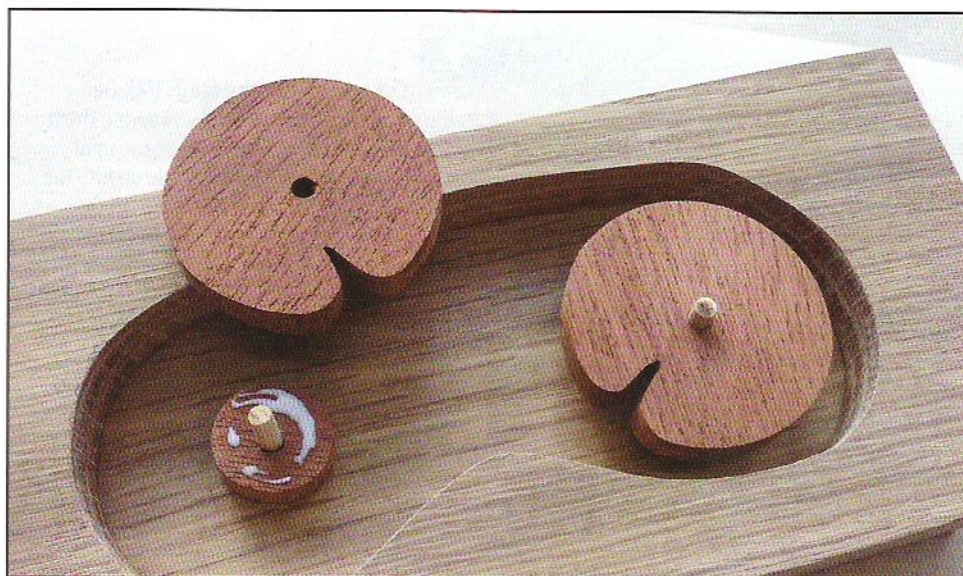
3

Center the middle base piece under the top base piece. Tape the flush edges (the back and front of the pond) together with masking tape. Place the lily pads in the pond and measure them so the centers sit $1\frac{1}{4}$ " (3.2cm) from the front. Mark the centers with a pencil. Drill $\frac{3}{16}$ " (3.5mm)-dia. holes in the middle section of the base (D), and center the top base piece (A) once again over the middle one.

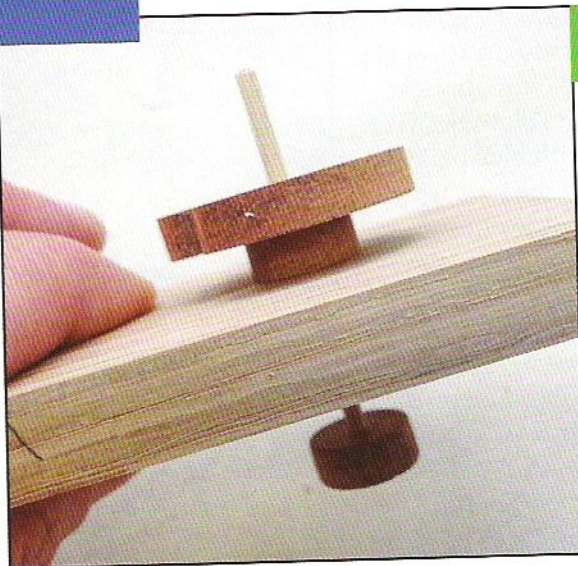
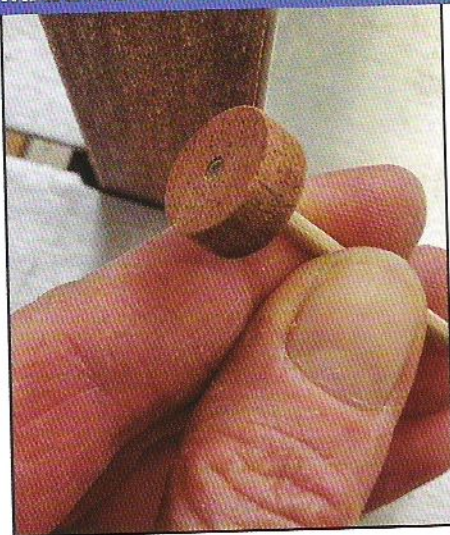


4

Cut the bamboo skewers for the lily pads (K). Thread the skewers through the holes in the lily pads and round stems, leaving around 1" (2.5cm) of skewer protruding from the top; these will stabilize the frogs later on. Glue the lily pads to their stems (L) and the stems to the middle layer (D) with wood glue, making sure not to glue the skewer. Let dry. Move the skewer around to ensure that it will allow the frogs to hop up and down freely.

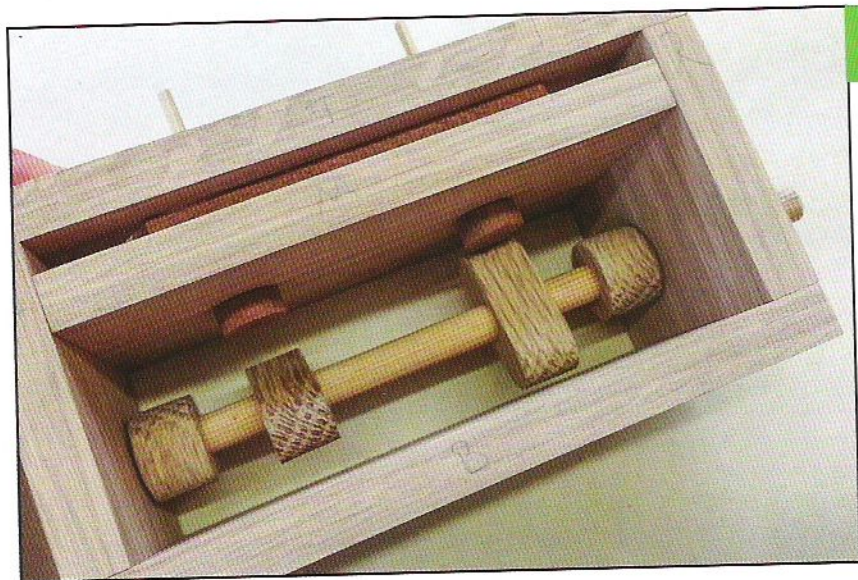


MAKING THE MECHANISM



5

Cut the cams, camshaft stoppers, followers, and crank (I, F, J, G). Sand the edges smooth using the mini belt sander. Assemble the followers by threading the bottoms of the bamboo skewers—the ones you used to measure the lily pad and stem holes—until they're flush with the bottoms of the followers. Do not glue them yet. If necessary, give the bottoms of all mechanism pieces a final sand with a shop-made sanding block. Rub them with wax (I used a tea light candle) to keep the mechanism running smoothly, and buff with a brown paper bag.



6

Assemble the base, attaching the pieces temporarily with masking tape. Use scraps of $\frac{1}{4}$ " (6mm) mahogany as a temporary wedge between the top and middle layers. Then assemble the mechanism. Thread the cams and circular stoppers onto the camshaft and run it through the holes in both sides, but don't glue the pieces yet. Position the cams directly under the followers and turn the mechanism a few times to make sure the cams cause the followers to bob up and down as they turn. Once you are satisfied with the placement of the mechanism elements, add the crank pieces (G, H), leaving around $\frac{1}{16}$ " (2mm) of clearance between the crank and base. Glue and clamp the base and mechanism in place, wipe off excess glue, and let dry. Use scrap wood spacers to keep the edges aligned. *Note: If you want to mask the non-crank end of the cam shaft with a flower, let it stick out around $\frac{1}{16}$ " (2mm) from the left side.*

ADDING DETAILS & ASSEMBLING



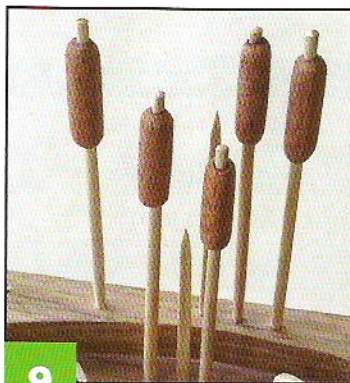
7

Cut and shape the frogs (M). Dome the tops and curve their faces, tapering them down to a point at the snout. Use the mini belt sander. Drill a small pilot hole up into the chest of each frog, about two-fifths of the way back from the nose, being careful not to drill through the belly. Re-drill the hole with the $\frac{1}{16}$ " (2mm)-dia. bit. Then mark the areas where the eyes will go. Drill the eyeholes with the $\frac{1}{32}$ " (1mm)-dia. and then the $\frac{1}{16}$ " (2mm)-dia. bit; then glue in the small pieces of $\frac{1}{16}$ " (2mm) toothpick. Be careful not to snap the frogs. Sand the eyes down until they protrude only slightly from the face. Then, starting with a pilot hole, drill a small hole in the center of each protruding eye with a $\frac{1}{32}$ " (1mm)-dia. drill bit or similar.



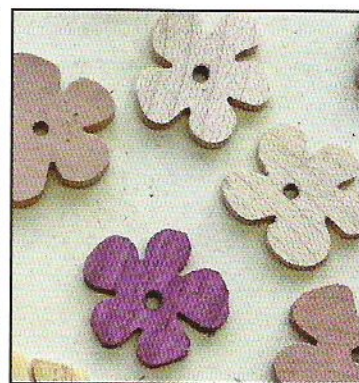
8

Attach the frogs. Shorten the follower sticks so the frogs can leap about $\frac{1}{2}$ " (1.3cm) high and drop to touch the lily pads. Glue the follower and frog ends in place. Then drill several short pilot holes in the top and middle base pieces where the flowers and bulrushes will go. Avoid drilling all the way through. Redrill all pond detail holes—the flowers and pond grass with the $\frac{1}{16}$ " (2mm)-dia. bit and the bulrushes with the $\frac{1}{8}$ " (3mm) bit.



9

Cut the bulrushes and flowers (N, Q). Then, using a temporary stem for a handle, spin and round each bulrush against the 1" (25mm) sanding belt. Remove the temporary stems, glue the bulrushes to their final stems, and let dry. Gently hand-sand the flowers using shop-made sanding sticks. Cut the toothpicks down to size for the stems and glue the flowers on. Hand-sand the tops again with 220-grit sandpaper until smooth and flush with the skewers.



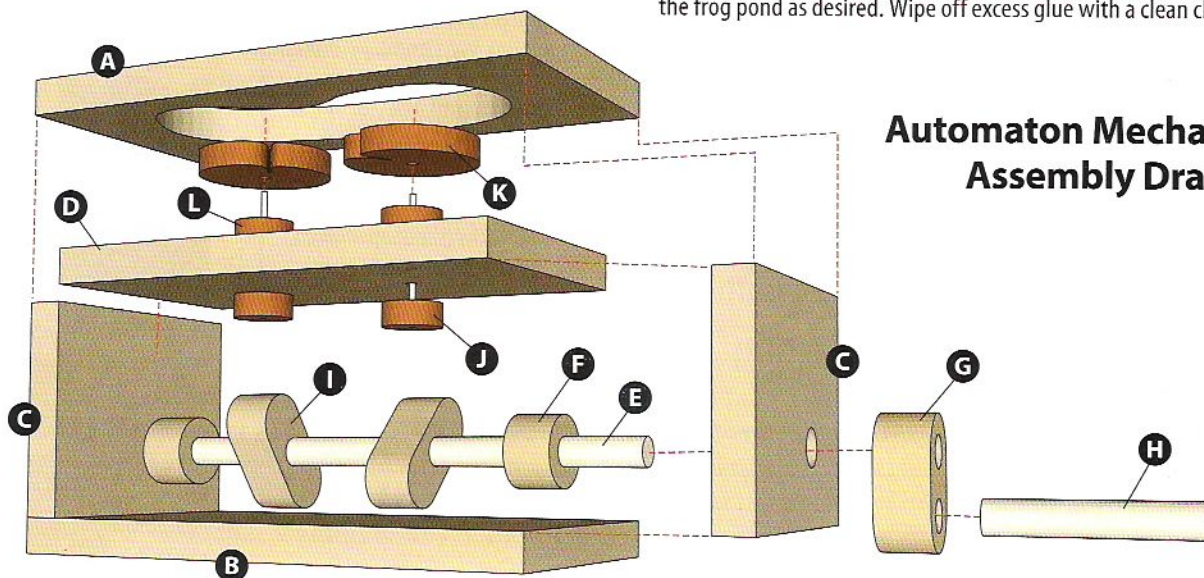
10

Cut the arrow, insect torsos, butterfly and dragonfly wings (R, O, P). Add the butterfly wing details. I glued a small length of $\frac{1}{16}$ " (2mm) toothpick into each polka dot hole. Once dry, sand the butterfly wings flat on both sides with the shop-made sanding block. Hand-sand the remaining insect pieces to remove fuzzies, and glue the torsos to the wings. Set the arrow aside.



11

Add the remaining pond details. Position all your bulrushes, pond grass, and flowers before fixing them with a tiny dab of wood glue; I like to set a few at interesting angles for added visual interest. Glue some insects across two of the bulrush stalks and add the arrow to the crank side to indicate which direction it should be turned. I've added a dragonfly to the inside of the base, as well as some extra flowers and butterflies to the ends, but you can add extra details to the frog pond as desired. Wipe off excess glue with a clean cloth.



Automaton Mechanism Assembly Drawing

Parts List

	Part	Quantity	Materials	Finished Dimensions	Presentation
A	Top	1	Oak, $\frac{7}{16}$ " (1.1cm) thick	$2\frac{3}{4}$ " x $5\frac{3}{4}$ " (7cm x 14.6cm)	Pattern
B	Bottom	1	Oak, $\frac{7}{16}$ " (1.1cm) thick	$2\frac{3}{4}$ " x $5\frac{3}{4}$ " (7cm x 14.6cm)	Dimensions
C	Side	2	Oak, $\frac{7}{16}$ " (1.1cm) thick	$2\frac{1}{4}$ " x $2\frac{3}{4}$ " (5.7cm x 7cm)	Pattern
D	Middle	1	Oak, $\frac{7}{16}$ " (1.1cm) thick	$2\frac{3}{4}$ " x $4\frac{7}{8}$ " (7cm x 12.4cm)	Dimensions
E	Camshaft	1	Pine dowel, $\frac{5}{16}$ " (8mm)-dia.	$6\frac{1}{4}$ " (15.9cm) long	Dimensions
F	Camshaft stopper	2	Oak, $\frac{1}{2}$ " (1.3cm) thick	$\frac{3}{4}$ " (1.9cm) square	Pattern
G	Crank	1	Oak, $\frac{1}{2}$ " (1.3cm) thick	$\frac{3}{4}$ " x $1\frac{1}{4}$ " (1.9cm x 3.2cm)	Pattern
H	Handle	1	Pine dowel, $\frac{5}{16}$ " (8mm)-dia.	$1\frac{3}{4}$ " (4.4cm) long	Dimensions
I	Cam	2	Oak, $\frac{1}{2}$ " (1.3cm) thick	$\frac{5}{8}$ " x $1\frac{3}{8}$ " (1.6cm x 3.5cm)	Pattern
J	Follower	2	Mahogany, $\frac{1}{4}$ " (6mm) thick	$\frac{5}{8}$ " (1.6cm) square	Pattern
K	Lily pad	2	Mahogany, $\frac{1}{4}$ " (6mm) thick	$1\frac{1}{2}$ " (3.8cm) square	Pattern
L	Circular stem	2	Mahogany, $\frac{1}{4}$ " (6mm) thick	$\frac{5}{8}$ " (1.6cm) square	Pattern
M	Frog	2	Maple, $\frac{1}{4}$ " (6mm) thick	1" (2.5cm) square	Pattern
N	Bulrushes	5	Mahogany, $\frac{1}{4}$ " (6mm) thick	$\frac{1}{4}$ " x $\frac{3}{4}$ " (6mm x 1.9cm)	Pattern
O	Butterfly	Any	Colorful hardwoods, $\frac{1}{16}$ " (2mm) thick	1" x $1\frac{3}{8}$ " (2.5cm x 3.5cm)	Pattern
P	Dragonfly	Any	Colorful hardwoods, $\frac{1}{16}$ " (2mm) thick	$1\frac{1}{16}$ " x $\frac{3}{4}$ " (1.7cm x 1.9cm)	Pattern
Q	Flowers	Any	Colorful hardwoods, $\frac{1}{16}$ " (2mm) thick	$1\frac{1}{16}$ " (1.7cm) square	Pattern
R	Arrow	1	Colorful hardwoods, $\frac{1}{16}$ " (2mm) thick	$\frac{5}{8}$ " x $1\frac{1}{16}$ " (1.6cm x 2.7cm)	Pattern

Materials & Tools

Materials

- Oak or ash, $\frac{7}{16}$ " (1.1cm) thick: base, $2\frac{3}{4}$ " x 21" (7cm x 53.3cm)
- Oak or ash, $\frac{1}{2}$ " (1.3cm) thick: mechanism, $1\frac{1}{2}$ " x $2\frac{1}{2}$ " (3.8cm x 6.4cm)
- Mahogany, $\frac{1}{4}$ " (6mm) thick: lily pads, circular stems, and followers, $1\frac{1}{2}$ " x 4" (3.8cm x 10.2cm)
- Colorful wood offcuts, such as yellowheart, purpleheart, pear, and ebony, $\frac{1}{16}$ " (2mm) thick: flowers, insects, and crank arrow, assorted sizes (as many as you like)
- Maple, $\frac{1}{4}$ " (6mm) thick: frogs, 2 each 1" (2.5cm) square
- Mahogany, $\frac{1}{4}$ " (6mm) thick: bulrushes, approximately 1" (2.5cm) square
- Round bamboo skewer, $\frac{1}{8}$ " (3mm)-dia.: bulrushes and frog mechanism, approx. 32" (81.3cm) long
- Bamboo toothpicks, $\frac{1}{16}$ " (2mm)-dia.: flower stems, butterfly spots, and pond grass, approx. 32" (81.3cm) long
- Pine dowel, $\frac{5}{16}$ " (8mm)-dia.: handle, approx. 9" (22.9cm) long
- Pencil
- Spray adhesive
- Wood glue
- Sandpaper: assorted grits up to 220
- Tape: masking, blue painter's
- Finish, such as wax
- Brown paper bag

Tools

- Band saw or table saw
- Scroll saw with blades: #1 reverse-tooth (for small details), #7 reverse-tooth (for base and mechanism)
- Drill press with bits: $\frac{1}{32}$ " (1mm), $\frac{1}{16}$ " (2mm), $\frac{1}{8}$ " (3mm), $\frac{9}{64}$ " (3.5mm), $\frac{5}{16}$ " (8mm) (mechanism), $\frac{11}{32}$ " (8.5mm), $\frac{3}{8}$ " (10mm) (mechanism)
- Sander: 1" (25mm) mini belt
- Shop-made sanding blocks and sticks (sandpaper glued to flat-edged wood scraps)
- Clamps

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

Pattern for the
FROG POND AUTOMATON is
in the pullout section.



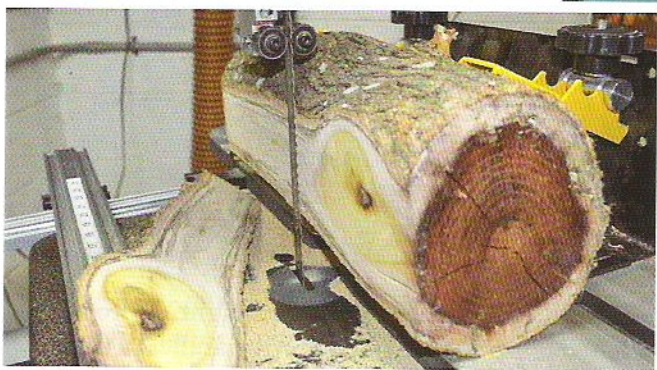
Wanda Sowry began making wooden automata in 1998 while studying craft and design at college. She

exhibits at craft and automata shows in the United Kingdom and Europe, and creates commissioned pieces using photos to incorporate personal details for gift recipients. Contact Wanda at wandasowry.com or on Instagram @wandasowry.

Resawing Wood for the Scroll Saw

Save cash by using a band saw to make custom blanks

By Rolf Beuttenmuller



I rescued this mulberry log from a storm-damaged tree. It is mounted (at left) on a purchased sled. The resulting slices have some interesting figure and color.

If you own a band saw and use a lot of thin wood for scrolling and other projects, resawing may be something to consider. It will certainly save you money and provide more flexibility of wood selection.

Resawing is the process of taking a board or log and ripping it into thinner pieces. It allows you to create larger panels from one piece of wood in a thickness necessary for the project—while maintaining the length and width of the original stock. You can cut veneers, thin panels for bent laminations, or prepare blanks for delicate fretwork shelves and clocks. You can even slice up interesting woodpile logs or windfallen branches that would otherwise lie unused.

Applications

Resawing is especially useful for fretwork projects. Almost every issue of *SSW&C* has a fretwork design that looks best when cut from cherry, maple, walnut, or any domestic

or exotic woods that you may have on hand. They all have one thing in common—thin wood, typically $\frac{1}{4}$ " (6.4mm) to $\frac{1}{2}$ " (1.3cm) thick. Because many fretwork shelves are wide or tall, I edge-glue the material before cutting, and then book-match the wood so that the seam is almost invisible. (The Japanese-Inspired Shelf in Issue #75 comes to mind (at left); I cut it from a piece of figured maple.)

You can also resaw exotic hardwoods into two contrasting blanks for an impressive beveled inlay. Simply drill a small hole through both, set your saw to the correct angle for the material thickness, and cut carefully for stunning results with no gaps. (See the Stylized Lion and Tiger in Issue #77.)

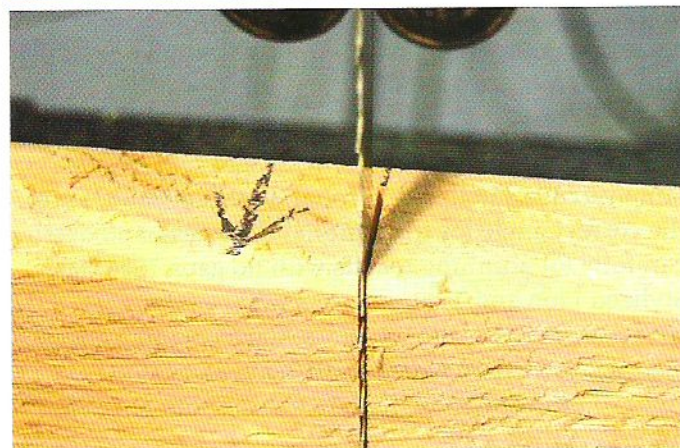
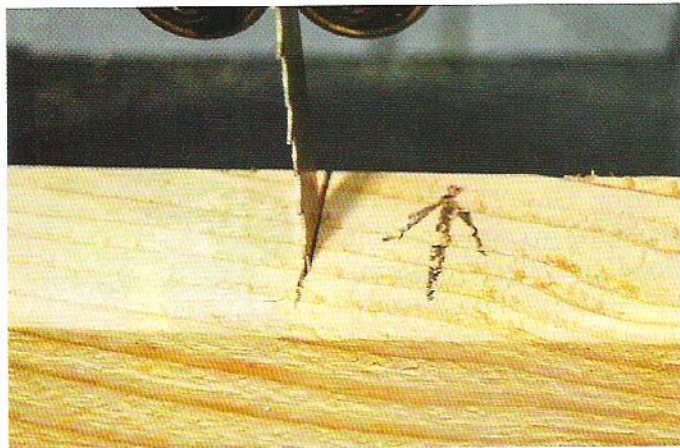
Resawing also allows you to make custom veneers in a variety of thicknesses. Cutting your own gives you the option of book-matching your slices for some beautiful effects.



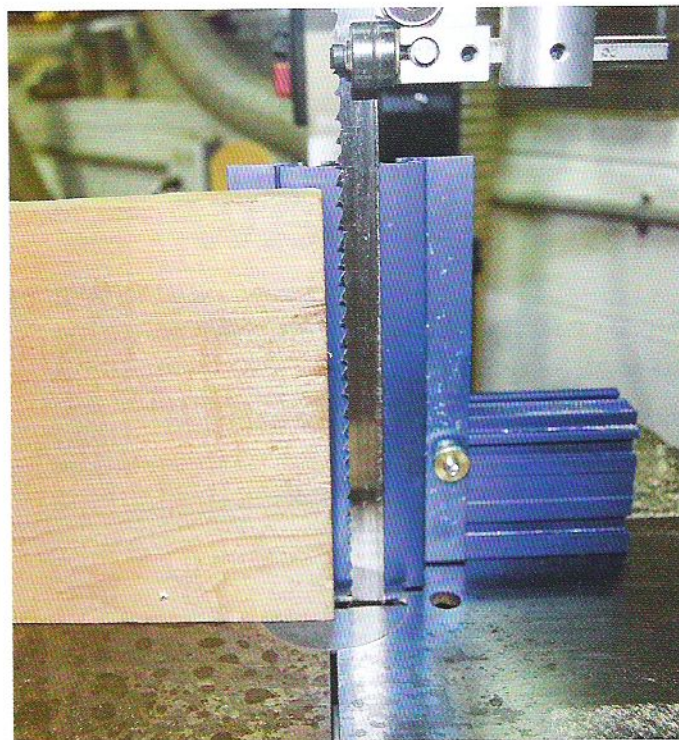
Saw Preparation

Many of the newer 14" saws are capable of cutting just over 12" in height; some older versions include a 6" riser accessory, which adds extra height capacity. A good quality resaw blade ranges from $\frac{1}{2}$ " (1.3cm) to $\frac{3}{4}$ " (1.9cm) wide at 3-4 teeth per inch (TPI). Follow your band saw manufacturer's recommendation for maximum blade width. Band saw blades are like scroll saw blades; everyone has a favorite and an opinion. But no matter which blade you choose, the saw has to be properly tuned. Here are the basics:

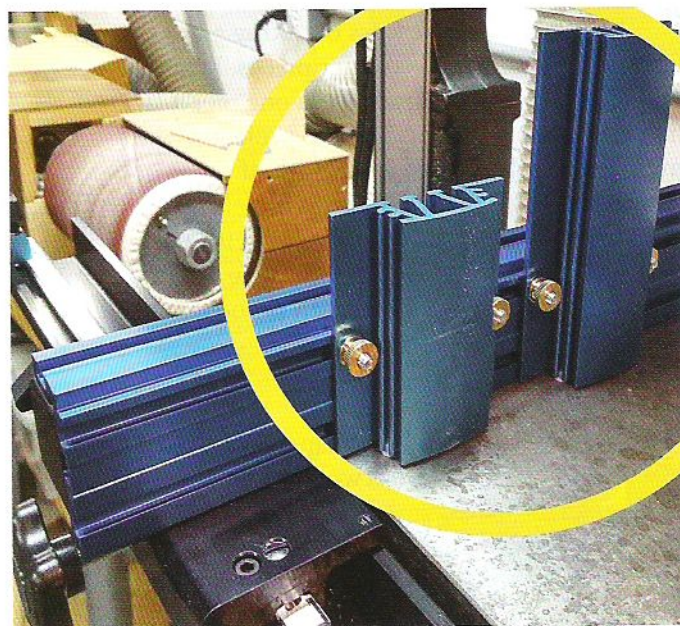
1. **Set proper blade tension.** You should note no more than $\frac{1}{4}$ " (6mm) deflection at the center of a 12" (30.5cm) length.
2. **Center the blade.** The blade gullet should be centered on the crown of the wheel. A properly adjusted saw with a sharp blade will not drift.
3. **Set the blade perpendicular to the table.** You can use a square or do as you would on the scroll saw. For the latter, cut into a block of wood, and then turn the block around and meet the first cut in the center of the block. If the cuts continue seamlessly into each other, the blade is perpendicular.

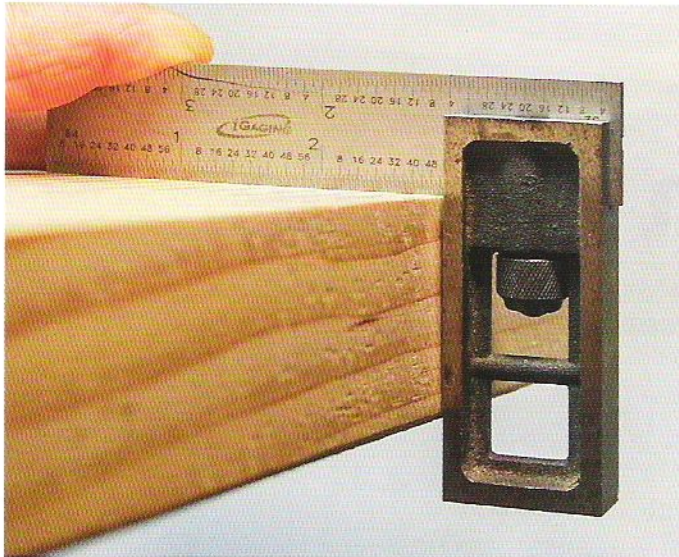


4. **Set your blade guide.** Blade guides should sit as close to the blade as possible without touching it. A paper thickness is typical.

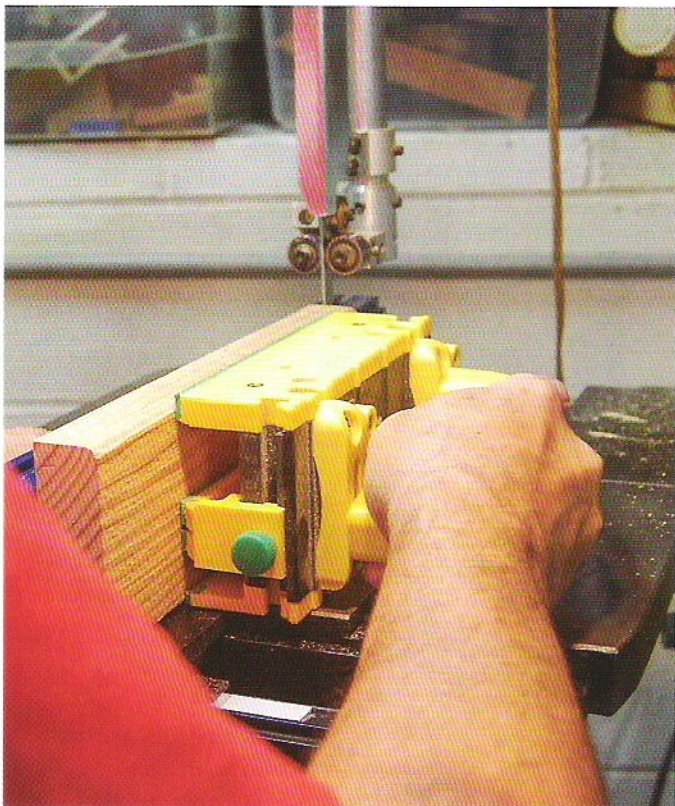


5. **Align the fence and adjust for height.** A properly aligned fence should sit perfectly parallel to the blade. A good rule of thumb is that the workpiece should not exceed twice the height of the fence, as you need solid support when resawing. Several sets of plans for making a tall fence are available online, but some fences (like the one below) come with additional height support for resawing.





6. Test out the saw. Make some cuts in a square piece of scrap wood. Then measure the four corners of the slice. If the wood is thicker at the top or bottom, adjust the table angle. If the thickness varies from front to back, check the fence alignment. Allow enough additional thickness to compensate for the saw marks, as they will need to be sanded or planed off. For my blade, I add about $\frac{1}{16}$ " (1.6mm) to the wood being resawn. *Note: Alex Snodgrass, a demonstrator for Carter Tools, has an excellent video on tuning a band saw. Find it on YouTube at [thewoodworkingshows](https://www.youtube.com/watch?v=...).*



Wood Preparation

Make sure the wood has a flat, square edge and a smooth surface. This helps it sit flush against the table and fence. If I plan on bookmatching the pieces later, I cut a slice and joint, plane, or sand the cut surface of the remaining piece. Then I take another slice, so each slice has one good face.

Safety

When you're resawing, safety comes first. Always wear adequate eye and breathing protection, and wear gloves when changing the blade. Use the blade guards and bring the upper guides as close to the top of your material as possible to limit the amount of blade exposed.

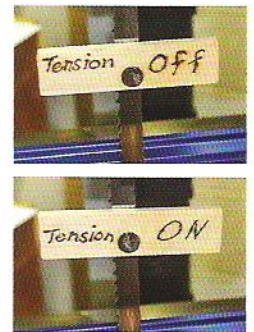
When using the band saw, keep your fingers and hands away from the blade. Use a push stick or similar tool to feed and press the wood against the fence. I prefer using a GRR-RIPPER® (at bottom left) for better control.

General Notes

I always release the tension on the blade when it's not in use. To remind me of the blade's status, I wood burned a magnetic reminder to tension the blade.

When resawing reclaimed logs, it is important to thoroughly clean them with a brush to eliminate any dirt and debris, as these can dull your blade. You will also need a sled to safely hold the log.

If you plan on bookmatching your slices, mark the wood to keep track of the edges. Resawn green wood should be edge-sealed and stickered so it stays flat and dries evenly. One year per inch of thickness is typical.



Additional Tools

If you require more precisely dimensioned wood, you will need either a thickness planer or a drum sander. Be very careful when planing thin material, as it can eject from the planer. I highly recommend using a planer sled for any thickness below $\frac{1}{4}$ " (6.4mm). I made my own sled using a simple, flat board and a few pieces of carpet tape. However, for very thin wood, a drum sander is preferable. *Note: Warping in resawn blanks can sometimes occur. To minimize warping, make sure to store wood in a moderately cool, dark, dry place with adequate ventilation.*

For more information on resawing, as well as useful shop tips, visit the How To section of our website, scrollsawer.com.

Tropical Fish Mobile

Adorn your room with a school of swimming sea creatures

By Bill Miller

This fretwork mobile is fun to make and can abound with as many fish as your heart desires—but the fun doesn't stop there. The variety of finishing options is just as abundant. You can paint each fish with one or more colors, stain them, add glitter, or leave them natural for an earthier look. You can also reduce the amount of cutouts depending on your comfort level. These fish will look great no matter how you adapt them!

Getting Started

Prepare the blanks. You can cut single fish from $\frac{1}{4}$ " (6mm) stock or two fish from $\frac{1}{8}$ " (3mm) stock. For the second option, sandwich the thin pieces of wood together and attach them outside the pattern area with wood glue or wire brads. Cover the surface of the wood with blue painter's tape and attach the patterns to the tape with spray adhesive. *Note: I put painter's tape on both sides of the wood to reduce tear-out.*

Cutting and Finishing

Drill the blade-entry holes and the holes for the eyes and body spots. All fish eyes are $\frac{3}{16}$ " (5mm). The nine holes in the body of Fish #1 are $\frac{1}{2}$ " (13mm). The tail hole is $\frac{5}{16}$ " (8mm) in Fish #2 and $\frac{1}{4}$ " (6mm) in Fish #4. Alternately, you can leave the fish eye sections solid and attach plastic eyes instead. Then cut the fish, starting with the interior frets, and cut the perimeters last. I used a #1 ultra reverse blade. Remove the patterns and gently sand each piece to remove any fuzzies or harsh edges, moving up progressively through the grits until you reach 320.

Finish the fish; I used Dye-Na-Flow fabric dye, but you can use spray paint, artist acrylics, oil-based stains, or any other comparable finish you prefer. Seal with a few coats of semigloss spray lacquer and let dry.

Make the hanger. I made a simple one in the style of a marionette crown, reinforcing the intersection point with a thin wooden disc on each side. I then added screw eyes along the bottom for the fish to hang on, attaching a barrel snap swivel and fishing line under each screw eye to allow the fish freedom of movement. Alternately, you can directly insert the fishing line through holes in the crown arms and secure them with a glue gun.

Materials & Tools

Materials

- Baltic birch plywood, $\frac{1}{8}$ " (3mm) or $\frac{1}{4}$ " (6mm) thick: 6 each $3\frac{1}{4}$ " x $5\frac{1}{2}$ " (8.3cm x 14cm)
- Wooden discs, $\frac{1}{16}$ " (2mm) thick: 2 each 2" (5.1cm)-dia.
- Oak or similar, $\frac{1}{4}$ " (6mm) thick: 4 each $\frac{1}{2}$ " x 6" (1.3cm x 15.2cm)
- Tape: blue painter's
- Spray adhesive
- Sandpaper: assorted grits up to 320
- Dye or paint, such as Dye-Na-Flow fabric dye
- Wood glue
- Wire brads (optional)

- Fishing line
- Screw eyes: 7 each $\frac{1}{2}$ " (13mm)-dia. (optional)
- Barrel snap swivels: 7 each (optional)
- Plastic eyes: 12 each $\frac{3}{8}$ " (1cm)-dia.
- Finish: semigloss spray lacquer

Tools

- Scroll saw with blades: #1 ultra reverse
- Drill with bits: $\frac{3}{16}$ " (5mm), $\frac{1}{4}$ " (6mm), $\frac{5}{16}$ " (8mm), $\frac{1}{2}$ " (13mm)-dia.

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

Patterns for the **TROPICAL FISH MOBILE** are in the pullout section.



Bill Miller developed his skills in the King's Point wood shop and now resides in Delray Beach, Fla. His passion is making kinetic wood art.



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Wooden Teddy Bear—Inside Front Cover

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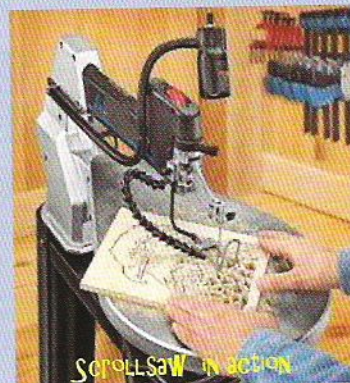


FretWork

Intarsia



Marquetry



Scrollsaw in action

Scrollsaw Association of the World

Scrollers come in all ages, sizes, genders, and interests. Some prefer cutting fretwork, others create beautiful artwork in wood intarsia, while still others cut beautiful plaques with messages, and others work on the intricate designs of marquetry. Consider joining the thousands of Scroll Saw artists by...

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Fox Hunt

Mellanie Boone of Lock Haven, Pa., and Rebekah Visel of Lena, Il., were randomly drawn from the participants who located the fox in our last issue (Spring 2020, Issue #78). The fox was hiding in the left pineapple in Ghylenn Descamps's "Pineapple Wall Art", on page 42.

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 May 21, 2020, 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, 903 Square Street, Mount Joy, PA 17552 or enter online at scrollsawer.com.

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Cutting and Finishing

Attach the pattern to the wood with spray adhesive. Drill $\frac{1}{8}$ " (3mm)-dia. holes for the eyes and cut the puzzle. When cutting, note that one or two of the pieces may be unsafe for very small children. To avoid safety hazards, consider leaving the two smallest tentacles connected; you'll have an eight-piece octopus and no potential choking problems. Take extra care around the areas with wavy cuts; you want the "waves" to look relatively uniform.

Remove the pattern and sand the pieces with an orbital sander to remove any fuzzies. For a finished look, we round the corners with a Sand-O-Flex® abrasive wheel. Work your way progressively through the grits until you reach 180. Then apply your finish of choice; we used natural Danish oil to highlight the redheart's rich color, but if you chose a bland wood, you could paint the puzzle with thinned acrylics.

Note: If you paint the puzzle, be mindful of the kerf of your blade. We used a #7 blade, so we were able to get away with painting the interlocking edges of our puzzle.

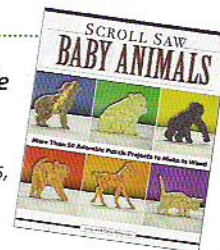
WANT MORE PUZZLES?

Scroll Saw Baby Animals: More Than 50 Adorable Puzzle Projects to Make in Wood

By Judy and Dave Peterson

Designs for pandas, piglets, bear cubs, lion cubs, and more, with simplified projects that are safe as toys.

Item 00541. Available for \$17.99 plus S&H (parcel post) from Fox Chapel Publishing, 800-457-9112, foxchapelpublishing.com, or your local retailer.



Playful Octopus Puzzle Pattern

Materials & Tools

Materials

- Redheart, $\frac{3}{4}$ " (1.9cm) thick: $4\frac{1}{2}$ " x $6\frac{1}{2}$ " (11.4cm x 16.5cm)
- Spray adhesive: repositionable
- Sandpaper: assorted grits up to 180
- Finish, such as Danish oil

Tools

- Scroll saw blades: #7 skip-tooth
- Drill press with Sand-O-Flex abrasive wheel, $\frac{1}{8}$ " (3mm)-dia. bit
- Sander: orbital

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



A former teacher and librarian, Judy Peterson found her niche in life as a woodworker. A winner of many design awards, she sells her puzzles at art shows around the country.

Her husband, Dave, runs the record-keeping side of the business. Together they have written several books, which are available at foxchapelpublishing.com.

Playful Octopus Puzzle



Curlicues and a wavy cutting technique add movement to this eight-legged stunner

By Judy and Dave Peterson

While visiting family in California, I stopped by the Aquarium of the Pacific. I was particularly taken with the octopus exhibit and decided to design a puzzle after it—but my first attempt resulted in a flimsy product. I examined the puzzle, saw the problem, and altered the pattern so the delicate areas could then hold up to years of use.

As a pattern designer who spends a lot of time at the scroll saw, I encourage you to always keep workshopping projects—whether they're your design or someone else's. If you try a design and it doesn't work perfectly for you, don't give up—experiment, improve, and apply that knowledge to your next creation! If I can do it, so can you.

(Continued on page 71)

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HEGNER Multimax
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Is your old scroll saw getting tired? Or have you just outgrown it?

FACT: Almost any modern scroll saw outperforms older spring-tension saw designs.

FACT: Only hand-assembled HEGNER High-Performance Precision Saws from Germany consistently outperform other modern scroll saws.

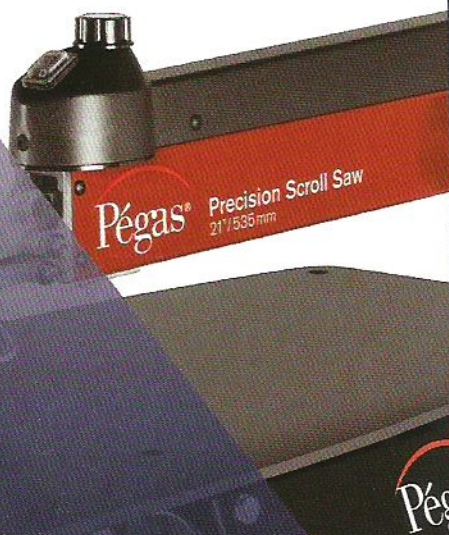
FACT: A HEGNER is The Ultimate Upgrade for your scrolling shop.

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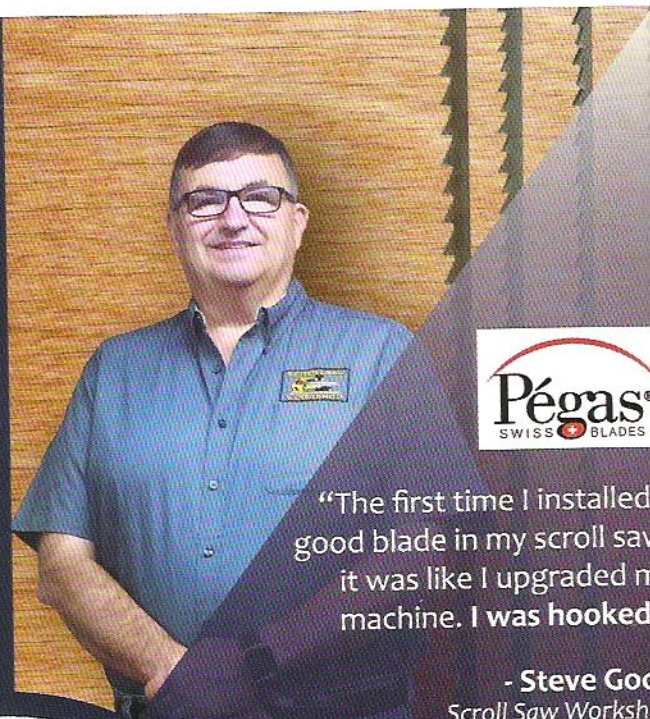
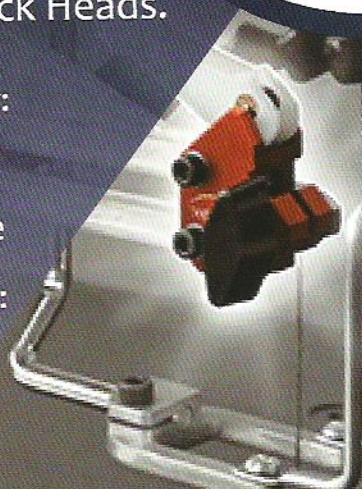
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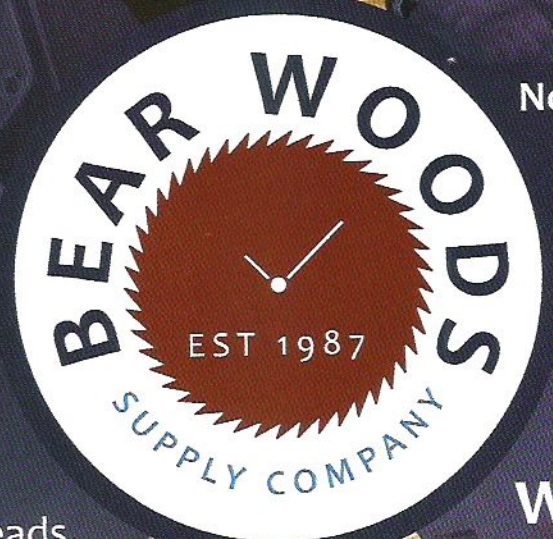


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- Steve Good
Scroll Saw Workshop

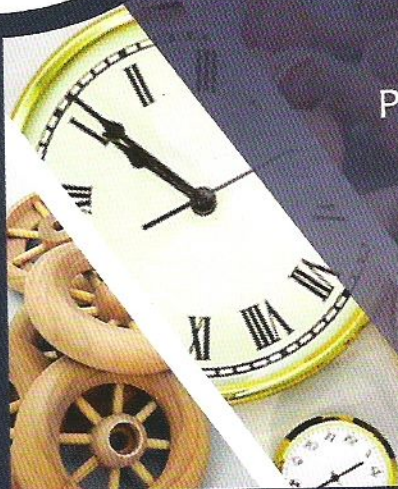
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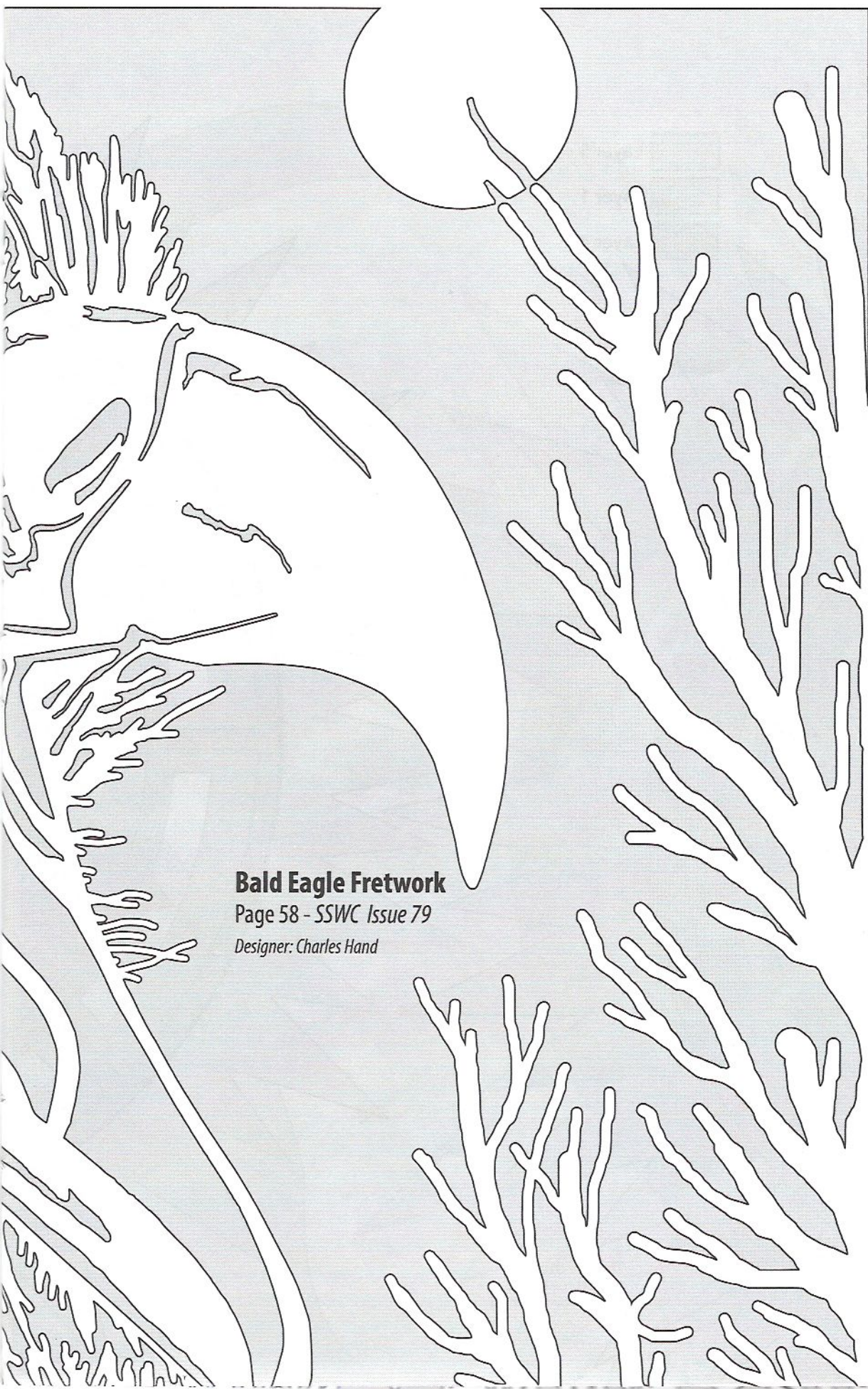


www.bearwood.com



www.woodparts.ca



**Bald Eagle Fretwork**

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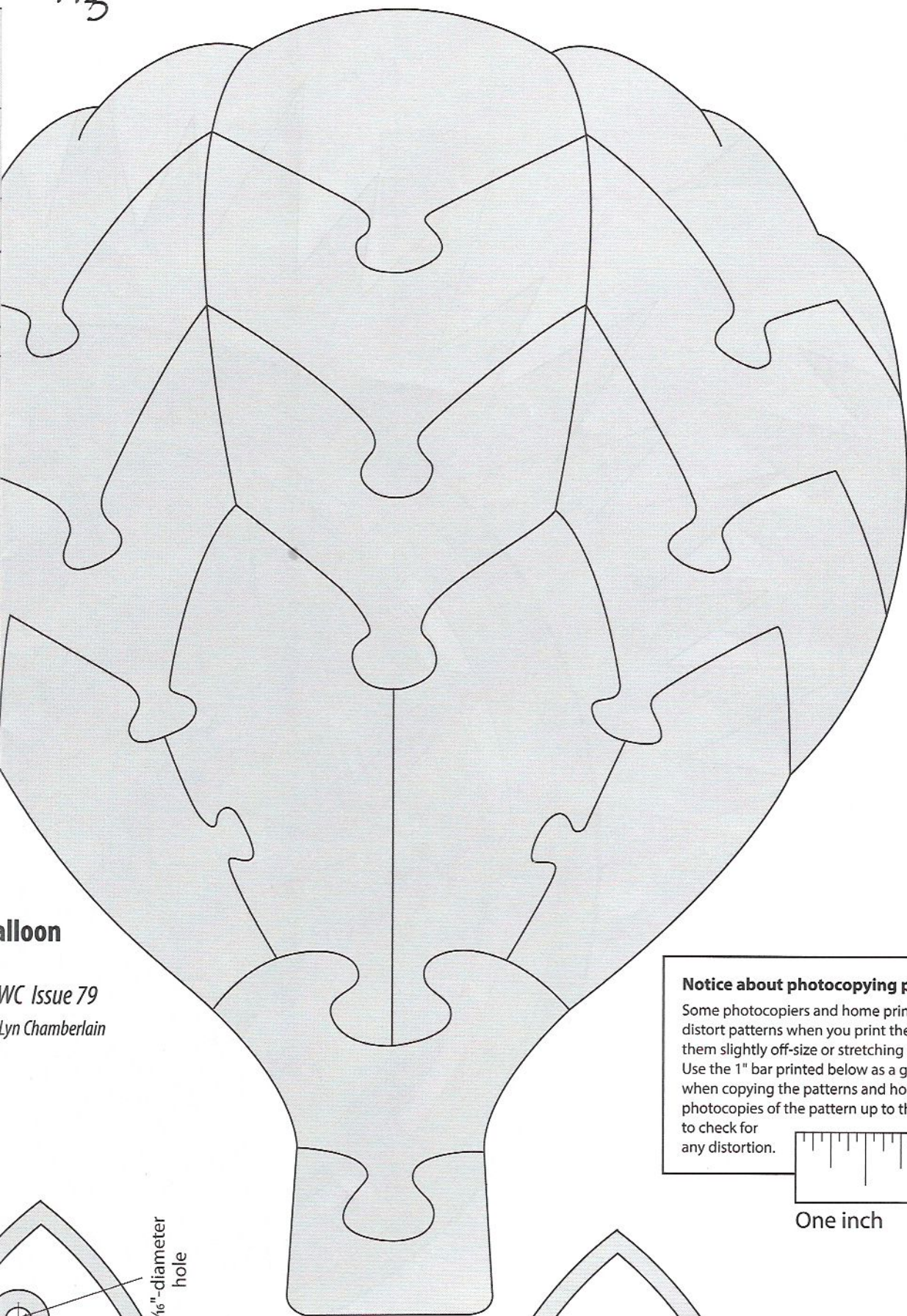
Designer: Charles Hand

**Hot-Air B
Puzzle**

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Designer: Sarah

A3



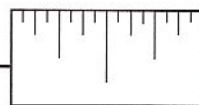
balloon

WC Issue 79

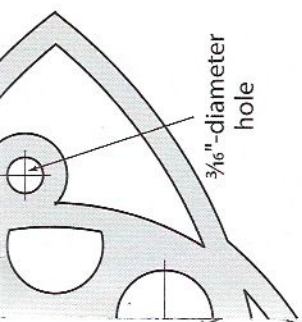
Lyn Chamberlain

Notice about photocopying patterns

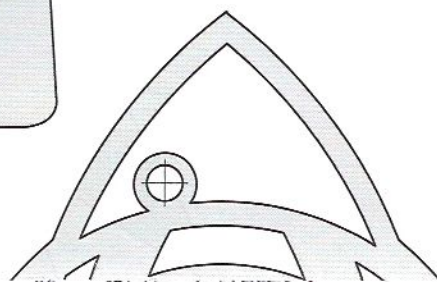
Some photocopiers and home printers can distort patterns when you print them, making them slightly off-size or stretching the image. Use the 1" bar printed below as a guide when copying the patterns and hold the photocopies of the pattern up to the original to check for any distortion.



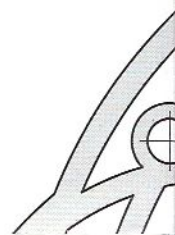
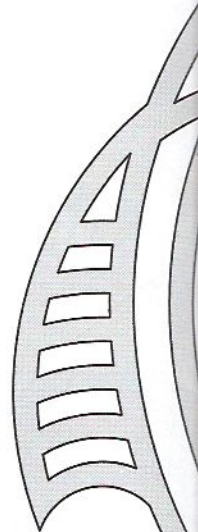
One inch



$\frac{3}{16}$ "-diameter hole



Fish 4

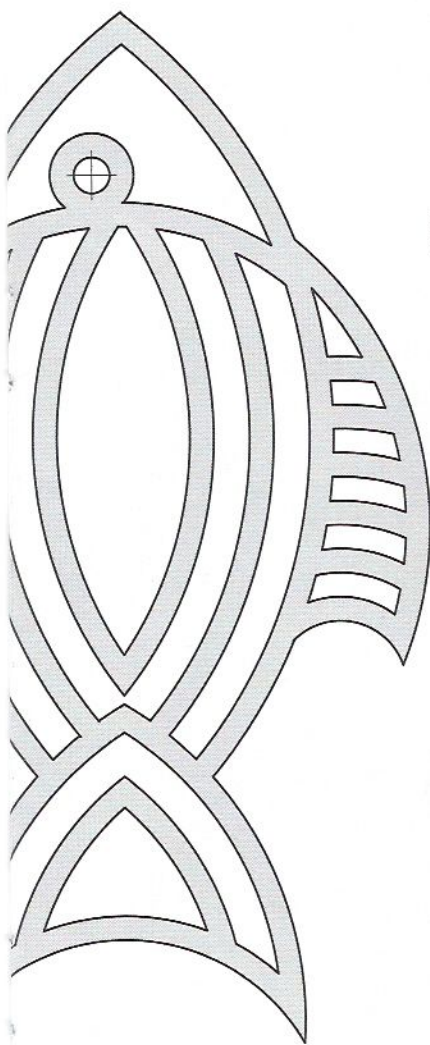


All patterns to be copied at 100% unless otherwise indicated.

All patterns on this pullout section: © 2020 Scroll Saw Woodworking & Crafts

Red-Eyed Tree Frog	17	Hot-Air Balloon Puzzle	57
Fretwork Parrot	24	Bald Eagle Fretwork	58
Fourth of July Puzzle	26	Frog Pond Automaton	60
Stylized Honey Bee	34	Tropical Fish Mobile	68
Geometric Sunburst Fretwork	38		

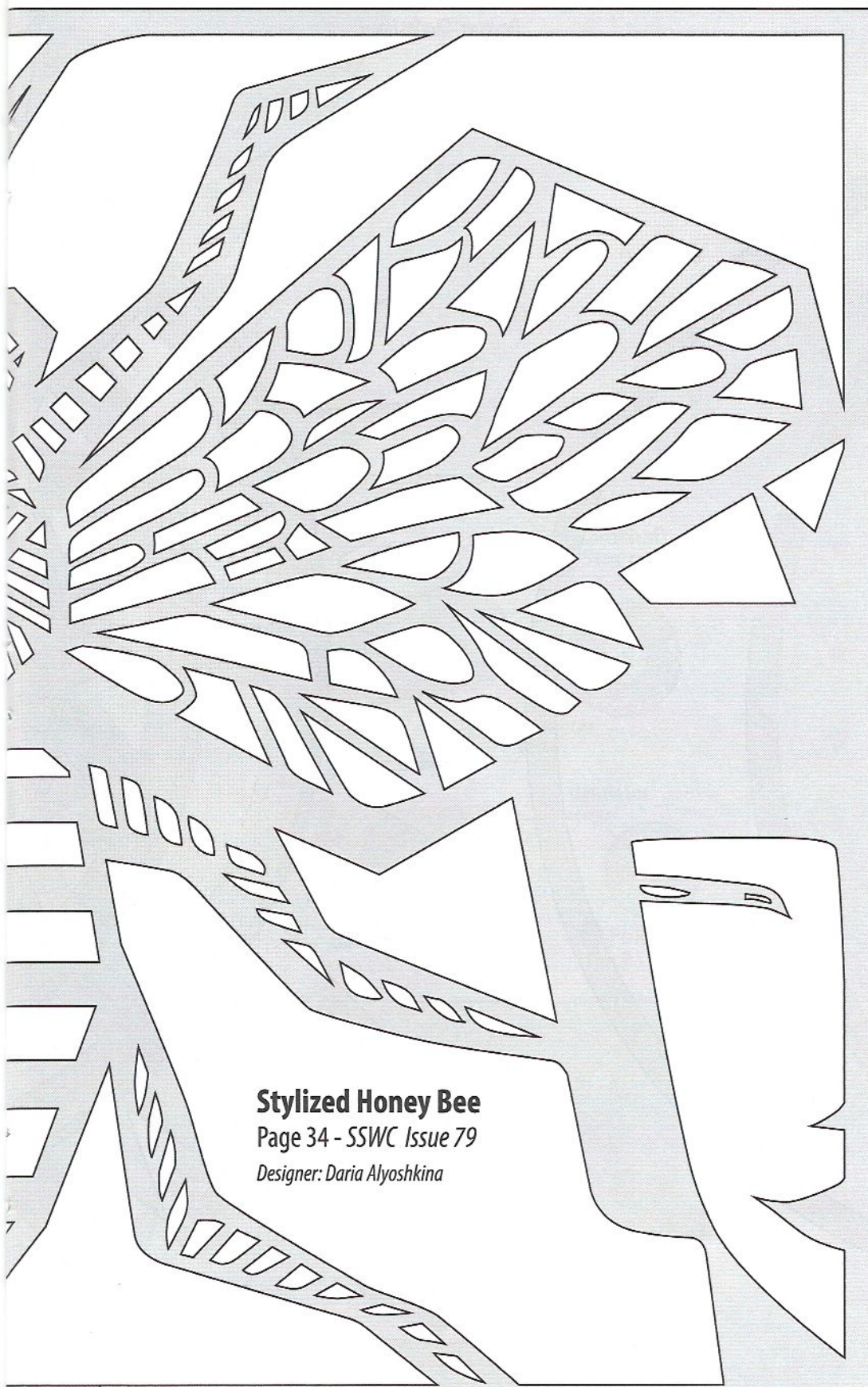
Note to professional copying services. You may make up to ten copies of these patterns for the personal use of the buyer of this magazine.



A5



A6

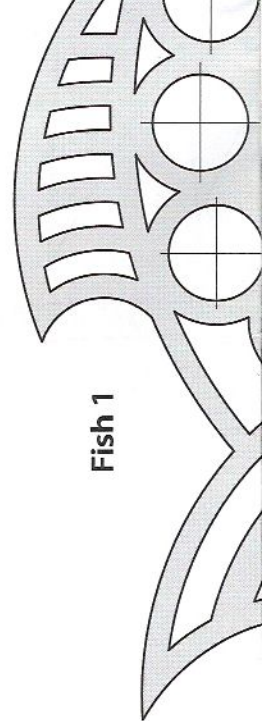


Stylized Honey Bee

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Designer: Daria Alyoshkina

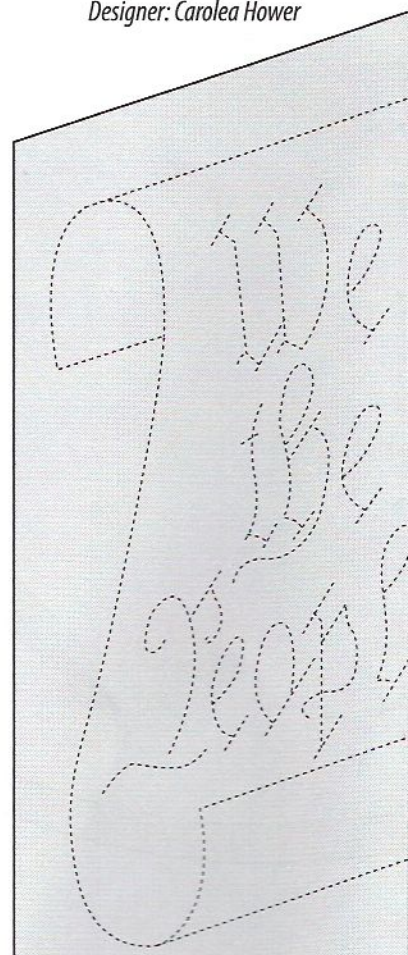
Fish 1



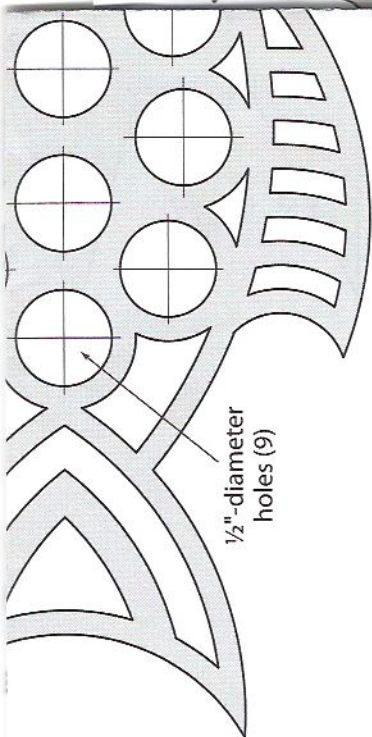
Fourth of July Puzzle

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Designer: Carolea Hower



A7

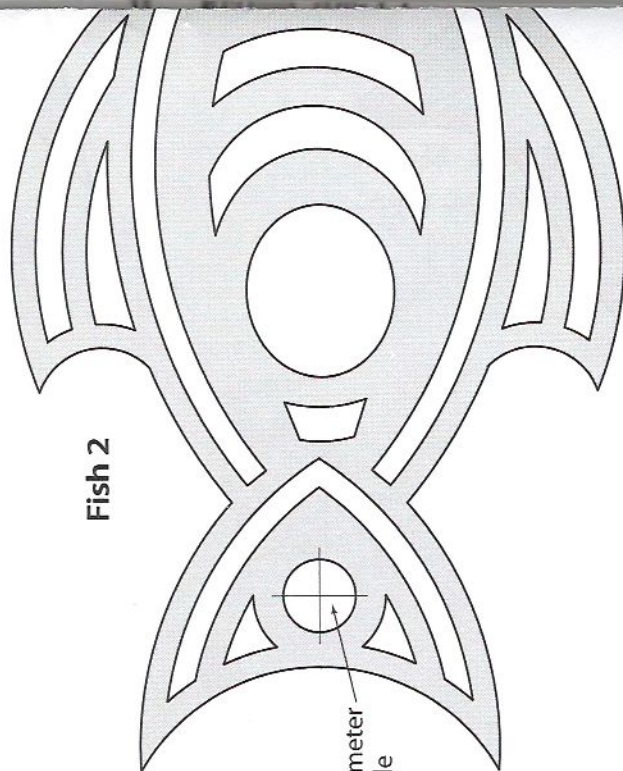


1/2"-diameter
holes (9)

Tropical Fish Mobile

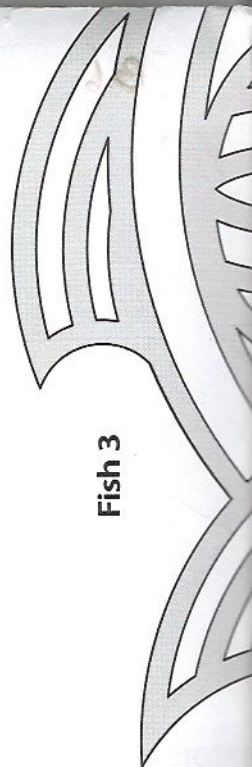
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Designer: Bill Miller



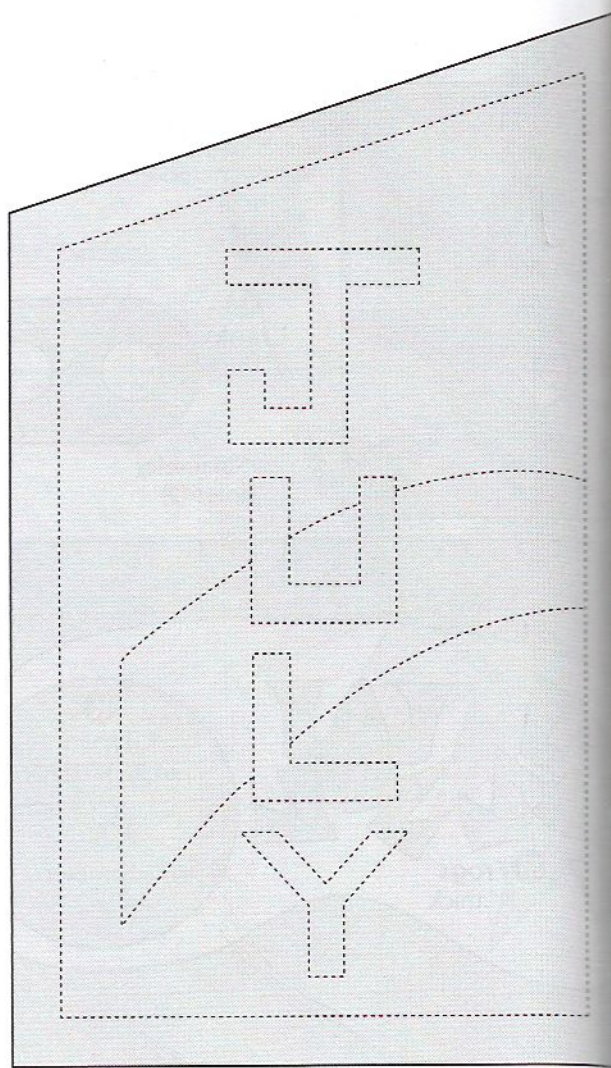
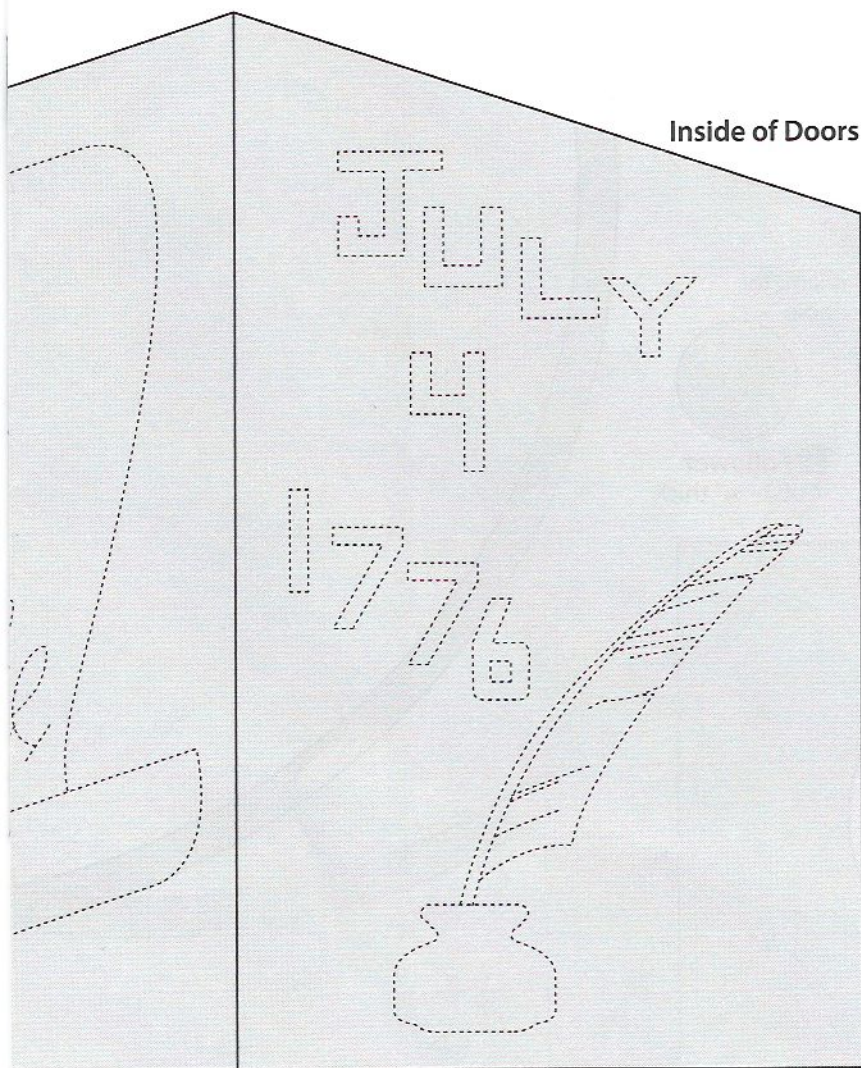
Fish 2

5/16"-diameter
hole



Fish 3

Inside of Doors



A8

Fretwork Parrot

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Designer: Charlie Dearing

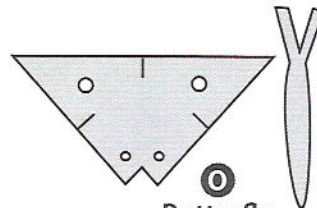
1/4"-diameter
hole

Frog Pond Automaton

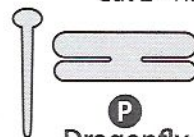
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Designer: Wanda Sowry

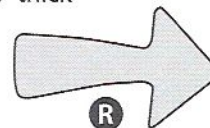
Outside of Doors



Butterfly
Cut 2 - 1/16" thick

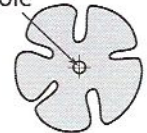


Dragonfly
Cut 2 - 1/16" thick



Arrow
1/16" thick

1/16"-diameter
hole



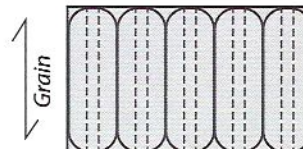
Flower 1
Cut 5 - 1/16" thick

1/16"-diameter
hole



Flower 2
Cut 7 - 1/16" thick

Bulrushes
1/4" thick

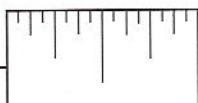


1/16"-diameter
holes (5)

Drill holes first.
Cut apart
the bulrushes,
glue them onto
skewers, and
sand until round.

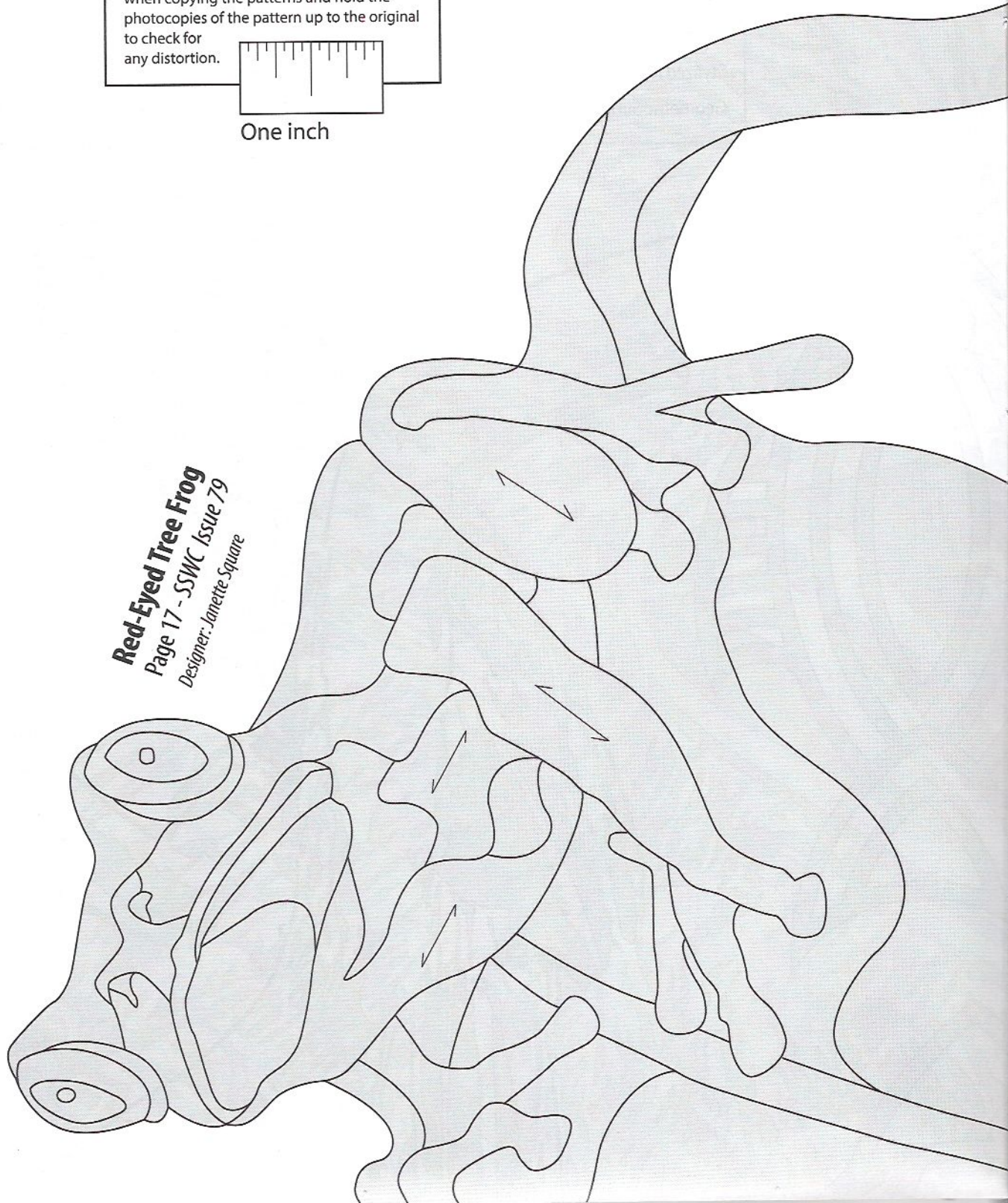
Notice about photocopying patterns

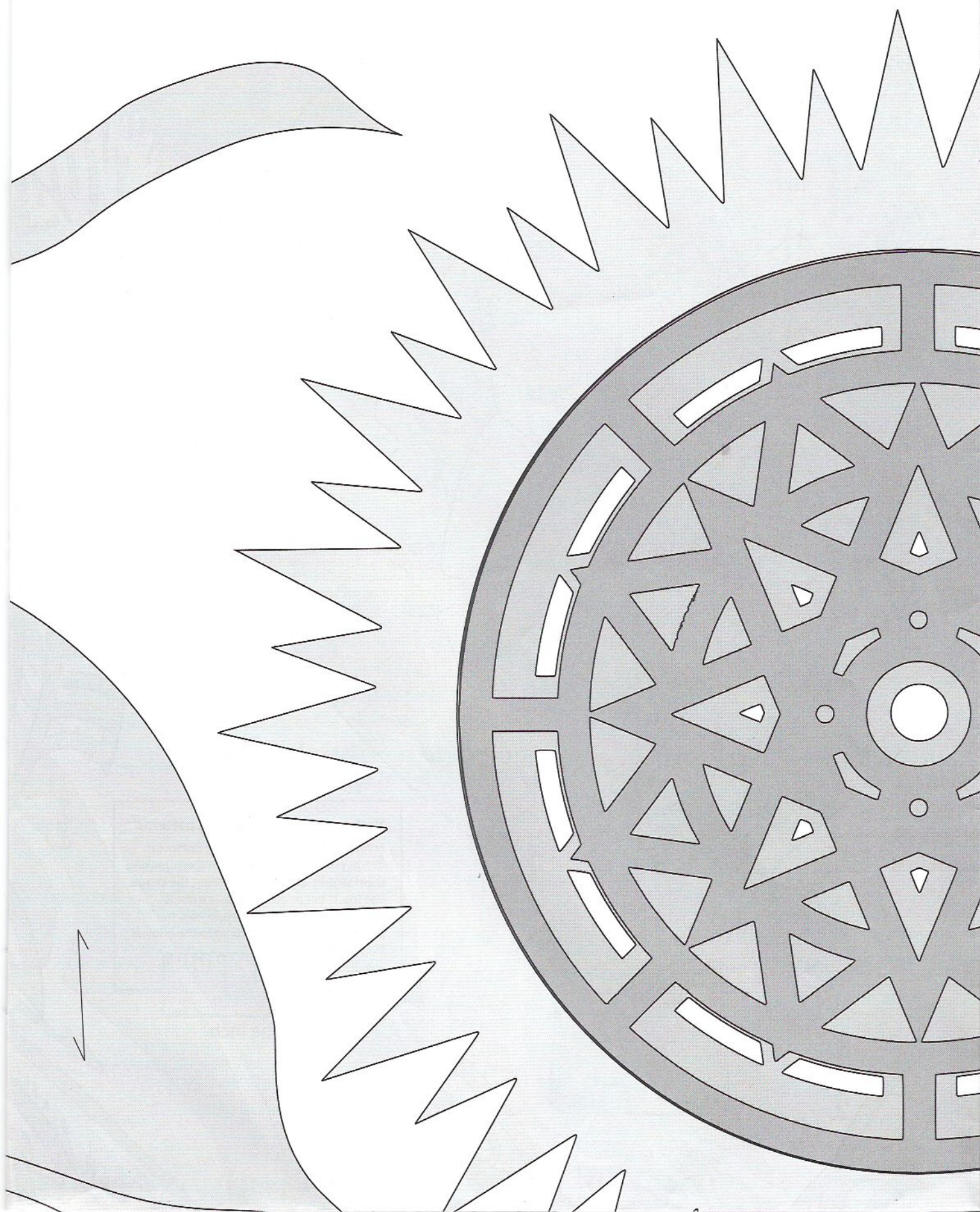
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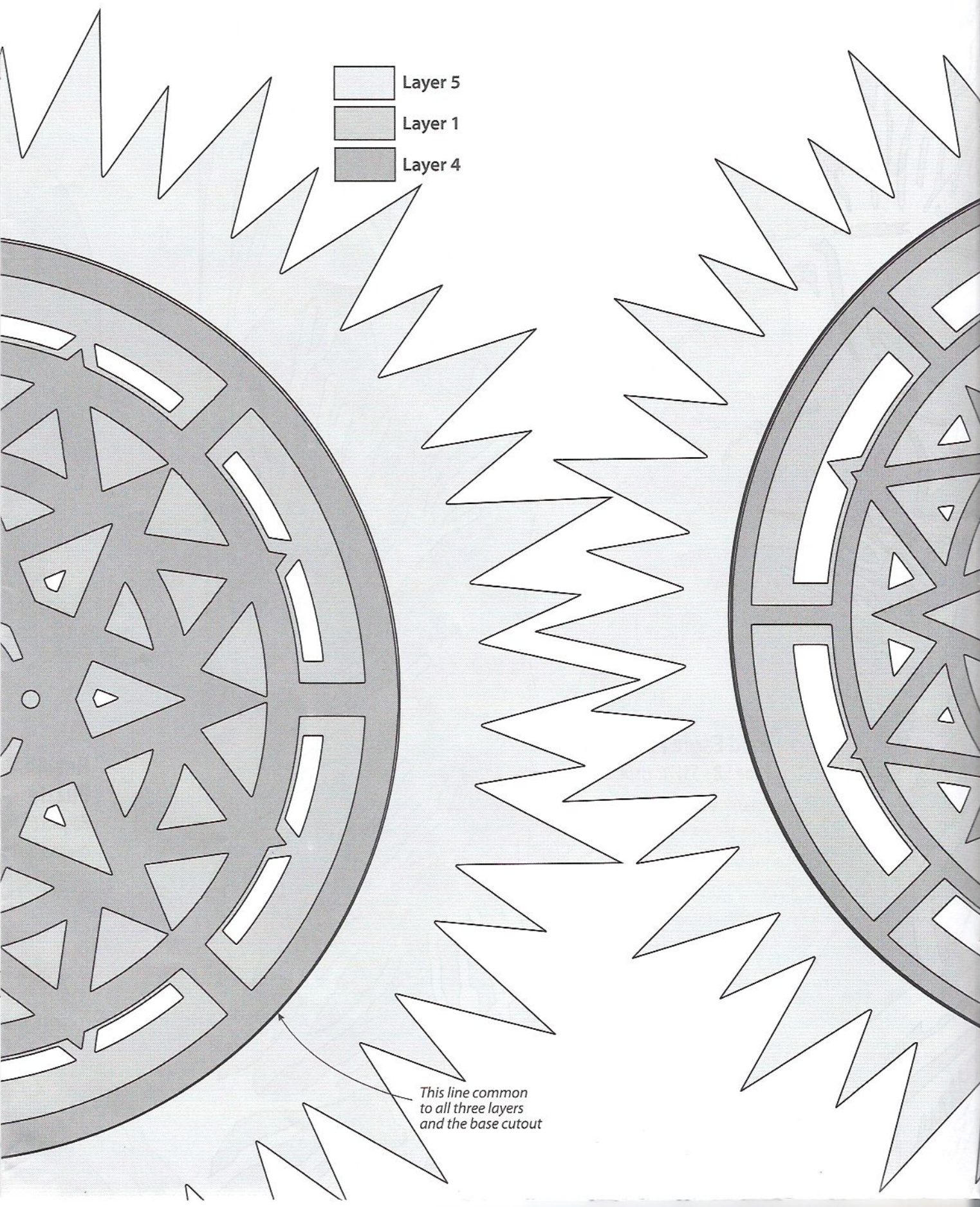
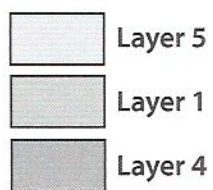


One inch

Red-Eyed Tree Frog
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 Designer: Janette Square





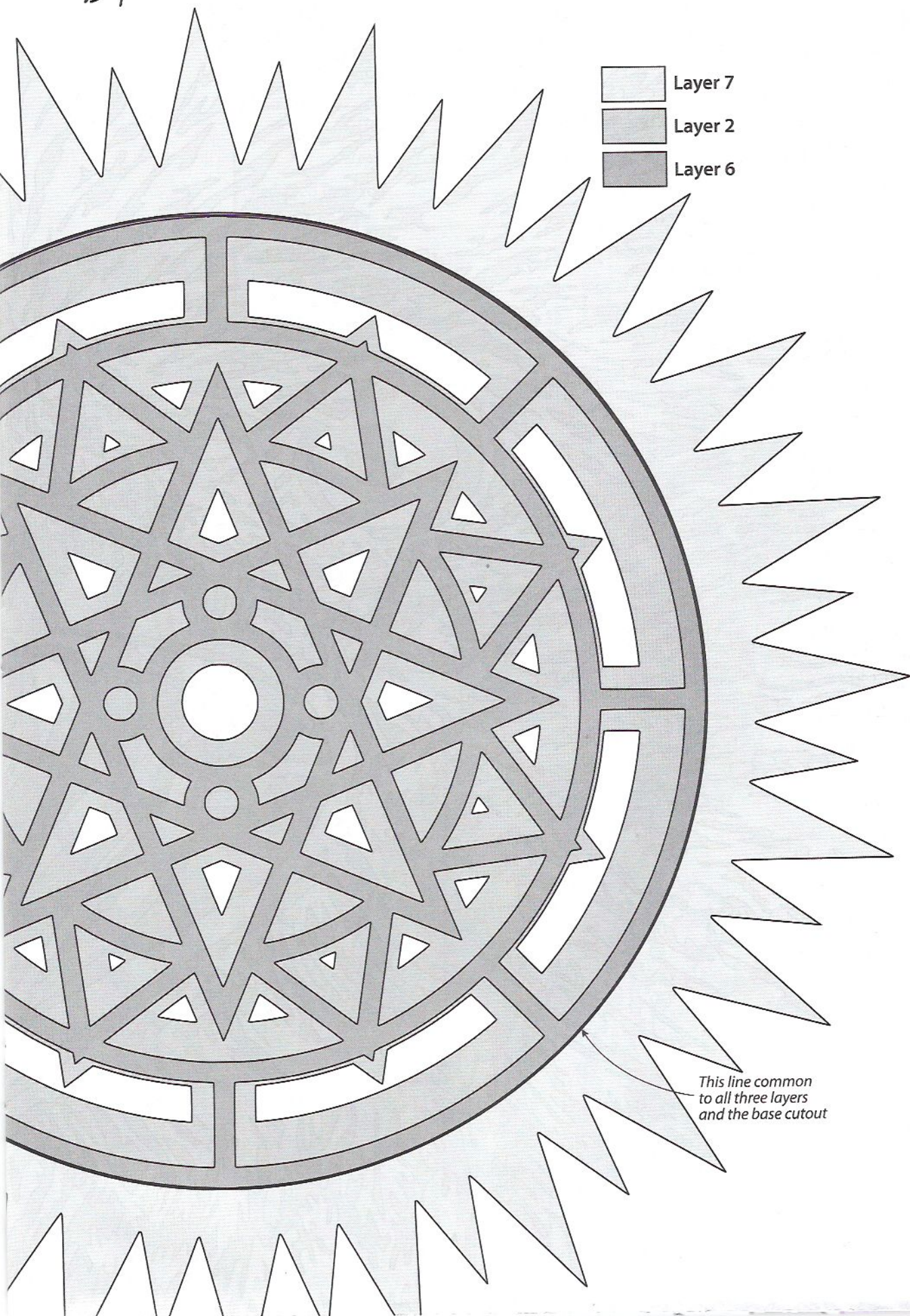


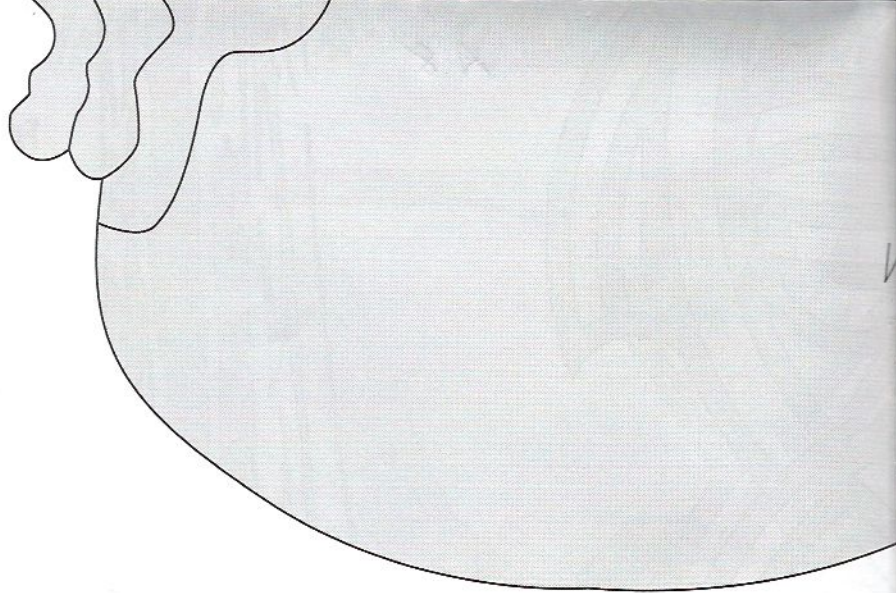
*This line common
to all three layers
and the base cutout*

B4

12

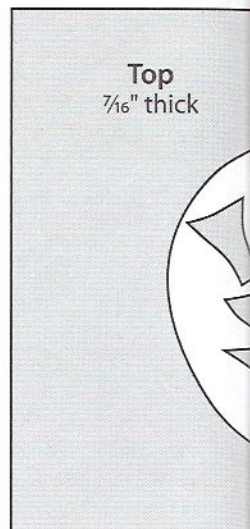
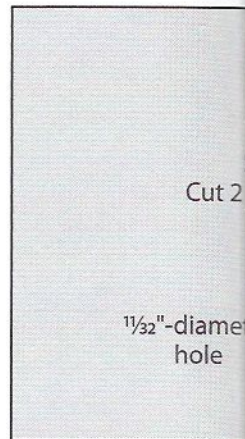
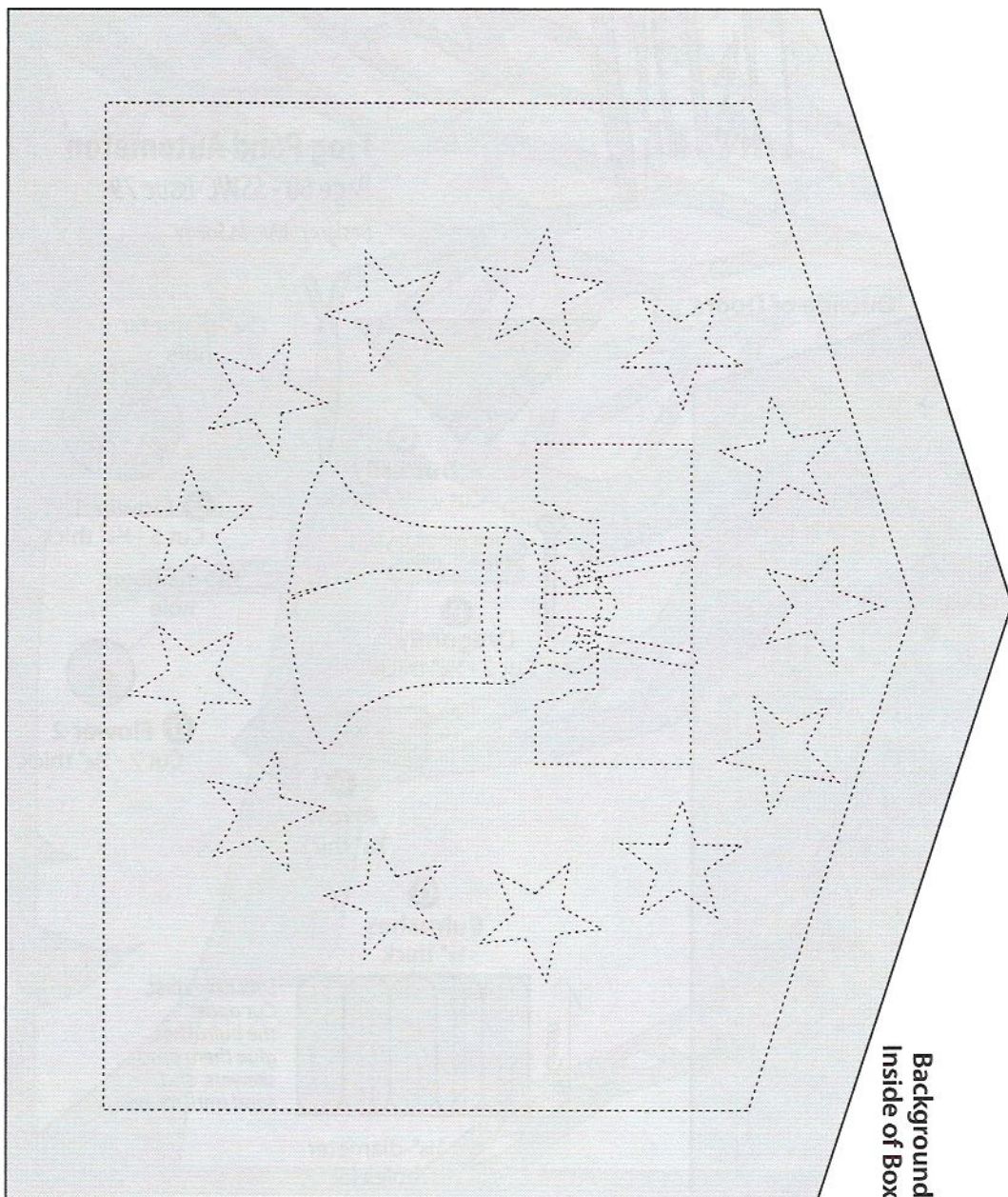
-  Layer 7
-  Layer 2
-  Layer 6





**Fourth of July
Puzzle**
Page 26
SSWC Issue 79
Designer: Carolea Hower

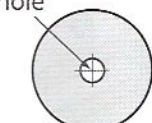
Frog Pond Auto
Page 60 - SSWC Issue
Designer: Wanda Sowry



B6

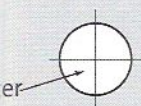
maton
e 79

$\frac{1}{32}$ "-diameter
hole



L Stem
Cut 2 - $\frac{1}{4}$ " thick

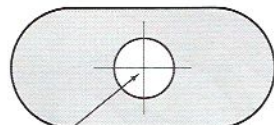
C
Side
 $\frac{7}{16}$ " thick



er

I
Cam

Cut 2 - $\frac{1}{2}$ " thick

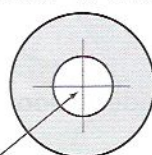


$\frac{5}{16}$ "-diameter
hole

F

Camshaft
Stopper

Cut 2 - $\frac{1}{2}$ " thick

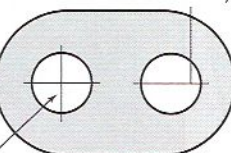


$\frac{5}{16}$ "-diameter
hole

G

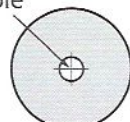
Crank

$\frac{1}{2}$ " thick



$\frac{5}{16}$ "-diameter
holes (2)

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



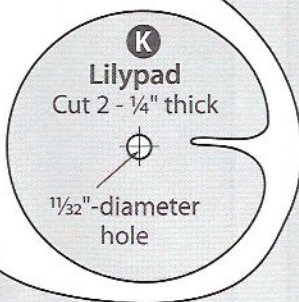
J Follower

Cut 2 - $\frac{1}{4}$ " thick

K

Lilypad

Cut 2 - $\frac{1}{4}$ " thick



$\frac{1}{32}$ "-diameter
hole

M Frogs
 $\frac{1}{4}$ " thick



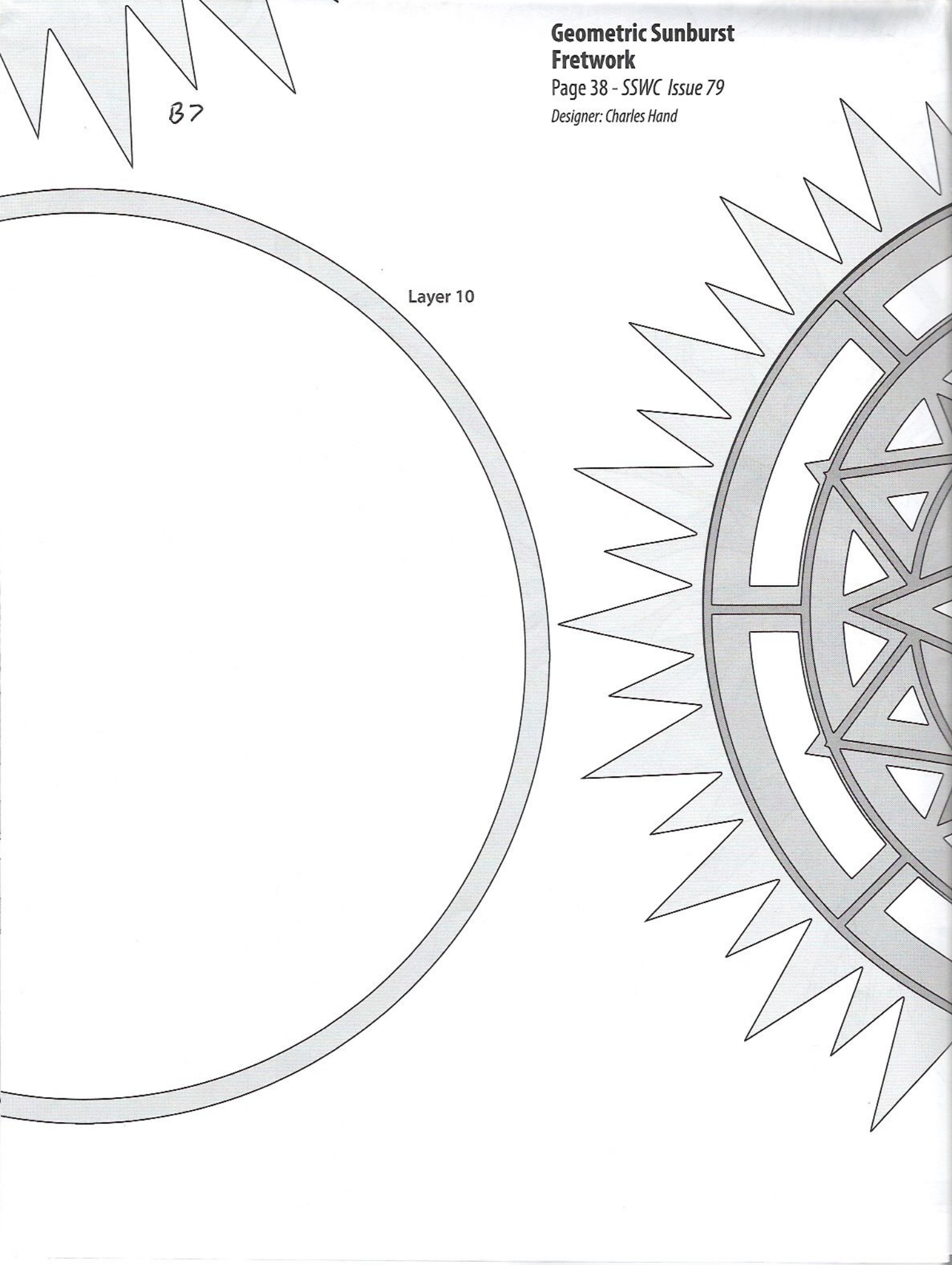
**Geometric Sunburst
Fretwork**

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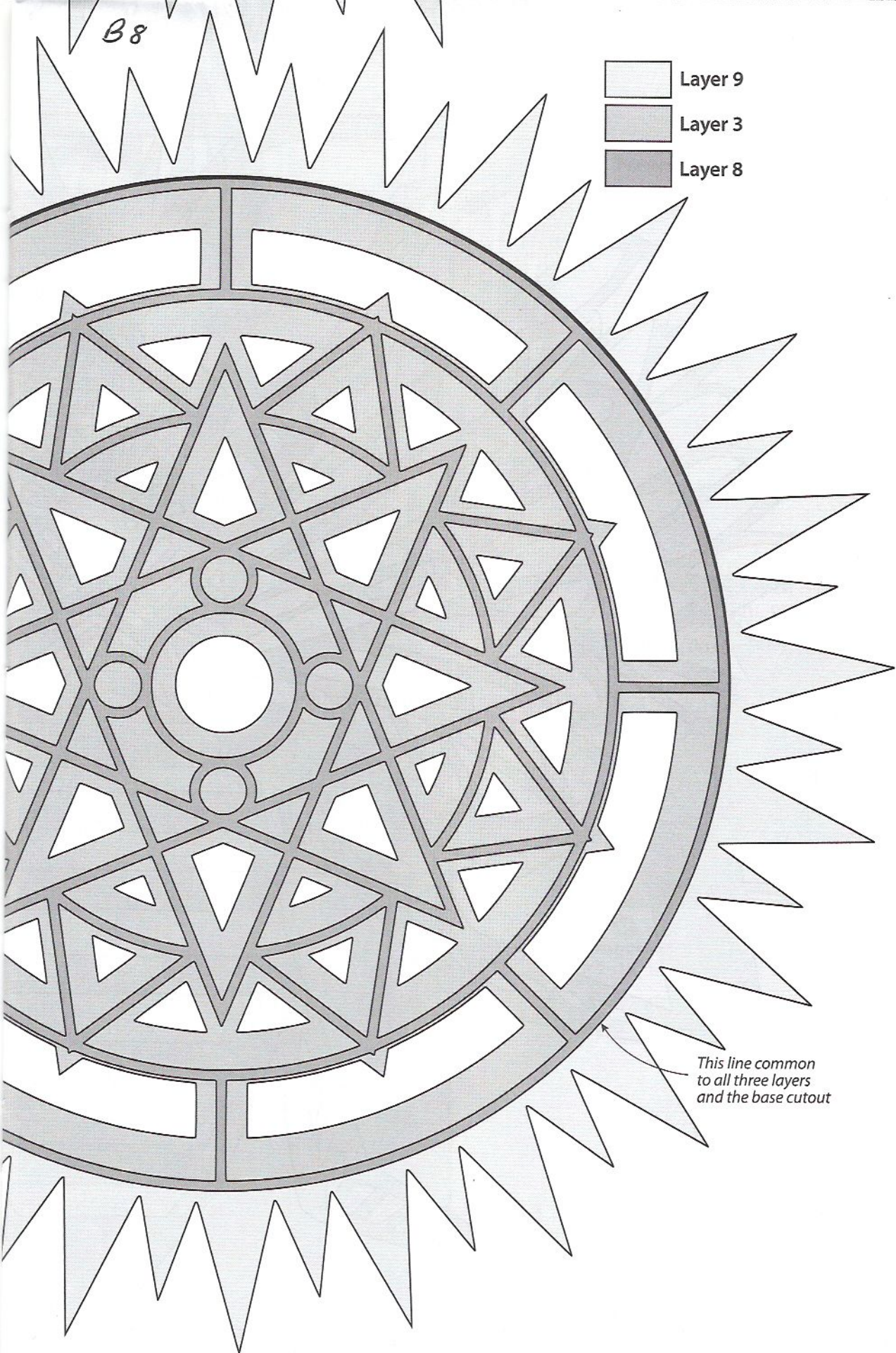
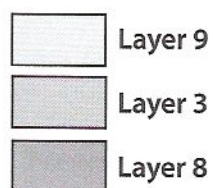
Designer: Charles Hand

37

Layer 10



B8



*This line common
to all three layers
and the base cutout*

An arrow points from this text to a specific line in the design, indicating its commonality across the layers and the base cutout.