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FALL 2016
ISSUE 64

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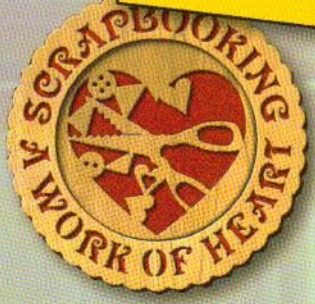

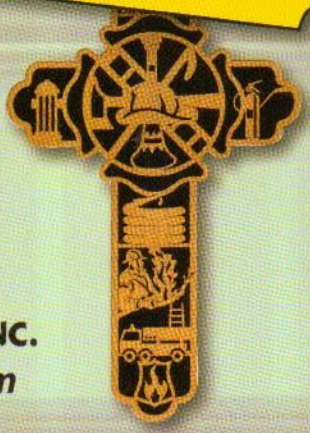

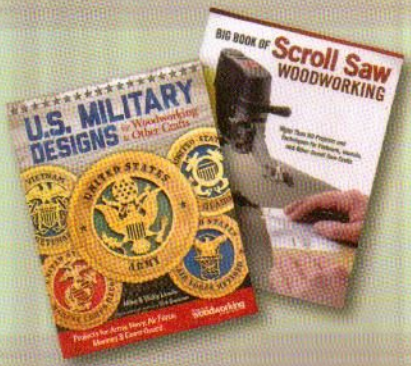

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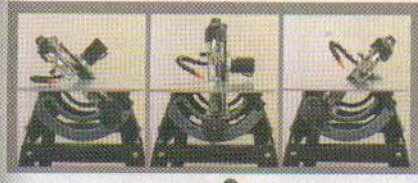

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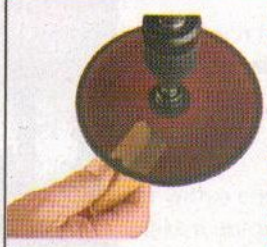

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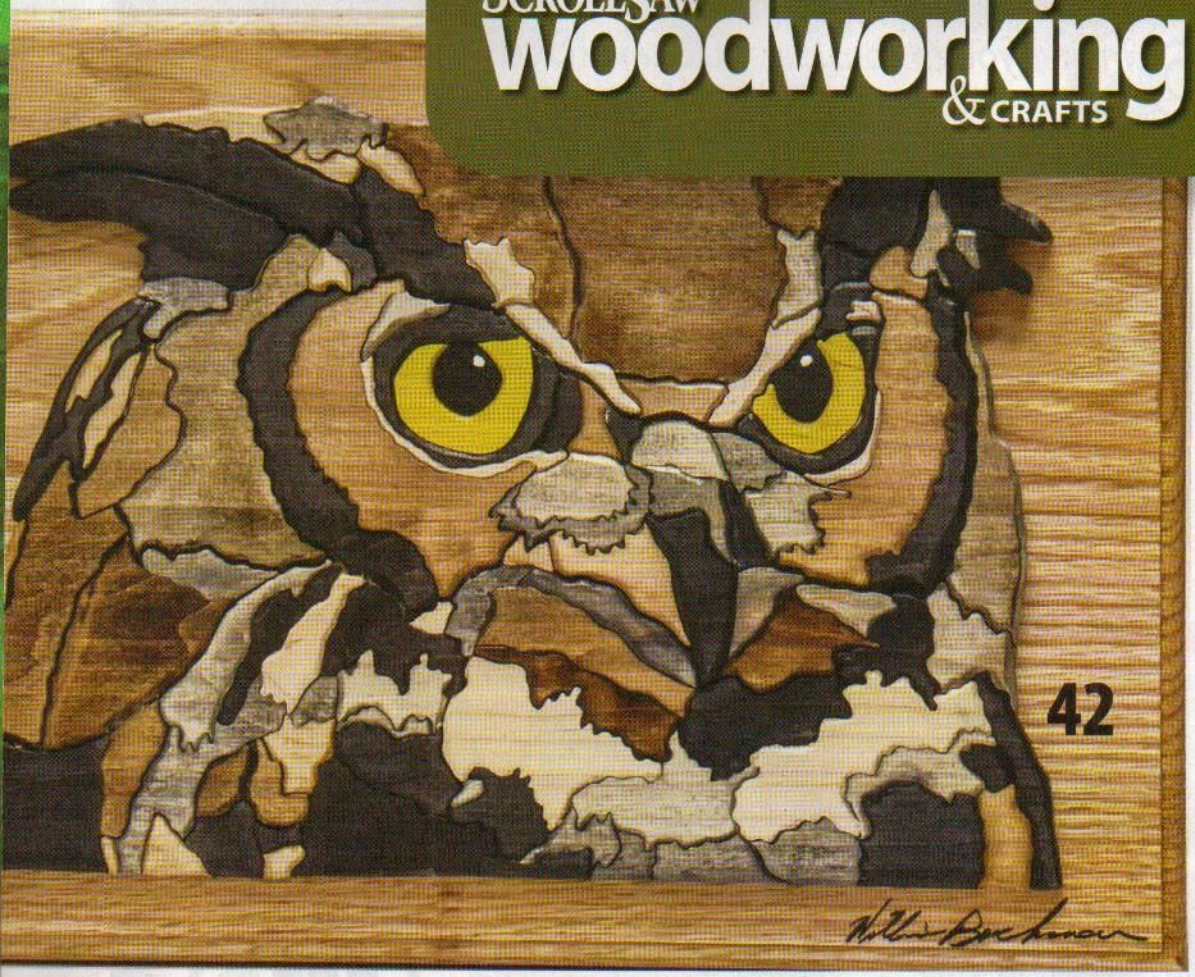
Scroll Saw Woodworking & Crafts



FEATURES

PATTERNS

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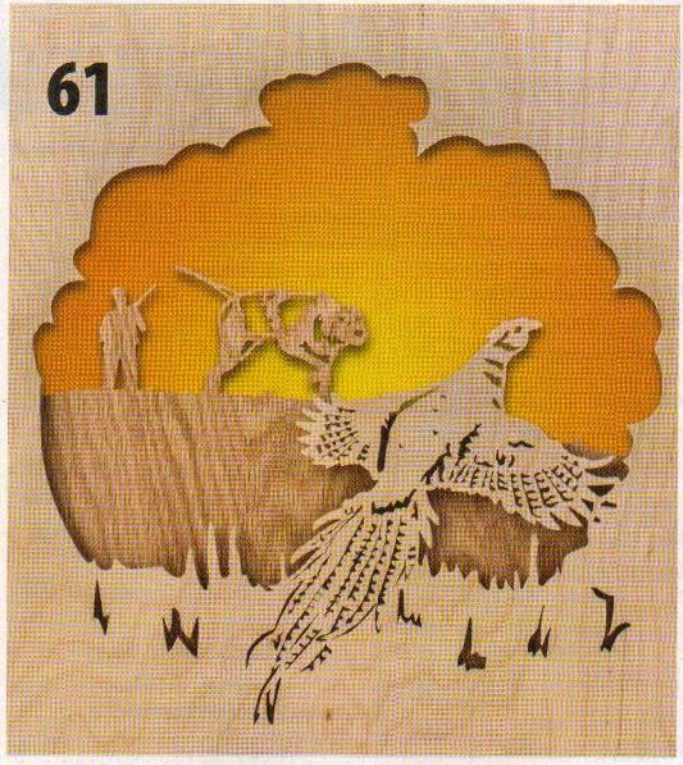

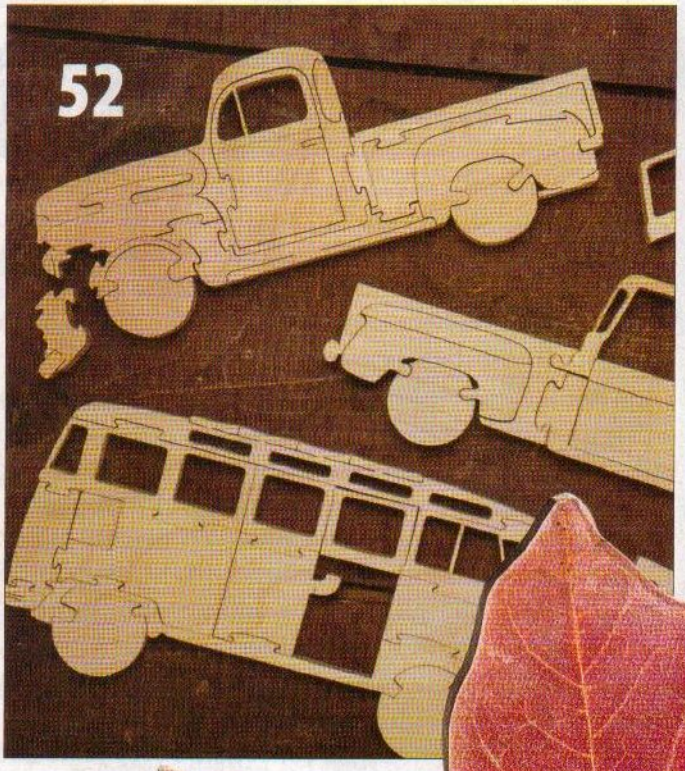

PROJECTS

TECHNIQUES

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  Watch *Vlad the Vulture* stalk the savannah (pg. 62).
- ***Bonus Projects***
  Download patterns for cats and bats (pg. 58).
- ***Color Shortcut***
  Print, cut, and decoupage artwork for the *String of Apple Slices* (pg. 23).
- ***Follow the Fun***
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DEPTS.

Everything Old Is New Again

When we were kids, my younger brother had a cowboy costume that included a low-slung belt with holsters and a pair of toy revolvers with "ivory" handles. The minute I saw Daryl Webb's six-shooter (page 36), I was about 9 years old and loading a roll of red cap tape into one of my brother's guns so we could battle it out in the backyard. Daryl's gun shoots rubber bands—gunpowder and wood shouldn't mix—but the nostalgic design is spot-on.

That said, we thought long and hard when Daryl also sent a pattern for an automatic-style rubber band gun. Although automatic-style cap guns are common, we know that tragedies have occurred when toys were mistaken for real weapons. In the end, we decided to leave it in your hands, literally; the pattern is in the issue, along with information about current laws aimed at keeping kids safe while they play cowboy, cop, spy, etc. As with any of our projects, you'll decide if it's right for you.

For me, this issue has an underlying sense of nostalgia beyond the six-shooter. For example, decades ago my mom had a friend who loved owls and had an ample collection. Forty years later, owls are popular again, so we have included two completely different versions to add to your flock. Also during my childhood, we were fond of decoupaging things—magazine pages or greeting card cutouts—onto other things—wooden boxes, bowls, barrettes, and bangles. John Nelson has updated this old art with several projects over the past year or so, including the String of Apple Slices on page 23. The pressed leaves that Dan Bowe makes into magnets on page 14 made me both look for my flower press and admire the floral patterns popular right now; Dan Wilckens' fretwork clock (page 24) reminded me of my grandmother's house; and Eric Van Malderen's VW bus puzzle (page 52) brought to mind the blue one driven by my friend's mother when we were in third grade—as well as the new version another friend currently covets. I guess everything old is new again.

And that includes the seasonal designation of the issue. We thought of a lot of angles when we changed our schedule and seasons last year, but it never occurred to us to talk to the post office. It turns out that there are rules against calling magazines "Winter/Spring" and the like—especially if you then follow it with "Spring/Summer." Apparently that's squeezing too many seasons into a quarterly schedule. Or something. So, to please the post office, we have returned to our old familiar single-season titles, albeit with the new schedule. Sorry for the confusion. (Please note that at no time have we changed the number of magazines in a year or in your subscription—we've just played with the timing a bit in an effort to serve both you and our woodcarving subscribers better.)

Happy scrolling!

Mindy Kinsey

Mindy Kinsey
kinsey@FoxChapelPublishing.com

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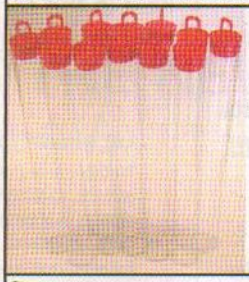

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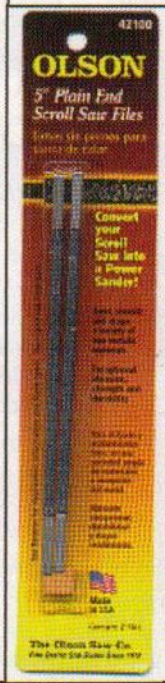

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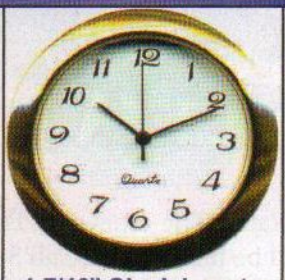

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Pinewood Derby Guidelines

The Cub Scouts of America state: "The Pinewood Derby is open to all Cub Scouts. Cars should be built by the Cub Scouts with some adult guidance." Your article in *Scroll Saw Woodworking & Crafts* Winter/Spring 2016 (Issue 62) makes readers of your magazine believe that a Cub Scout between the ages of 7 to 10 will use the tricks that you print in your magazine.

Most Cub Scout packs have banned many of the "tips" that you published. I have seen Cub Scouts' cars not allowed to race because their axles were bent or because not all of the wheels were touching when placed on a flat surface. The Pinewood Derby is for 7- to 10-year-olds to practice fair sportsmanship, not to see whose father/grandfather can buy his cub scout a trophy.

Dennis Devitt
Lombard, Ill.

Technical editor Bob Duncan responds: Excellent point. But, I disagree that any of the tips require an adult to do all of the work. I have no concerns about any of my boys (ranging in age from 5 to 10) using the tools or tips we highlighted. Of course I would show them how to use the tools, but the wheel or axle that ended up on their car would be polished and bent by them. Every troop can set its own rules, and you're right, it's important to make sure that your car conforms to those rules. We should have made that clear.

Band Saw vs. Table Saw

I enjoyed Bob Duncan's table saw article in *Scroll Saw Woodworking & Crafts* Winter/Spring 2016 (Issue 62). I don't know what I'd do without my 30-year-old Delta contractor's saw.

I would like to suggest that those who focus their woodworking activities on scrolling consider using a small band saw instead of a table saw. A band saw will do anything a small table saw does, except cross-cutting wide pieces and cutting grooves; a handsaw and router can handle these functions. A band saw is less expensive, takes up less space, is safer, and is less intimidating for the occasional user. It also does a better job of resawing, and you can cut curves in thick wood.

Dan Urban
Glen Ellyn, Ill.

Technical editor Bob Duncan responds: While there are some things a band saw can do that a table saw cannot, I would still suggest a table saw before a band saw. The flexible blade of a band saw will never be as accurate as the solid blade of a table saw when ripping, cross-cutting, or making miter cuts. I feel that most band saws smaller than 14" are not powerful enough to resaw anything that I cannot resaw on a table saw, and these saws struggle to cut wood thicker than 3" (which is just a bit thicker than I cut on a scroll saw with a large blade).

Correction:

There was an error in the Materials list for Carole Rothman's basket, featured in *SSW* Spring/Summer 2016 (Issue 63, page 22). The blank for the ⅝" (16mm)-thick maple base should be 5½" (140mm) square, not 4" (102mm) square. If you prefer not to buy and cut a new piece of wood, you can use the remainder of the original blank. Sand off the wedges from the bottom, and fill the small hole in the center with glue and sawdust. We apologize for the error.

Let's Hear From You

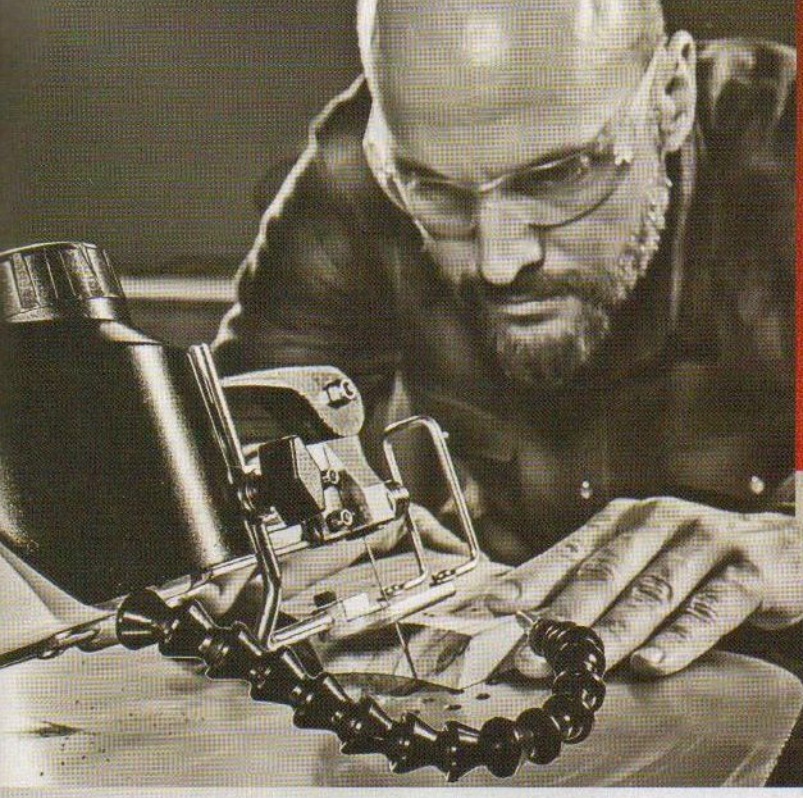
We'd love to hear your thoughts on our projects, ideas for new patterns, scrolling experiences, and woodworking show stories. Write to us at:Letters to the Editor, *Scroll Saw Woodworking & Crafts*, 1970 Broad Street, East Petersburg, Pa., 17520 or e-mail Editors@ScrollSawer.com.

Fox Hunt

Zed A. Stone of Salmon, ID, and Chuck Toner of Carlisle, PA, were randomly drawn from the participants who located the fox in our last issue (Spring/Summer 2016, Issue 63). The fox was hiding in the wooden flower box photo on page 45, in the Summer 2016 Roundup article.

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 August 18, 2016, to be eligible. *NOTE: The contest fox is an outline drawing that would face left if his feet were on the "ground" (other foxes appearing in SSW&C don't count).*

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



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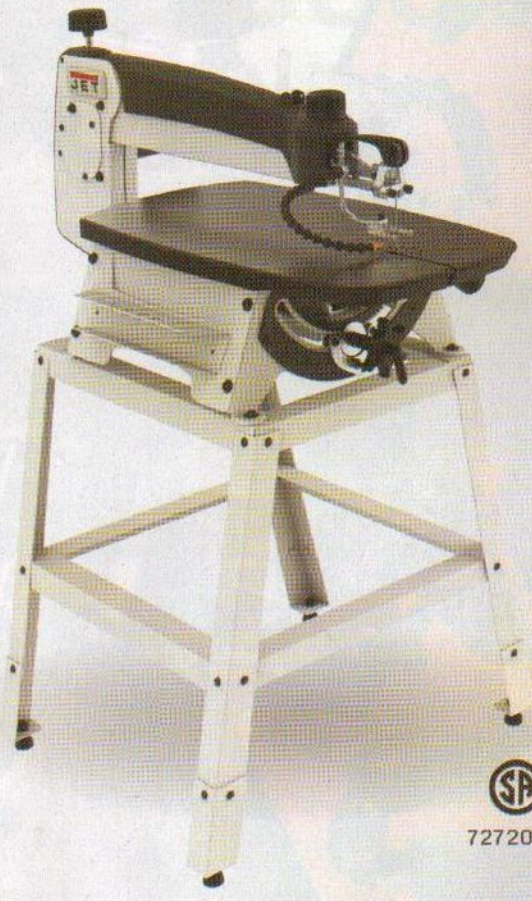

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1. Cars Albert Tague of Cape Coral, Fla., made these projects from pallet lumber and wine cases that his wife ran through a planer. He uses various tools to make the projects, but they all include a lot of sanding. He is 84 years old and finds that scroll sawing is great therapy for old hands.

2. Two Flying Ducks Michael Landers of Scroll Saw Treasures in Portland, Ind., used a pattern from White Tail Designs and cut the scene from ¼" oak plywood. Visit www.scrollsawtreasures.etsy.com to see more of his work.

3. Rose Gary Terborg of Englewood, Ohio, made the poplar rose for his mother to thank her for saving his hands after he was badly burned as a baby. Gary cut each layer of the rose from the same block and painted it with acrylics.

4. Iguana Luis Martinez from Aguadilla, P.R., made this pattern when he "was captivated by the colors and special beauty" of the many iguanas he often sees around his home. Luis used a local wood called jaguiya, along with yellowheart, padauk, and ebony.

Share Your Latest Work!

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

Porter Cable Cordless Nailer & Stapler

A brad nailer and stapler are useful tools for any shop. Scroll sawyers can use them to assemble projects, create solid stacks for stack cutting, and even to reinforce custom frames. If you have an air compressor, brad nailers are pretty inexpensive, but I don't–and I prefer the freedom that battery-powered brad nailers provide. Porter Cable's 18-gauge brad nailer and stapler are solid options for scroll sawyers.

The nailer and stapler use the company's interchangeable 20-volt battery. The nailer is useful for assembling small items, including small fretwork, frames, and even some intarsia pieces. The stapler excels at attaching larger thin pieces, such as backing boards or stacks of thin blanks. If you can only afford one, I suggest the brad nailer; you can create stacks, but it is not as secure as a staple when you're attaching thin stock.

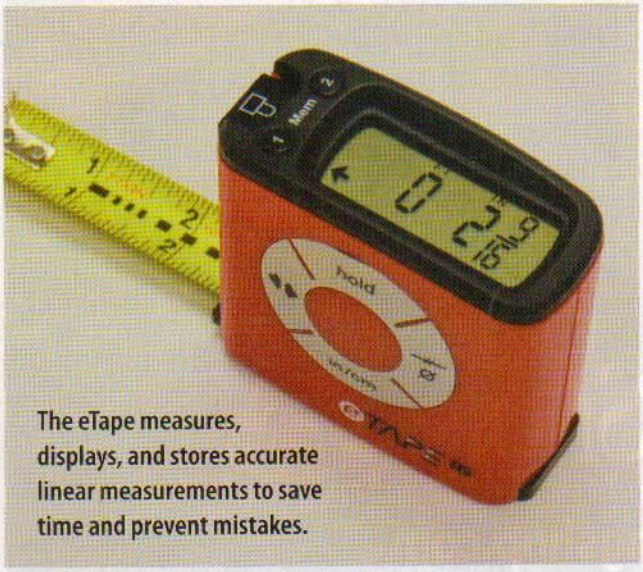
The brad nailer is available at most retailers for $199, and the stapler is available for $239.99.

Porter Cable's brad nailer and stapler use an interchangeable battery.

eTape

If reading a ruler is not your strong point, the eTape is for you. This tape measure features a digital display that tells you the fractional measurement in British imperial measure (inches) or metric (centimeters and millimeters) with the click of a button. It also has a memory function so you don't need to remember or write down the dimension. Some folks will find this tool the height of laziness, but I prefer to jump right in and start working with wood, without worrying about making measuring errors.

A basic eTape is $29.95. A Bluetooth-enabled version costs $49.95; it can automatically transmit dimensions to a spreadsheet app. Contact eMeasureInc at 844-382-7326 or www.etape16.com.



The eTape measures, displays, and stores accurate linear measurements to save time and prevent mistakes.

Rockler Center/Offset Marking Tool

If you are a woodworker, you need the Rockler Center/Offset Marking Tool. This tool makes marking any blank faster and easier. Using the integrated holder (complete with a hole for the pencil lead), you can easily mark the center of the thickness of a board. The offset markings allow you to make lines parallel to the edges of the blank. You could also use the tool to set the depth of a cut for a table saw or the drilling depth of a drill bit. It includes a magnet and holding slot so you can attach it to a metal tool along with a pencil.

The tool is available for $9.99 plus S&H from Rockler, 800-279-4441, www.Rockler.com.

Rockler's marking tool makes quick work of the most common woodworking measurements.

Preserving Autumn Leaves

TOP TIP

Use your scroll saw and a special finish to make a year-round decoration

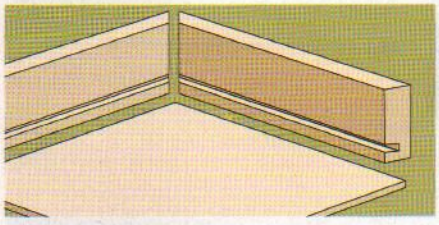
By Dan Bowe

I have tried for a long time to preserve the beauty of fall leaves for the entire year. A scroll saw and the proper finish make it easy. I attach a magnet to the back of each leaf and display them on my refrigerator. People who see them can't believe they are real leaves. Use small leaves as pendants, drill holes in them and string them for a garland, or attach them to a wreath.

PRESERVING LEAVES

Step 1: Gather leaves when they are as fresh as possible. Press them in a book or bowl/leaf press for at least a day. Then, heat them in a microwave for 10 to 12 seconds.

Step 2: Cut the backing board. I usually make it 18" by 24" (457mm by 610mm).



▲ **Step 3: Make a form.** Cut four pieces of 1x2 with 45° miters on the ends and a ⅛" (3mm)-wide groove near the bottom. Glue and clamp the sides together around the backing board to create a tray.

▲ **Step 4: Attach the leaves to the backing board.** Use wood glue or spray adhesive. Do not get any adhesive on the faces of the leaves. Make sure every part of the leaf is attached flat to the backing board.

Step 5: Coat the leaves. I use a two-part pour-on high-gloss epoxy finish (also called bar top finish). Mix the components thoroughly and apply the first coat, which should cover everything and seal in the leaves. The frame keeps the finish from flowing off the top of the backing board. Let it set for at least 24 hours. Then, mix another coat and apply it on top of the first coat to smooth the surface. Allow the finish to cure and harden for two or three days, or you will end up with fingerprints on the leaves.

▲ **Step 6: Cut the leaves.** I use a #1 ultra-reverse blade. Cut carefully along the edge of each leaf. If desired, attach a thin ⅝" (16mm)-diameter neodymium magnet to the back of each cut leaf.

Materials & Tools

Materials:

- Interior door skin or plywood, ⅛" (3mm) thick: 18" x 24" (457mm x 610mm)
- 1x2: 4 each, sized to fit your backing board. For an 18" x 24" (457mm x 610mm) backing board, you need 2 each 17½" (445mm) long to the inner mitered corner and 2 each 23½" (597mm) long to the inner mitered corner
- Autumn leaves
- Spray adhesive or wood glue
- Finish: two-part pour-on high-gloss epoxy (bar top finish)
- Neodymium magnets (optional): 1 per leaf ⅝" (16mm) dia.

Tools:

- Scroll saw blades: #1 ultra-reverse
- Table saw or miter saw and router with ⅛" (3mm)-dia. straight bit
- Book or bowl/leaf press
- Microwave

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

Dan Bowe lives in Rogers, Ark. He inherited his dad's love of working with wood. To see more of Dan's work, search for twistedcandlesticks or Dan Bowe at www.etsy.com.

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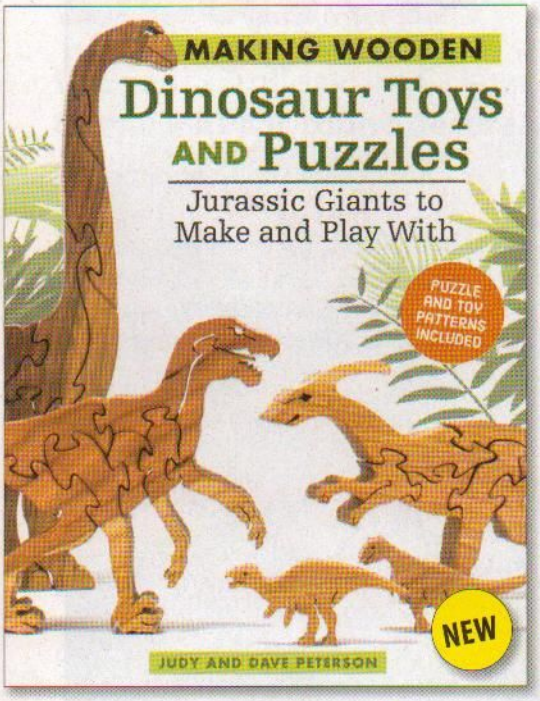

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By Judy and Dave Peterson

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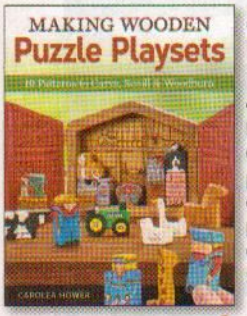

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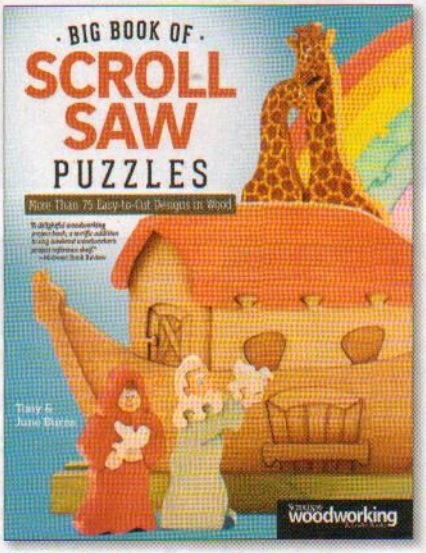

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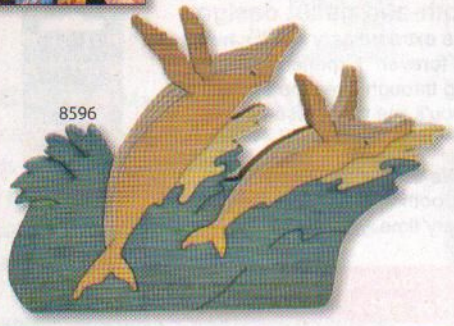

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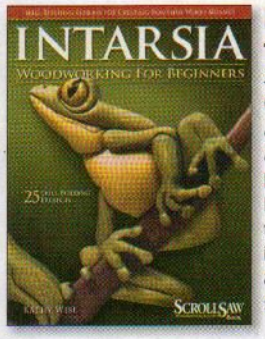

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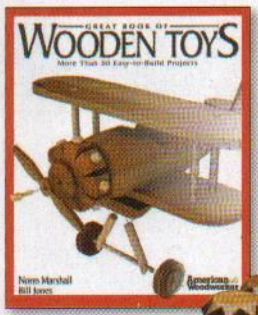

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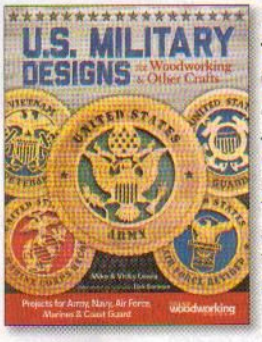

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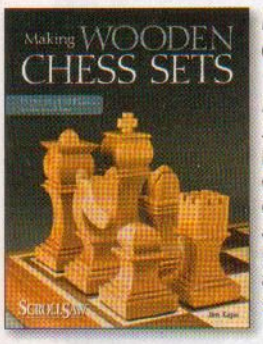

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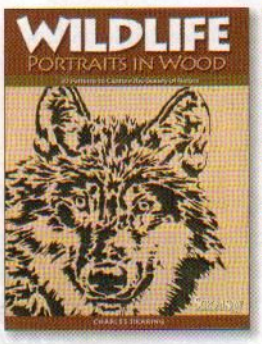

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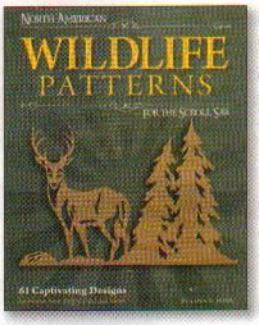

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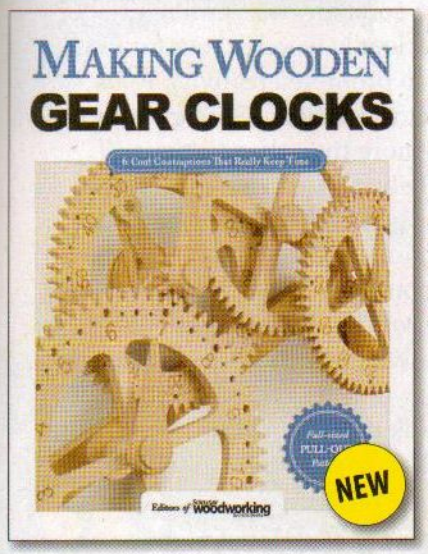

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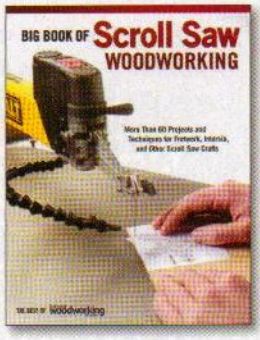

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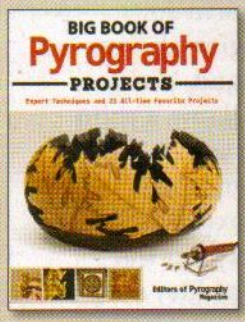

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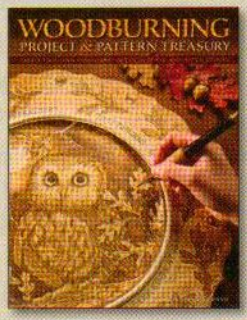

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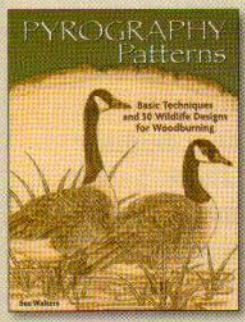

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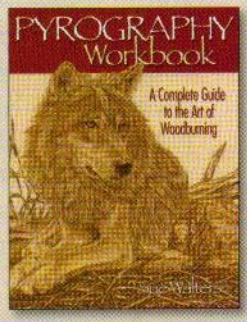

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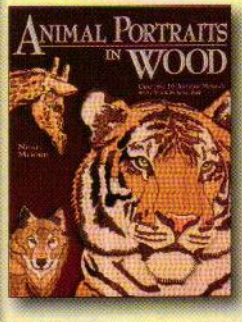

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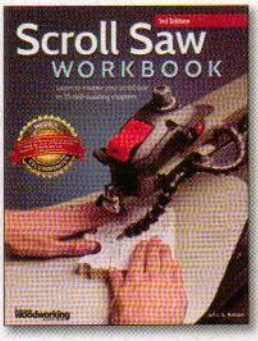

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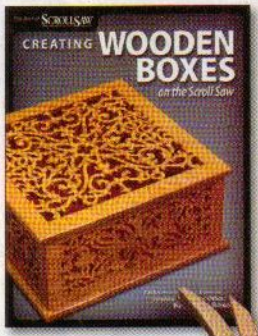

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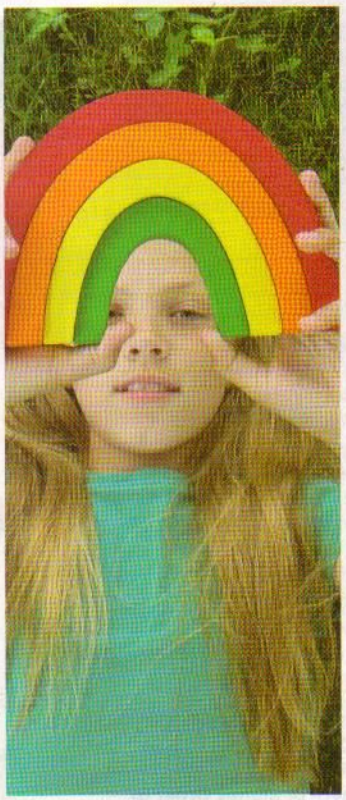
The Joy of Handmade TOYS

Erin Freuchtel-Dearing scrolls toys that spark kids' imaginations

By Kathleen Ryan



Erin Freuchtel-Dearing did not set out to create a company that produces safe, eco-friendly wooden toys for kids designed to promote creativity. It just sort of happened that way. "I wanted to give my children something more than the plastic stuff found on toy store shelves—toys that would encourage imaginative play and be safe for both them and the environment. Only I couldn't find anything I felt comfortable with," said the stay-at-home mother of two. Due to her son's many allergies, Erin was even afraid to purchase wooden toys. "Many wooden toys are made with materials, such as milk paint or walnut oil, that would be problematic, even dangerous, for him," she explained.

Acting on a whim, the frustrated mom bought a used scroll saw and decided to make her own toys. "I jumped into the world of scroll sawing with virtually no experience," she admitted. "By the time I got my first saw, though, I already had so many ideas floating around in my head that I just drew the designs on the wood and started cutting." Little did she know this flurry of ideas would turn into a thriving business and generate a popular toy-making book.

Since founding Imagination Kids in 2009, Erin has created more than 400 original designs for her company. Erin and her husband, Nick, handcraft each toy using just a scroll saw, a palm sander, and a drill. Mostly cut from aspen, the toys are finished with beeswax, essential oil, jojoba oil, or natural dyes and nontoxic paints that are safe for children and help protect the wood. Erin sells her toys at her online Etsy shop and ships throughout the United States, Canada, and 35 countries around the world.

The open-ended designs of her toys inspire hours of creative fun for kids of all ages and backgrounds. Kids experience the power of play possibilities through a 3-D castle, a dragon and cave stacker, a tractor and farm truck, a mama squirrel and her babies, a princess wand, a volcano, an airplane, and many more shapes and themes.

According to Erin, designing these educational toys is a matter of understanding what children instinctively crave and providing them with the opportunity to explore. "Being a homeschool mom, I've had the opportunity to observe my children firsthand through all

stages of development. That observation is what drives my designs." For example, Erin's stacker toys teach fine motor skills and size and color recognition, and encourage imaginative play. "To my kids, it's not just a stacker but a tunnel they have driven countless cars and rolling animals through over the years. It also serves as a croquet hoop and building blocks," said Erin. "Watching them play, you can see how open-ended toys like this aid creativity and encourage the kind of out-of-the-box thinking that is so important to developing young minds."

Erin's children, Stella, age 11, and Elliot, age 8, not only inspire their mom with new ideas, but they actually help with the family business. "With all of the other duties that come from being a homeschooling family and living on a small hobby farm, I need all the help I can get," said Erin with a laugh. "My kids are great helpers and fantastic toy testers. Elliot will find any and all design flaws very quickly because he plays so hard. If the toys can withstand him, then I know the design is structurally sound!"

In her book *Natural Wooden Toys*, published by Fox Chapel Publishing, Erin offers easy-to-follow instructions on how to create enticing toys from design to finish. The book also includes her special recipes for natural and nontoxic colorful finishes made from berries, spices, and plants.

Erin is grateful for her "whim" decision seven years ago to purchase a scroll saw and the life-changing effect it had on her and her family. She said, "It just goes to show that your typical mom with very little familiarity with power tools can learn to make simple, safe, creative, open-ended wooden toys for their children . . . and love doing it!"

See more of Erin's toys at www.imaginationkidstoys.com. See page 20 for a new toy designed exclusively for SSW readers.

Leaf Puzzle

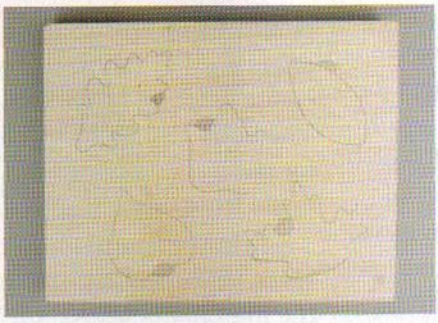
Teach kids to identify leaves using this simple tray puzzle

By Erin Freuchtel-Dearing

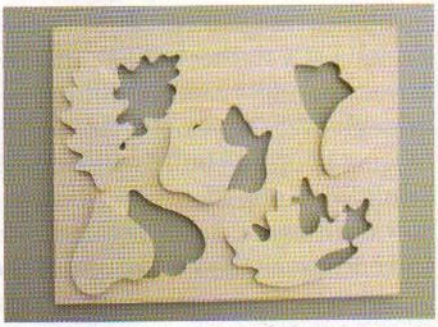
Children love exploring and experiencing nature. One of their earliest introductions to trees is through leaves, and particularly the magical ones that change colors during autumn and float to the ground where they can be jumped in, collected, crumbled, pressed, and even used to make rubbings with crayons. What were once high in the sky, out of reach for small hands, are now available to explore.

This puzzle aims to capture the beauty of autumn leaves and to add an educational aspect by identifying the leaves. Puzzles also allow small children to practice their fine motor skills, hand-eye coordination, and spatial reasoning.

MAKING THE PUZZLE

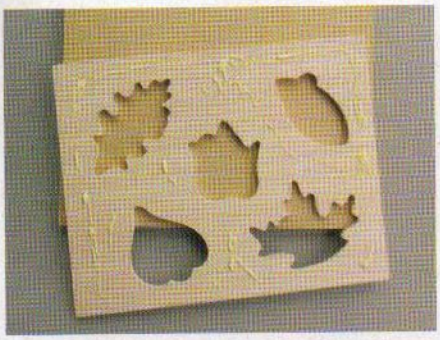


▲ **Step 1: Transfer the leaf patterns to the puzzle blank.** Lay them out any way you like, as long as they are not too close to each other or the edges of the wood. Drill blade-entry holes. I place them in the shaded areas, which you will completely remove. Stack the frame with the backing board, cut the perimeter of the stack, and separate the pieces.



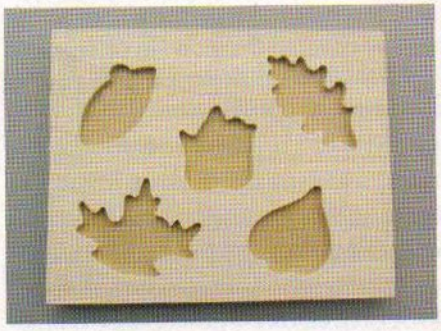
▲ **Step 2: Cut the leaves.** Then, cut the shaded tabs in the puzzle frame to make it easy to remove the pieces later. Sand the edges of the leaves and the leaf openings in the frame.

Patterns for the ***LEAF PUZZLE*** are in the pattern pullout section.



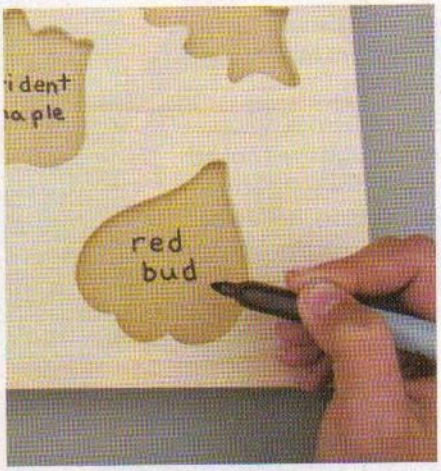
▲ **Step 3: Glue and clamp the frame to the backing board.** Prevent squeeze-out by applying the glue sparingly and avoiding the openings. Wipe away any excess glue and allow the glue to dry thoroughly.

▲ **Step 4: Paint the leaves.** Choose a nontoxic paint (see Natural Dyes & Nontoxic Paints, page 22). I use thinned acrylic paint or watercolor paint so you can see the wood grain, which gives the puzzle a more natural feel. Test the colors on wood scraps to determine the perfect colors. Allow the paint to dry.



▲ **Step 5: Gently re-sand the leaves.** The goal is to remove any rough edges where the grain was raised during painting. You can also add the veins on the leaves with paint or a woodburning tool.

Step 6: Round the corners of the puzzle frame. Trim any uneven edges. This adds a finished look and eliminates any sharp corners that might hurt a child. Finish-sand the freshly trimmed edges, rounded corners, and face of the puzzle.



▲ **Step 7: Label the leaves.** Use a woodburner or permanent marker and write the names inside the tray, being careful not to write in the tab areas. You can also use a woodburner or marker to write "Leaves" at the top of the puzzle.

TIP

USING MARKERS ON WOOD

Before you use a marker to label the leaves and puzzle, test it on a piece of scrap wood to make sure it doesn't bleed. Then, test the finish over the marker ink to make sure the finish won't cause the marker to bleed or smudge.

Step 8: Apply a nontoxic finish. I use shellac. Apply it sparingly to be sure the puzzle pieces will fit in their places.

Materials & Tools

Materials:

- Plywood, ¼" (6mm) thick: puzzle top, 8½" x 11" (216mm x 279mm)
- MDF, ½" (13mm) thick: puzzle bottom, 8½" x 11" (216mm x 279mm)
- Wood glue
- Nontoxic paint or dyes
- Shellac (optional)
- Permanent marker or woodburner with writing nib (optional)

Tools:

- Scroll saw blades: #5 reverse-tooth
- Drill with small bit
- Clamps or weights

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

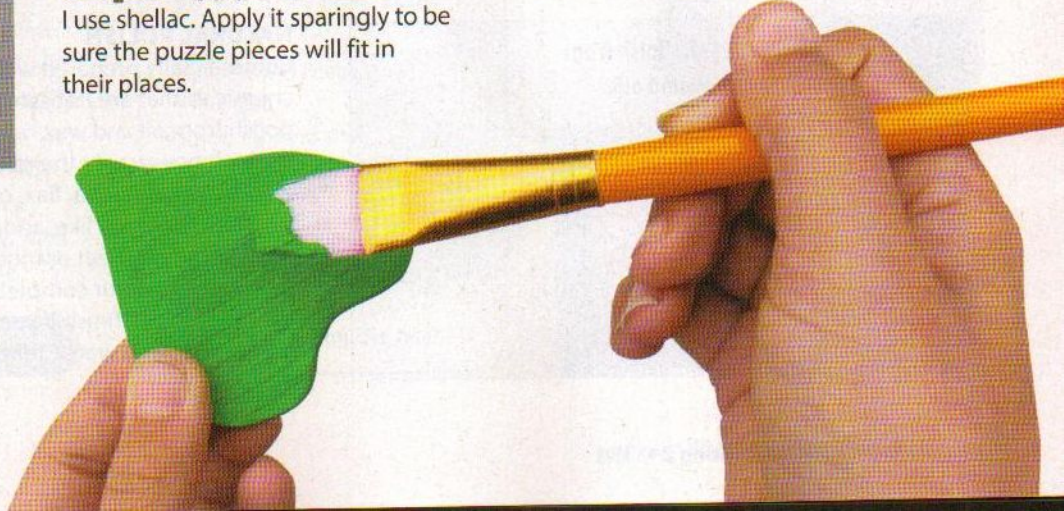
Further Reading

Natural Wooden Toys
By Erin Freuchtel-Dearing

Step-by-step instructions show how to make more than 75 charming wooden toys with themes like fairy tale, farm, and ocean. Includes instructions on creating natural and nontoxic colorful finishes.

Available for $19.95 + $3.99 S&H (parcel post) from Fox Chapel Publishing, www.FoxChapelPublishing.com, 1970 Broad St., East Petersburg, Pa., 17520, 800-457-9112, or check your local retailer.

Erin Freuchtel-Dearing lives in rural Indiana with her husband, Nick, and their two children, Stella and Elliot, on a small hobby farm that includes dairy goats, chickens, and Acorn the pony. Erin began making wooden toys to give her children creative and educational outlets through meaningful play.



Natural Dyes & Nontoxic Paints

We have all heard stories about unsafe toxins, whether from lead paint, plastic toys, or, most recently, water, finding their ways into children's hands and bodies. Concerned about the chemicals in most paints and finishes, I researched and experimented to find products I feel comfortable putting on my children's toys.

If you plan to paint your toys, choose nontoxic brands. Look for products that conform to ASTM D-4236 safety standards as certified by the Art & Creative Materials Institute. The ACMI seal indicates that the product doesn't contain materials in sufficient quantities to be hazardous.

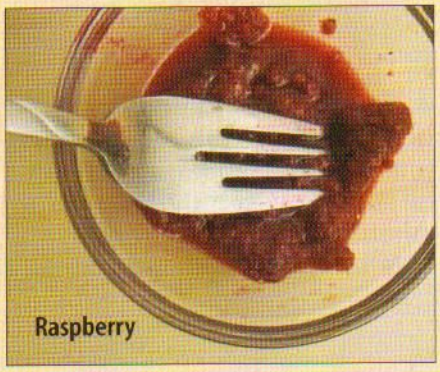
You can also make your own natural dyes using berries, spices, and plants. The colors produced from these natural dyes will not be as vibrant as paints, but they will endow the toy with a soft natural wash of color. Natural dyes are best used for solid colors, not detail work, because they tend to bleed a bit with the grain of the wood. Also, natural dyes are not as colorfast as paints, so it is important to coat dyed toys with a safe finish (such as shellac or beeswax) to preserve the color.

Use natural dyes and nontoxic paint for safe, vibrant color.

SPICES

Use spices to make warm colors like brown and yellow. Paprika creates a nice orange, turmeric makes yellow, and tea and coffee make shades of brown.

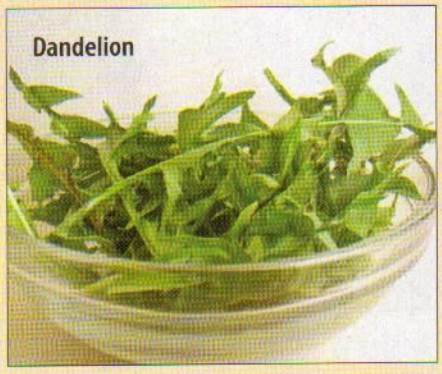
To make dye from spices, measure ½ teaspoon (2.5ml) of spice into a glass bowl. Add ¼ cup (59ml) of boiling water and stir gently. Paint the dye onto the wood. When it has dried, wipe off any clumps of spice.



BERRIES & VEGETABLES

The majority of bright natural dyes come from the juice of a fruit or vegetable. Beets, raspberries, blueberries, and blackberries all make vivid shades of red, pink, and purple.

To make dye, extract the juice by crushing and heating items like berries. If the item is firmer, such as a beet or carrot, chop it and soak it in water or vinegar.



LEAVES

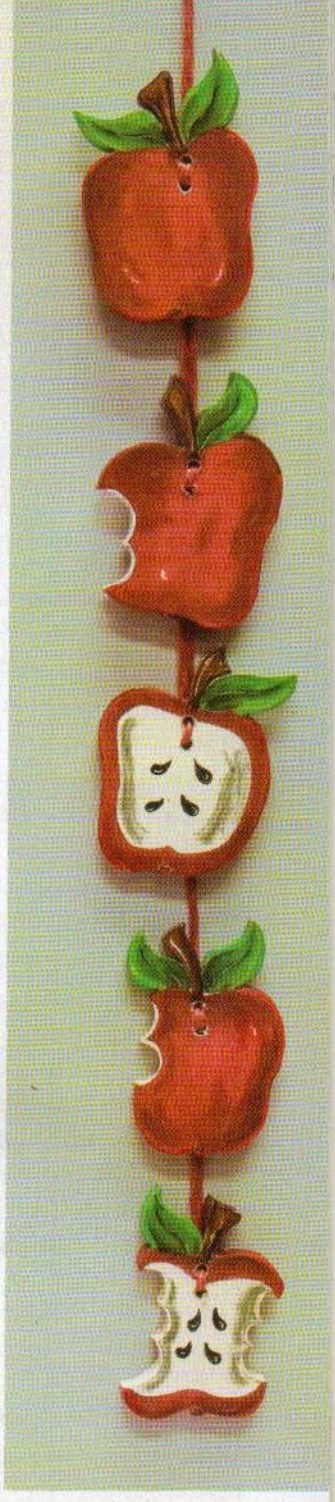
Leaves are a wonderful source for shades of green. Spinach leaves provide a deep olive green, whereas wild violet leaves give a bright spring green.

To make dye, cook ⅛ to ¼ cup (30 to 59 ml) of leaves with a bit of water until they are soft. Let the leaves cool, and then rub them on the wood. When you've covered the wood in color, wipe off any leaf residue. Repeat until you achieve the desired color.

NATURAL POLISH

Commercially prepared wood polishes often contain harsh chemicals that are not safe for children. Instead, make your own polish from oil and wax.

Melt beeswax in the microwave or over a double boiler. Stir in an oil, such as jojoba, flax, or walnut. (Avoid olive oil, which can turn rancid.) If you like, add a couple drops of essential oil, such as lavendar or sweet orange. Let the polish cool and harden, and then rub it on your completed toys with your bare hands. (You'll get fibers in the finish if you use a cloth.) Clean the toys with gentle soap and water; reapply the polish as needed.



String of Apple Slices

Use stack cutting and simple glue to create a seasonal decoration

By John A. Nelson

Whether you're celebrating the harvest, sending kids back to school, or thanking a teacher, this string of apple slices makes a fun and easy seasonal decoration. Stack-cut the designs to make extras for gifts or craft shows. You can paint the designs or download artwork and adhere it with white glue or Mod Podge. Spray the dry pieces with clear gloss, let dry, and connect with string, raffia, or wire.

ON THE WEB Download color appliqué artwork from our website.
www.scrollsawer.com

Materials & Tools

Materials:

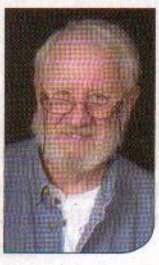
- Plywood, ½" (13mm) thick: 8½" x 11" (216mm x 279mm)
- Sandpaper
- Paint OR Mod Podge/ white glue
- String, raffia, or wire
- Finish: spray gloss

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

Tools:

- Blades: #5 reverse
- Paintbrushes
- Drill and ⅛" (3mm)-dia. bit

Patterns for the ***String of Apple Slices*** are in the pattern pullout section.



John A. Nelson is the author of Fox Chapel's popular Scroll Saw Workbook, *available at www.foxchapelpublishing.com.*

Making the Walcott Mini Clock

Colorful hardwoods highlight a nostalgic design

By Dan Wilckens

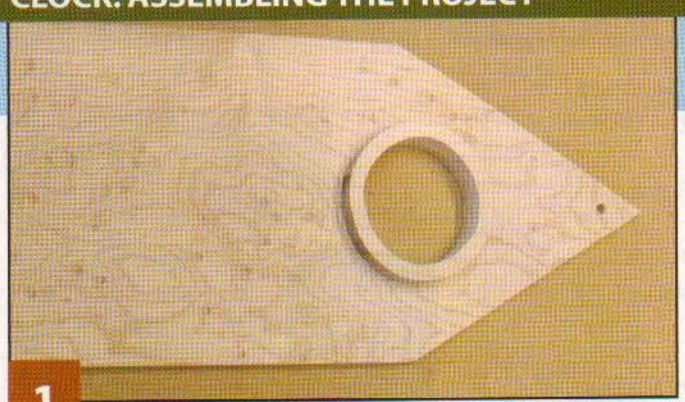
The Walcott is a perfectly formed pendulum wall clock—in miniature! This delicate fretwork design uses a miniature clock insert and pendulum drive unit to simulate the look of its larger brethren.

I suggest using ⅛" (3mm)-thick hardwoods for this clock. Thicker wood makes the piece look clunky and shows a lot of end grain, and the layers of plywood are distracting. If you don't resaw or plane your own wood, I suggest you check out the many hardwood suppliers who specialize in scroll saw-ready wood.

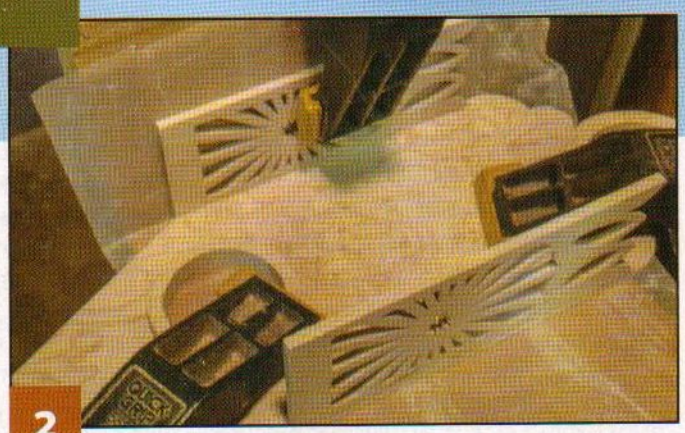
Cutting the Pieces

Cut the pieces that require patterns to the rough dimensions in the Parts List. Transfer the patterns to the blanks, and double-check the hole sizes needed for your clock insert and pendulum drive unit, which can vary a small amount depending on the manufacturer. Make any adjustments, drill blade-entry holes, and cut the pieces. Do not cut the angle on the top edges of the sides; you will add it with a belt sander later. Sand away any fuzzies. Make the assembly jigs (see page 26).

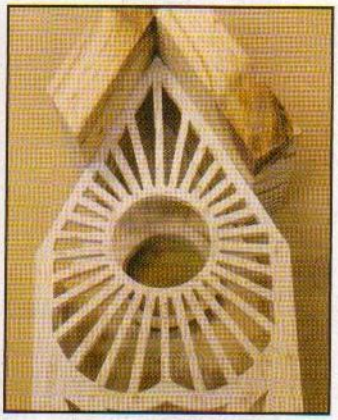
CLOCK: ASSEMBLING THE PROJECT



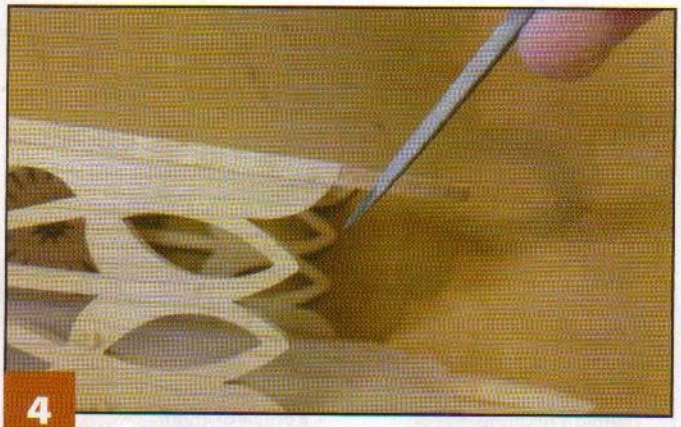
1 **Glue the pendulum ring (A) to the inside of the back (B).** Make sure the ring is centered and the holes in the ring and back are aligned.



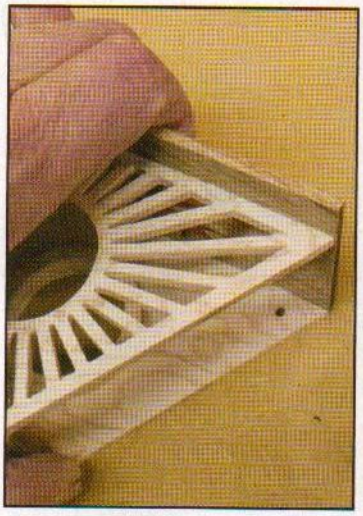
2 **Clamp the back (B) to the 90° angle jig.** Place the edge against the upright. Then, glue and clamp one side (C) in place. Align the top inner corner with the roof-pitch angle. Repeat the process for the other side. Use a small square to make sure the tops of the two sides match.

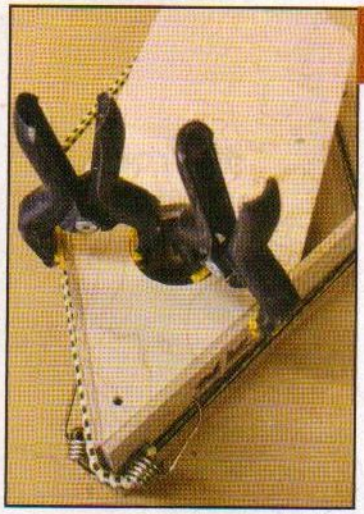


3 **Place the clock assembly in the 60° angle jig.** Place the front (D) in position, aligned with the sides. Sand as needed for it to fit, and run a bead of glue along the edges of the sides. Remove the clock from the jig after two minutes, clamp it with squeeze clamps, and allow the glue to dry.



4 **Check for any gaps at the glue joints.** If you find one, run a small bead of glue along the seam and immediately sand it on a belt sander. This will hide the gap. Use a small file or sanding stick to blend the corners and make everything match up properly. Use a belt sander to sand the angles on the tops of the sides to match the roof pitch on the front and back.



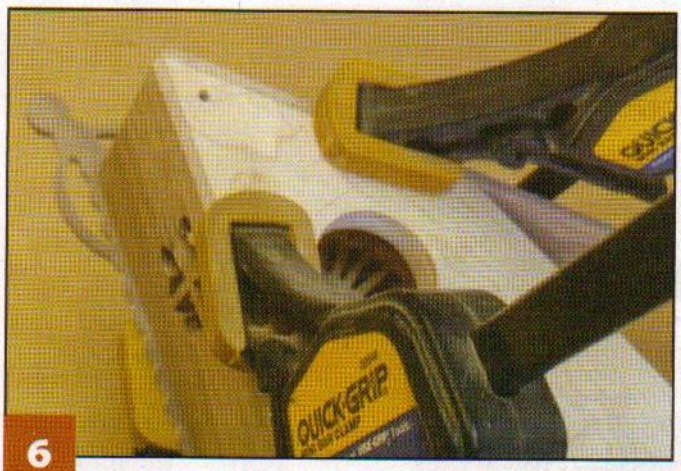


5 **Run beads of glue along the roof pitch on the front and back.** Align a roof panel (E) with the inner corner flush with the top peak, and hold it in place for a couple minutes. Repeat the process for the other roof panel. Use a couple of small bungee cords to clamp them in place. You can also use two small pinch clamps through the holes to help secure the roof panels.

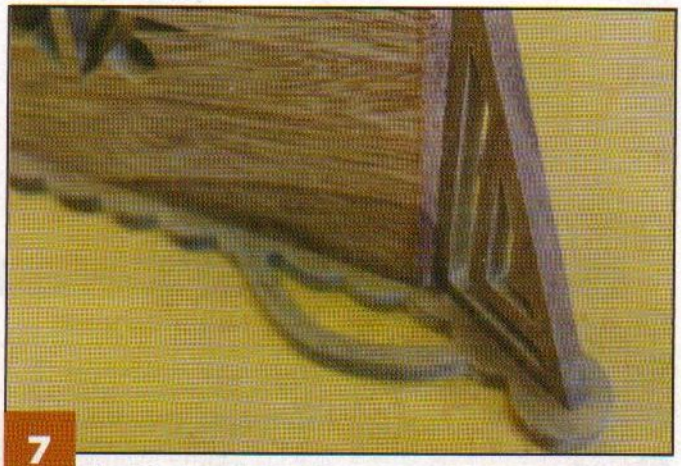
TIP

BUNGEE CORD CLAMPS

Small bungee cords work great when clamping irregularly shaped small projects. They conform to the surface shape and hold well without marring the surface.



6 **Sand the top of the roof flat.** Round the edges of the roof panels slightly. Place the pediment (F) on the bench and run a bead of glue along the front edges of the roof panels. Center the front edges of the roof panels on the pediment and clamp it in place. Let the glue dry.



7 **Glue the crown (G) in place.** If everything is square, you can just apply glue and set it in place without clamping it. After the glue has dried for a few hours, apply a finish of your choice. I use Minwax spray lacquer on my projects. When the finish is dry, install the mini clock insert and pendulum drive unit according to the manufacturers' instructions.

Making Assembly Jigs

Glue and screw two pieces of ¾" (19mm)-thick scrap together at a 90° angle to create a 90°-angle jig. Then, cut two pieces of ½" (13mm)-thick scrap to 2½" by 3" (64mm by 76mm), with one end cut at a 60° angle. Use the 90°-angle jig to help glue the 60°-angle jig together, as shown. Use a square and protractor to make sure the inner angle is 60°. Reinforce the joints with brads or screws.

Materials & Tools

Materials:

- Bird's-eye maple, ⅛" (3mm) thick: 3½" x 26" (89mm x 660mm)
- Bird's-eye maple, ¼" (6mm) thick: 2" (51mm) square
- Walnut, ⅛" (3mm) thick: 6½" (165mm) square
- African mahogany, ⅛" (3mm) thick: 5" x 6" (127mm x 152mm)
- Wood scraps, ½" and ¾" (13mm and 19mm) thick: shop-made jigs
- Clock insert: 1 7/16" (37mm) dia.
- Pendulum drive unit: mini size
- Wood glue
- Sandpaper
- Screws or brads
- Finish: spray lacquer, such as Minwax

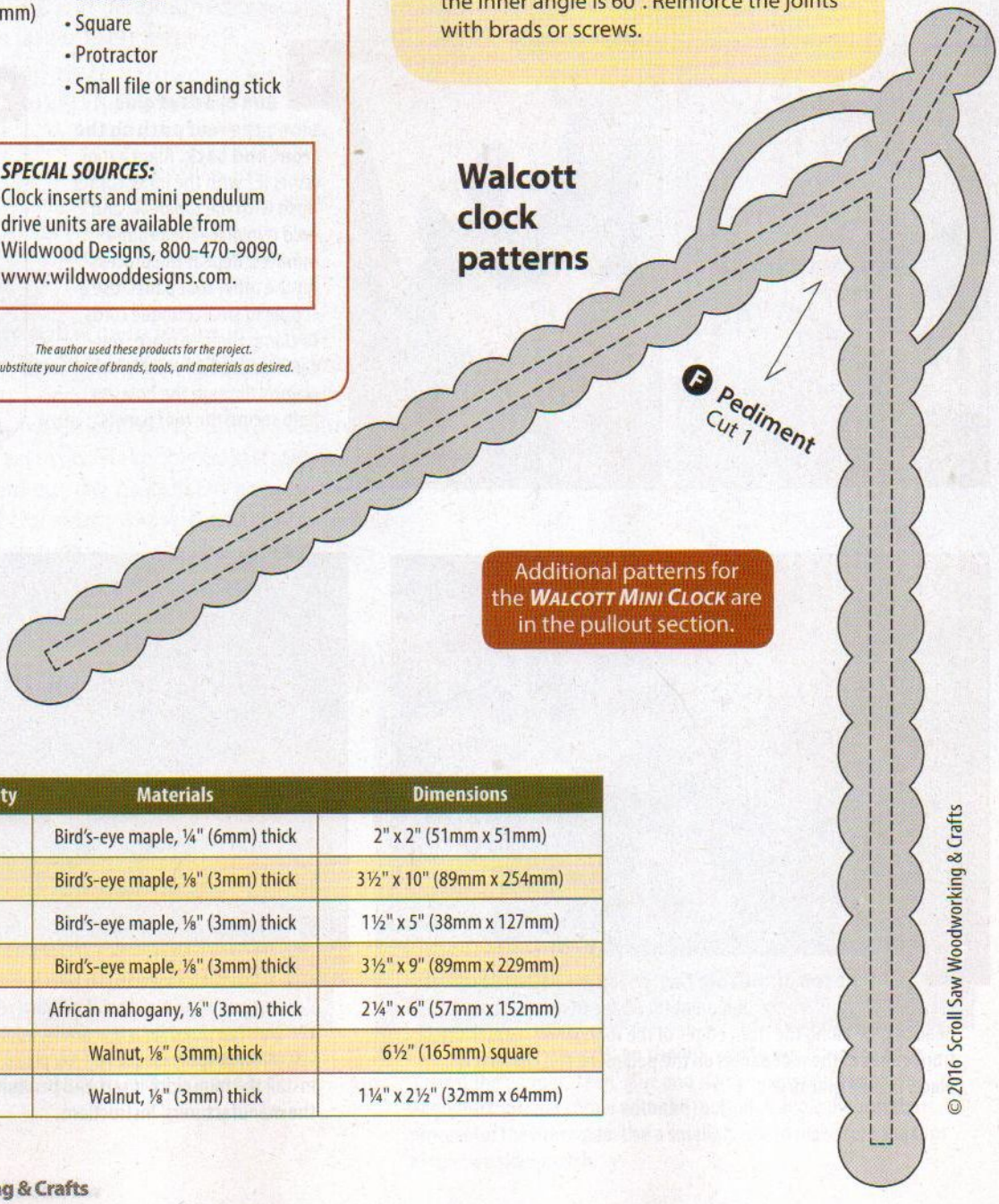
Tools:

- Scroll saw blades: #3 reverse-tooth
- Clamps: squeeze, pinch
- Mini bungee cords (optional)
- Screwdriver, hammer, or brad nailer
- Belt sander
- Square
- Protractor
- Small file or sanding stick

SPECIAL SOURCES:
Clock inserts and mini pendulum drive units are available from Wildwood Designs, 800-470-9090, www.wildwooddesigns.com.

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

Walcott clock patterns

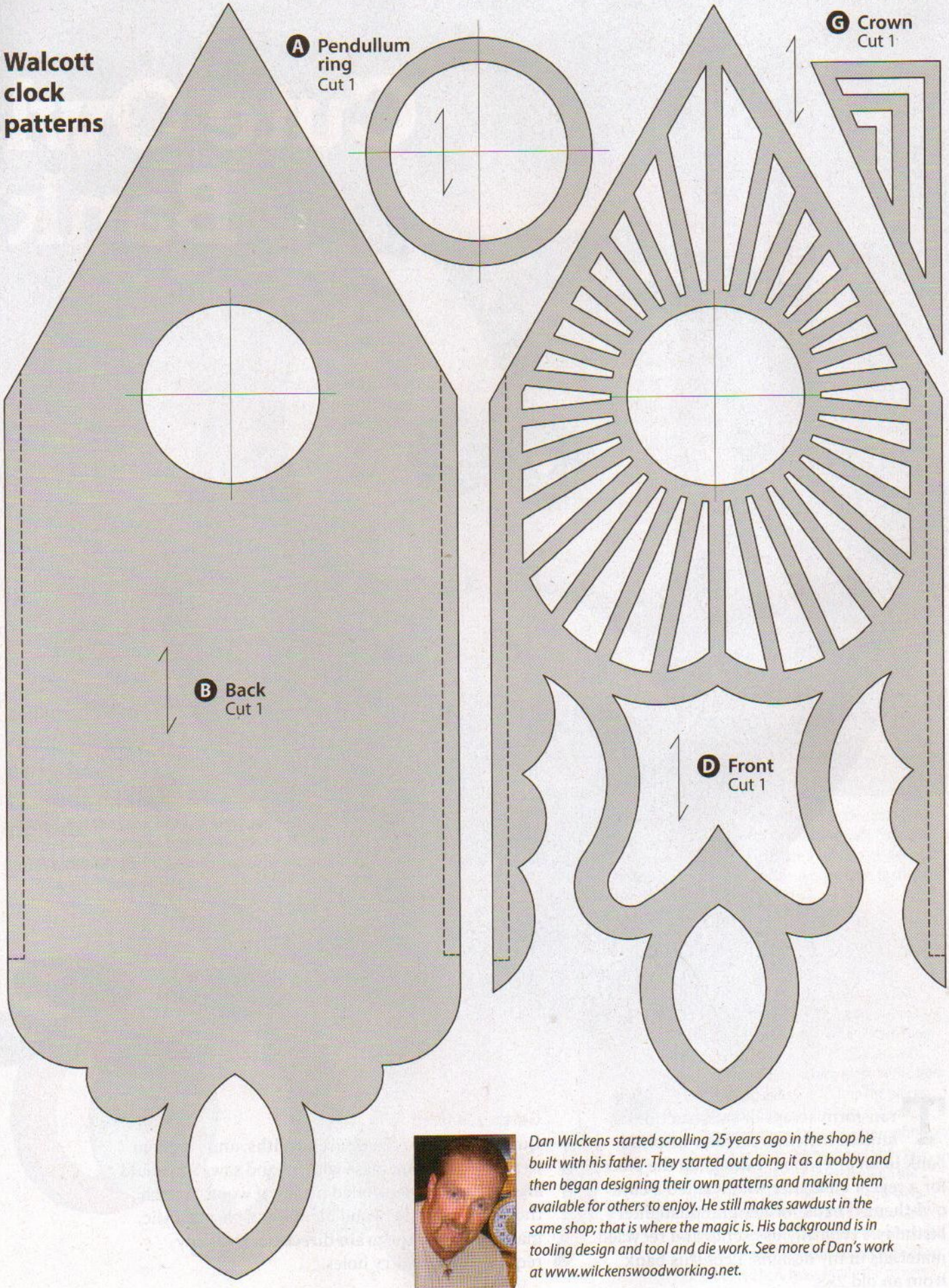


Additional patterns for the ***WALCOTT MINI CLOCK*** are in the pullout section.

Parts List

	Part	Quantity	Materials	Dimensions
A	Pendulum ring	1	Bird's-eye maple, ¼" (6mm) thick	2" x 2" (51mm x 51mm)
B	Back	1	Bird's-eye maple, ⅛" (3mm) thick	3½" x 10" (89mm x 254mm)
C	Sides	2	Bird's-eye maple, ⅛" (3mm) thick	1½" x 5" (38mm x 127mm)
D	Front	1	Bird's-eye maple, ⅛" (3mm) thick	3½" x 9" (89mm x 229mm)
E	Roof panels	2	African mahogany, ⅛" (3mm) thick	2¼" x 6" (57mm x 152mm)
F	Pediment	1	Walnut, ⅛" (3mm) thick	6½" (165mm) square
G	Crown	1	Walnut, ⅛" (3mm) thick	1¼" x 2½" (32mm x 64mm)

Walcott clock patterns



Dan Wilckens started scrolling 25 years ago in the shop he built with his father. They started out doing it as a hobby and then began designing their own patterns and making them available for others to enjoy. He still makes sawdust in the same shop; that is where the magic is. His background is in tooling design and tool and die work. See more of Dan's work at www.wilckenswoodworking.net.

Cute Owl Bank

Use inexpensive construction lumber to make comical design

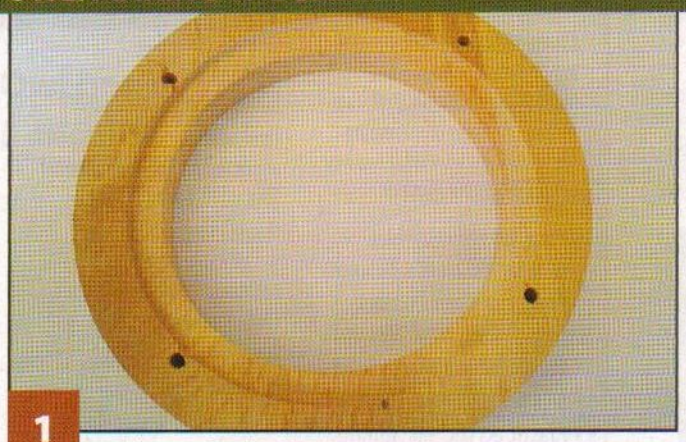
By Michael Riffel

Transform scraps of construction lumber into this cartoon-inspired bank in an afternoon. I designed the piece for a repeat customer who wanted a cute owl-themed bank for her granddaughter's birthday. I typically use scrap and recycled materials in my designs; I cut this bank from an old 2x8.

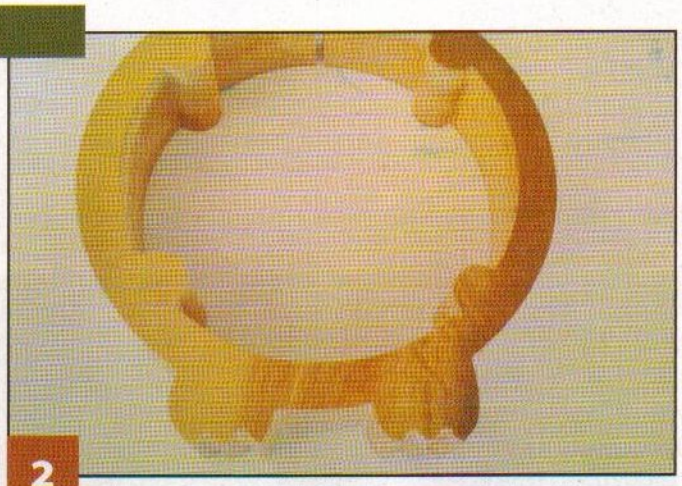
Getting Started

Cut the pieces to the desired widths, and rip them to the desired thickness with a band saw. You could also use pre-dimensioned pieces of wood. Attach the patterns to the wood blanks and clear acrylic, making note of the grain direction. Drill any required blade-entry holes.

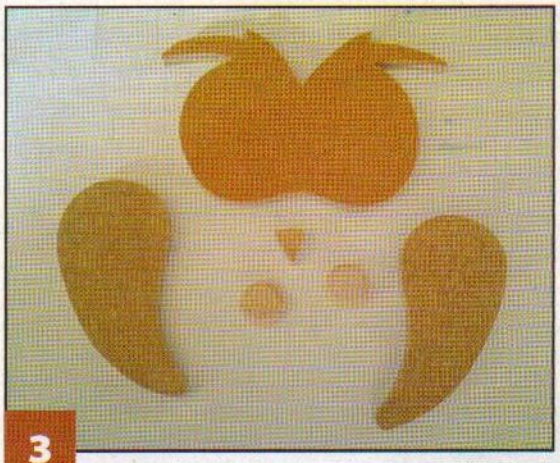
OWL: MAKING THE BANK



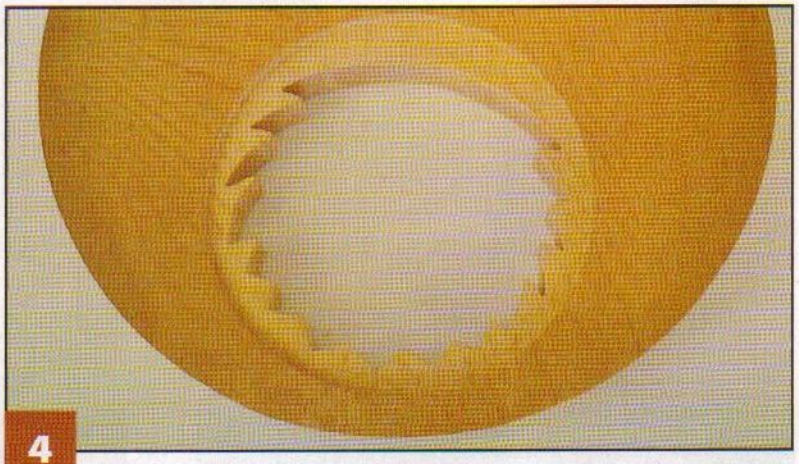
1 **Cut the perimeter of the back.** Then, cut the inside. Round the outer edge with a router and a ¾" (19mm)-radius roundover bit. On the inside of the inner circle, use a router with a ⅜" (10mm)-radius rabbet bit to cut a ⅛" (3mm)-deep by ⅜" (10mm)-wide recess. Drill and countersink the holes marked on the pattern. Then, cut the clear acrylic plastic disc with a scroll saw.



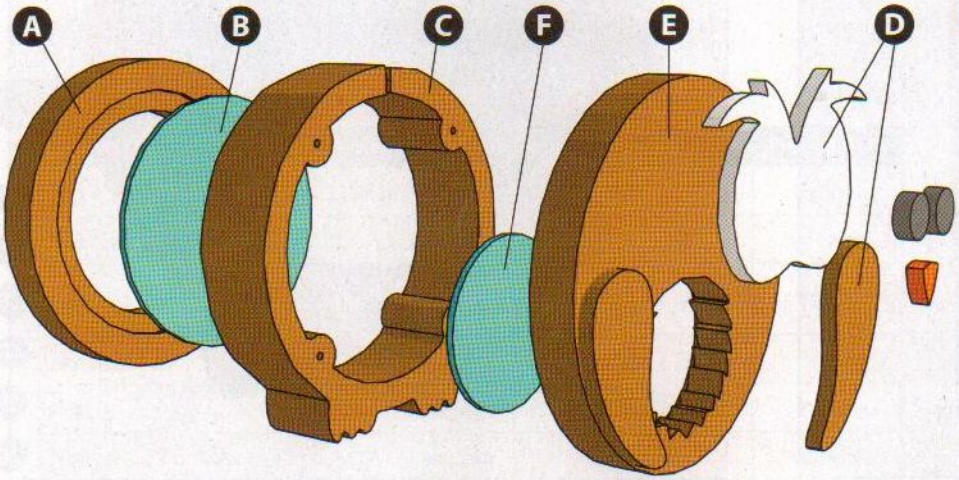
2 **Cut the inside hole of the body.** Then, cut around the perimeter of the body. You can cut a ⅛" (3mm)-wide slot for the coins now or after you dry-fit the assembly and sand everything smooth. Do not drill the holes yet; they are marked on the pattern for reference only.



3 **Cut the face, beak, wings, and eyes.** Use the scroll saw. I cut them from particleboard, but because you will paint these elements, you could use whatever scrap you have available.



4 **Cut the outside perimeter of the front.** Cut the inner circle along the solid line. Round the outside edge of the front with the router and ¾" (19mm)-radius roundover bit. Use the router and rabbet bit to create a ⅛" (3mm)-deep by ⅜" (10mm)-wide recess on the inside. Then, cut along the dashed lines to shape the feathers. Cut the acrylic disc.



5 **Clamp the back to the body.** Use the holes in the back as a guide to drill the holes in the body. Do not drill into the front. Separate the pieces and stain them as desired. Paint the face and eyes with acrylic craft paint. Attach them to the front with E-6000 adhesive. Clamp the pieces back in position and drive 3¼" (83mm)-long coarse-thread drywall screws through the pilot holes in the back and body into the front. Make sure the screws do not protrude through the front. Apply clear gloss urethane to the entire project and allow it to cure. Disassemble the blank and attach the acrylic plastic covers with beads of E-6000. Then, reassemble the project.

Materials & Tools

Materials:

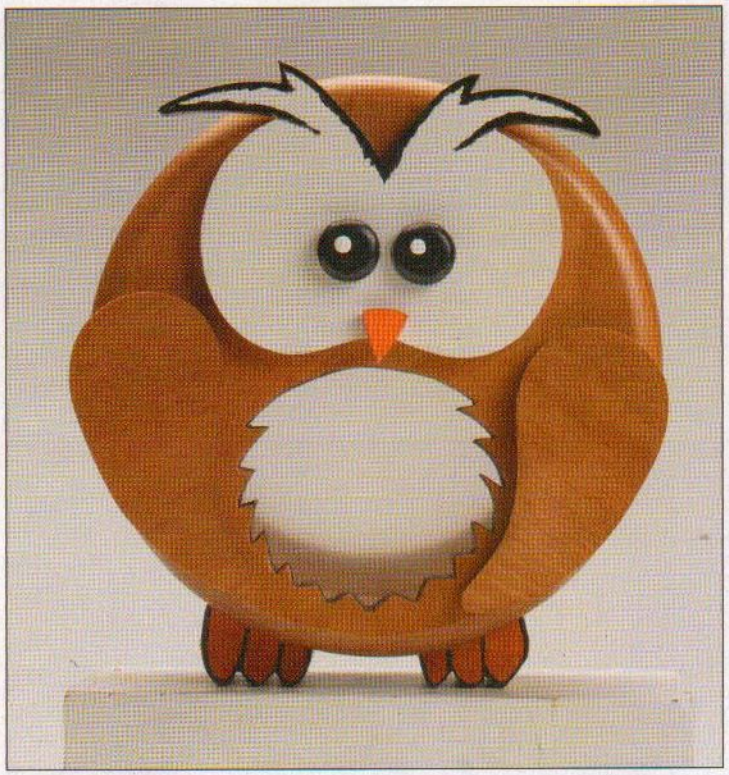
While I made the project from a construction 2x8, I've included rough dimensions for woodworkers who are not set up to resaw lumber

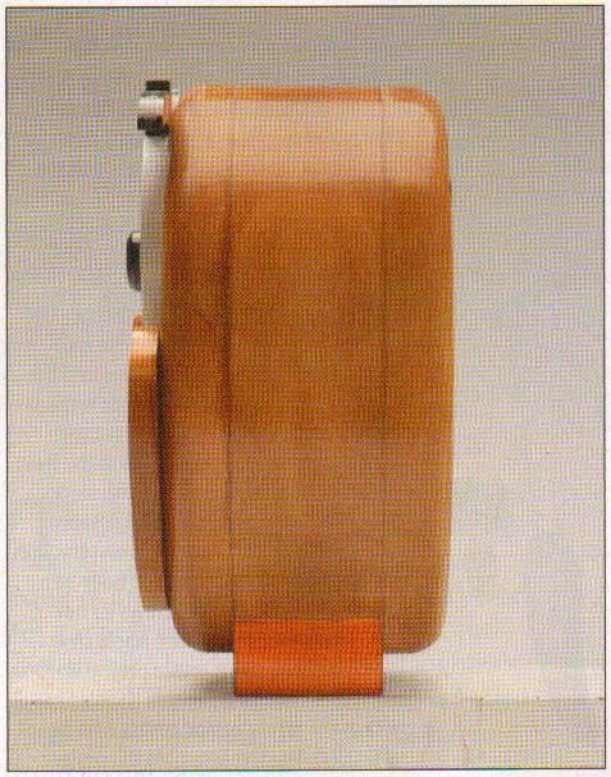
- Pine, ¾" (19mm) thick: 6" x 12" (152mm x 305mm)
- Pine, 1½" (38mm) thick: 6" x 7" (152mm x 178mm)
- Wood, ¼" (6mm) thick: 4" x 6" (102mm x 152mm)
- Plastic acrylic, 3/16" (5mm) thick: clear 8" x 12" (203mm x 305mm)
- Acrylic craft paint
- Sandpaper
- Stain: golden oak
- Finish: clear gloss urethane
- Wood glue, such as Titebond II
- E-6000 adhesive
- Drywall screws: 4 each 3¼" (83mm)-long coarse-thread

Tools:

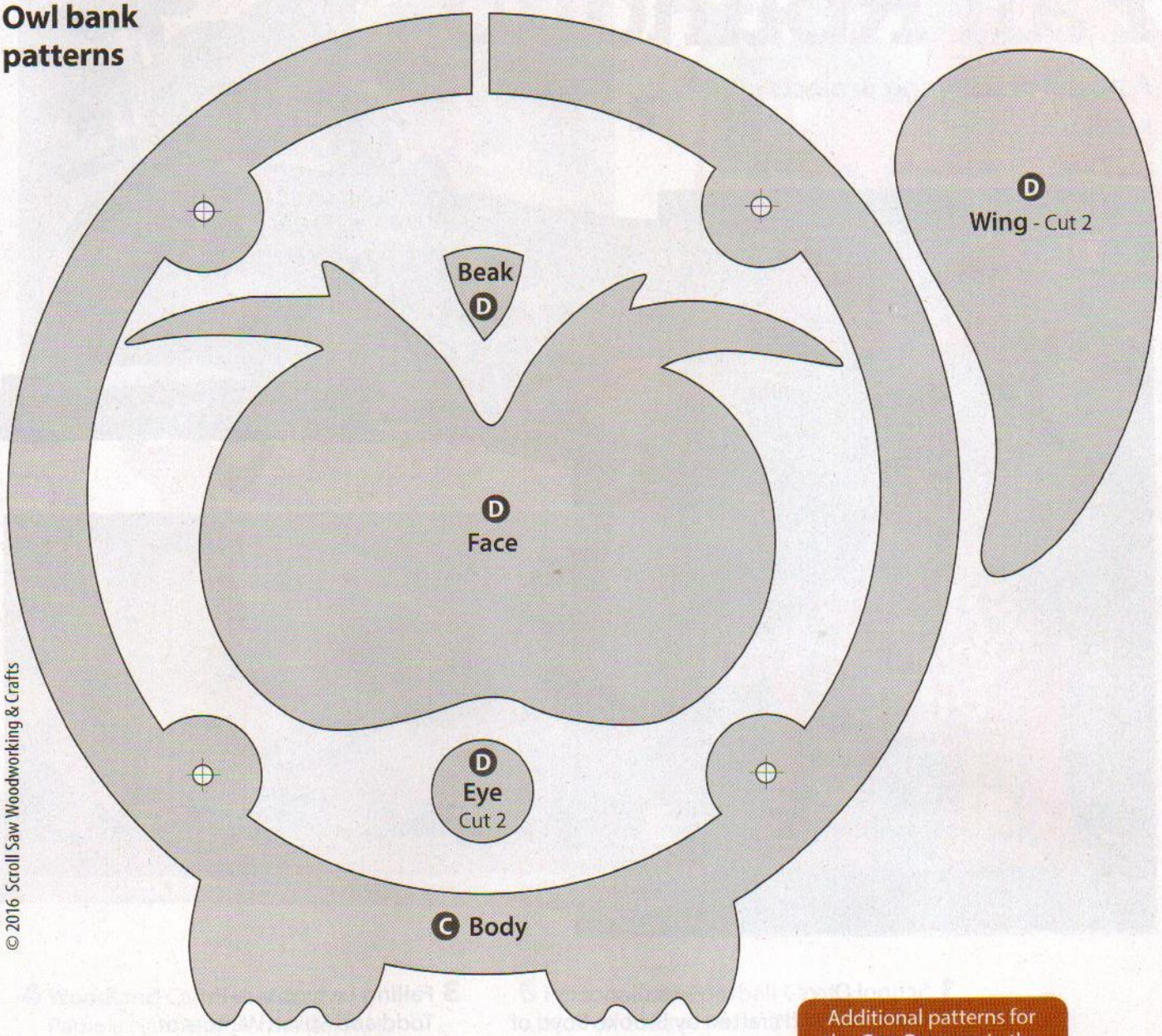
- Saws: table, band, scroll
- Drill or drill press with bits: assorted small, 3/16" (5mm) dia. with countersink
- Router with bits: ¾" (19mm)-radius roundover, ⅜" (10mm)-radius rabbet
- Clamps
- Screwdriver

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





Owl bank patterns



Additional patterns for the ***OWL BANK*** are in the pattern pullout section.

Parts List

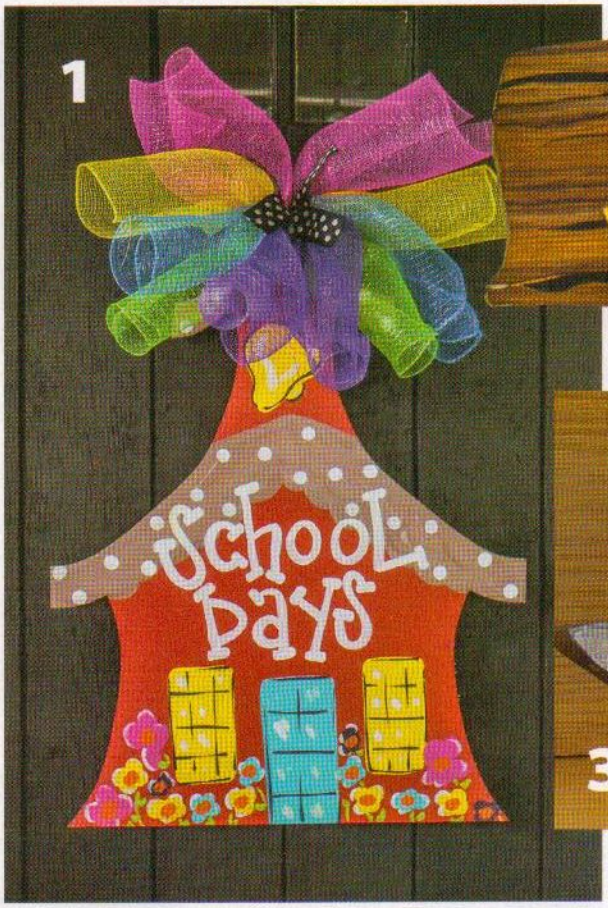
	Part Name	Materials	Dimensions	Presentation
A	Back	Pine, ¾" (19mm) thick	6" (152mm) square	Pattern
B	Back cover	Clear acrylic plastic, 3/16" (5mm) thick	4¾" (121mm) dia.	Dimensions
C	Body	Construction 2x8 OR pine, 1½" (38mm) thick	6" x 7" (152mm x 178mm)	Pattern
D	Face and wings	Wood of choice, ¼" (6mm) thick	4" x 6" (102mm x 152mm)	Pattern
E	Front	Pine, ¾" (19mm) thick	6" (152mm) square	Pattern
F	Front cover	Clear acrylic plastic, 3/16" (5mm) thick	3" (76mm) dia.	Dimensions

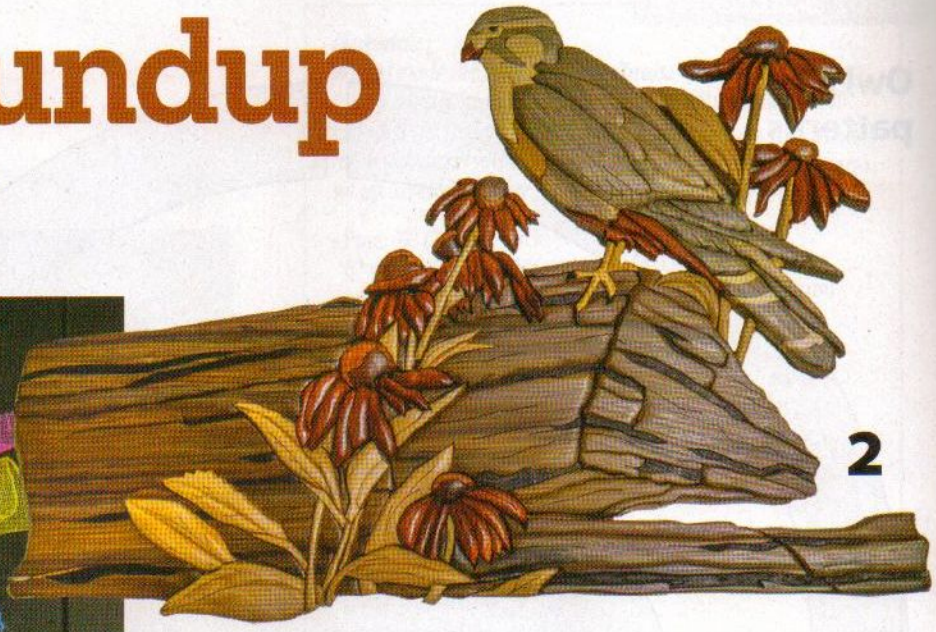
Ever since taking woodshop in high school, Michael Riffel has enjoyed creating small things from scrap pieces of wood. After he retired from the defense industry in 2007, he was able to create a small shop in his garage in Norco, Calif., and return to his woodworking passion. See more of his projects on his website, riffsart.com, or Pinterest, www.pinterest.com/theriff48/.

Fall Roundup

A passel of inspiring projects

By Kathleen Ryan



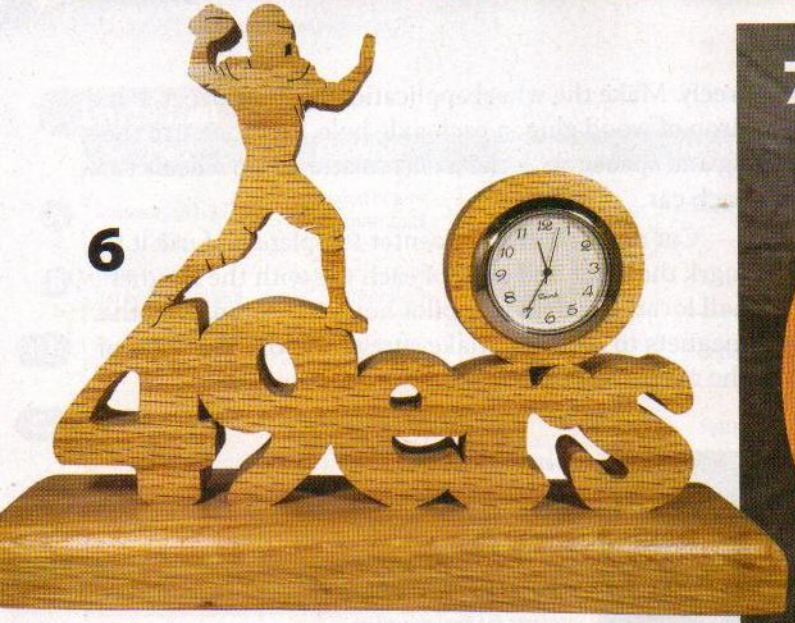


1 School Days
Designed and crafted by Brooke Boyd of Looleigh's Charm in Birmingham, Ala., this schoolhouse, 21" by 29", was cut from ¼" plywood, painted with acrylics, and topped with glitter, clear enamel, and a bold bow. Contact Brooke at looleighscharm.etsy.com.

2 The Falcon
Intarsia designer Bruce Worthington of Worthington House Intarsia Patterns in Brownstown, Mich., made this falcon, 14½" by 21". It comprises 225 pieces cut from eight varieties of wood. For Bruce's free e-books, visit www.intarsia.net.

3 Falling Leaves
Todd and Susan Winters of HillbillyandME in Hyrum, Utah, designed and cut this freestanding set of fall leaves, 8". The leaves are cut from MDF, decorated with scrapbook paper, and sealed with a clear coat. Contact Todd and Susan at www.etsy.com/shop/HillbillyandME.

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



4 Woodland Candleholders
Pamela Hanna of Harrisville, N.H., handcrafted these freestanding woodland candleholders from native, sustainably harvested maple wood. They range in size from 6" to 7½". Contact Pamela at www.prettydreamer.com.

5 Apple Welcome Sign
Welcome students and teachers back to school with a hanging designed and crafted by Darlene Garvin of Holidays Are Special in Mobile, Ala. Darlene cut the 18" by 19" piece out of birch and painted it with acrylics. Contact Darlene at www.etsy.com/shop/HolidaysAreSpecial.

6 Personalized Football Clock
Kick off the season with this clock by Steve Claus from Henderson, Nev. Crafted from red oak, it measures 6" by 7½" and can be personalized with a fan's name or football team. Contact Steve at www.etsy.com/shop/ScrollSawDesigns.

7 Pumpkin Door Hanger
Looking for a fun way to earn extra money, stay-at-home mom Candace Rae McDowell from Canton, Ga., designed and scrolled this festive door hanger, 18" by 21". She painted it with acrylics. E-mail Candace at pillarsgm@gmail.com.

Trick-or-Treat Train

Halloween decoration doubles as a fun toy

By Tom St. Aubin

The Trick-or-Treat Train features all of your favorite Halloween characters cut from your choice of assorted hardwoods or painted pine. As you plan the pieces, pay attention to grain direction and avoid gluing the end grain of any piece to another piece if you plan for this to become a toy. I suggest cutting the bottom of the engine and cowcatcher from a single piece of wood for durability.

Making the Train

Copy the patterns and attach them to the blanks as desired. Drill blade-entry holes as needed, and drill the holes for the smokestacks. Cut the frets with a #2/0 reverse-tooth blade. Then, cut the perimeters of the pieces with a #12 reverse-tooth blade.

Use a scratch awl to mark the axle holes on each train car, and then drill the holes using a scrap backer piece to avoid tear-out on the opposite side. Remove the patterns with deodorized mineral spirits and sand away any fuzzies or rough spots. Glue and clamp the pieces together as needed and let dry. Finish as desired. I paint pine cars with acrylics and finish hardwood cars with gloss polyurethane.

I drill out the axle holes in the wheels with an 11/64" (4.5mm)-diameter bit so the wheels spin freely. Make the wheel application jig and spacer. Put a drop of wood glue in each axle hole, and then use the jig and spacer, with the axles, to attach the wheels to each car.

Cut and drill the car center template and use it to mark the front and back of each car with the magnet nail locations; drill tiny pilot holes if desired. Nail the magnets to the cars. Make sure to oppose the poles of the magnets so you can link the cars together.

A retired pharmacist, Tom St. Aubin draws his woodworking inspiration from his wife, Jo Ellen. He enjoys making one-of-a-kind projects for her, as well as many patterned projects.

Parts List

	Piece	Materials	Dimensions	Presentation
A	Train cars (A1-A7)	Hardwood or pine, ¾" (19mm) thick	Assorted; measure patterns	Patterns
B	Engine: witch's hat on smokestack	Hardwood or pine, ½" (13mm) thick	1¾" x 1¾" (44mm x 44mm)	Pattern
C1	Engine: coffin on cab	Hardwood or pine, ¼" (6mm) thick	1¼" x 1¾" (32mm x 44mm)	Pattern
C2	Engine: coffin on base	Hardwood or pine, ¾" (19mm) thick	1¼" x 1¾" (32mm x 44mm)	Pattern
D	Engine: witch's hat on front	Hardwood or pine, 1/16" (2mm) thick	Scrap	Pattern
E	Engine: smokestacks	Dowel rod, ¼" (6mm) dia.	1" (25mm) long; 1¾" (44mm) long	Dimensions
F	Engine: cowcatcher	Hardwood or pine, ¾" (19mm) thick	¾" x 1" (19mm x 25mm)	Pattern
G	Engine: cab	Hardwood or pine, ¾" (19mm) thick	1⅛" x 2" (29mm x 51mm)	Pattern
H	Engine: base	Hardwood or pine, ¾" (19mm) thick	¾" x 2⅝" (19mm x 67mm)	Dimensions
I	Wheel application jig	Scrap plywood, ¾" (19mm) thick	3" x 4" (76mm x 102mm)	Pattern
J	Wheel spacer	Scrap plywood, ⅛" (3mm) thick	1" x 1½" (25mm x 38mm)	Pattern
K	Axle templates	Scrap plywood, ⅛" (3mm) thick	1" x 3" (25mm x 76mm)	Pattern
L	Car center template	Scrap plywood, ¼" (6mm) thick	¾" x ⅞" (19mm x 22mm)	Pattern

Patterns for the ***TRICK-OR-TREAT TRAIN*** are in the pattern pullout section.

Materials & Tools

Materials:

- Hardwood or pine scraps
- Wheels, ⅞" (22mm) dia.: 4 per car
- Axles, 5/32" (4mm) dia.: 4 per car
- Nails, nickel-plated round-head: 1 to 2 per car, ½" (13mm)-dia. head x ¾" (19mm)-long shank (Cherry Tree #410)
- Ceramic magnets, ½" (13mm) dia.: 1 to 2 per car, 7/32" (5.5mm) thick with 3/32" (2.5mm)-dia. hole (Cherry Tree #430)
- Wood glue, such as Titebond III
- Spray adhesive, such as 3M Super 77
- Mineral spirits: I prefer the deodorized type
- Sandpaper
- Stain, such as Minwax ebony #2718 (optional)
- Urethane finish, such as Minwax wipe-on clear gloss polyurethane (optional)
- Acrylic paint (optional)

Tools:

- Scroll saw blades: #2/0 reverse-tooth; #12 reverse-tooth
- Drill press
- Twist bits: 1/16" (2mm), 5/32" (4mm), 11/64" (4.5mm), ¼" (6mm) dia.
- Spade bit: 1" (25mm) dia.
- Scratch awl
- Clamps

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

SPECIAL SOURCES:

- Hardwoods available from a number of retailers. I use KenCraft Company, 419-536-0333, www.KencraftCompany.com.
- Magnets and round-head nails are available from Cherry Tree, 800-848-4363, www.cherrytreetoys.com.
- Wheels and axles are available from Bayer Wood Products, 800-323-0817, www.bayerwood.com.

Rubber Band Six-Shooter

Make the bad guys reach for the sky with this iconic toy

By Daryl Webb

As I searched for Christmas gift projects, I realized that none of the rubber band shooters I saw looked much like the six-shooters from the Old West. I decided to design my own.

It was easy enough to construct the general shape, but I couldn't figure out how to hold tension on the trigger while in turn holding the hammer back against the forward tension of the rubber band. I made a hundred drawings and two hundred attempts at mechanisms involving all kinds of levers, pulleys, and tiny cup hooks, but it was all in vain. I awoke night after night with clockworks in my head.

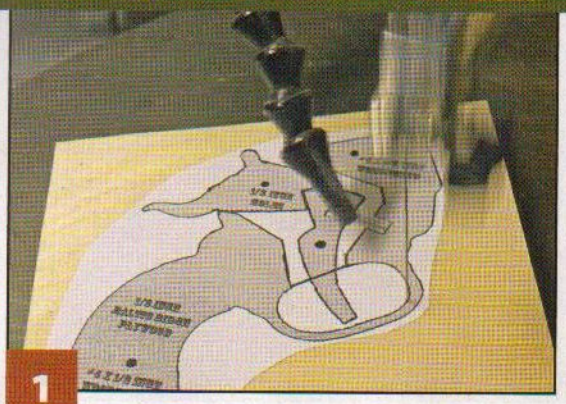
Then it hit me—don't pull the trigger back, push it back. Use a compression spring to push it back against the hammer that wants to go forward. You will see how simply this works in the plans. That one change simplified everything, and within a day I had a functioning, reliable shooter that actually recocks itself after every shot. At Christmas, the kids were tickled pink, but their mothers won't let me back in their houses.

As the dawn pulls back its dusky covers and the early morning dew dries slowly off the sagebrush, you realize Dangerous Dan McGrew and his band of no-good, cattle-thieving sidewinders will be arriving on the first train. As you pull the hammer back, hook a rubber band through the slot in the barrel and then over the spur. You hear a lonesome train whistle, and you suddenly remember your mama's advice: "Don't shoot your eye out, kid."

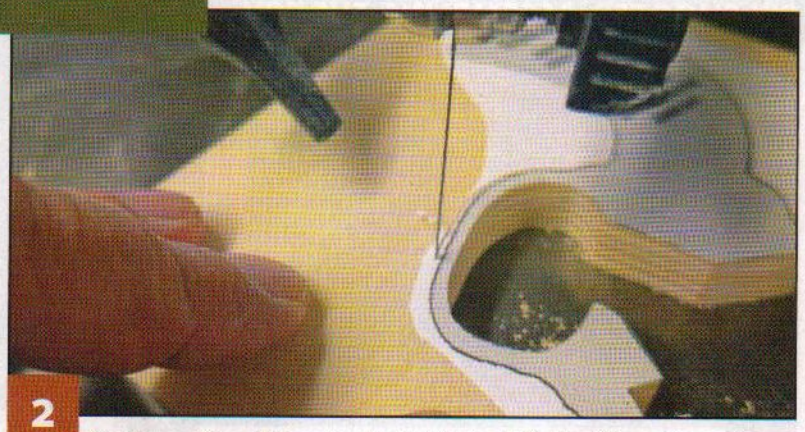
Getting Started

Attach the combined patterns for the body, hammer, and trigger to the plywood with temporary-bond adhesive. Drill the holes in the hammer and trigger. Stack the blanks for the hardwood side plates, secure the stack, and attach the pattern.

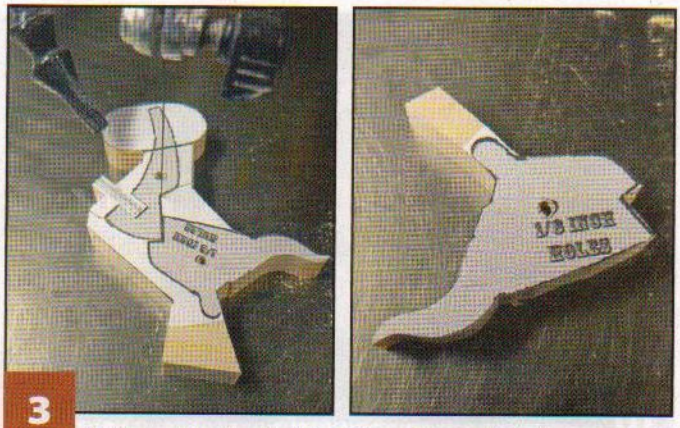
Prefer a more modern style? We've also included plans for an automatic that uses the same construction techniques.



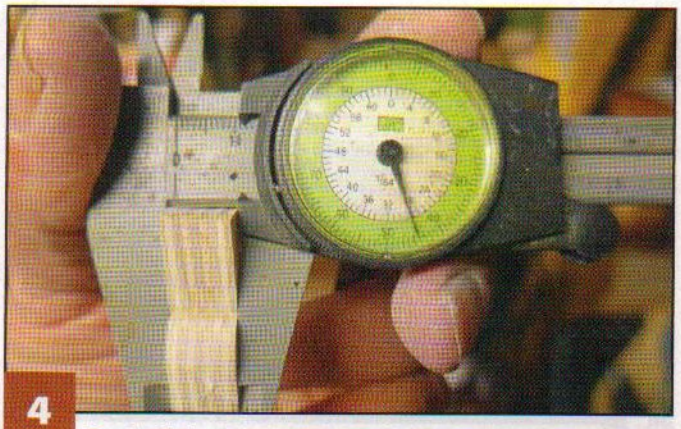
1 **Cut the interior of the body.** Set the trigger and hammer assembly aside to cut apart later.



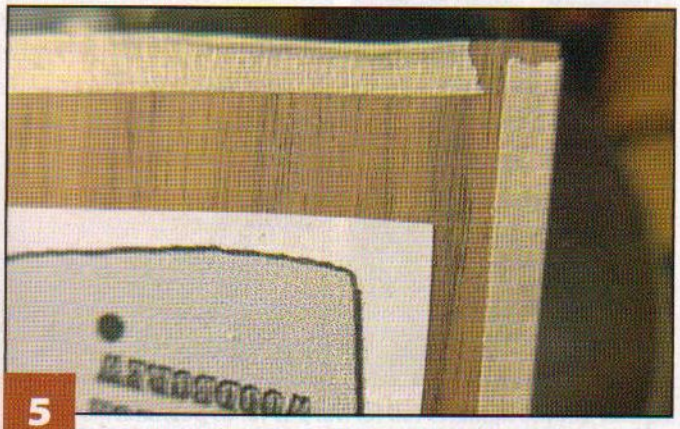
2 **Cut the outline of the grip.** Start at the top left side of the cavity cut in Step 1. Cut around the trigger guard. Leave this area thick now; it is the weakest point of the construction until the side plates are attached. Cut around the front of the pistol and back to the start. Round the inside and outside of the trigger guard with a rotary tool in a router table with a ¼" (6mm)-radius piloted roundover bit.



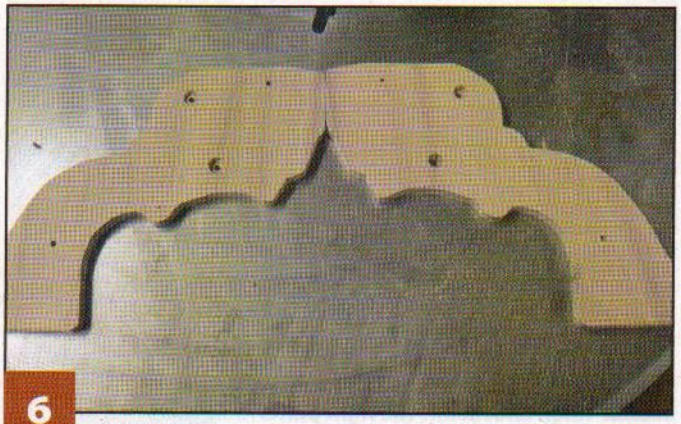
3 **Cut from the front of the trigger toward the hammer.** Cut as precisely as possible; the precision of the cut between the surfaces of the hammer and trigger will impact the smoothness of the action later. Then, cut up into the base of the hammer. Leave the spur as long as possible; we will fit it to the frame later.



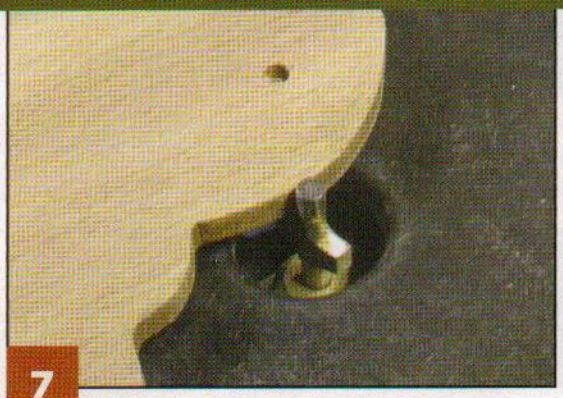
4 **Sand off about 1/16" (2mm) from the trigger and hammer.** I use a belt sander. This ensures these two parts will move freely between the two side plates once the plates are attached. Check the thickness of the parts with calipers or a ruler.



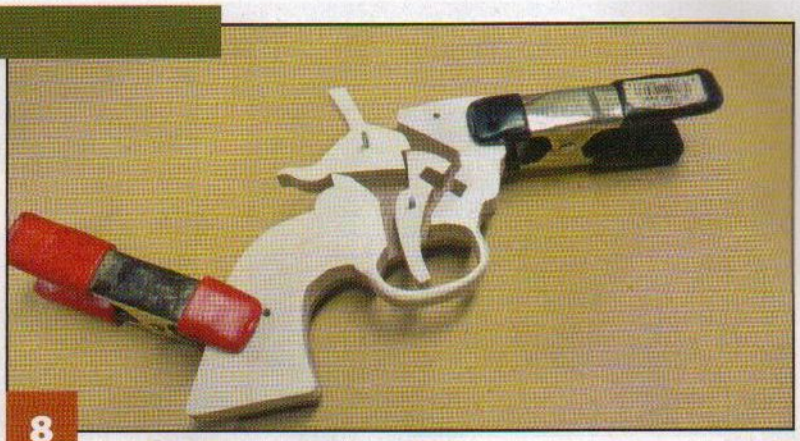
5 **Stack the hardwood blanks for the side plates and secure them with masking tape.** Drill the hammer and trigger alignment holes as marked. The stack makes the two sides of the same gun (left and right). Do the next steps as mirror images to create the side plates.



6 **Separate the stack.** Using the trigger and hammer holes as a guide, drill ¼" (6mm)-diameter by ⅛" (3mm)-deep holes on the side of each plate that will face out. These holes act as countersink holes for the machine screws. Drill a hole through the center of the countersink hole. Use a ⅛" (3mm)-diameter brad-point bit.

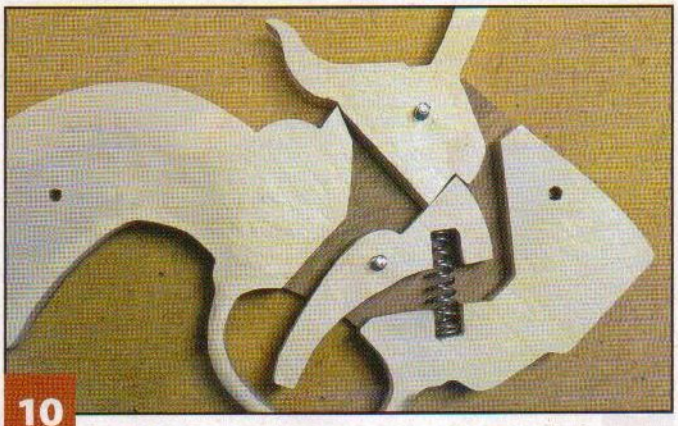


7 **Round the edges of the side plates.** Use a ¼" (6mm) roundover bit or 200-grit sandpaper.

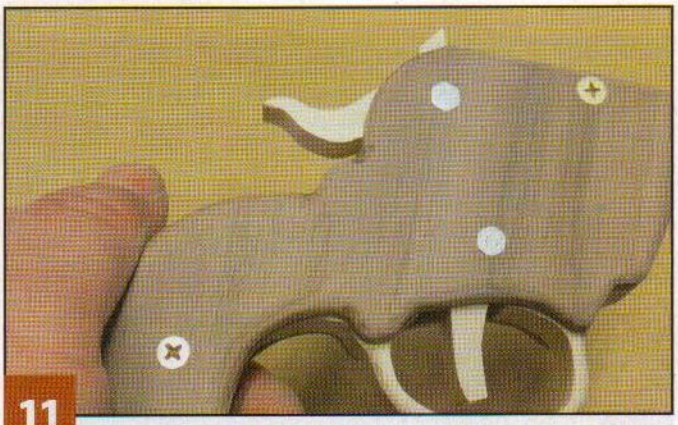


8 **Glue and clamp the left side plate to the plywood body.** Countersink two of the 1/16" (2mm)-diameter holes and use two #4 wood screws to secure the sides to the body. Place the gun with the body facing up, and install two machine screws from the bottom. Install the hammer and trigger on the screws.

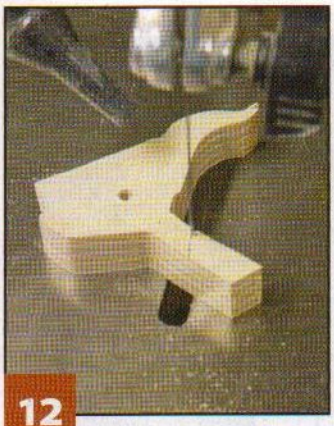
9 **Set the hammer so it rests on the trigger and in the slot in the trigger and body.** Use needle-nose pliers to compress the middle of a #135 compression spring and guide it into the slot.

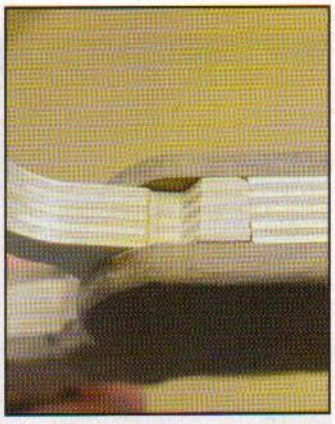


10 **Test the mechanism.** Make sure it works smoothly. If needed, mark and sand any areas that catch until the mechanism works smoothly. Glue sandpaper to popsicle sticks to make small sanding sticks to adjust the mechanism.



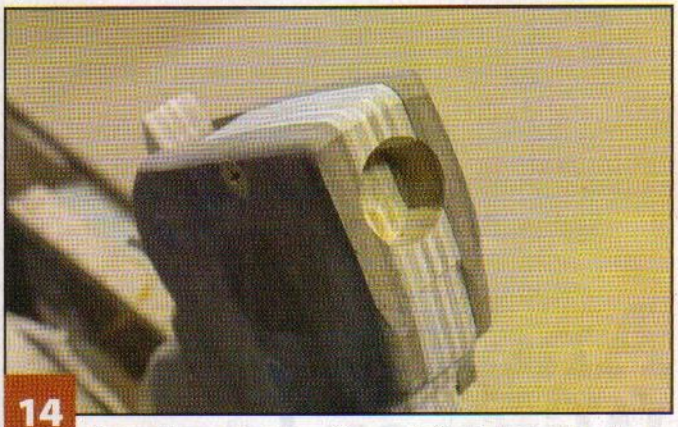
11 **Align and mount the right plate.** Attach nuts with small drops of thread-lock liquid (it isn't permanent). As you draw the machine screws snug, the nuts will sink into the recesses. Make sure you keep these bolts loose enough that the trigger and hammer move easily. Install the remaining wood screws. Use a belt sander to sand the machine screws flush with the sides of the side plates.



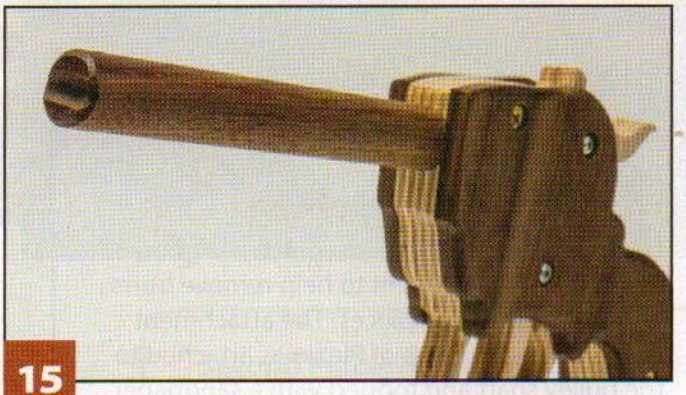


12 **Let the hammer fall forward as far as possible.** Mark a line on the spur flush with the top of the frame. Remove the hammer and cut along the line. Reinstall the hammer and sand the spur flush with the top of the frame.

13 **Attach a spring clamp to the end.** This acts as a temporary barrel. Cock the hammer, and stretch a rubber band over the end of the clamp and around the spur. Adjust it as needed. Then, remove the right side plate, apply glue, and reattach it to the frame. Allow the glue to dry.



14 **Clamp the gun in a vise.** Use a pad of leather to protect the handle. Use a ⅝" (16mm)-diameter Forstner bit in a hand drill to bore a ½" (13mm)- to ¾" (19mm)-deep hole for the barrel. Center the hole on the assembly. *Note: The bit will cut into both side plates slightly, so be certain it is aligned properly.*



15 **Cut a slot in the end of the dowel.** Choose a dowel that matches the wood of the side plates. I use a scroll saw to cut the slot, but a rasp or file will work. Apply glue to the hole, insert the barrel, and orient the slot to match the photo. Allow the glue to set.

Finishing the Six-Shooter

Sand the entire project with 200-grit sandpaper. Then, apply a finish and let it dry overnight. I mix equal parts turpentine, boiled linseed oil, and denatured alcohol. Brush a liberal coat of the finish onto the gun, let it set for a few minutes, and hand-buff it with a soft cloth. The turpentine smells good, the oil finish makes the wood shine, and the alcohol seems to make it dry faster. Then, install a #32 rubber band: ⅛" (3mm) thick by 2½" (64mm) long.

Patterns for the ***SIX-SHOOTER AND AUTOMATIC*** are in the pattern pullout section.

Materials & Tools

Materials:

- Baltic birch plywood, ½" (or 12mm) thick: 6" x 6" (152mm x 152mm)
- Hardwood, such as walnut, ¼" (6mm) thick: 2 each 6" x 6" (152mm x 152mm)
- Matching hardwood dowel, such as walnut, ⅝" (16mm) dia.: 6" (152mm) long
- Machine screws with nuts, #4: 2 each steel or brass, flat head or pan head, Phillips or slotted, 1" (25mm) long
- Wood screws, #4: 4 each ½" (13mm) long
- Compression spring: 5/16" dia. x 1 1/16" long (8mm x 27mm), such as Ace #135 or #145
- Wood glue
- Sandpaper
- Thread-lock liquid
- Temporary bond spray adhesive, such as 3M #77
- Finish: I use turpentine, boiled linseed oil, and denatured alcohol
- Rubber bands: size #32, which measure ⅛" (3mm) thick x 2½" (64mm) long

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

Tools:

- Scroll saw blades: #5 reverse tooth
- Drill, drill press with bits: ⅝" (16mm) dia., ¼" (6mm)-dia. Forstner; ⅛" (3mm) brad-point; 1/16" (2mm)-dia. twist
- Belt sander
- Rotary tool with router table attachment with bit: ¼" (6mm)-radius piloted roundover
- Clamp
- Rasp or file (optional)
- Leather padding
- Calipers or ruler
- Vise
- Needle-nose pliers

Note: Federal law requires that all toy or imitation firearms be recognizably different from real guns. For example, you can paint the tip of the barrel bright orange or paint the entire toy a color like white, pink, green, or orange. Please see http://tinyurl.com/hkwcx48 for details. In addition, please follow all local laws and school rules; we suggest only using this toy in situations where there is no chance it will be mistaken for a real firearm.

Always wear safety glasses and refrain from targeting living creatures (whether the dog or your brother) while playing with this toy.

Daryl Webb lives with his wife of 30 years in rural Douglas County, Kan. He has been scrolling for about 20 years and has finally come up with something original. Between his woodworking and leatherworking, he barely has time to earn a living working full-time as a business analyst and teaching production management part-time at Washburn University.

Scroll Saw Woodworking & Crafts People's Choice AWARDS

And the Winner Is...

Announcing more winners in the 2016 People's Choice Contest

Congratulations to the winners of the second 2016 People's Choice Contest!

This contest featured two categories: Workshop and Jewelry. The entries were unique designs that demonstrated creative scrolling and finishing. We'll be talking to some of these scrollers about sharing their patterns in future issues. Plus, cash prizes will be awarded to the winners, thanks to our contest sponsor, Seyco, The Scroll Saw Specialists.

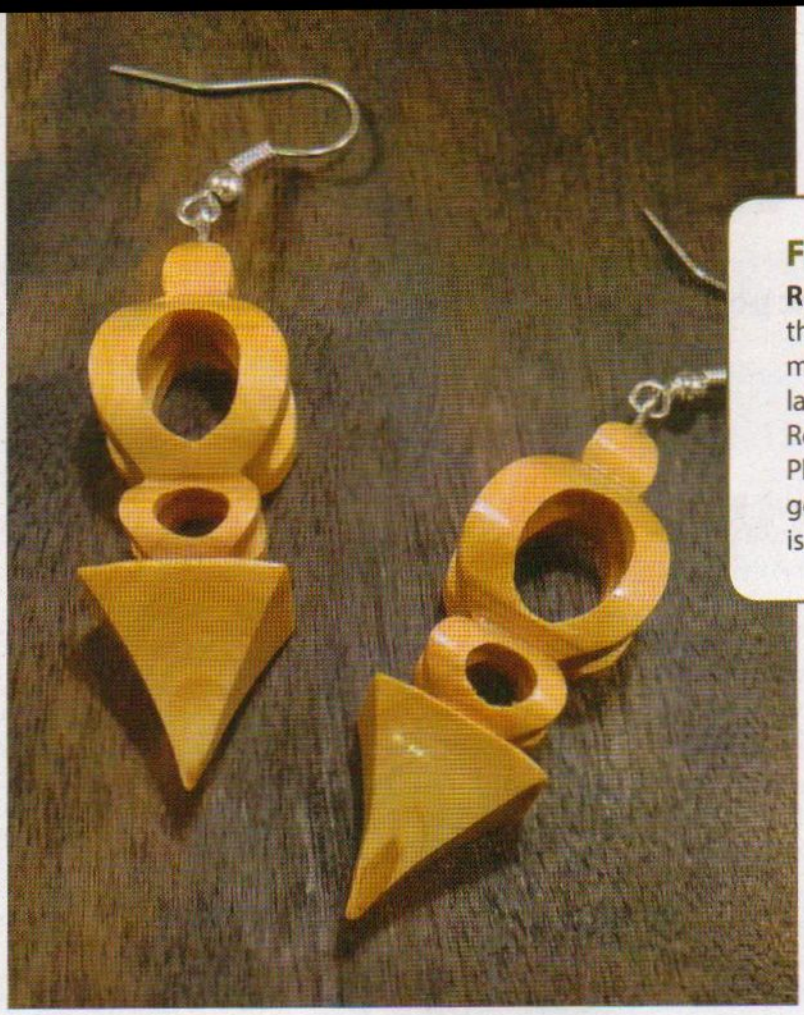
For information on the current and upcoming contests, please see page 67 or visit www.scrollsawer.com.

First Place: Burr Remover

Daniel Blackmon of Holden, Mo., designed this sanding attachment to help remove burrs while scrolling small pieces. The attachment consists of two pieces of Plexiglas attached to the pulley shaft and topped with a sandpaper disc. It fits Sakura, PS Wood, Total Shop, and Woodtek scroll saws.

Second Place: Jig

Elzear Guignard of Bathurst, N.B., Canada, constructed this jig for cutting plate glass. He says it's useful when framing scroll saw portraits. Elzear made the jig from 1" maple.



First Place: Christmas Earrings

Ronald Nelson of Tierp, Sweden, made these earrings, 1 1/64" long, from hand-milled maple and finished them with clear lacquer. Inspired by Christmas decorations, Ronald said, "I created the design in Photoshop and spent quite some time getting it to fit on the wood that I had as it is quite small."

Second Place: Modern Necklace

Maria Lai of Cary, N.C., made this 26"-long wood necklace from walnut and finished it with lacquer. "I was making a desk lamp out of walnut. There was quite a bit of leftover wood, and the idea of making a necklace came to mind. I have made jewelry before, but making my own beads out of wood took it to another level!"

Third Place: Charleston Earrings

Richie Newberry of Summerville, S.C., named his earrings after his hometown of Charleston. Richie cut the 2"-diameter earrings from poplar, dyed them with a nontoxic soft pink dye, and then sealed them with polyurethane. Richie said that, as a native Charlestonian, he "grew up seeing the beautiful ironworks forged by generations of artisans in our Holy City. These earrings are reminiscent of those historic ironworks. The earrings are surprisingly lightweight, and I have been told they make a classic yet avant-garde statement."

Wooden Owl Mosaic

Use stains and dyes to create a realistic portrait

By Bill Buchanan

When a friend asked for a custom wooden portrait, I had to teach myself to make my own pattern. Since then, I've fallen in love with the freedom and creativity that making my own patterns allows. I also found it's easier than I thought to design a pattern. I'll show you how I made the owl mosaic, but you can use the technique to design and make your own portraits as well.

Making a Pattern

Select the picture and crop, size, and print it. Depending on the size of the photo, you may need to print it in sections and tape it together (or have it printed at a local print shop with a large format printer). If you're making a custom piece, print the photo on photo-quality paper to get the most accurate colors possible for matching colors later. Slip a sheet of transfer paper between the photo and a plain piece of paper the same size as the photo. Trace the outline of the photo onto the paper, and then trace around the features (beak or muzzle, nose, eyes, etc.). Then, break the features down by color and shape. Make the lines somewhat irregular; this will help you realign these pieces when assembling the mosaic. Number each piece on the pattern and mark the basic color for that piece. Make a copy of the pattern for future use.

Selecting the Wood

I use ½" (13mm)-thick clear maple for my projects. Maple gives a good white color for white parts, and it accepts stain well. Because ½" (13mm)-thick maple is hard to find, I edge-glue two ¾" (19mm)-thick panels and plane it down. To me, ¾" (19mm)-thick stock makes the portrait look clunky, and the thicker wood is harder to cut.

Using Stains and Dyes

I use wood stains and leather dyes. Wood stains allow the warmth of the wood to show through, but the color choices are limited. You can mix leather dyes to get just the right color and thin them with denatured alcohol to get the right shade. I find it difficult to get good grays with wood stains, but I can get any shade of gray by thinning black dye. In some cases, I use both wood stains and leather dyes in the same portrait.

Mix the colors a shade lighter than those you plan to use. It's easy to darken a piece by applying more stain or dye, but it's challenging to lighten a color that came out too dark. After the first coat of stain is dry, compare it to the picture and adjust the colors as needed. It usually takes me two or three applications to get what I want. Test the colors on scrap wood. *Note: Separate all stain-soaked rags and either air-dry them or soak them in water in a proper container to prevent spontaneous combustion.*

Getting Started

Cut a piece of maple about 1" (25mm) larger than the pattern on all sides. Cover the wood with painter's tape to lubricate the blade. Then, glue the pattern to the tape with a spray adhesive.

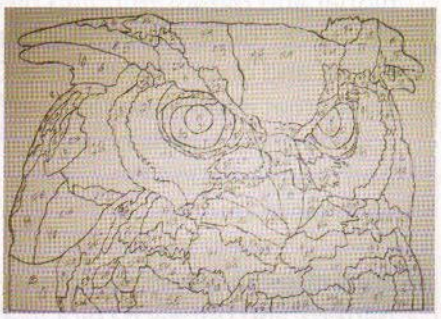
Pattern for the ***Wooden Owl Mosaic*** is in the pattern pullout section.

Bill Buchanan lives in a lake house with his wife. He started out making carved street signs, but then started making his own patterns for custom scroll-sawn portraits (which he considers wooden mosaics). He is a juried member of 14 South Artists, where he is active on various committees. He also attends art shows and exhibits in galleries. Contact Bill at corbill1@gmail.com.

MAKING A PATTERN FROM A PHOTO

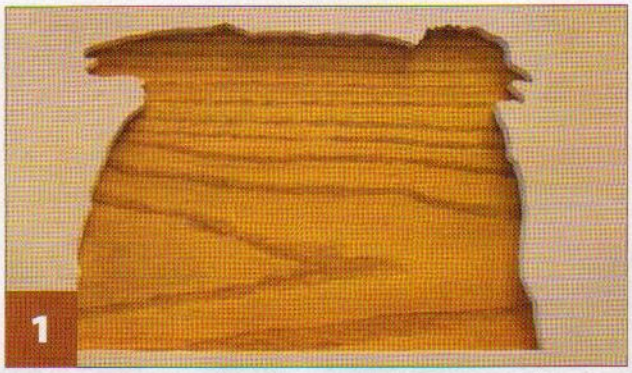
Make a print of your subject to the desired size.

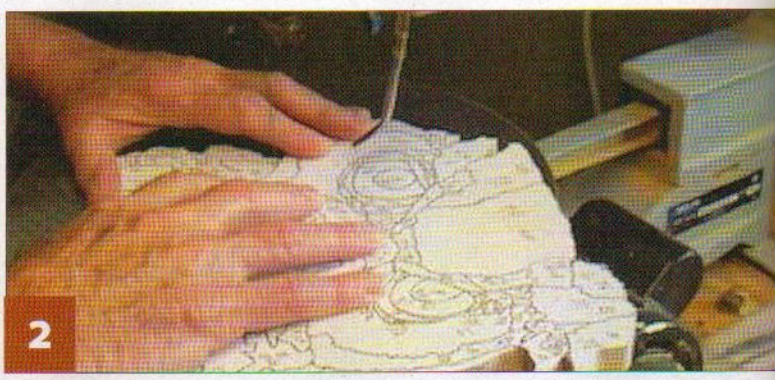
Trace the outline and features with transfer paper. Break out the color areas.



Mark the basic color and number each piece on the pattern.

MAKING THE OWL MOSAIC





1 Cut the outline of the owl. Enter and exit at the same point. This gives you a nice frame to assemble the pieces after you cut them. Adjust the tension on the blade until it gives just slightly when you push against it.

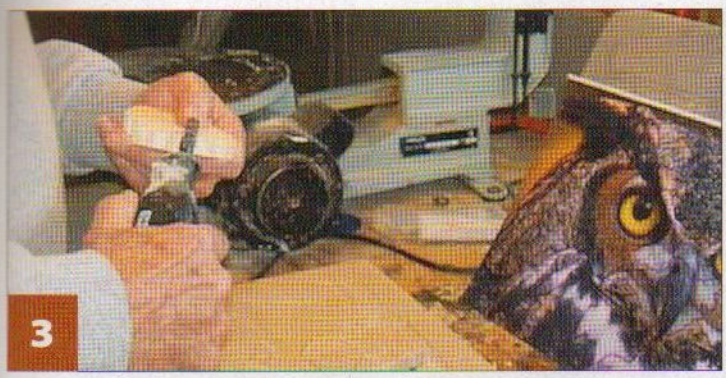
2 Cut the individual pieces. Cut several pieces at a time, and number the bottom or side of the piece. After cutting, remove the tape and pattern, and place the pieces in the frame.

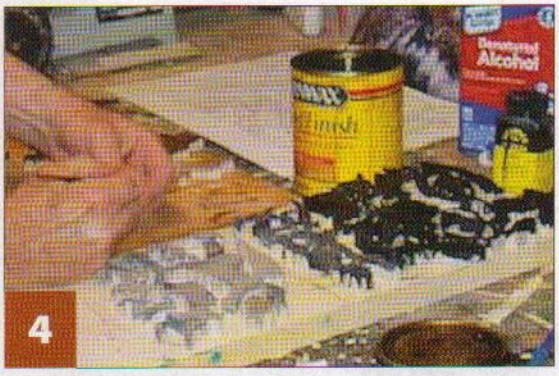
3 Round the edges of the raised pieces slightly. Use a sanding drum in a rotary tool. With the pieces assembled in the frame, determine which edges are to be raised. I lower the eyes, raise the nose, and set the nostrils lower. The beak, muzzle, and/or snout should be generally higher and the surrounding pieces lower. Remove the piece, round the edge, place it back in the frame, and go to the next one. Continue until all edges that need to be rounded are done. If two adjoining pieces will be the same height, round both edges. Round the outside edges. Then, sand each piece smooth.

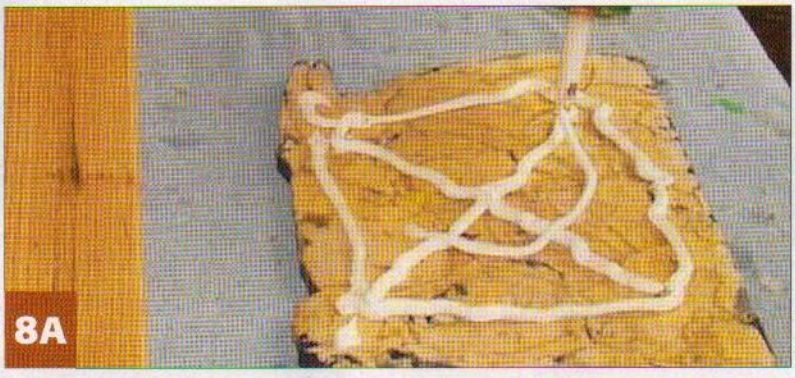
4 Separate the pieces by color. Refer to the pattern, and put each color in a separate plastic bag. Then, stain the pieces. There are some things you can do for special effects. For instance, you can use a base stain, such as golden oak. Once that is dry, give it a quick coat of black walnut stain and wipe it off quickly to allow most of the golden oak to show through. The longer you wait to wipe, the blacker the piece will be. Play around and experiment. It will take some practice to get proficient. Remember to stain the outside edges.

5 Glue the pieces together. To give the portrait depth, raise or lower pieces when gluing them together. The pieces to be raised should be only slightly higher, about the depth of the rounding. I use wood glue or hot glue. Wood glue sets slowly, which gives you more time to get the pieces set just the way you want them. But, you can't glue the next piece until the previous pieces are set. When using a hot glue gun, you can work fast because the glue sets quickly, but that means you do not have much time to adjust the position of the pieces.

6 Sand the back. Remove any high spots that will prevent the portrait from lying flat on the mounting plaque. Quickly brush a thin coat of wood glue on the back of the assembled mosaic to secure the pieces. If the mosaic is upside down too long, the glue may ooze out the front. If this happens, wipe the glue off with a wet paper towel. Place the portrait on painter's pyramids right side







up. The glue may drip. After an hour, brush the glue to smooth any drips. You may have to do this a couple of times. Let the glue dry overnight.

7 Add a highlight dot to each eye. Use white craft paint and a small brush. Refer to the photo. This will add life to your portrait. I varnish my portraits with several thin coats of acrylic satin spray varnish. If you use leather dyes on your portrait, I strongly recommend using spray varnish, because brushing may cause the dyes to smear. Avoid oil-based varnish, which will give an orange cast to the portrait.

8 Stain the plaque. Choose a color that complements the portrait. I use oak. Make the plaque 2" to 3" (51mm to 76mm) larger than the widest and longest dimensions of the portrait. While you can leave the edges square, I use a router with a roundover bit to round the edges. Once the edges are rounded I cut a little deeper. This, in effect, leaves the plaque with a raised appearance. Apply a gap-filling construction adhesive to the back of the portrait, place it on the plaque, and gently clamp it to the plaque. Use pads where the clamps come in contact with the portrait to avoid damaging it. Let it dry overnight, and remove the clamps.

Materials & Tools

Materials:

- Maple, ½" (13mm) thick: 8" x 11" (203mm x 279mm)
- Oak, ¾" (19mm) thick: 11" x 14" (279mm x 356mm)
- Wood stain: golden oak, dark or black walnut
- Leather dyes: black, yellow
- Mineral spirits (to thin and clean up stains)
- Denatured alcohol (to thin and clean up dyes)
- Glue: wood, hot glue
- Gap-filling construction adhesive, such as Liquid Nails
- Vinyl or latex gloves
- Blue painter's tape
- Spray adhesive
- Craft paint: white
- Sandpaper
- Varnish: acrylic satin spray
- Transfer paper

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

Tools:

- Scroll saw blades: #3, such as Flying Dutchman ultra reverse
- Rotary tool with sanding drum
- Router with bit: ½" (13mm)-radius roundover
- Belt sander
- Clamps
- Caulking gun
- Paintbrush
- Painter's pyramids

SPECIAL SOURCES:
Leather dye is available from the Fiebing Company, www.fiebing.com, 414-271-5011.

Basket-Weave Bowl

Combine veneer with a creative lamination to make a unique bowl

By Carole Rothman

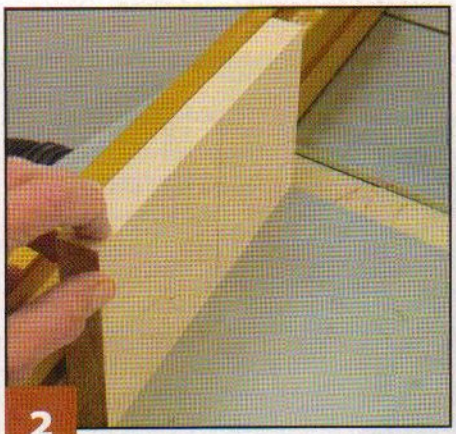
This unique bowl goes far beyond what I could have imagined six years ago, when I first discovered how to simulate a basket-weave effect. The strong color contrast is created with two blanks: a plain one of maple and a laminated one made from a sandwich of bubinga and veneer. Each blank contains glued-in strips of purpleheart.

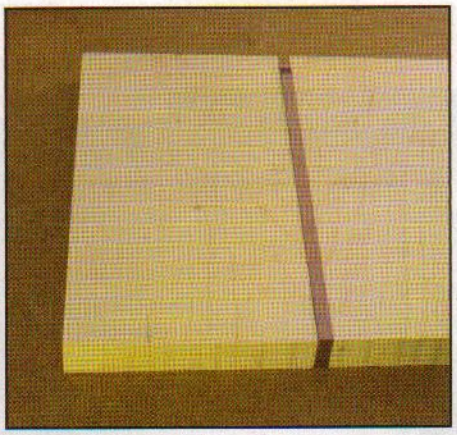
The bowl's oval profile made it impossible to create a woven effect in the usual way, which is by rotating alternate rings. Instead, I obtained the same results by orienting the pattern for the maple blank so that its purpleheart strips fell between those of the bubinga blank when both blanks were cut into rings, stacked, and glued.

The drama of this bowl depends upon the beauty of the wood, making it the perfect showcase for that piece you've been saving for a special occasion.

BOWL: PREPARING THE BLANK

1 **Glue and clamp the veneer and bubinga together.** Follow this order: bubinga, white veneer, black veneer, white veneer, bubinga. Draw intersecting lines down the center of the bubinga and maple blanks to create the cutlines for the first two strips. Cut each blank in half along the cutline that runs with the grain. Then, follow Steps 2 through 5 for each blank. Use the correct purpleheart strips for each blank; the strips for the laminated blank are slightly wider than those for the maple.



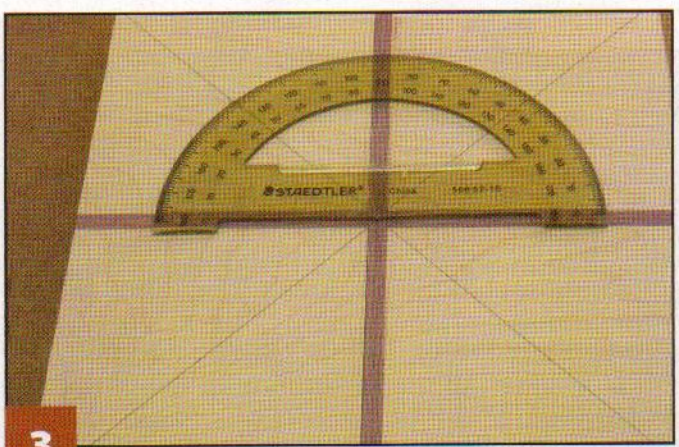


2 **Sand or joint the cut edges of both halves.** Glue a purpleheart strip between the halves, keeping the bottom surface of all pieces flush. The purpleheart strip should protrude slightly on the upper face. Clamp the assembly and let dry. Sand the underside of the blank smooth, and sand the protruding part of the purpleheart strip until flush. This will make it easier to align the second purpleheart strip in Step 3.

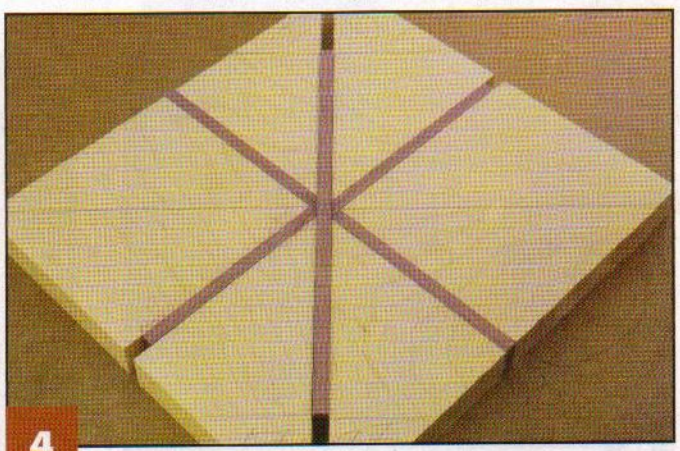
TIP

GLUE JOINTS

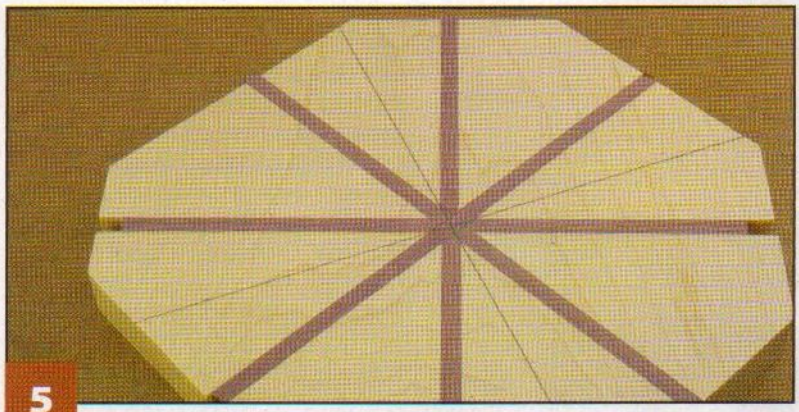
To get a tight joint when gluing in the purpleheart strips, apply a light, even coat of glue to one edge of the blank and to one face of the strip. Rub the pieces together until the glue drags. Apply glue to the other face of the strip and second half of the blank, and rub together until the glue drags. Clamp, making sure that the purpleheart strip does not shift and the workpiece remains flat. If the clamped pieces tend to slide out of position, remove the clamps, reposition the pieces, and let the workpiece dry flat without clamps.



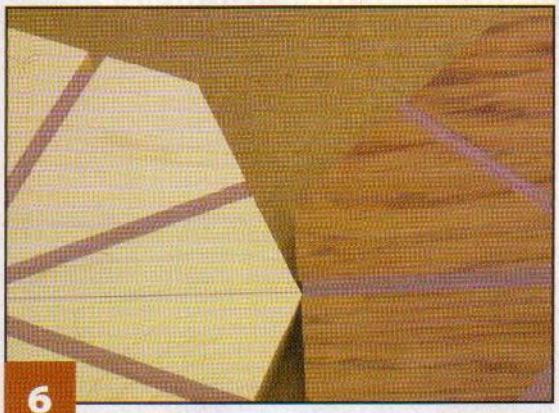
3 **Redraw the second cutline.** Cut along the line and repeat Step 2 to glue in the second strip. Be sure that the halves of the first strip are aligned. Sand the top and bottom surfaces as in Step 2. Draw intersecting guidelines down the center of each purpleheart strip. Use a protractor to draw diagonal lines through the intersection at 45° angles to the guidelines.



4 **Cut along one of the diagonal lines.** Sand or joint the cut edges smooth. Insert the third strip of purpleheart and center it. Mark where the strip ends, and cut off the excess wood for ease in handling the blank. Glue the strip into place, following the instructions in Step 2. Repeat with the last strip of purpleheart. Sand both sides of each blank until smooth.

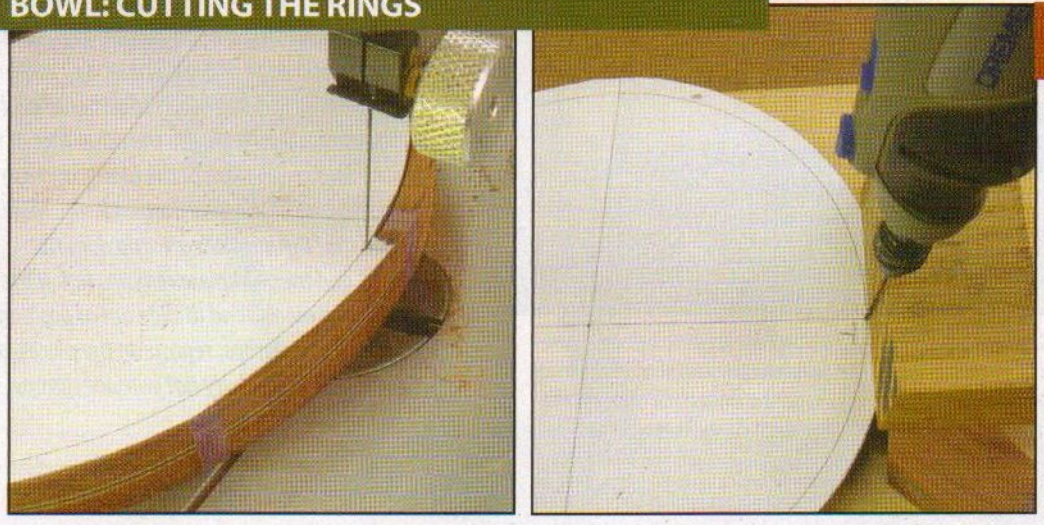


5 **Draw new guidelines on the maple blank.** These are needed to create the basket-weave effect when the two sets of rings are stacked and glued. To do this, locate the center of the blank. Select one strip as a horizontal reference and position a protractor so that its base runs along the center of the strip and the zero point is at the center of the blank. Draw a line at a 22½° angle. Extend that line downward through the center to create the first guideline. Draw a second guideline at a right angle to the first, going through the center.



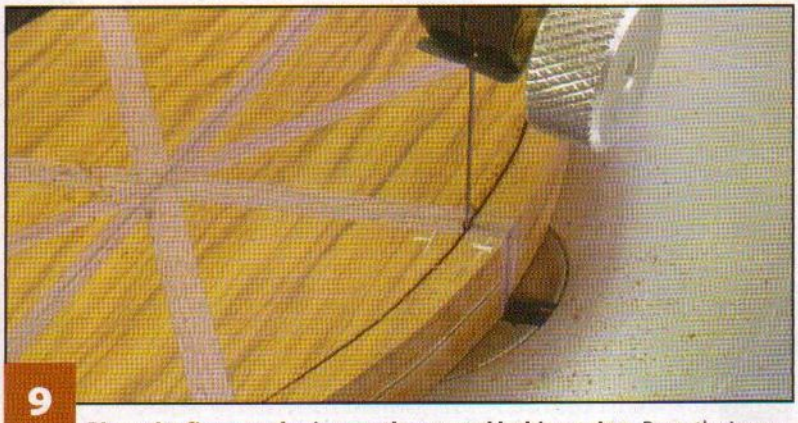
6 **Mark the tops of both blanks, keeping their grain in the same orientation.** Draw new guidelines on the bubinga blank that run through the center of the vertical and horizontal purpleheart strips. The new guidelines and "top" marks will keep the rings oriented during cutting and gluing.

BOWL: CUTTING THE RINGS

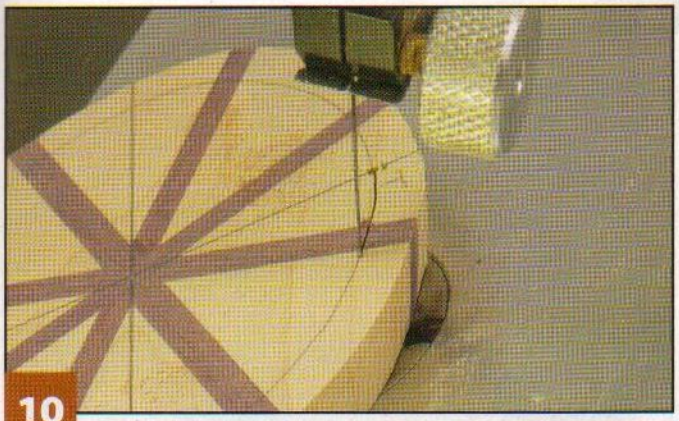


7 **Attach a copy of the pattern to the bubinga blank.** Align the pattern lines with the guidelines. Tilt the left side of the saw table down to 15°. Cut clockwise along the outer ring. Drill a blade-entry hole at a 15° angle on the inner ring, facing the center. Insert the blade and cut clockwise to complete the first ring. Mark the top and extend the guidelines down the inner sides of the ring. Mark every ring to maintain the correct alignment.

8 **Place the bubinga ring on the maple blank.** Align the guidelines and tops. Trace the inside and outside edges of the ring to create cutting lines for the first maple ring. Cut the ring, and mark its top and sides as in Step 7.

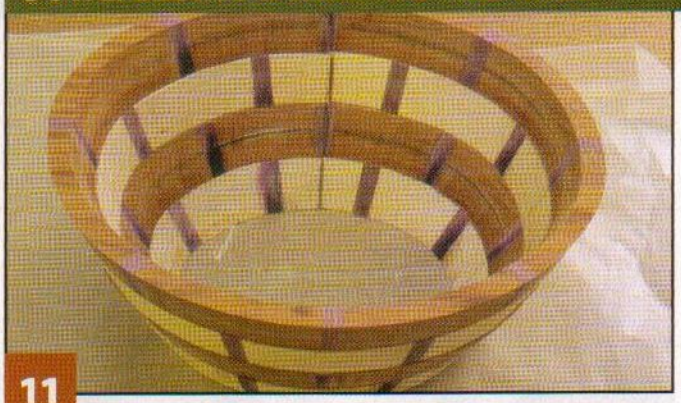


9 **Place the first maple ring on the second bubinga ring.** Draw the inner and outer cutting lines for the second bubinga ring. Tilt the left side of the saw table down to 20°. Cut clockwise around the outer cutting line. Drill a blade-entry hole at a 20° angle on the inner cutting line. Insert the saw blade and cut clockwise around the line to complete the ring. Mark the top and sides as in Step 7. Mark the second maple ring using the second bubinga ring and cut this ring at a 20° angle.

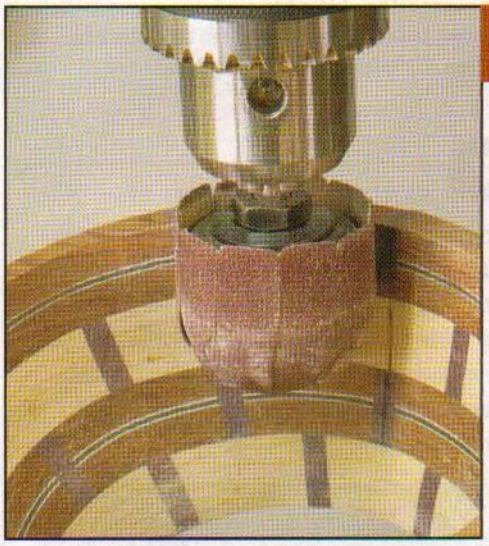


10 **Use the second maple ring to mark the third bubinga ring.** Tilt the left side of the saw table down to 25°. Cut this ring at 25°, and mark the top and sides. Use the third bubinga ring to mark the third maple ring. Cut this ring at 25°, and mark the top and sides. Use the same method to mark and cut the bubinga base at a 30° angle.

BOWL: GLUING & SANDING THE RINGS



11 **Remove the marks from all gluing surfaces of the four smallest rings.** Transfer the top and alignment marks to the sides of the rings. Stack the rings, check for spaces between them, and sand until they sit flat against each other. Glue the rings together, matching tops and guidelines. Clamp with a bowl press or boards and clamps, and let it dry thoroughly.



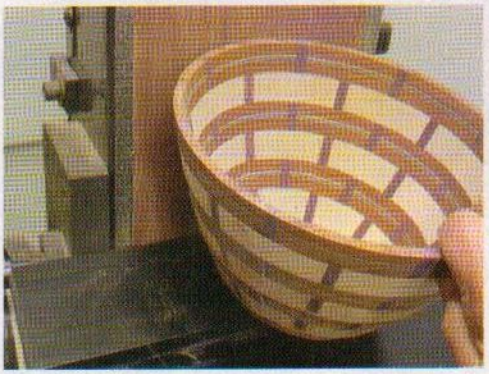
12 **Sand the inside of the four-ring assembly.** Start with an 80-grit sleeve and work up to a 220-grit sleeve. Sand until the interior is smooth and the lower edge is shaped well and free of irregularities. Glue on the remaining two rings, maintaining the alignment. Clamp the assembly and let it dry thoroughly. Sand the remainder of the bowl interior, but leave the top edge straight. You will contour it in Step 15.

13 **Place the ring assembly on the base.** Align the purpleheart strips of the base with those of the rings. Make sure that the intersection of the strips at the center of the base is evenly framed by the bottom edge of the smallest ring. Correct any irregularities by sanding the lower edge as in Step 12. Glue on the base, clamp, and let dry for 10 minutes. Remove the clamps to clean up squeeze-out on the upper surface of the base. Re-clamp it and let it dry.

TIP

PRELIMINARY SANDING

You can use a belt sander with a tilting table to do preliminary sanding on the exterior if you're careful not to remove wood that will be needed for shaping. Start with the upper rings, being careful not to sand the top edge. Tilt the table to match the section you are sanding, adjusting it as you work down the bowl.



BOWL: COMPLETING THE PROJECT

14 **Shape the outside of the bowl.** Use a 2" (51mm)- or 3" (76mm)-diameter pad sander, starting with an 80-grit disc. Work up through the grits to 220 grit. The larger pad is ideal for bowls of this shape, but is more aggressive and requires greater control. When sanding is complete, the top rim should be even all around and about ⅛" (3mm) wide.

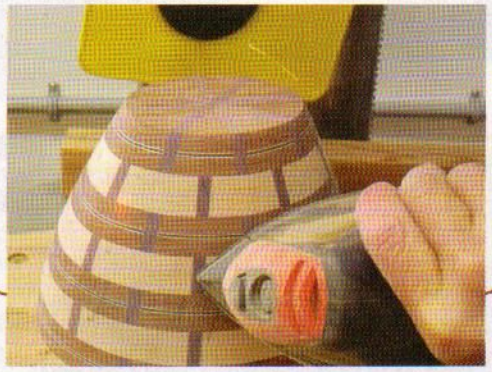
15 **Soften the inner edge of the top ring.** Use a round inflatable sander. Use the round and pad sanders to soften the outer edges of the top ring and base. Complete the sanding by hand.

16 **Apply a coat of mineral spirits to all surfaces.** This makes any glue spots stick out. Mark any that appear with a white pencil and sand them away when the wood has dried. Apply a sealer coat of shellac. When dry, smooth the surface with 320-grit sandpaper or a 320-grit sanding mop. Remove any sanding residue. Apply several coats of spray lacquer, rubbing the bowl with 0000 steel wool as needed between coats. You could also apply several coats of a beeswax-mineral oil mixture, buffed to a soft sheen.

TIP

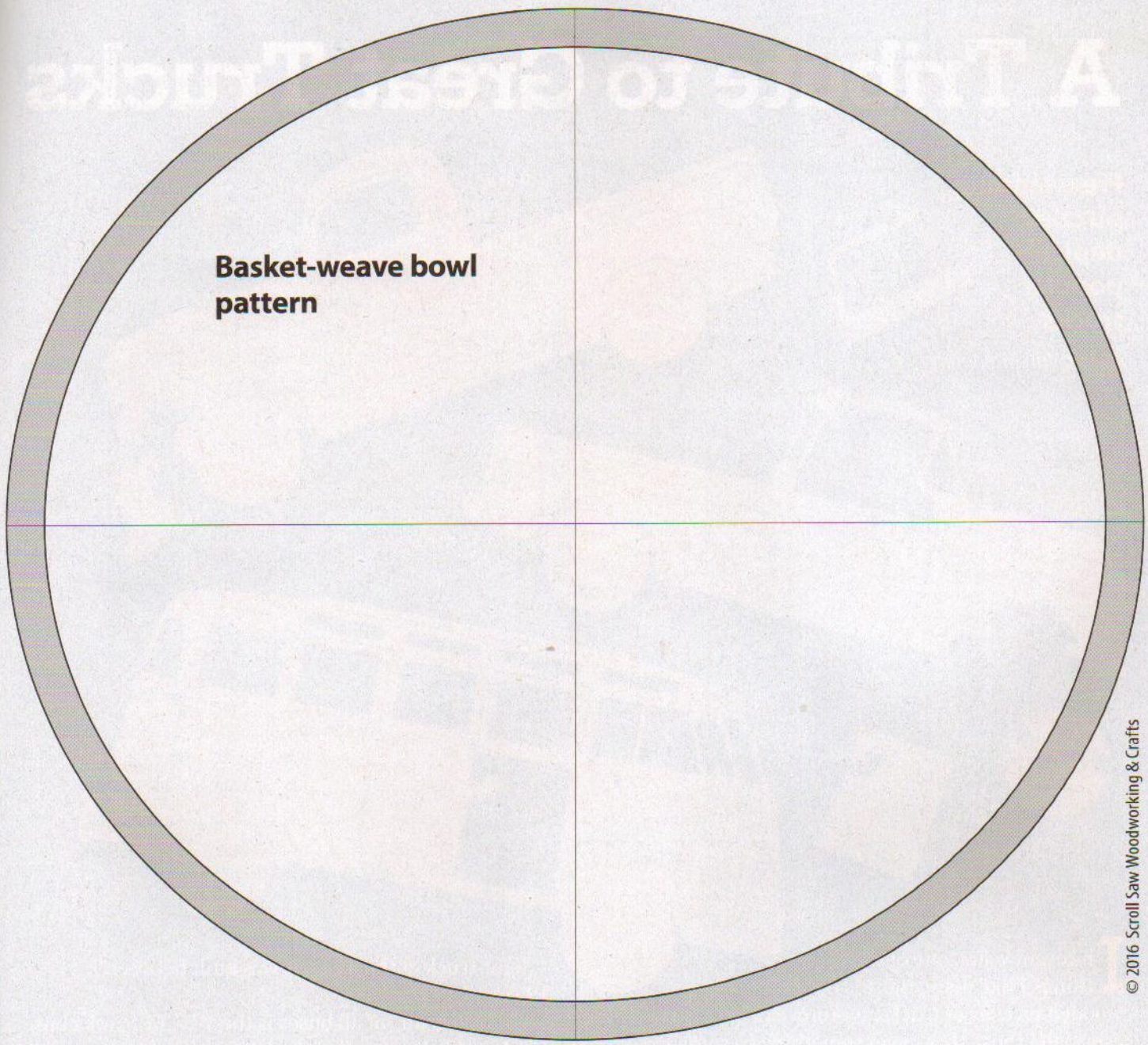
SANDING END GRAIN

Because of the way the lamination is created, the sanding faces of all pieces of purpleheart are end grain. This, coupled with the wood's hardness, may make it difficult to sand them flush with the surrounding wood. Sand problematic areas selectively with a small detail sander to smooth the surface.



Carole Rothman of Pawling, N.Y., is a retired psychologist and college professor. She is also an award-winning cake decorator. Visit Carole online at www.scrollsawbowls.blogspot.com. You'll find her books Creative Wooden Boxes from the Scroll Saw *and* Wooden Bowls from the Scroll Saw *at www.foxchapelpublishing.com.*

Basket-weave bowl pattern



Materials & Tools

Materials:

- Bubinga, ⅜" (10mm) thick: 2 each 8" x 8" (203mm x 203mm)
- Black veneer: 8" x 8" (203mm x 203mm)
- White veneer: 2 each 8" x 8" (203mm x 203mm)
- Maple, ¾" (19mm) thick: 8"x 8" (203mm x 203mm)
- Purpleheart, ¼" (6mm) thick: 4 each 13/16" x 8" (21mm x 203mm) for the maple blank; 4 each ⅞" x 8" (22mm x 203mm) for the laminated blank
- Sandpaper
- Steel wool: 0000
- Wood glue, Weldbond preferred
- Repositionable adhesive
- Mineral spirits
- Shellac
- Spray lacquer or beeswax-mineral oil mixture

Tools:

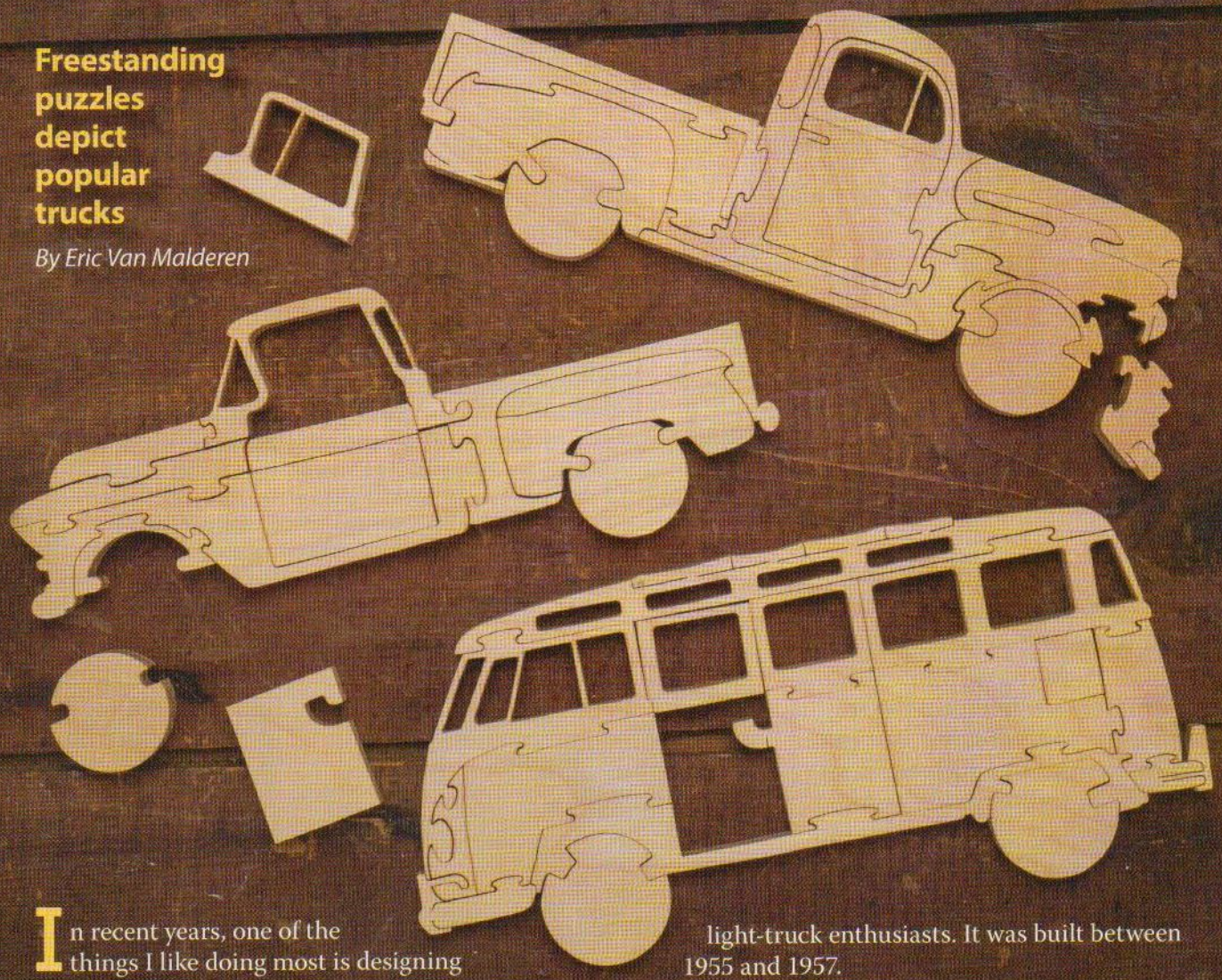
- Scroll saw blades: #7
- Bowl press or clamps and boards
- Awl
- White pencil
- Ruler
- Protractor
- Drill with #54 wire-size bit
- Shop-made angle guides: 15°, 20°, 25°
- Round inflatable sander and sleeves: assorted grits
- Flexible pad sanders: 2" (51mm) or 3" (76mm) with assorted scalloped discs
- Small detail sander with matching sandpaper (optional)
- Belt sander with tilting table (optional)

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

A Tribute to Great Trucks

Freestanding puzzles depict popular trucks

By Eric Van Malderen



In recent years, one of the things I like doing most is designing wooden puzzles of trucks, motorcycles, and cars—especially those that mean something to someone or that have an exceptional appearance or design. The Ford F-series of pickup trucks (also known as the Ford Bonus-Built) have been produced since 1948. Through the years, the F-series were sold in eight different weight ratings, from the pickup line to school-bus chassis body styles. The F1 is an adorable truck and a collectors' vehicle for restoration. My truck puzzle is based on this first series, produced between 1948 and 1952. A real old-timer!

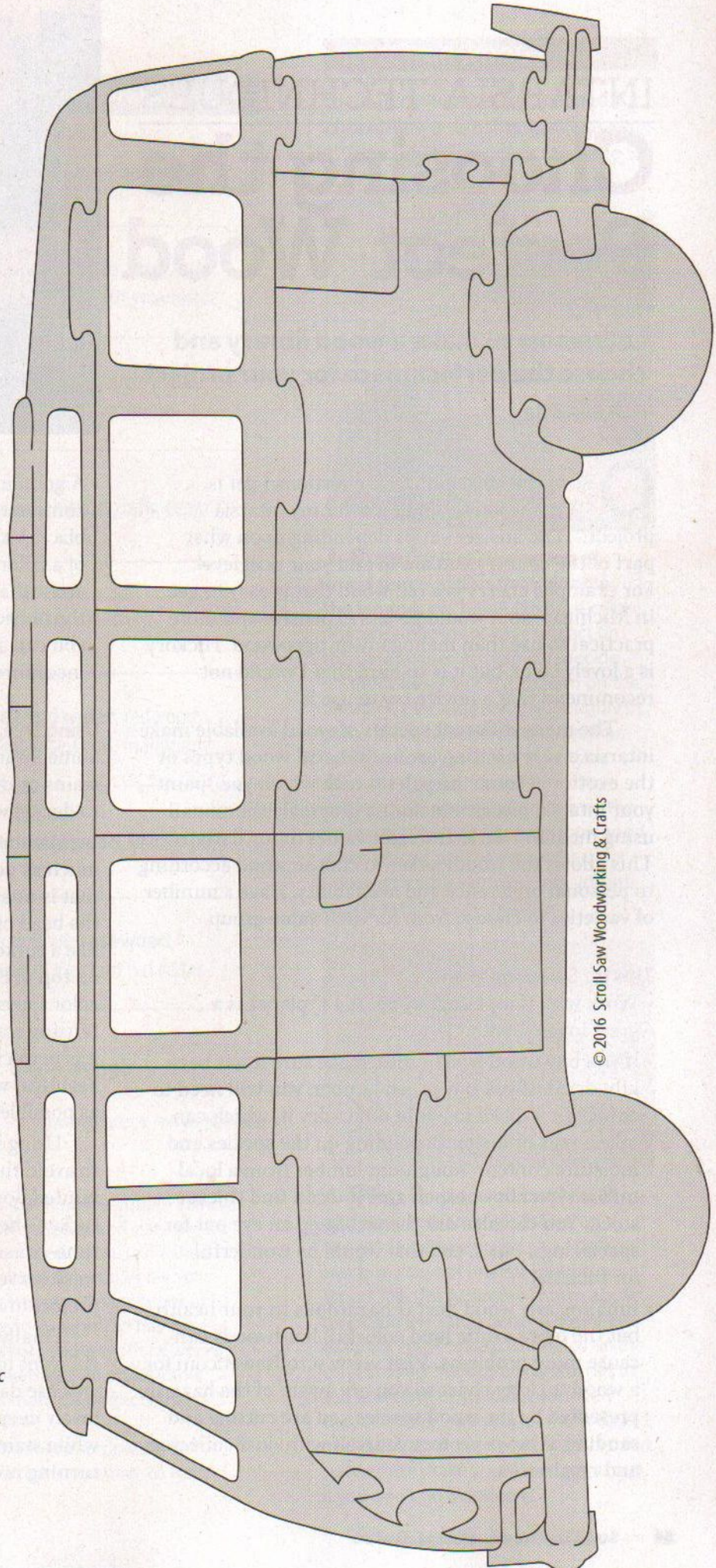
I can't tell you the name of the second pickup truck. I wrote several e-mails to a large American car company and its lawyers asking permission to mention the brand name, but several months later, I'm still not allowed. So this one is both a puzzle and a guessing game! I can tell you it's a classic half-ton truck and a collectors' vehicle for restoration, hot-rodders, and light-truck enthusiasts. It was built between 1955 and 1957.

"The legend" of all buses is the VW T1 Samba bus, which is, I believe, called the VW Sunroof Deluxe in the United States. The Samba was the most luxurious version of Volkswagen's model T1, Type 2. Based on the "Beetle" and produced from 1950 on, it was the second Volkswagen, so to speak. Originally meant as a "Transporter" of goods, the T1 Samba, with its nine seats and 23 windows, was designed to transport people. It had two side doors, a fabric roof, panoramic windows, very comfortable seats, and a lot of chrome. A favorite of hippies during the 1960s, the bus was painted in two colors but often sported rainbows, flowers, and peace signs. It is a collectors' car and a dream bus for a lot of people, and I designed the puzzle for the birthday of a collector of miniature VW cars and buses. The puzzle is based on a technical drawing of a 1954 T1 Samba bus. It was a great challenge for me, but I love this bus.

Making the Puzzles

Attach the pattern to the wood and cover it with clear packaging tape to lubricate the blade. Drill blade-entry holes for the windows and any other enclosed open areas, and cut them first. Smooth the cuts with a file if needed. Then, cut the rest of the puzzle and sand it smooth. Hand-sand the edges round. Because of the narrow and fragile pieces, I do not recommend using a flap sander to round the edges. Finish all of the pieces with clear Danish oil.

VW bus puzzle pattern



TIP

PRACTICE MAKES PERFECT

Inexperienced scrollers should practice making sharp turns in scrap wood before cutting these puzzles.

Materials & Tools

Materials:

- Baltic birch plywood, ¾" (19mm) thick: 5" x 11" (127mm x 279mm) per puzzle
- Spray adhesive
- Clear packaging tape
- Sandpaper
- Danish oil

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

Tools:

- Scroll saw blades, #5 skip reverse-tooth
- Drill press with bits: 1/16" (2mm) dia.
- Sanding disc

Additional patterns for the *GREAT TRUCK PUZZLES* are in the pullout section.

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

INTARSIA TECHNIQUES:

Choosing the Perfect Wood

Learn how to make a wood library and choose the perfect piece for your project

By Kathy Wise

One of the most common questions I get is, "What wood should I use for my intarsia project?" The answer varies depending upon what part of the country you are in and your skill level. For example, cherry is a red wood that is easy to get in Michigan, so it would be less expensive and more practical to use than mahogany or tigerwood. Hickory is a lovely color, but it is so hard that I would not recommend that a novice try to use it.

The many different species of wood available make intarsia a very exciting art form. Local wood types or the exotics become the palette with which you "paint" your intarsia pieces. I include a grayscale thumbnail using medium, dark, and light values in my designs. This allows the woodworker to choose wood according to personal preference and availability. Have a number of varieties to choose from for each value group.

Tips for Selecting Wood

- Work with flat-planed wood. A 13" planer is a great investment.
- If you buy wood from a mill, make sure it has been kiln dried. If you buy green lumber, you will need to either get it dried in a kiln or air-dry it, which can take a year or longer depending on the species and moisture content. Rough-cut lumber from a local mill is typically cheaper, and you can find thicker stock. You can also ask them to keep an eye out for special logs, burls, etc. that would be wonderful for intarsia.
- Inhaling any wood dust is hazardous to your health, but the more exotic (and colorful) hardwoods can cause more problems. Visit www.scrollsawer.com for a wood toxicity chart so you are aware of the hazards presented by the wood species you are cutting and sanding. Always protect yourself with dust collectors and respirators.
- A good intarsia piece must have a variety of contrasting shades of wood ranging from white to black. Value is the relative lightness or darkness of a color. It is an important tool for the designer/artist that allows them to define form and create the illusion of depth. By using a gray scale of values, you can see the lights and darks in a piece and incorporate a stronger visual impact in your intarsia.

Using Dye, Stain, and Paint

Some intarsia purists feel that you should never use stains or dyes. I believe it is up to the individual artist to decide whether or not to use dyes, stains, or paints.

Although I prefer to use naturally colored wood as much as possible, sometimes a project requires a color that is unavailable or impossible to find. For example, the head of my turkey needed to be blue to really look like a turkey. I applied a light wash of blue acrylic paint on top of the bird's-eye maple to get the light blue color I needed. You must think of the finished artwork. If using stain or paint will enhance your piece, I think it is perfectly acceptable, as long as you allow the beautiful wood grain to show through as much as possible.

Using stains and paint washes also allows you to avoid the expense of exotic wood. I could have hunted down a piece of expensive blue wood for the turkey's head, but that would have been costly and time-consuming, with unpredictable results. The paint wash served just as well and allowed me to finish the project in a timely fashion.

Finally, some wood can darken or lighten with age. If I want to keep black walnut very dark over time, I will use dark walnut oil to preserve and enrich the lovely deep brown color. I always use a light coat of white stain on my white pieces to keep them from turning brown with age or yellow with varnish.

Common Wood Colors and Suggestions

Color	Wood suggestion
White	Aspen, poplar, **holly**, basswood
Light	Aspen, poplar, **maple**, elm, ash, pine, sycamore, English sycamore
Medium light	Maple, **ash**, beech, birch, cedar, oak, butternut, sycamore
Medium	Cherry, beech, hickory, **oak**, cedar
Medium dark	**Cherry**, beech
Reddish	**Aromatic red cedar**, redwood, bloodwood, rosewood, mahogany
Yellow	Yellowheart, **satinwood**, yellow pine
Dark	Black walnut, **rosewood**, dark pieces of Western red cedar
Black	Ebony, **wenge**

Wood varieties in bold are pictured.

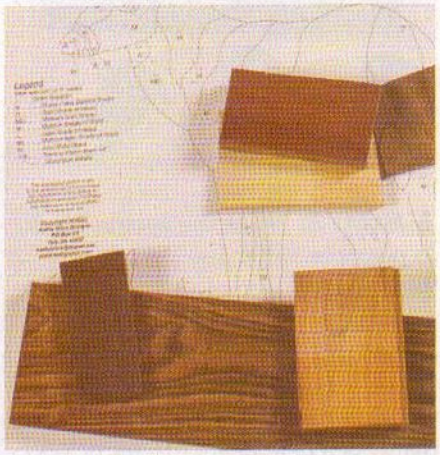
Creating a Wood Library

Every time you get a new species of wood, cut a 3" (76mm)-square sample for your wood library. Sand the surface, write the species and date on the back, and spray or paint it with a finish of your choice. Because finished wood is a different color than raw wood, applying finish makes it easier to visualize how your project will look when completed. Many types of wood will change color with age and exposure to sunlight, so having a date will help you know the rate of transformation. Some types of wood, like bloodwood, purple heart, and padauk, darken into an undesirable muddy brown color over time, so I try to avoid them for projects that will be displayed in full sunlight.

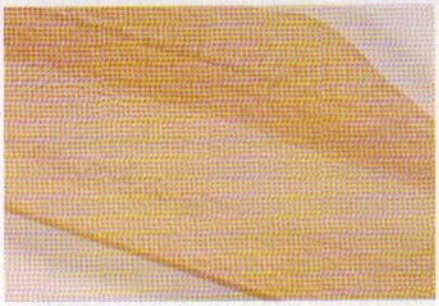
You can also start a wood library by ordering wood samples from flooring companies; some are free and some samples you have to buy.

SELECTING WOOD

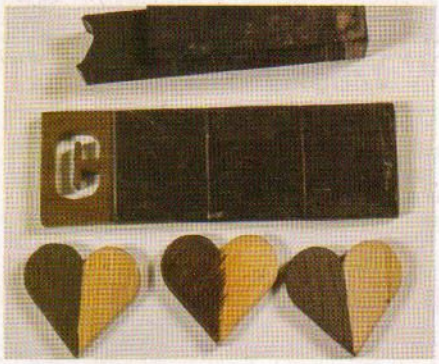
I will demonstrate my method for choosing wood using my *Standing Whitetail Deer* project (on page 56).



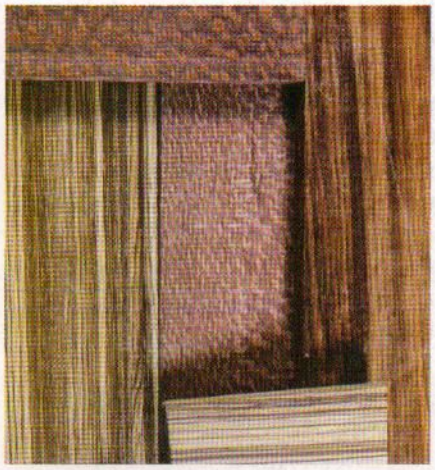
▲ **Step 1: Pick a selection of wood that matches the values in the legend.** It is helpful to have color reference photos of your subject (in this case, a deer) to help you decide on the colors. Place the pattern on the floor and place the samples roughly in place to see how they look together. Looking down at the samples, you will have a better idea of how they will look at a distance. Sometimes the colors will clash and just not look good when placed next to each other. Mix and match your samples until you are happy with the combination.



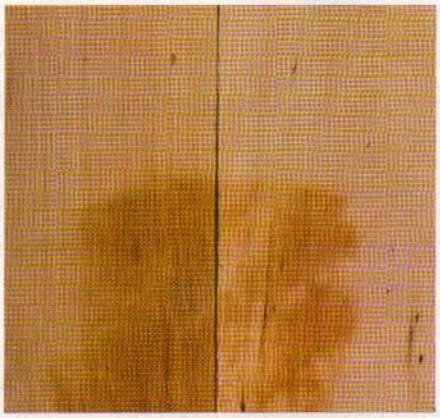
▲ **Step 2: Use wood with light and dark areas.** Values, based on a gray scale between white and dark black, make your intarsia interesting. Wood, like the sycamore shown above, gives you the same general figure in different color values. This helps tie the project together. But be careful not to use one color or species exclusively; this will make your project monotone and dull. Varying contrasting colors and species will make your piece stand out if you don't go overboard.



▲ **Step 3: Make the eyes as black as possible.** I often use ½" (13mm)-thick ebony on top of a shim for the eyes. Ebony can be expensive, so instead you can chemically ebonize oak or walnut (using a solution of steel wool in vinegar) or use black stain, shoe polish, or a permanent marker, or India ink. (See Bear Cub, *SSW 44* for more ebonizing methods). Black eyes make the rest of the intarsia pop.



▲ **Step 4: Use interesting figure and grain in moderation.** On the deer, I decided to use a piece of bocote for some interesting ground cover, but I will not use any other highly figured wood in the piece. The solid colors of Australian cypress and wenge work well with the bocote. Highly figured varieties of wood look good for the sky or water, but other figure, grain, and even knots can be used for special effects. Avoid using a lot of varieties of wood, like zebrawood, that have a lot of grain with light and dark variations, which draws your eyes to the busy wood and distracts from the entire piece. I put a splash of color in some of my pieces with a bit of exotic wood. I use it sparingly and only for special projects. As you can see in the photo, using many figured varieties of wood together is not pleasing to the eye.

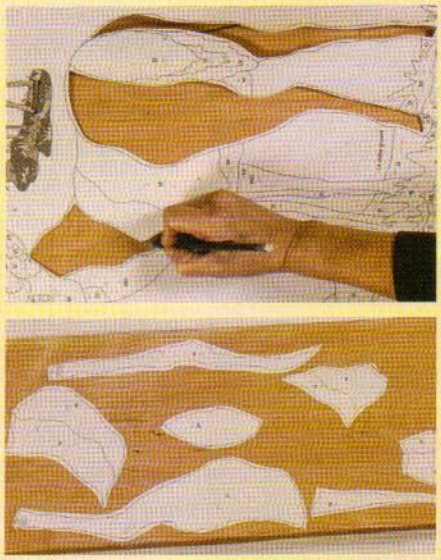


▲ **Step 5: Choose two colors of wood for the deer body.** I chose two shades of cherry—a medium color and a medium-dark color. I placed them next to each other and sprayed finish on a small section to see if the darker cherry was dark enough compared to the medium-tone cherry. You could use the same shade of cherry for the entire body if you like. I always use the same board if I am doing an animal or background, especially with cherry, because the tones of cherry vary dramatically between different boards. Remember, the color legends and grain direction arrows are suggestions. Adapt the pattern to the wood you are using, and don't be afraid to alter the pattern in any way.

Making a Whitetail Deer

Let's apply what we've learned to my *Whitetail Deer* project. To keep the focus on wood selection, I have omitted many construction details; use standard intarsia techniques.

I always begin by making six to eight copies of the pattern. Keep one as a master and tape one to a work board; I use the uncut backer board for the project. Cut a set of pattern pieces and adhere them to the shiny side of Con-Tact brand clear shelf paper.



▲ **Step 1: Identify the best grain figure on each blank.** Plane the wood to the desired thickness. Use a craft

Materials & Tools

Materials:

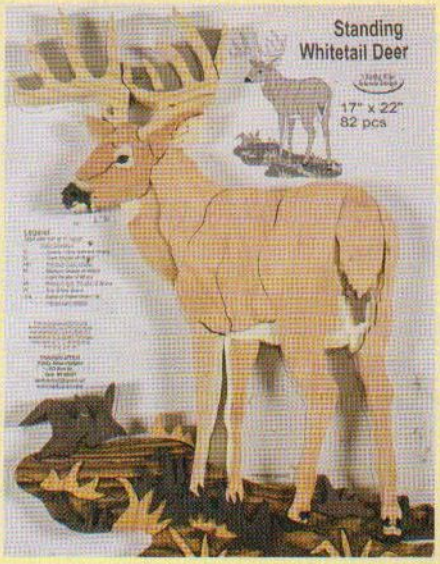
- Poplar or white wood, 1" (25mm) thick: 7" x 15" (178mm x 381mm)
- Wenge or dark wood, ½" (13mm) thick: 4" x 18" (102mm x 457mm)
- Black walnut or medium-dark wood, 1" (25mm) thick: 6" x 20" (152mm x 508mm)
- Cherry or medium wood, ½" (13mm) thick: 4" x 18" (102mm x 457mm)
- Beech or medium-light wood, 1" (25mm) thick: 2" x 4" (51mm x 102mm)
- Maple or light wood, ½" (13mm) thick: 4" x 18" (102mm x 457mm)
- Ebony or black wood, 1" (25mm) thick: 1" x 1" (25mm x 25mm)
- Tempered hardboard, ⅛" to ¼" (3mm to 6mm) thick: 9" x 11" (229mm x 279mm)
- Glue: cyanoacrylate (CA); wood
- CA glue accelerator (optional)
- Clear shelf paper, such as Con-Tact brand
- Finish: clear satin spray
- Spray adhesive
- Hanger, mirror style

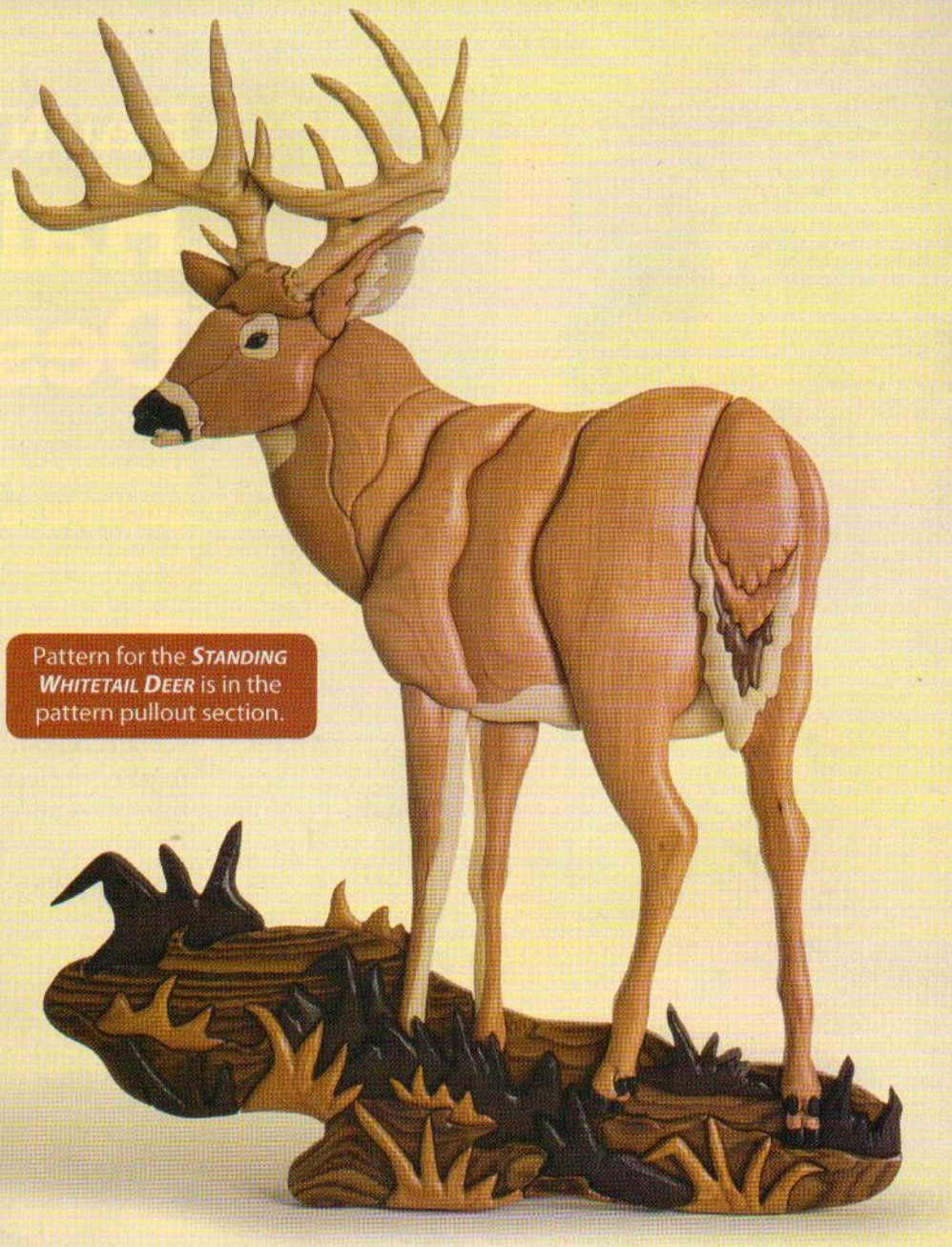
Tools:

- Scroll saw blades: #5 reverse-tooth
- Sanders
- Planer (optional)
- Portable drum sander, such as Sand-Flee

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

knife or scissors to cut the pieces out of a pattern sheet so you can use the sheet as a viewfinder to identify the best grain figure on each blank. I try to have twice as much wood as I need for the piece so I can move it around as required. Sometimes you need to waste wood to get a wonderful grain pattern. Trace the outline of the piece with a pencil, place the pattern (adhered to shelf paper) in the correct spot, and peel and stick the pattern to the wood.





Pattern for the ***STANDING WHITETAIL DEER*** is in the pattern pullout section.

▲ Step 2: Cut the pieces and check the wood selection. As you cut the pieces, mark them with a pencil and place them on the work board. Then, place the work board on the floor and step back to look it over. When your piece is complete, people will first view it at a distance of over 6 feet (2 meters). This important step will give you a fresh eye and help to determine if you need to replace a color of wood or correct your sanding levels.

Step 3: Sand the pieces and check your work. Use the shaping guide and mark the areas and levels you want to sand. Then, sand the pieces with a drum sander and replace them on the work board. When you have completed the sanding, place the work board on the ground and take a break. Come back the next day to look at the project with fresh eyes. You will be surprised at how you catch mistakes or find adjustments to make to your piece after you are away for a while.

Step 4: Assemble the project. Place waxed paper over the pattern on the work board. Place dots of cyanoacrylate (CA) glue between each piece and position them on the board. Start at the head and glue three to four pieces together at a time, allowing the CA glue to set before adding the adjoining pieces. You can use accelerator to hurry the process, but be sure to position the pieces quickly. Flat-sand the back of the project on a portable drum sander, such as a Sand-Flee. Lay the project on top of the base pattern and trace it to adjust the backer board as needed. Cut and sand the base. Apply dots of CA and wood glue to the back of the project. Spray the backer board with accelerator. Position the backer board in place, quickly adjust it (you have about six seconds if you use accelerator), and then flip it right side up. Apply even pressure to the project and let the glue dry overnight. Use clear gloss on the black eye to give the deer a lifelike look. Attach a hanger to the back.

Nationally acclaimed intarsia artist Kathy Wise has written three books and more than 55 articles. For a free catalog of 550 patterns, contact Kathy Wise Designs Inc., P.O. Box 60, Yale, Mich. 48097; fax 810-387-9044; www.kathywise.com; kathywise@bignet.net.

#518 High Country Elk

HAUNTED Halloween Designs

Use these spooky designs to get in the spirit of the season

By Alison Tanner

These creepy cuttings will look great made from thick hardwood and standing on a shelf. Cut them from thinner wood to make wall hangings or if you plan to frame them. Choose plywood if you prefer to paint the silhouettes. Stack black paper between thin wood and cut to make scrapbook or card accents.

Visit our website for some bonus bats (and cats) to scatter about your belfry!

Materials & Tools

Materials:

- Hardwood, plywood, and/or paper: assorted sizes to fit patterns
- Sandpaper
- Blue painter's tape (optional; for stacking)
- Paint: black (optional)
- Finish (optional)

Tools:

- Blades, such as Olson PGT or Mach: #3, #5
- Drill and assorted small bits

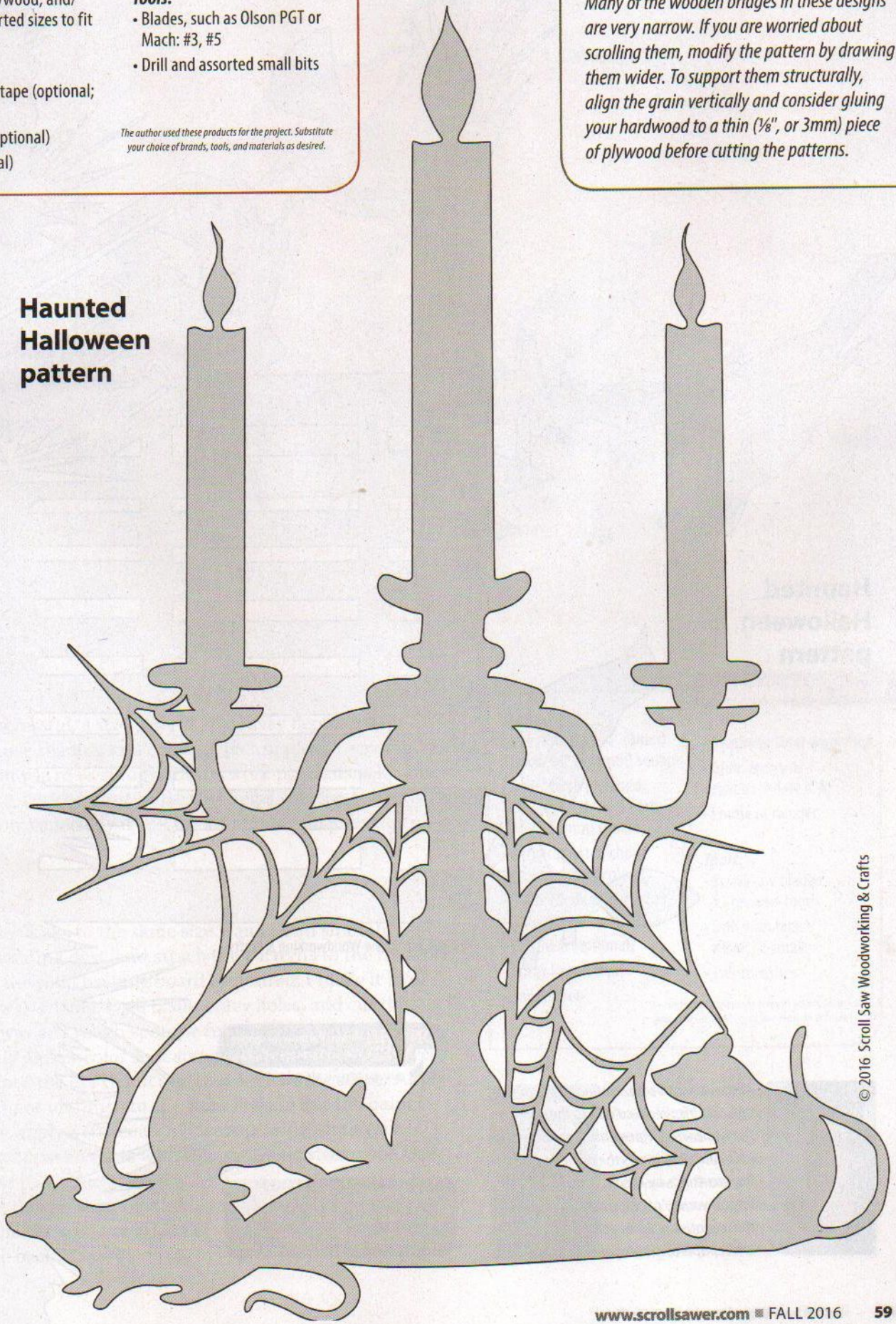
The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.

TIP

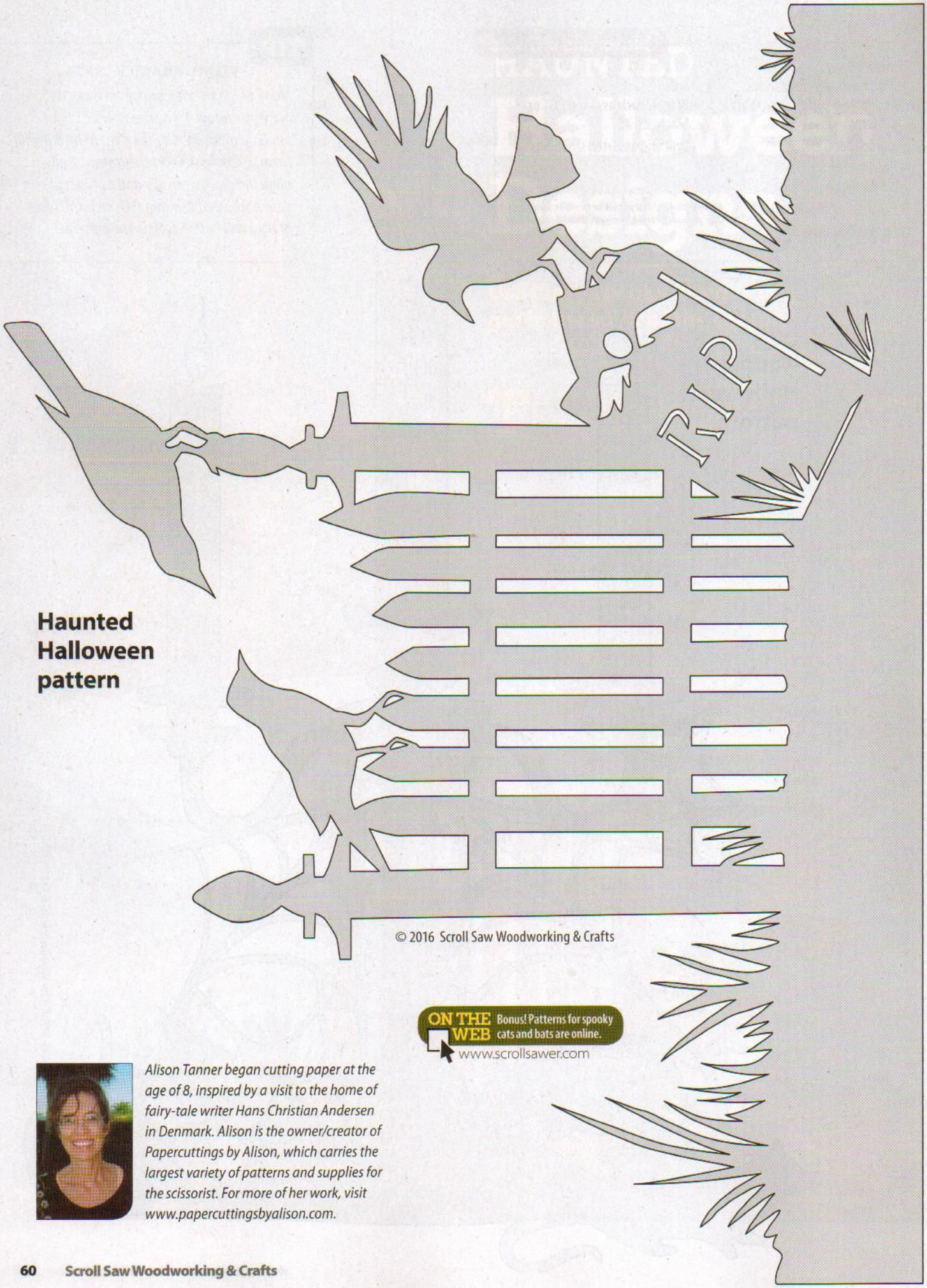
FIXING FRAGILE FRETS

Many of the wooden bridges in these designs are very narrow. If you are worried about scrolling them, modify the pattern by drawing them wider. To support them structurally, align the grain vertically and consider gluing your hardwood to a thin (⅛", or 3mm) piece of plywood before cutting the patterns.

Haunted Halloween pattern



Haunted Halloween pattern



ON THE WEB Bonus! Patterns for spooky cats and bats are online.
www.scrollsawer.com

Alison Tanner began cutting paper at the age of 8, inspired by a visit to the home of fairy-tale writer Hans Christian Andersen in Denmark. Alison is the owner/creator of Papercuttings by Alison, which carries the largest variety of patterns and supplies for the scissorist. For more of her work, visit www.papercuttingsbyalison.com.

On Point

Layered fretwork portrait creates the feeling of depth in thin wood

By George Ahlers

To be successful, a scene needs to convey depth. Many artists use shading and coloring techniques to accomplish this, but when you're working with fretwork portraits, it's more challenging. A layered project like this helps you create depth and dimension, especially if you use different colors for the backgrounds.

Getting Started

Cut the three blanks to the same size. Sand them smooth, remove the sanding dust, and attach the patterns to the fretwork layers. Paint the solid backing board as desired; I made it look like the sun was setting. Drill blade-entry holes, and cut the frets. Sand away any rough spots or fuzzies. Stain the middle layer a slightly darker color so it stands out from the front layer and to convince the eye that it's farther back in the scene. Apply a natural stain or oil finish to the front layer. After the paint and stain dry, apply a few coats of clear spray finish to each layer, buffing between coats with fine synthetic steel wool. Use cyanoacrylate (CA) glue or epoxy to secure the three layers together. You can frame the scene or attach a hanger to the back.

Patterns for ***On Point*** portrait are in the pattern pullout section.

Materials & Tools

Materials:

- Oak plywood, ⅛" (3mm) thick: 14" (356mm) square
- Baltic birch plywood, ⅛" (3mm) thick: 2 each 14" (356mm) square
- Acrylic paint of choice (I used sunset colors)
- Stain: medium dark stain, natural (optional)
- Oil finish (optional)
- Spray finish: clear
- Sandpaper
- Synthetic steel wool: fine
- Glue: epoxy or cyanoacrylate (CA)
- Frame or hanger

Tools:

- Scroll saw blades: #1 reverse-tooth
- Drill with bits: assorted small
- Paintbrushes

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

George Ahlers lives in northeastern Pennsylvania with his beautiful wife, Wendy. He has been working wood for more than 25 years. George is currently employed at ShawneeCraft Brewery in scenic Shawnee on Delaware, Pa.; there he gets to pursue two of his favorite pastimes: brewing beer and woodworking.

Vlad the Vulgar Vulture

This menacing scavenger is the Darth Vader of the bird world

By David Wakefield

Close-up, turkey vultures are one of the most repulsive creatures I have ever seen. I have been to India and seen hundreds of them fighting over the carcass of a cow; it's not pleasant. However, children definitely hold a place for the bad guy in their play world, and I consider Vlad the Darth Vader of the bird world. But, because he is a toy, I decided to design a cartoon version that is a bit less disgusting or disturbing than the real thing.

As the first toy I have designed where I favored caricature over realism, Vlad presented some interesting challenges. I used my standard yoke-over-a-cam mechanism to make Vlad's head bob, but the shrugging mechanism is new. (I originally conceived the idea to accomplish the movement of the front legs of a tiger, which I have yet to create.) I also had to figure out how to extend the wings beyond the wheels. I could have made the body wider and set the wheels in, but that made the sleek bird too wide. I tried thickening the top of each wing to bring them out, but that just made him look like a football player with shoulder pads. So, I went for curved wings. It is not exactly accurate, but it looks fairly graceful and it definitely works.

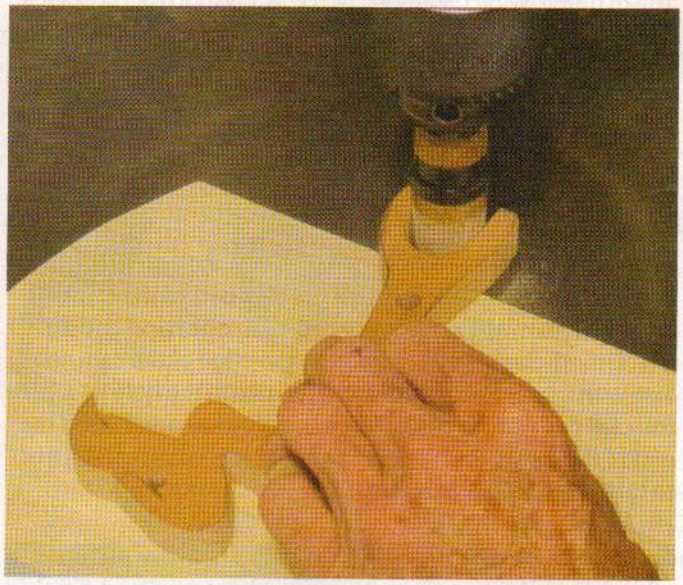
Some vultures have black heads and some white, so the wood choice is up to you. Because I was going for a turkey vulture, I used padauk, a blood-red wood, for my first prototype. I made the head out of one piece of wood. I found out later that padauk turns a boring shade of brown after a month or so. I then decided to use cherry because it is basically red, strong, and available locally. If you really want the head to pop, you could dye it red.

MAKING THE BODY

Step 1: Attach the patterns for the body sides (A) and the spacer (B) to the blanks. Cut the perimeters. Flat-sand them with 80-grit sandpaper so the assembly will fit together tightly. For accuracy, don't drill the holes until after assembly. Use the pattern to align the spacer between the sides. Carefully glue and clamp spacer B. When the glue is dry, drill the holes in each side.

Step 2: Edge-sand the entire silhouette. Use 80-grit and then 120-grit sandpaper. Flat-sand both sides with 120-grit sandpaper. Rout the perimeter with a ¼" (6mm)-radius roundover bit. Hand-sand the routed edges with 80-grit and 120-grit sandpaper. Set the assembly aside.

MAKING THE HEAD



▲ **Step 3: Attach the pattern for the head (D) to the blank.** Carefully drill the holes, especially the eye. Then, cut the perimeter, being especially careful cutting the lines for the mouth and the eyebrow; these little details make all the difference. It is hard to edge-sand the tight inside curves, so try to cut them so smoothly that they don't need any serious sanding. Leave the opening for the cam (the bottom of the piece) a bit small. Sand it to size with a 1" (25mm)-diameter drum sander to make the shape circular and just a bit larger than the cam, which will maximize the movement and make it smooth. (I made a drum sander from a 1"- or 25mm-diameter dowel with a slot in it to accept sandpaper.)

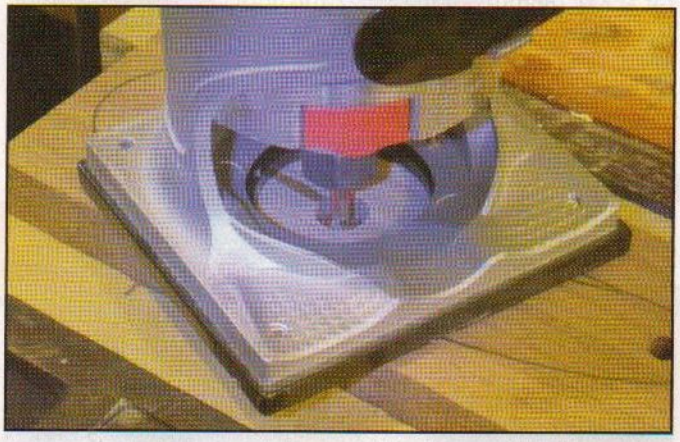
TIP

LAMINATE THE HEAD

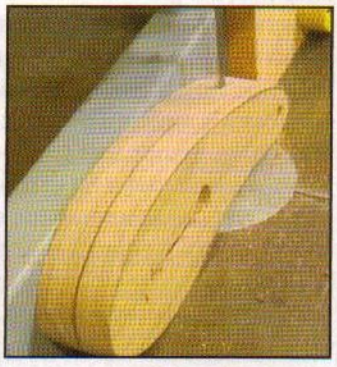
If you want to make the head stronger, you can laminate (glue together) three pieces of ¼" (6mm)-thick wood, rotating the grain direction of the center piece 90° (so it runs side to side rather than up and down).

Step 4: Lay out the wings (E) on rectangular pieces of stock. This will make it easier to clamp them in a vise to rout the keyholes. As you plan and attach the patterns, be sure to make the wings opposites with the slots on the inside of each wing; the wings should be mirror images of each other. Drill the peg holes in the tips of the wings. Mark the locations of the keyhole slots.

MAKING THE WINGS

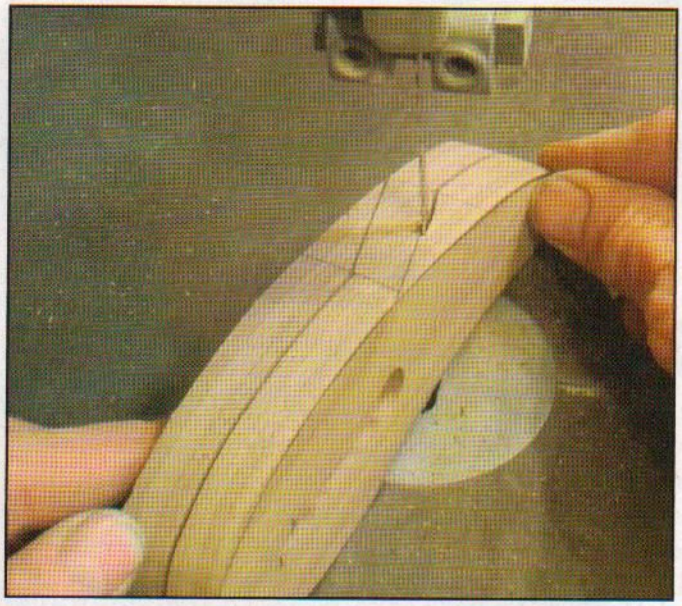


▲ **Step 5: Rout the keyhole slots in the wings (E).** Start by drilling a ½" (13mm)-diameter by ⅜" (10mm)-deep hole at the bottom of the slot. Cut the slot using a router with a keyhole bit; I use a Freud #70-104. The slot needs to be 9/32" (7mm) wide to let the peg travel freely, so make as many passes as necessary. Also, it needs to be straight, but doesn't have to be perfect. Turn off the router and wait until it stops completely before lifting it out of the hole. Try the peg in the slot to make sure that it works. Then, cut the side view of each wing and edge-sand the pieces.



▲ **Step 6: Cut the front view of each wing (E).** Remember to make opposing wings. You can compound-cut the pieces if they will fit into your scroll saw or sand the wings to shape. I use the rip fence on a band saw to make straight cuts. Position the front of the wings up, so the concave surface is against the band saw table, to keep the piece from rocking while you cut. Set the rip fence ½" (13mm) away from the blade and clamp a piece of wood as a stop 3⅜" (86mm)

past the leading edge of the blade. Position the keyhole slot of the left wing against the fence, and cut to the stop. Back out of the cut. Leave the fence in the same position, but set the stop 1⅝" (41mm) from the leading edge of the blade. Rotate the wing, keeping the concave side against the saw table so the bottom of the wing is toward the blade and the keyhole slot faces away from the fence. Rip the wing to the stop and back out of the cut. Then, set the fence so it removes ½" (13mm)—the distance from the right side of the blade to the fence is ½" (13mm). Repeat the process with the stop set at 3⅜" (86mm) for the top of the right wing (with the slot facing away from the fence) and 1⅝" (41mm) for the bottom of the right wing (with the slot facing toward the fence).



▲ **Step 7: Draw parallel diagonal lines to join the inner and outer portions of each wing.** Cut freehand along the lines with a slight sweep to make a smooth transition from straight to diagonal and back to straight. Edge-sand these diagonal edges in much the same way you cut them, trying for a smooth, sweeping transition between the planes. These surfaces will require a good bit of hand sanding with 80-grit and 120-grit sandpaper to remove the saw marks. Use the quarter-round router bit to round what you can of the outside edges, and use a four-in-hand rasp and sandpaper to finish the rounding-over process. Then, hand-sand all of the edges of both wings to remove any roughness from the router. Round the unrouted edges on the insides of the wings.

MAKING THE WHEELS AND CAM

Step 8: Cut the wheels (F) and cam (G) with hole saws. *Note: You can also use purchased wheels.* Use a 2" (51mm)-diameter hole saw for the wheels and a 1¼" (32mm)-diameter hole saw for the cam. Plug the bit hole in the cam with a length of ¼" (6mm) dowel, and drill a new hole off center, as indicated on the pattern. Edge-sand both wheels and the cam lightly with 80-grit sandpaper, being careful to maintain their circular shapes, and break the edges by hand sanding. Drill a peg hole in each wheel.

ASSEMBLING & FINISHING THE PROJECT

Step 9: Position the head (D) between the body sides (A-B assembly). Align the pivot holes. Tap the pivot axle (H) through the near side and through the head, until it just starts into the hole in the second side. Put a little glue on the insides of the hole on the bottom and around the protruding dowel on the near side. With the piece resting on waxed paper, drive the dowel home. Wipe off any excess glue and let set. Flat-sand both sides of the body with 120-grit sandpaper.

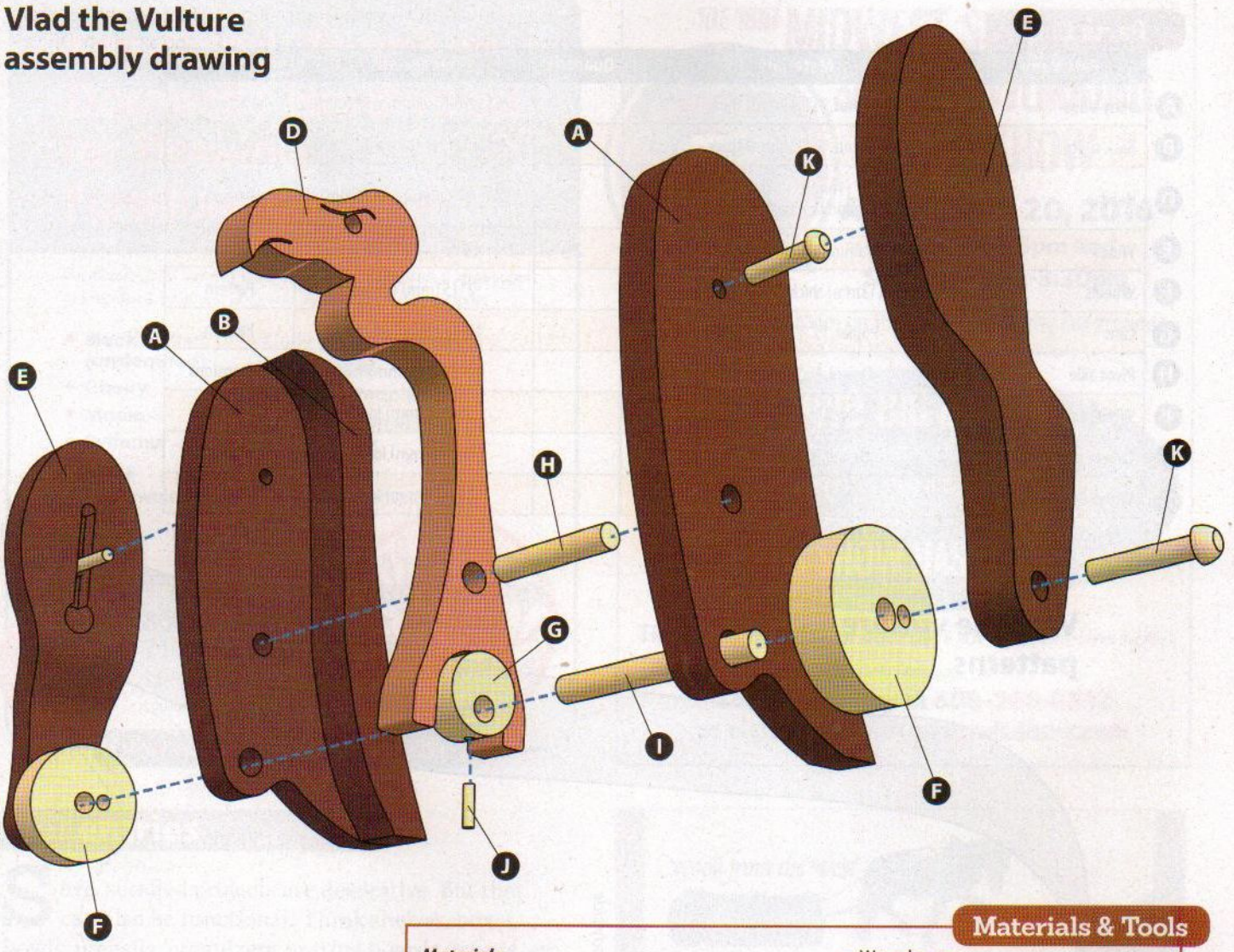
Step 10: Put glue inside one of the wheel (F) axle holes. Set it on some waxed paper on the bench and drive the wheel axle (I) home. Wipe off any excess glue. Position the cam (G) at the bottom of the head piece (D) and slide the axle through all layers. Put the remaining wheel on the waxed paper with glue inside the axle hole. Hold the assembly over that wheel with the peg holes in the wheels aligned and hammer the axle into the second wheel. Wipe off any excess glue. Edge-sand the ends of the axle.

Step 11: Secure the cam (G). Position the peg holes in the wheels at four o'clock and the thin part of the cam directly downward. Hold the toy firmly in one hand and drill a ⅛" (3mm)-diameter hole through the edge of the cam and axle with a handheld drill. Put a little glue in the hole and drive the cam peg (J) into place. When the glue has dried, sand the end of the dowel flush to the cam's surface, being careful not to take the cam out of round.

Step 12: Attach the wings (E). Drill a hole in a piece of scrap wood, insert a peg (K), and add a wing. Check for easy movement throughout the slide to gauge how far the shoulder peg should stick out from the body. Adjust it with sandpaper as necessary. Once you're happy, mark the pegs, remove them from the scrap, and glue them into the body sides (A) at the marked depth. You may have to trim the pegs to keep them from interfering with the head movement. Slide the wings onto the shoulder pegs, and then use additional pegs to attach them to their respective wheels (not too tight or too loose).

Step 13: I finish my toys with food-grade mineral oil. Simply wipe the vulture liberally using a rag, let the oil soak in for an hour or two, and wipe off any excess.

Vlad the Vulture assembly drawing



Materials & Tools

Materials:

- Walnut, 1" (25mm) thick: 2 each 2¼" x 6½" (57mm x 165mm)
- Walnut, ¾" (19mm) thick: 1¾" x 6¾" (44mm x 171mm)
- Walnut, ½" (13mm) thick: 5¼" x 6¾" (133mm x 171mm)
- Cherry, ⅝" (16mm) thick: 3½" x 7" (89mm x 178mm) OR hardwood, 3 each ¼" (6mm) thick: 3½" x 7" (89mm x 178mm) with alternating grain directions
- Poplar, ½" (13mm) thick: 2 each 2" (51mm) square OR 2 each 1¾" (44mm)-dia. commercial wheels; 1½" (38mm) square
- Dowel, 5⁄16" (8mm) dia.: 6" (152mm) long
- Dowel, ¼" (6mm) dia.: cam plug, ½" (13mm) long
- Dowel, ⅛" (3mm) dia.: ½" (13mm) long
- Axle pegs, 7⁄32" (5.5mm) dia.: 4 each 1⅛" (29mm) long
- Sandpaper: 80, 120 grits
- Dye, such as Rit: red (optional)
- Wood glue
- Waxed paper
- Mineral oil, food-grade

Tools:

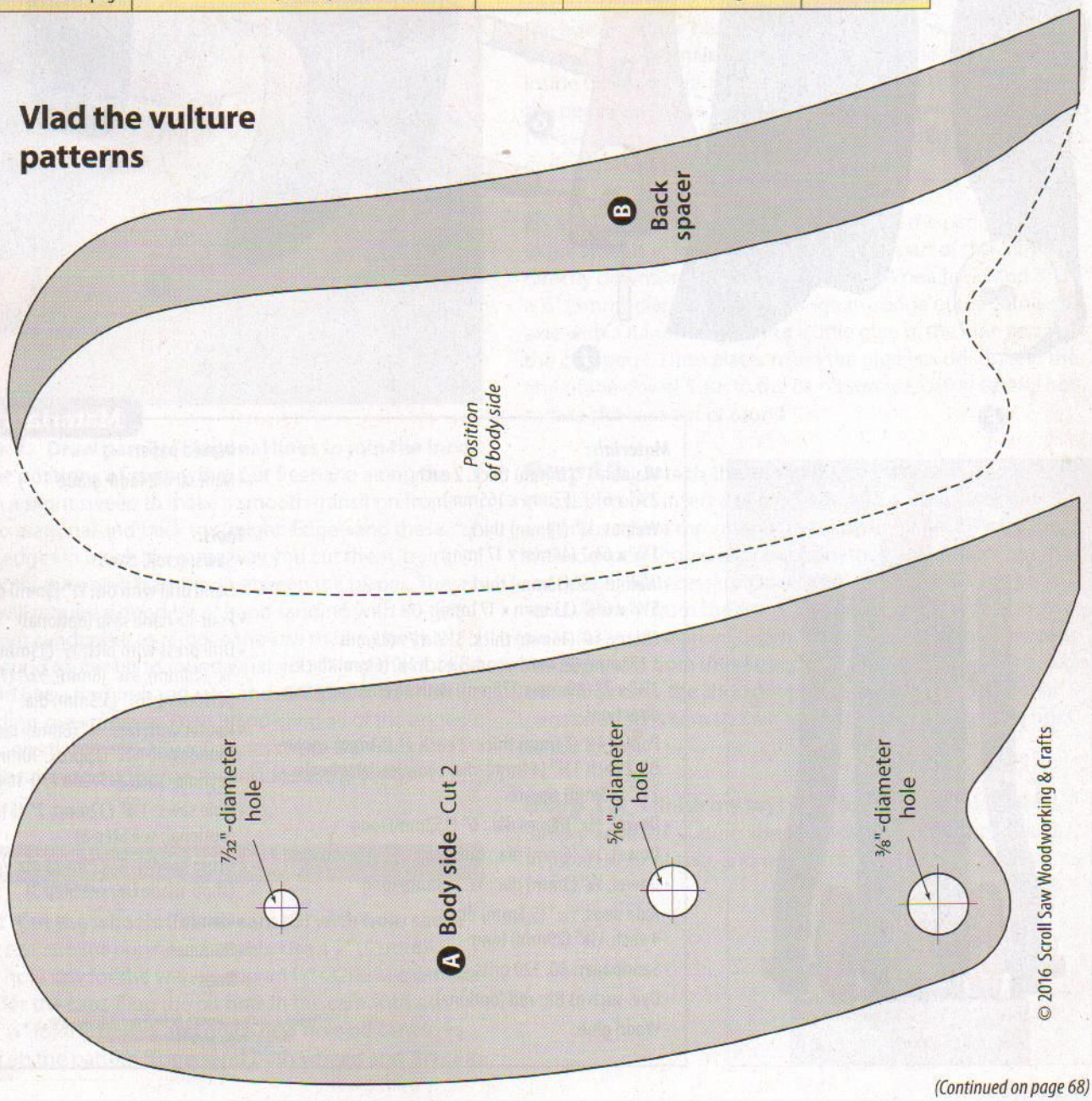
- Saws: scroll, band
- Hand drill with bit: ⅛" (3mm) dia.
- Four-in-hand rasp (optional)
- Drill press with bits: ½" (13mm), ⅜" (10mm), 5⁄16" (8mm), 9⁄32" (7mm), ¼" (6mm), 7⁄32" (5.5mm) dia.
- Router with bits: ¼" (6mm)-radius roundover, 25⁄64" (approx. 10mm) keyhole (such as Freud #70-104)
- Hole saws: 1¼" (32mm), 2" (51mm) dia. (optional; see Step 8)
- Drum sander: 1" (25mm) dia. (shop-made OK; see Step 3)
- Clamps
- Hammer
- Rags

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

Parts List

	Part Name	Materials	Quantity	Dimensions	Presentation
A	Body sides	Walnut, ½" (13mm) thick	2	2½" x 6¾" (64mm x 171mm)	Pattern
B	Back spacer	Walnut, ¾" (19mm) thick	1	1¾" x 6¾" (44mm x 171mm)	Pattern
D	Head	Cherry, ⅝" (16mm) thick OR 3 each ¼" (6mm) thick and laminated to form 1 piece	1	3½" x 7" (89mm x 178mm)	Pattern
E	Wings	Walnut, 1" (25mm) thick	2	2¼" x 6½" (57mm x 165mm)	Pattern
F	Wheels	Poplar, ½" (13mm) thick OR commercial wheels	2	2" (51mm) square	Pattern
G	Cam	Poplar, ½" (13mm) thick	1	1½" (38mm) square	Pattern
H	Pivot axle	Dowel, 5/16" (8mm) dia.	1	2½" (64mm)	Dimensions
I	Wheel axle	Dowel, 5/16" (8mm) dia.	1	3¼" (83mm) long	Dimensions
J	Cam peg	Dowel, ⅛" (3mm) dia.	1	½" (13mm) long	Dimensions
K	Wheel & shoulder pegs	7/32" (5.5mm) dia.	4	1⅛" (29mm) long	Dimensions

Vlad the vulture patterns



(Continued on page 68)

call for **entries**

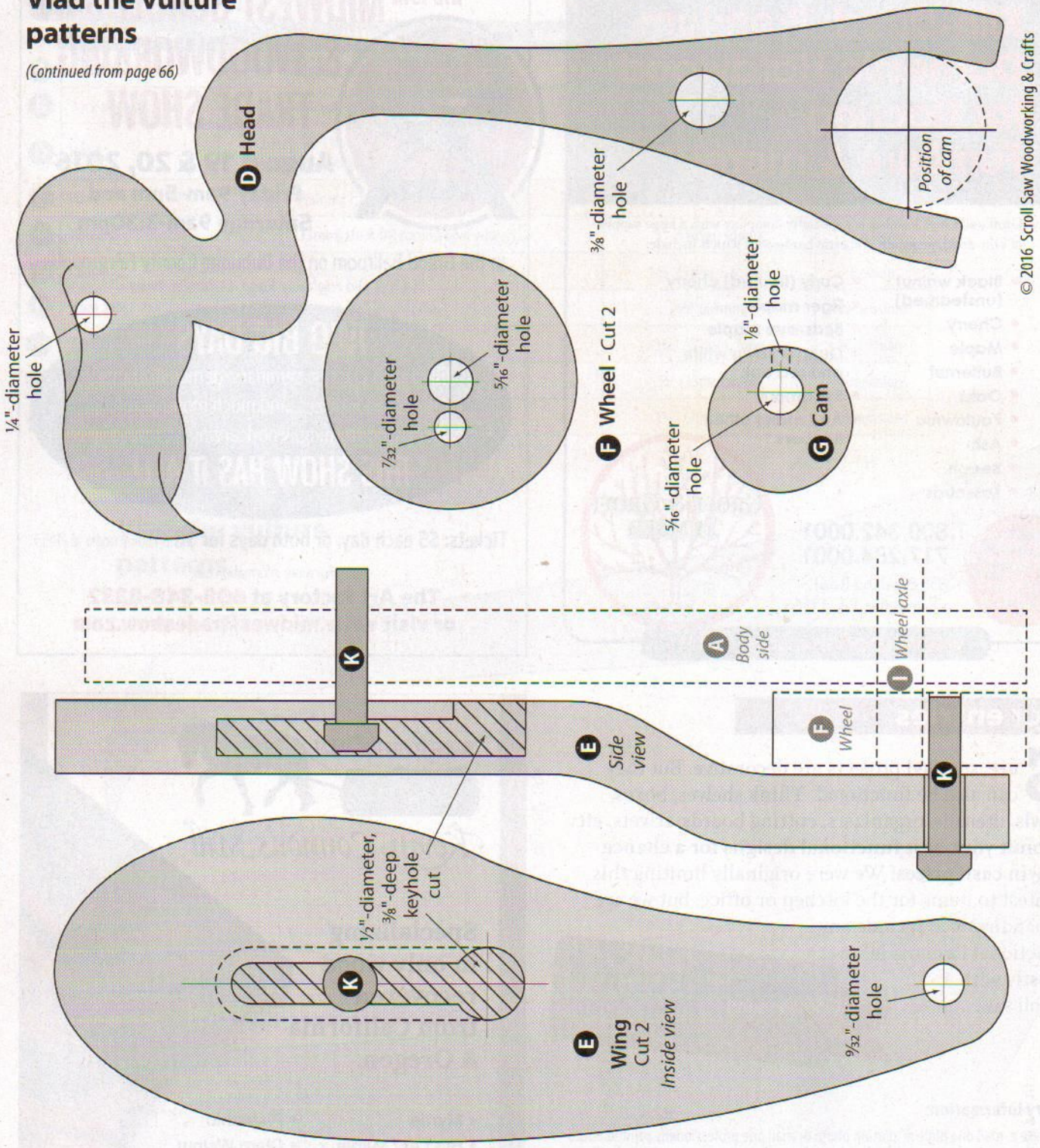
Sure, scrolled projects are decorative. But they can also be functional. Think shelves, boxes, bowls, utensils, organizers, cutting boards, trivets, etc. **Submit your best functional designs for a chance to win cash prizes!** We were originally limiting this contest to items for the kitchen or office, but we are expanding it to include any functional item made mostly with a scroll saw.

Entry Information:

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

Vlad the vulture patterns

(Continued from page 66)



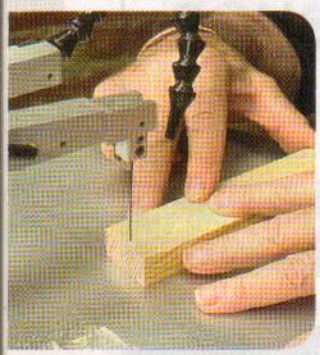
David Wakefield's love for wildlife, combined with his down-to-earth designing and woodworking skills, results in an uncanny ability to capture the character and movement of creatures in hardwood for children (and adults) to play with. David lives in Ohio, where he has been designing toys for 35 years.

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

Squaring Your Table

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

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



The cutting-through method is also popular. Saw through a piece of scrap wood at least ¾" (19mm) thick and check the angle of the cut using a square. Adjust the table until you get a perfectly square cut.

You can also use the kerf-test method. Take a 1¾" (44mm)-thick piece of scrap wood and cut about 1/16" (2mm) into it. Stop the saw, back the blade out, and spin the wood around to the back of the blade. If the blade slips easily into the kerf, the table is square. If it doesn't slide into the kerf, adjust the table and perform the test again until the blade slips in easily.

Attaching Patterns

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

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

Stack Cutting

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

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

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

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

Blade Tension

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

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

Blade-Entry Holes

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

Removing Patterns

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

IN OUR NEXT ISSUE

ADVERTISING DIRECTORY

A Stroke of Faith

Robert Tucker and his wife, Barbara, of Holland, Mich., planned to spend their retirement traveling to each of the United States' national parks. Instead, a stroke in 2002 left Robert paralyzed on his right side, and Barbara passed away after a battle with cancer in 2011. Despite these hardships, Robert has found hope and renewed purpose in his faith and his scroll saw.

Robert started scrolling in the 1990s by cutting simple patterns. After his stroke he had to relearn everything—this time, with his left hand. "Some days I couldn't remember what to do to get things to work, even if I had figured it out the day before. I kept trying until it all started to click," he recalled. A few months after the stroke, Robert began cutting simple patterns from design books. His confidence and strength improved along with his skill. Once he purchased a left-handed saw, his work took off. "It was much easier for me to manage and change blades, which allowed me to do more detailed work," he explained. Robert progressively tackled more difficult tasks and now draws his own patterns. "After my wife died, I was able to bury myself in my projects while I worked through the grief, and that helped a lot," he said. Today, Robert is grateful for the solace he finds in working with the scroll saw and views each new day as an opportunity.

See more of Robert's work at www.facebook.com/strokefaith/.

Robert scrolls with a left-handed scroll saw.

Robert enjoys scrolling farm and wildlife portraits.

Curious Cutting Boards

"When it comes to kitchen equipment, why should knives get all the glory? Sure, they're big, sharp, and glamorous, but where would they be without their faithful sidekick, the cutting board?" said Scott Velvet of Toad-ally Cool Cutting Boards in Maryville, Tenn. Scott specializes in unique cutting boards and is passionate about his work. He said, "Most of the cutting boards you come across are square, and I thought, why can't they have more character?" Scott has designed more than 50 cutting boards so far, ranging from 8" cheese boards to 15" boards. His designs have included everything from a unicorn to a pear.

Scott cuts all of his boards from poplar, sands the design, and bathes each board in natural food-safe oil. "I let the oil soak into the wood for a couple of days," he explained. "This provides a protective barrier against water damage, adds a nice shine to the wood, and really makes the grain pop."

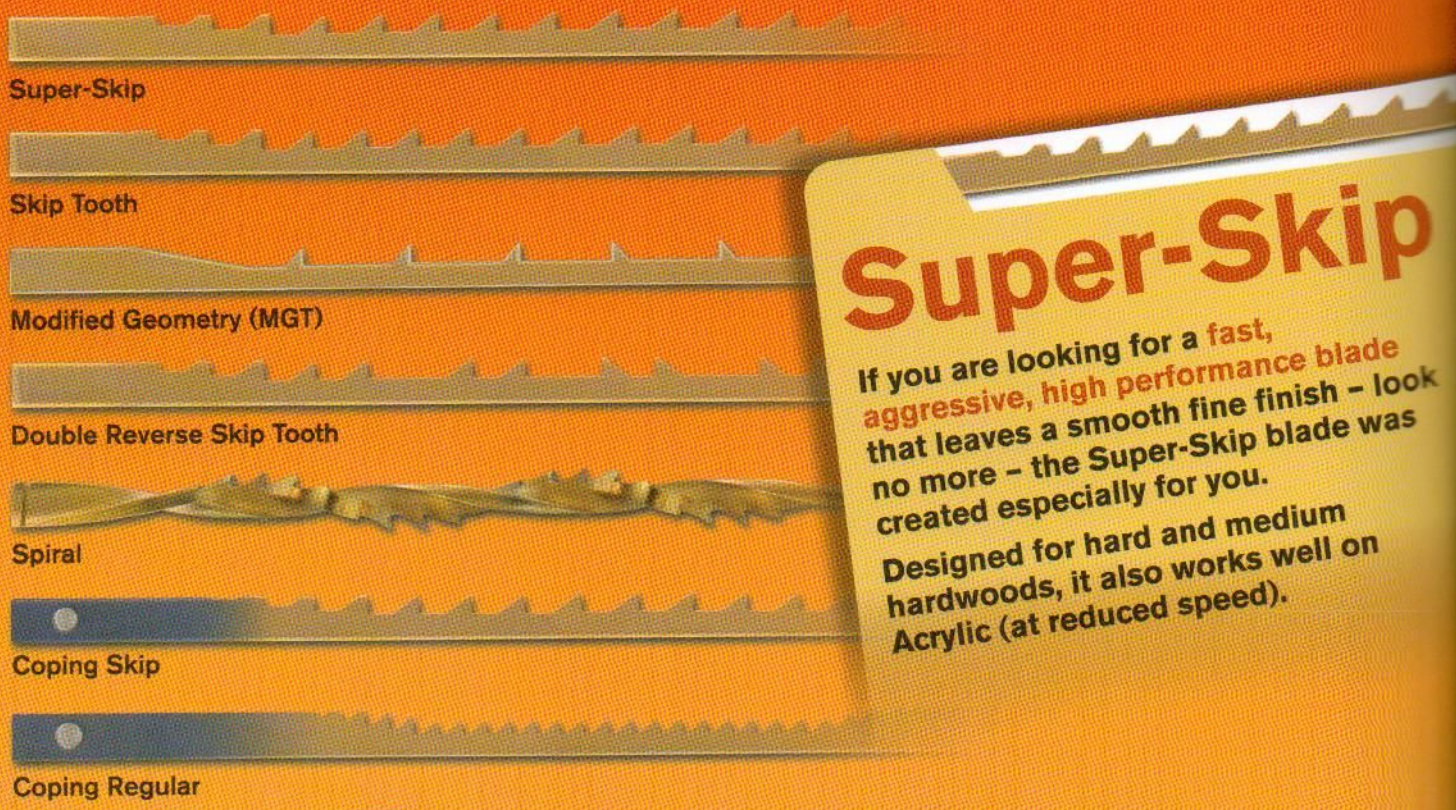
See more of Scott's work at www.etsy.com/shop/Toadems/.

Scott strikes a pose with his daughter, Storm.

Scott makes cutting boards into just about any shape, Batman included.

Pégas®
SWISS BLADES

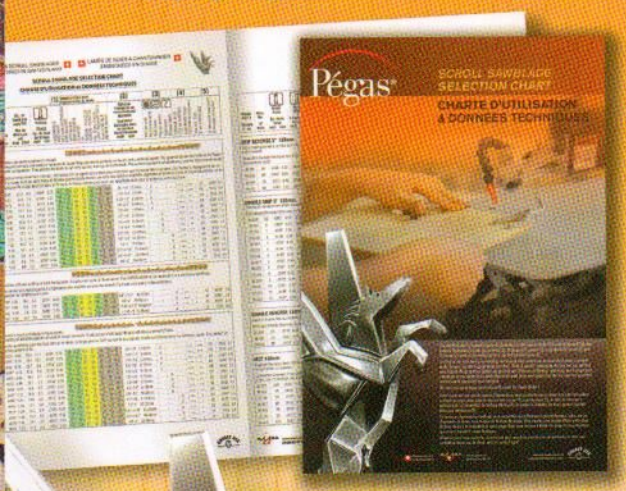
The Swiss Scroll Sawblades



Super-Skip

If you are looking for a fast, aggressive, high performance blade that leaves a smooth fine finish – look no more – the Super-Skip blade was created especially for you.

Designed for hard and medium hardwoods, it also works well on Acrylic (at reduced speed).



Use our **blades selection chart** to choose the right blade for your project:

For a brochure:
pegas@grobetusa.com

All Pégas® Sawblades are manufactured in our Swiss factory from the best carbon steel available. Tradition, Precision and Expertise, since 1966, are fundamental in the production of these very high-quality, world-class sawblades.

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- Consistent quality
- Alternatively set teeth
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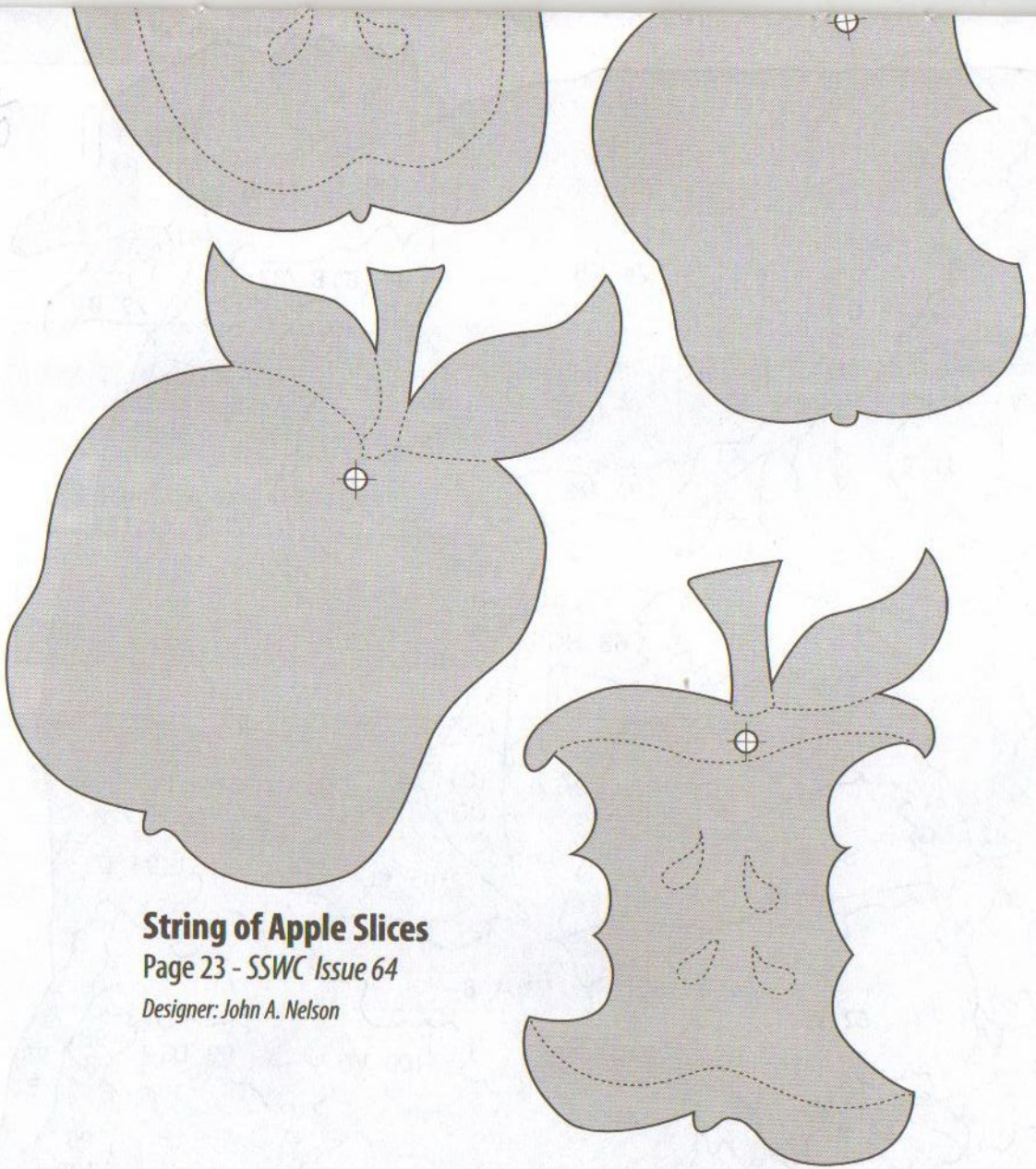
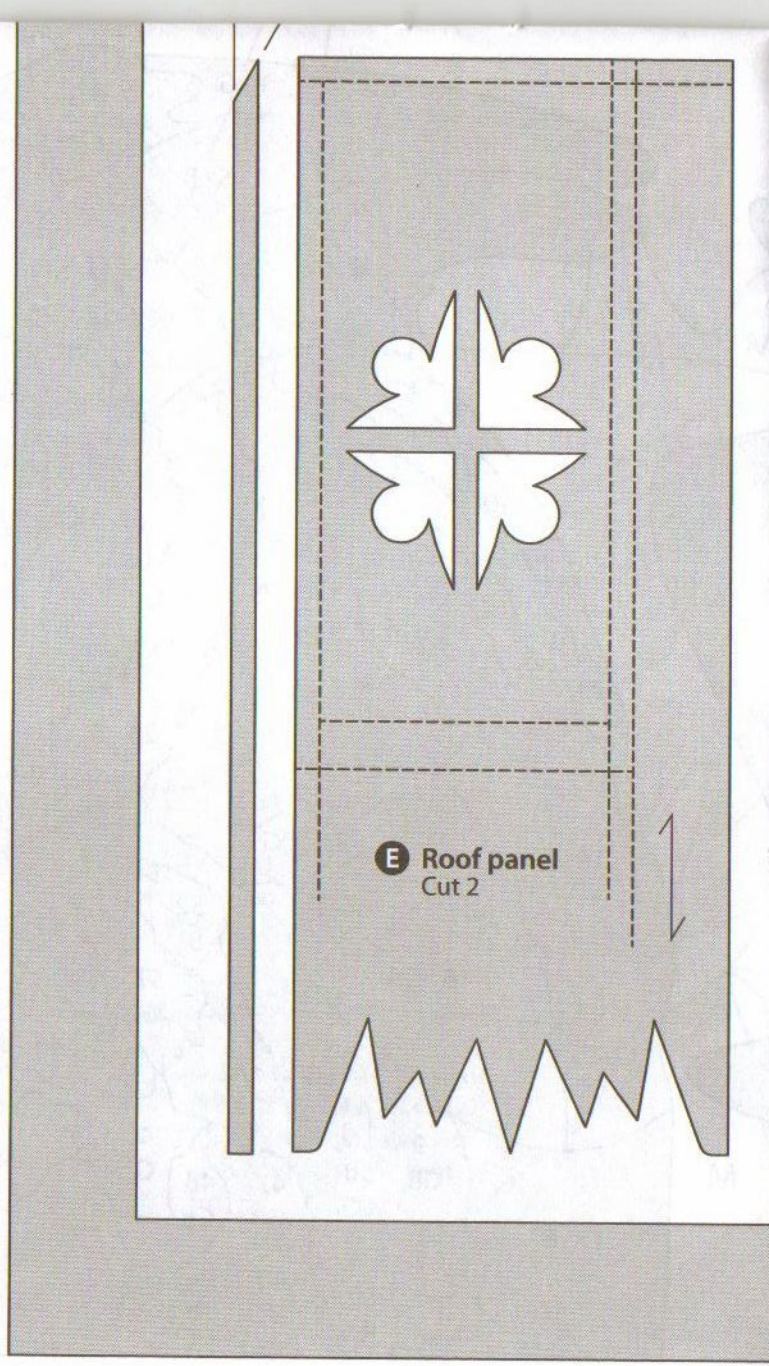
Manufactured in Vallorbe, Switzerland by Scies Miniatures, a division of Grobet USA, Carlstadt, NJ 07072



String of Apple Slices
Page 23 - *SSWC Issue 64*
Designer: John A. Nelson



Making the Walcott Mini Clock

Page 24 - *SSWC Issue 64*

Designer: Dan Wilckens

30°

Base pattern

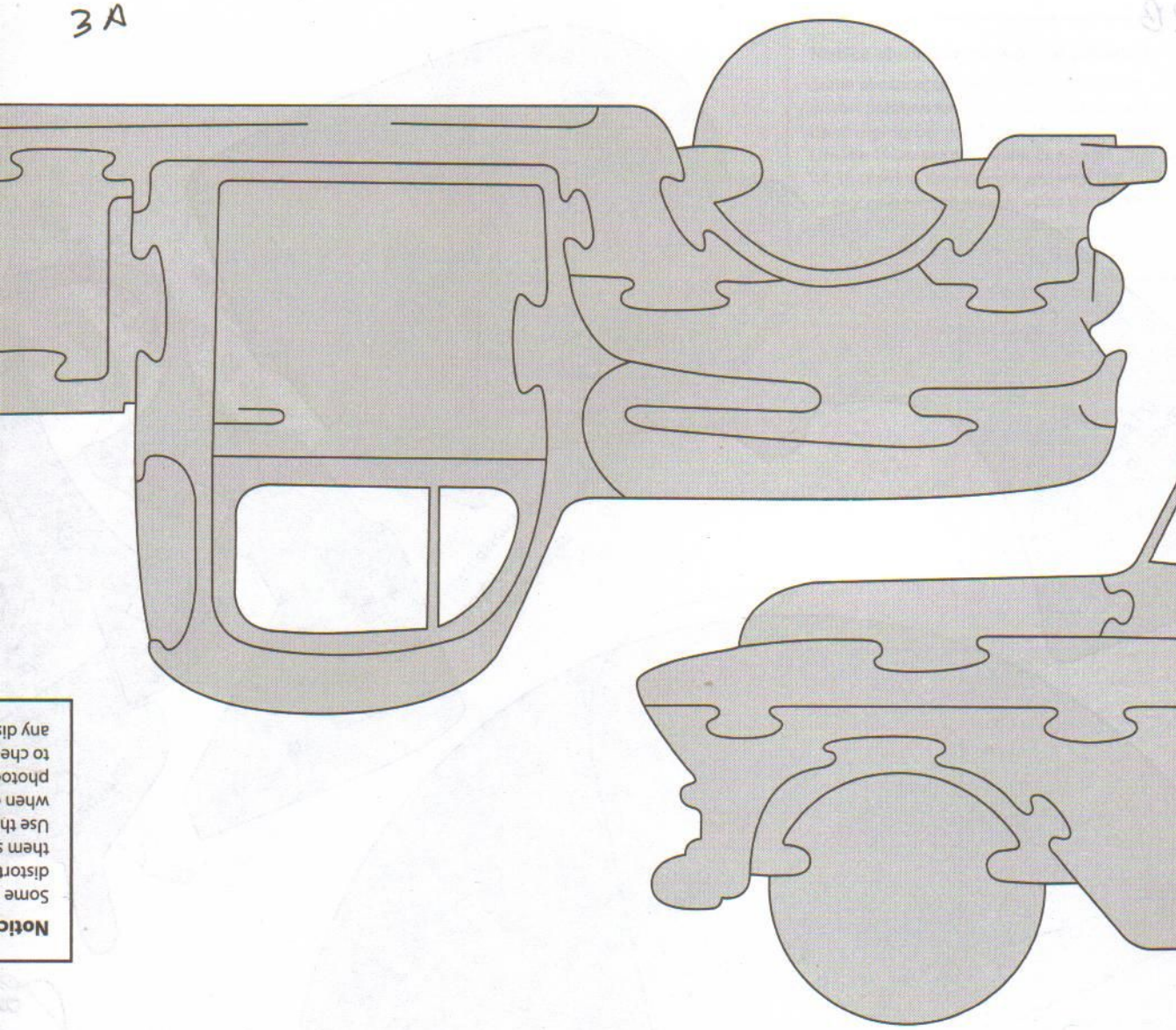
e about photocopying patterns

hotocopiers and home printers can
patterns when you print them, making
lightly off-size or stretching the image.
e 1" bar printed below as a guide
copying the patterns and hold the
copies of the pattern up to the original
k for
stortion.

One inch

2A

3A



A Tribute to
Page 52 - *SSWC*
Designer: Eric Van M

Notic
Some
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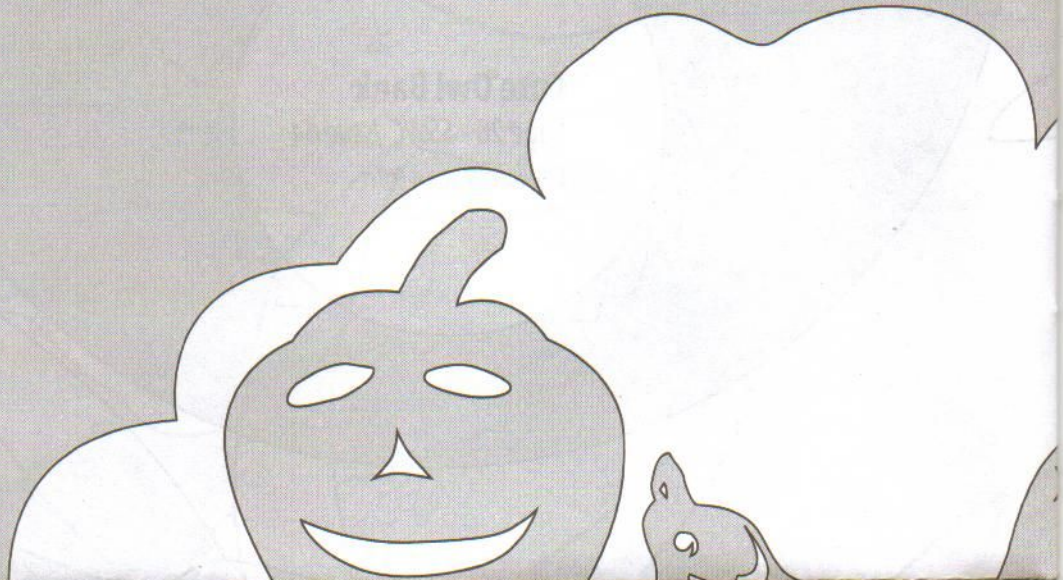
Overlay pattern



4A

reat Trucks
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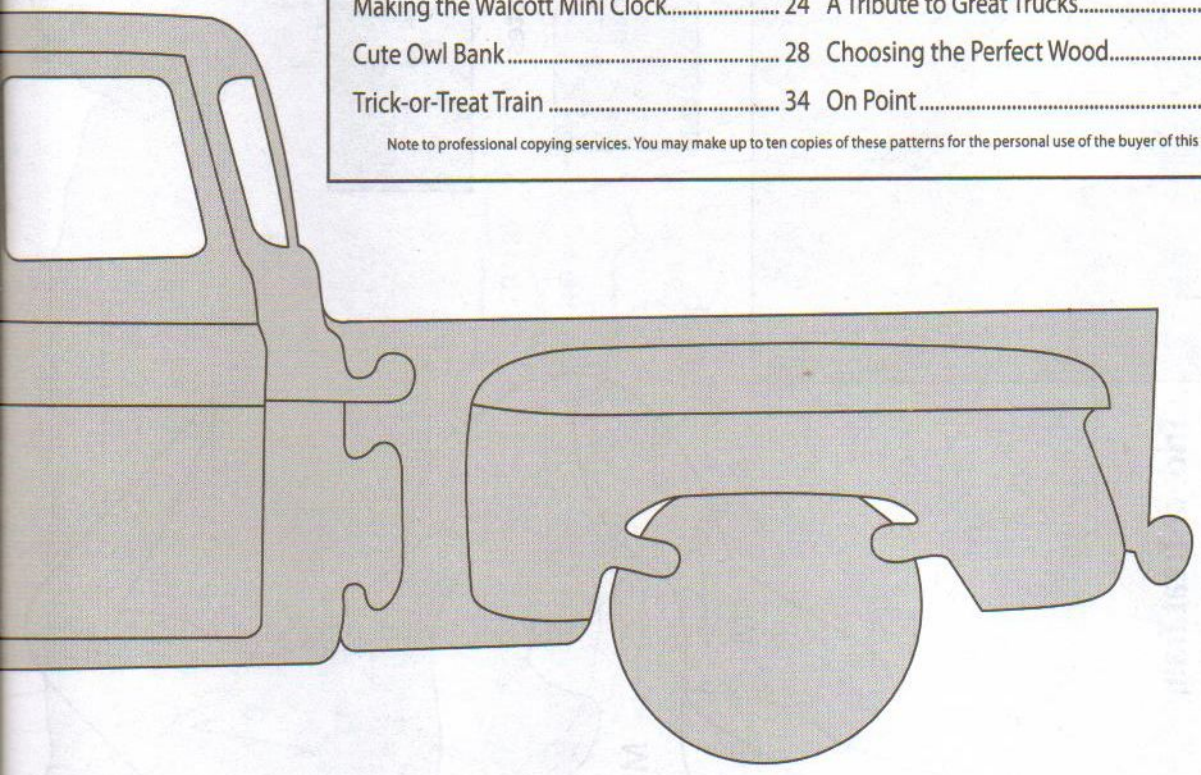
deren

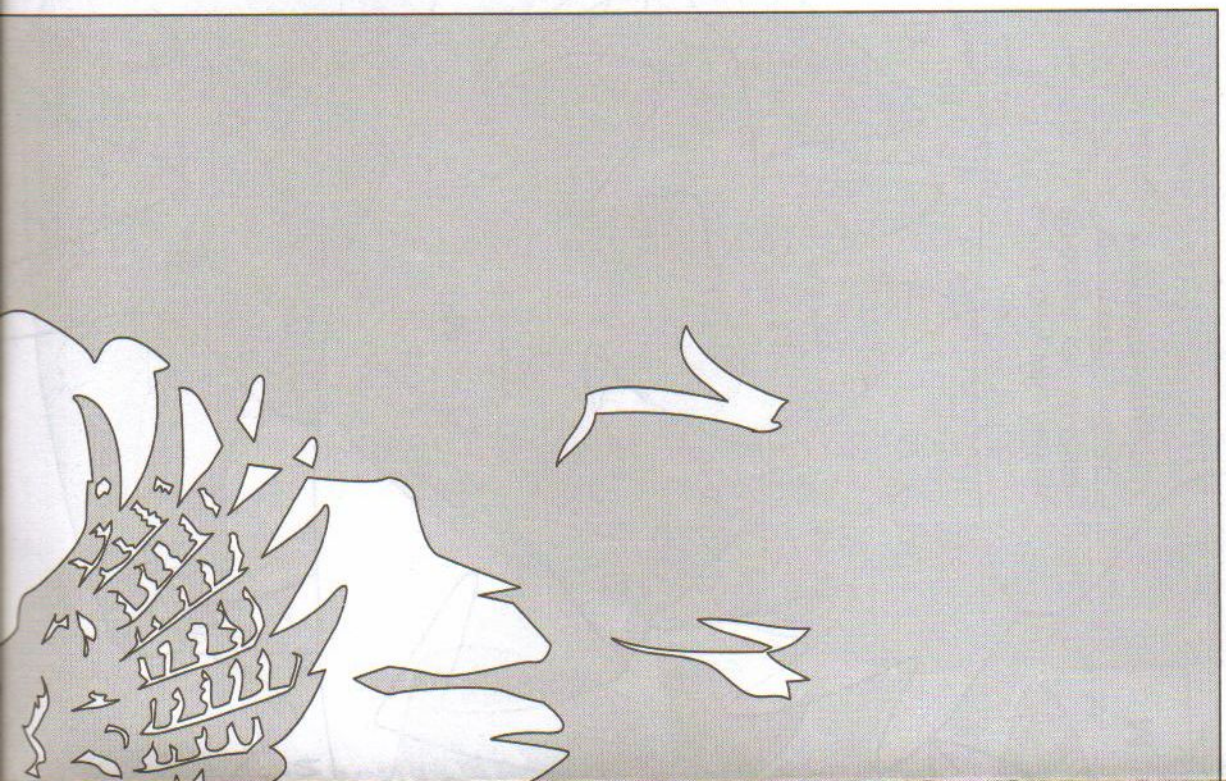
SCROLL SAW woodworking & CRAFTS

Fall 2016 - Issue 64

1970 Broad Street
East Petersburg, PA 17520

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





5A

30°

Side
Cut 2
G

Trick-or-Treat Train

Page 34 - *SSWC Issue 64*

Designer: Tom St. Aubin

A6

A7

B
Smokestack hat

¼"-diameter hole

G
Engine cab

Engine coffin

¼"-diameter holes (2)

C1
no holes

C2
with holes

F
Cow catcher

D
Engine hat

On Point
Page 61 - *SSWC Issue 64*
Designer: George Ahlers

7A

Trick-or-Treat Train

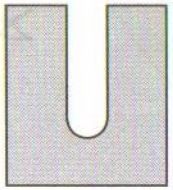
Page 34 - *SSWC Issue 64*

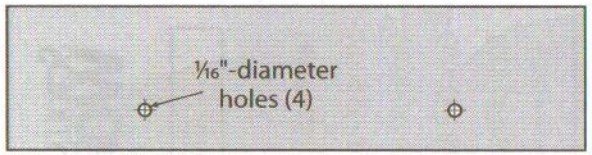
Designer: Tom St. Aubin


A4

1/16"-diameter hole

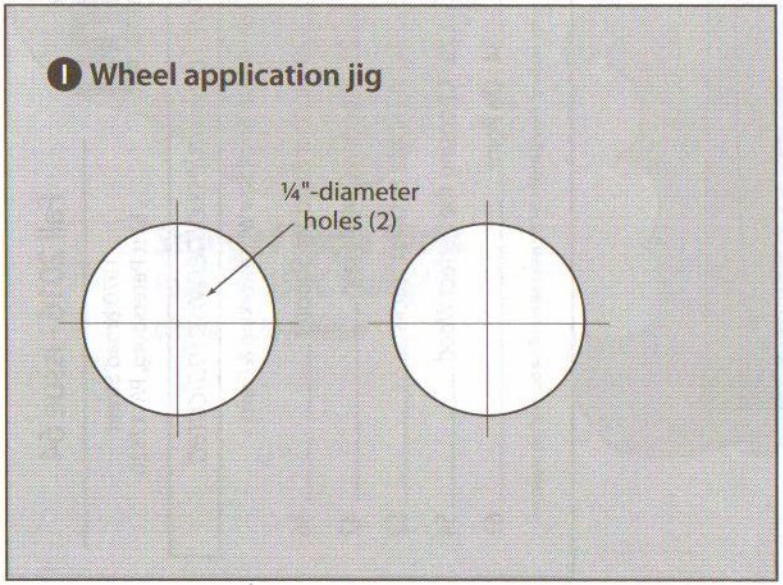
J Wheel spacer

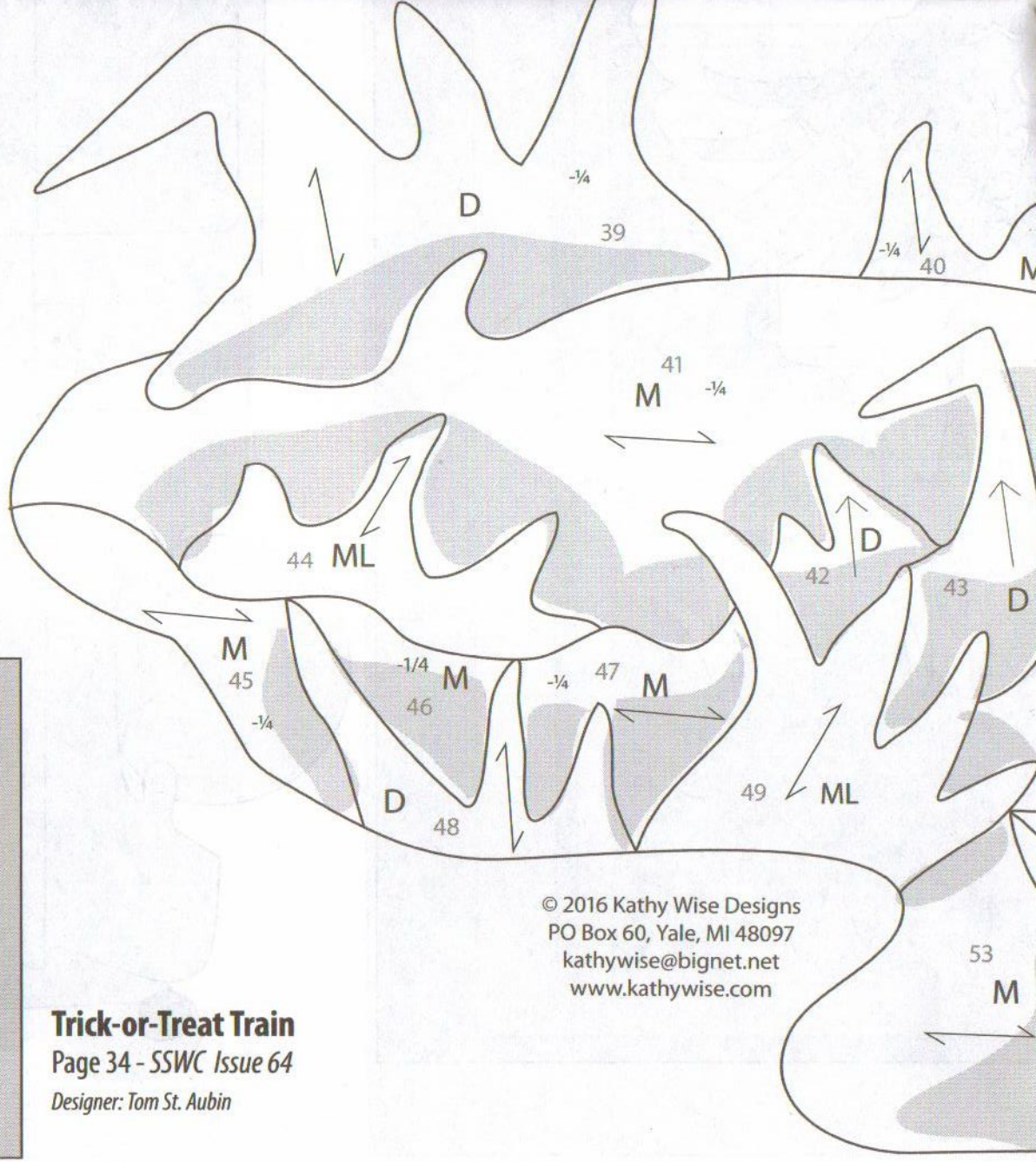




K Train car axle templates

I Wheel application jig





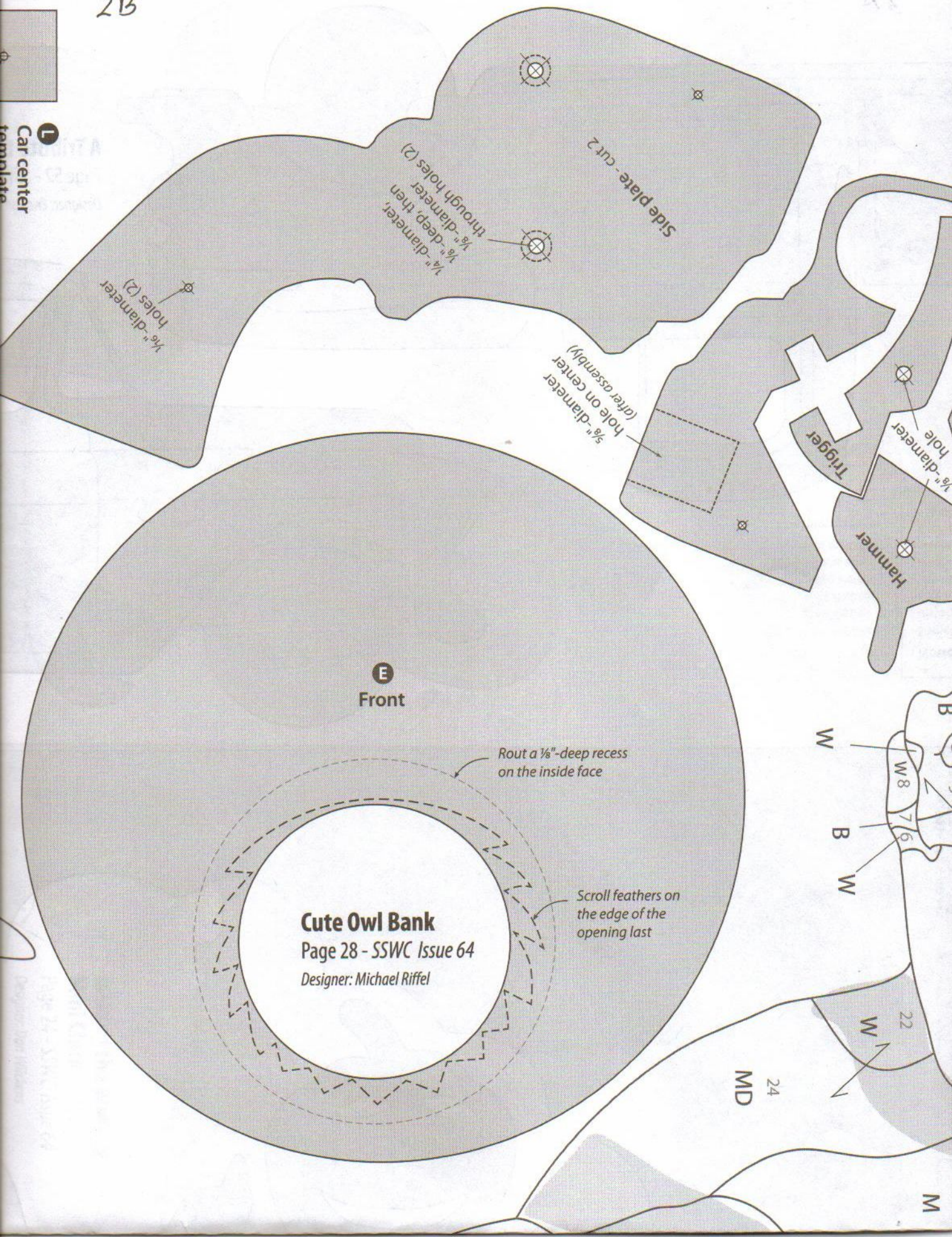
PO Box 60, Yale, MI 48097
kathywise@bignet.net
www.kathywise.com

Trick-or-Treat Train

Page 34 - *SSWC Issue 64*

Designer: Tom St. Aubin

2B


L
Car center template
Side plate - cut 2
¼"-diameter ⅛"-deep, then ⅛"-diameter through holes (2)
⅛"-diameter holes (2)
⅝"-diameter hole on center (after assembly)
Trigger
⅛"-diameter hole
Hammer
E
Front
Rout a ⅛"-deep recess on the inside face
Scroll feathers on the edge of the opening last
Cute Owl Bank
Page 28 - SSWC Issue 64
Designer: Michael Riffel
W
W8
7/6
B
W
22
W
24
MD
M

3B

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

Wooden Owl Mosaic

Page 42 - *SSWC Issue 64*

Designer: Bill Buchanan

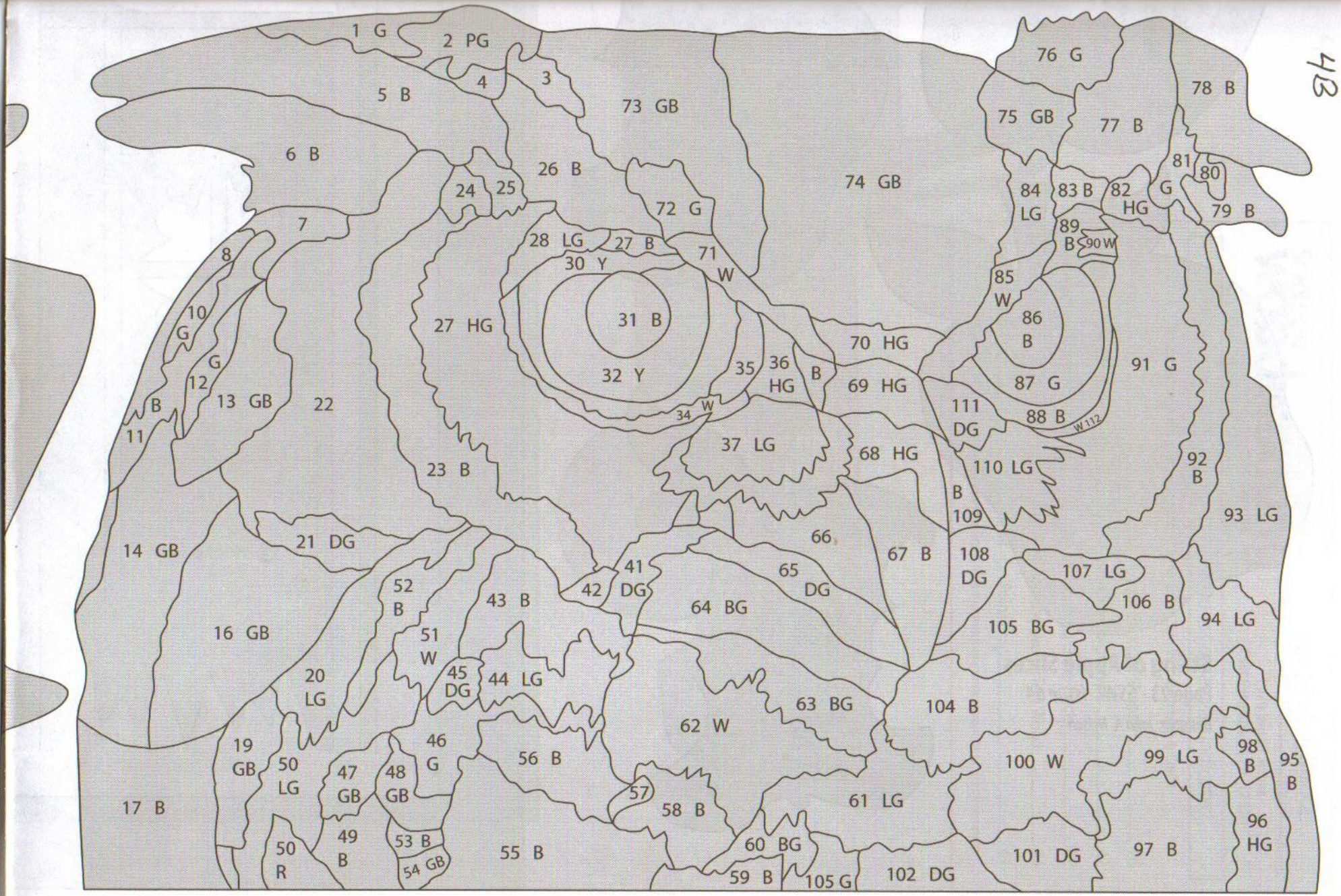
Rubber Band Six-Shooter

Page 36 - *SSWC Issue 64*

Designer: Daryl Webb

Body

¼" diameter holes (2)


1 G
2 PG
3
4
5 B
6 B
7
8
10 G
G
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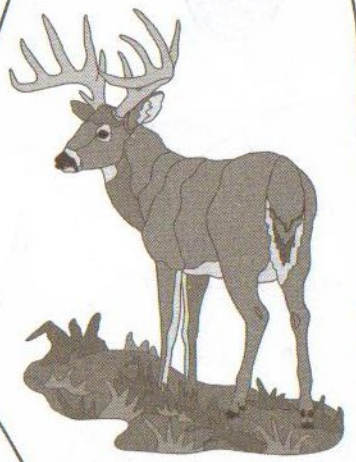
87 G
88 B
W 112
111 DG
110 LG
B
109
108 DG
107 LG
106 B
75 GB
76 G
77 B
78 B
79 B
81
80
82 HG
G
84 LG
83 B
89 B
90 W
85 W
86 B

B..... Ebony / very darkest shade
D..... Dark shade of wood
MD.... Medium dark shade of wood
M..... Medium shade of wood
L..... Light shade of wood
ML..... Medium light shade of wood
W..... Any white wood
-¼..... Sand or plane down ¼"
.....Shaping guide



Choosing the Perfect Wood (Standing Whitetail Deer)

Page 54 - *SSWC Issue 64*

Designer: Kathy Wise

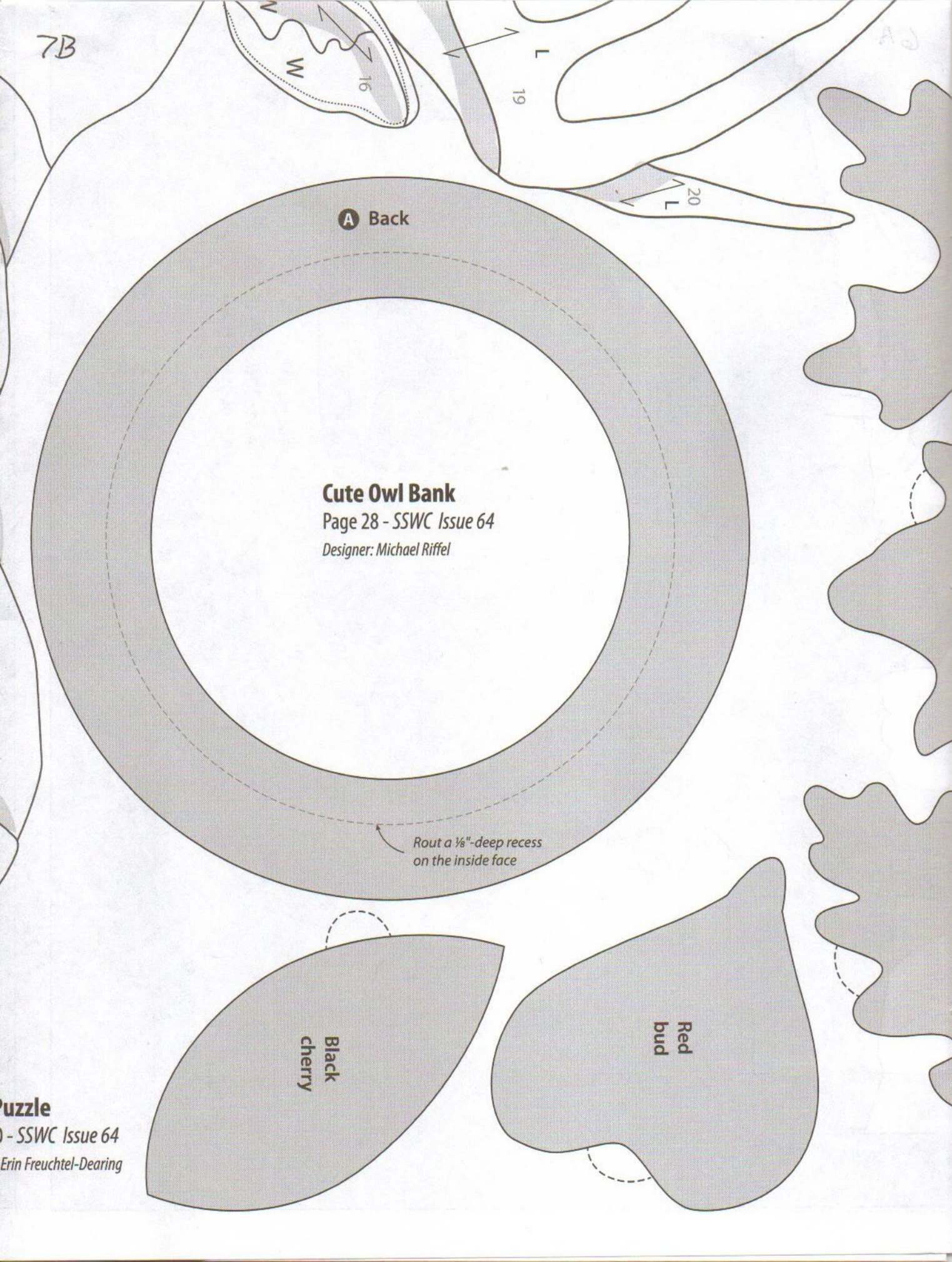
Legend

Start with ¾" or 1" wood

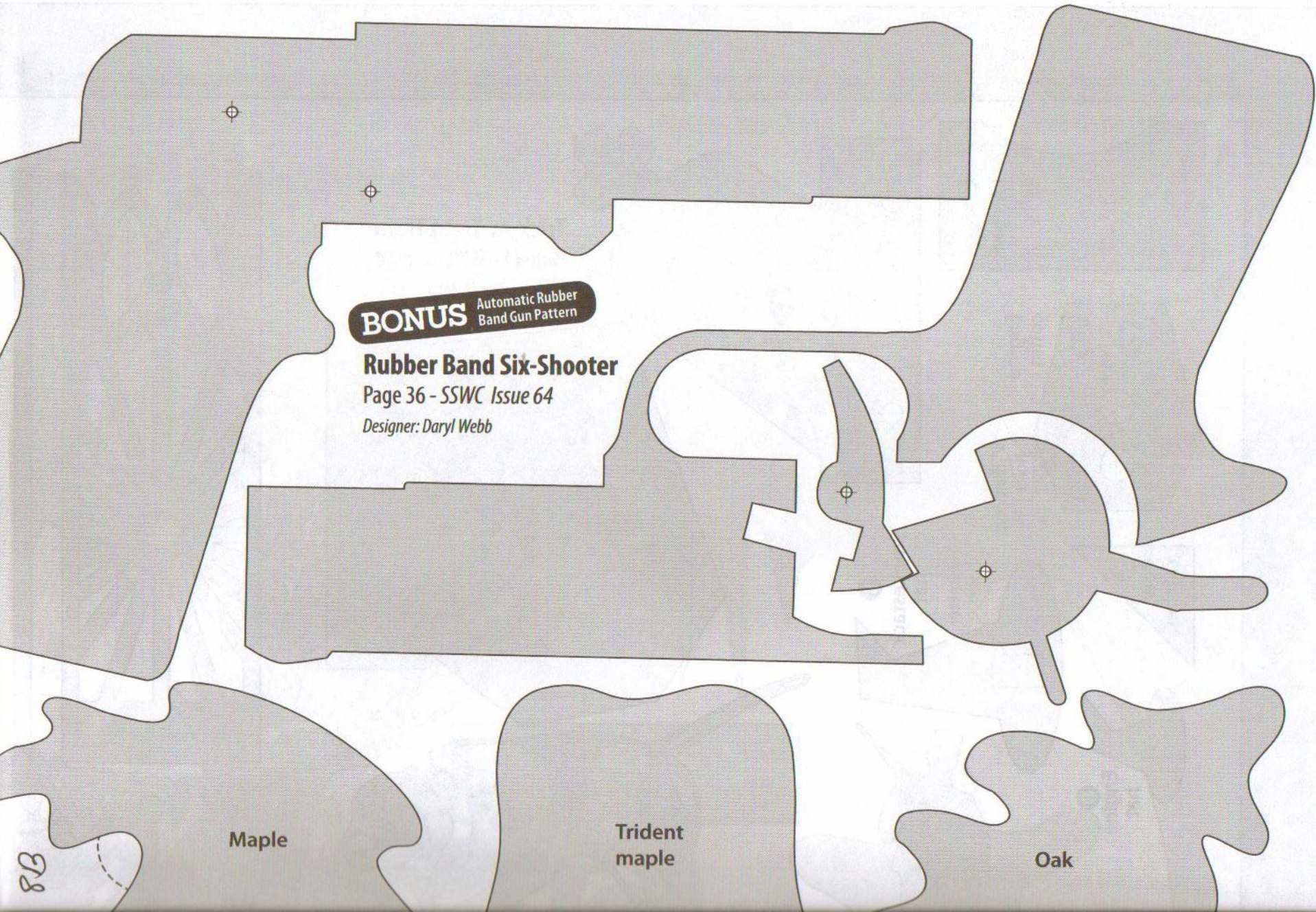
Leaf F

Page 2(

Designer:



Puzzle
- SSWC Issue 64
Erin Freuchtel-Dearing


BONUS
Automatic Rubber Band Gun Pattern
Rubber Band Six-Shooter
Page 36 - SSWC Issue 64
Designer: Daryl Webb
Maple
Trident maple
Oak