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ISSUE 65

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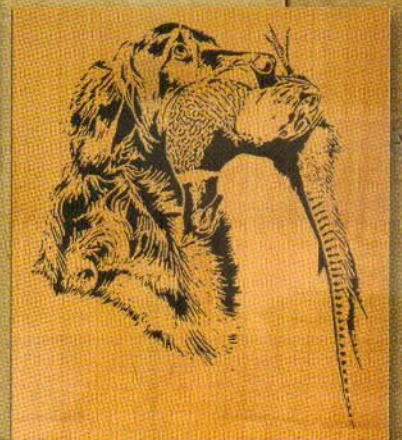
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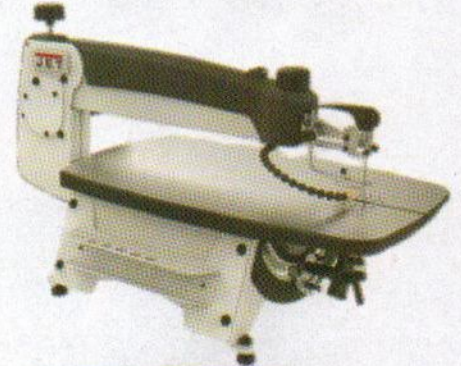


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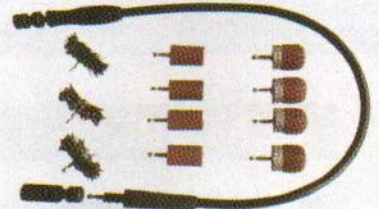
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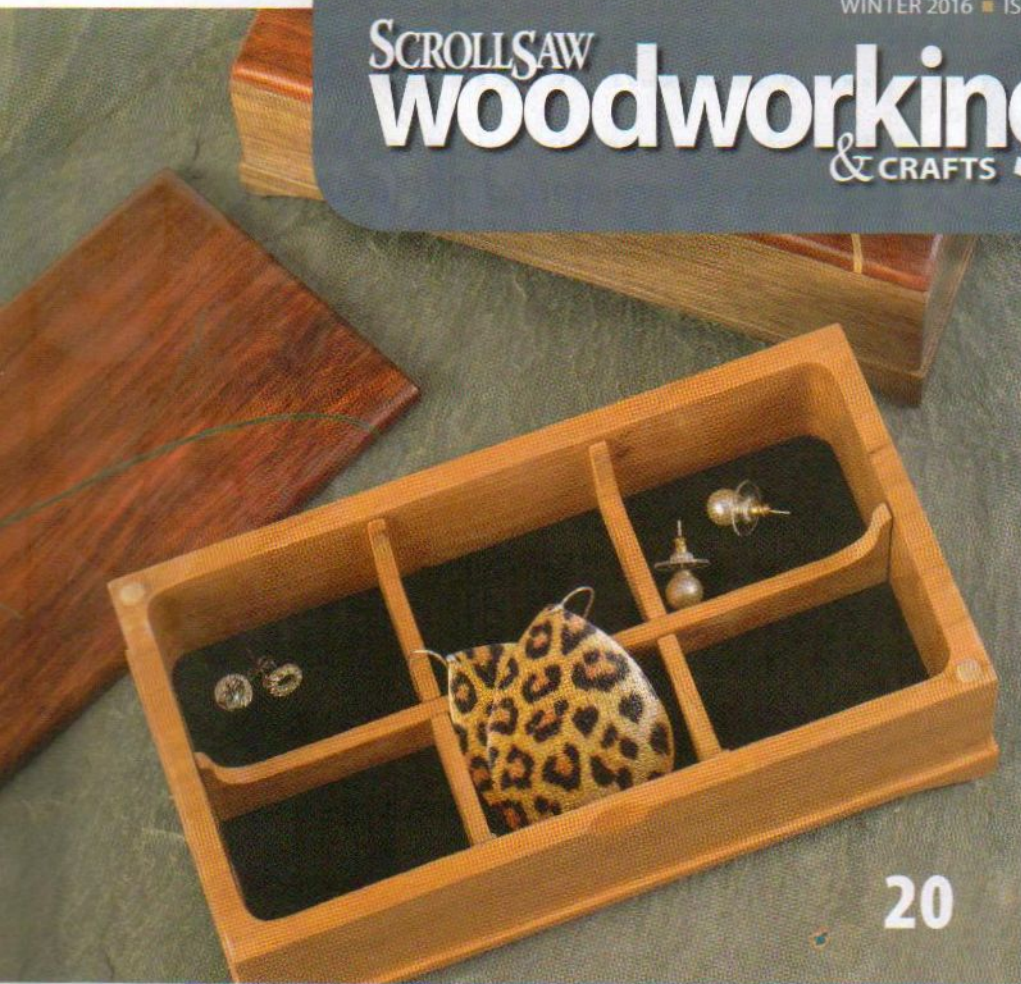
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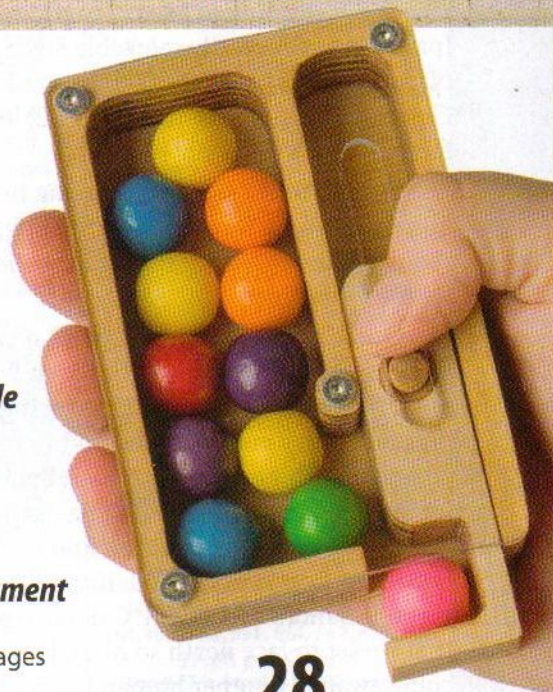
By Chuck Macknee

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59 Sleepy Snowman Ornament

By Sue Mey

This happy fellow encourages you to fall asleep fast on Christmas Eve



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• Videos

See Santa's Clockwork Carriage in action (pg. 60).

Watch the Simple Mixer twirl ingredients into batter in minutes (pg. 36).

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Download patterns for a rhino (pg. 26) and a star-shaped puzzle (pg. 54).

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Winter Is Here

Every year, my sister-in-law is done with her Christmas shopping by Thanksgiving. *Canadian* Thanksgiving, in October. She plans ahead, shops all year, and wraps it up early (literally) so she can celebrate without sweating the details.

That is not me. But this year, it could be you.

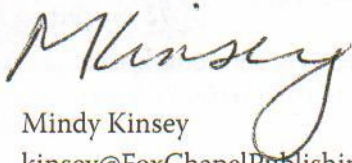
You might remember that we changed our schedule last year so we could get our holiday issue to readers earlier, giving you more time to create cool projects for your family and friends. To that end, this issue is packed with fun decorations, great gifts, and interesting projects of all sorts.

Some of them don't take very long to make, so you can do a bunch and actually let the finish dry before stuffing them in stockings. Check out the Simple Mixer (page 36) and One-Handed Book Holder (page 37), or the easily stackable Sleepy Snowman (page 59) and 3-D Nativity Scene (page 48). The Layered Christmas Trees (page 44) and Compound-Cut Snowmen (page 52) look best painted, so you'll have to factor in a few extra days for those.

Other projects, like the Earring Box (page 20), intarsia Magi (page 40), and Advent Wreath (page 56) might take a couple of weekends or require some shopping to get the wood or various pieces and parts. No worries—you have time.

Quick note about one of those more finicky projects. Last winter, a reader, Tom Cameron of Brooklyn Park, Minn., asked if we'd ever published a pattern for a South-Facing Chariot. I had never heard of one, but with Tom's help and an Internet search, I learned that it was an ancient Chinese design—literally, a device that always points south (or any set direction) to aid in navigation over land. I turned to our favorite test-cutting engineer, Rolf Beuttenmuller, and asked if he'd figure out how it works and, if appropriate, design one for us. The result is Santa's Clockwork Carriage (page 60), a small-scale version that we set to face north so Mr. Claus can find his way home. You could swap in another human figure, an arrow, or a Chinese dragon if you want to keep the carriage out year 'round.

Finally, a totally different topic. Although we have very much enjoyed hosting our Open House and Woodworking Show for the past three years, we have decided to cancel the show. Our guests, artists, and vendors loved the event, but it is expensive and time consuming to host a show of that quality and, unfortunately, we aren't attracting enough guests to justify continuing it. However, we are already brainstorming ways that we can promote woodworking to new people, participate in the carving and scrolling communities, and support our hobbyists' enjoyment of their favorite pastimes. We look forward to sharing ideas with you soon.



Mindy Kinsey
kinsey@FoxChapelPublishing.com

SCROLLSAW woodworking & CRAFTS

Printed in the USA

WINTER 2016

Volume 17, Number 4, Issue 65

1970 Broad Street, East Petersburg, PA 17520

Phone: 717-560-4703 Fax: 717-560-4702

Website: www.ScrollSawer.com

Our Mission:

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

Publisher	Alan Giagnocavo
Editor	Mindy Kinsey
Technical Editor	Bob Duncan
Editorial Assistant	Kristen Scanlan
Art Director	Jon Deck
Contributing Photographer	Lindsay Garner
Technical Illustrators	Jon Deck
.....	Carolyn Mosher

Customer Service for Subscribers

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Scroll Saw Woodworking & Crafts, Subscriber Services,
1970 Broad Street, East Petersburg, PA 17520

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

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Subscription rates in US dollars:

One year	\$24.95
Two years	\$49.90

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Wholesale/Distribution

Scroll Saw Woodworking & Crafts is available to retailers for resale on advantageous terms. Contact Wendy Calta (ext. 114) for details.

Identification Statement: Scroll Saw Woodworking & Crafts, vol. 17, no. 4 (WINTER 2016) (ISSN#1532-5091) is published quarterly by Fox Chapel Publishing Co. Inc., 1970 Broad Street, East Petersburg, PA 17520. Periodical Postage paid at East Petersburg, PA and additional mailing offices. POSTMASTER: Send address changes to Scroll Saw Woodworking & Crafts, 1970 Broad Street, East Petersburg, PA 17520.

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

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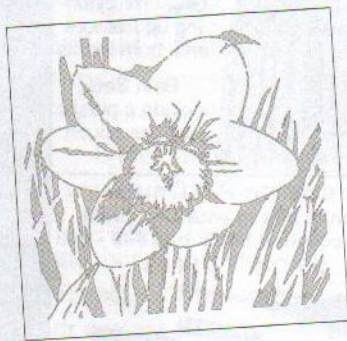
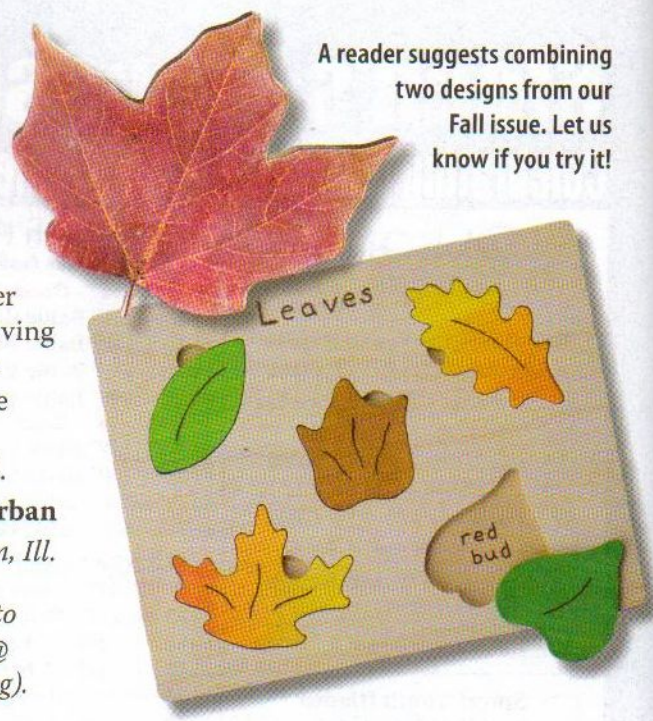
Preserved Leaf Puzzle

While paging through *Scroll Saw Woodworking & Crafts* Summer 2016 (Issue 64) I was intrigued by Dan Bowe's Top Tip for preserving leaves. Then, I encountered Erin Freuchtel-Dearing's leaf puzzle article. I bet Dan Bowe's technique for preserving leaves could be combined with Erin Freuchtel-Dearing's leaf puzzle to create a puzzle with real leaves. I will try this when October rolls around.

Dan Urban
Glen Ellyn, Ill.

Editor Mindy Kinsey responds: That's a brilliant idea! We'd love to see a photo from anyone who tries it—you can e-mail us (editors@scrollsawer.com) or post to Facebook (www.facebook.com/SSWmag).

A reader suggests combining two designs from our Fall issue. Let us know if you try it!



Backward Fretwork Patterns?

I have noticed in recent issues of *Scroll Saw Woodworking & Crafts* that you are printing fretwork patterns opposite to what most scrollers are accustomed to. Inside out, so to speak. Normally the cutout is gray and the islands are white. Scrollers often talk about islands. I am a pattern designer and find it backward when you print this way. I am hoping that your editors have noticed this and soon will correct for future magazines? Most, if not all, pattern designers think of the darker area as the cutout and white as the island.

Charles Hand
Saint Catharines, Ont.

Art Director Jon Deck responds: We usually print the "wood" as gray and the cutouts as white so you can see the project or parts as they will look when cut. This system helps your eyes see the finished project. Also, if

we printed the "wood" as white and the cutouts as gray, our entire pattern pullout would need to be gray, which would make it hard to read and photocopy.

However, we do occasionally publish patterns with white "wood" and gray cutouts, as Mr. Hand suggests. These are always portrait projects where the design is cut from a large board and meant to be framed, usually with a dark backing board. In that case, making the cutouts gray makes sense because it helps the pattern look more like the finished project when printed on our white magazine page. Either way, the idea is to make the pattern's design useful to producing the finished art.



Fox Hunt

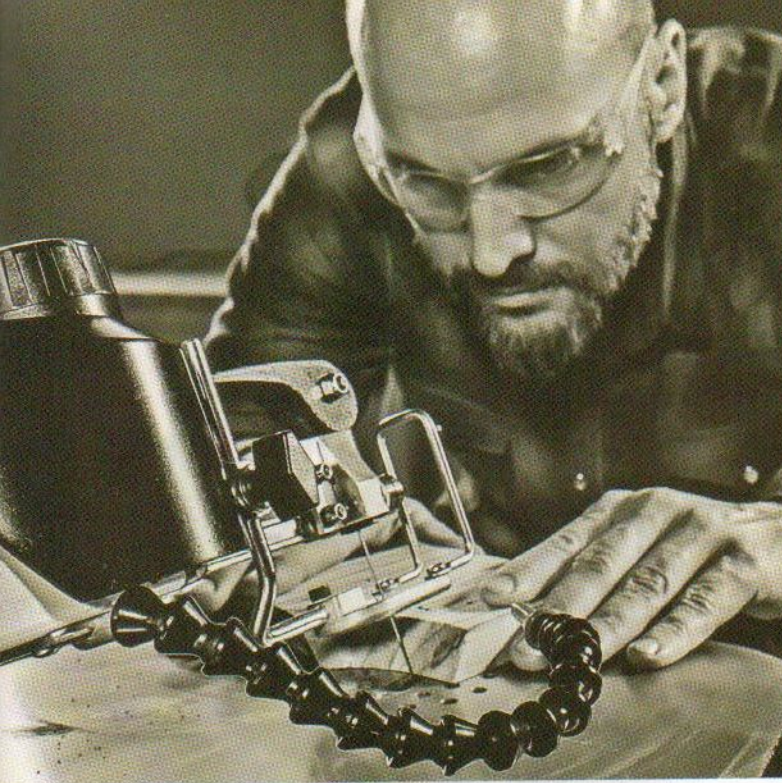
Ken Kary of Petoskey, MI, and Eric W. Dodds of Morpeth, Northumberland, England, were randomly drawn from the participants who located the fox in our last issue (Fall 2016, Issue 64). The fox was hiding in the String of Apple Slices photo on page 23.

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.

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.



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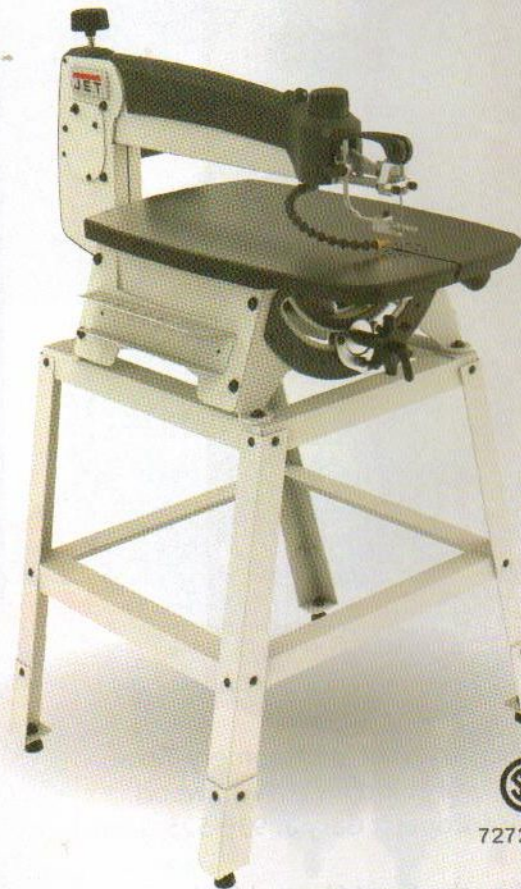
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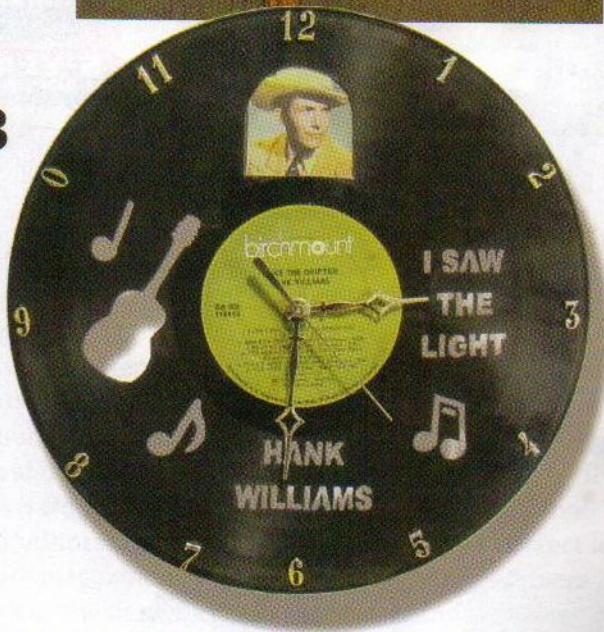
1



2



3



4



1. Washstand Gary Irwin of Montgomery, Texas, cut this poplar washstand from a Wildwood Designs pattern. Contact Gary at 936-525-0466.

2. Owl Inspired by the Great Horned Owl by Kathy Wise that was featured on the cover of *Scroll Saw Woodworking & Crafts* Fall 2013 (Issue 52), Manfred Wegner of Edge, N.J., created his own version. He used pine stained with instant coffee and watercolors and framed the project with a knot hole from a 200-year-old black walnut tree.

3. Hank Paul Cormier of Halifax, N.S., began scrolling vinyl after he was inspired by the work of Barry Wright. Paul loves music from the 1950s and 1960s and uses vinyl by artists from those decades to create his work. Contact Paul at paulcormier1@bellaliant.net.

4. Honoring Bravery Dale Henderson of Urbana, Ohio, scrolled this Baltic birch plaque for a friend who lost his fireman brother in the line of duty. Dale has been working with wood for more than 50 years but finds he currently enjoys scrolling the most.

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- 5. Elk** Darrel Wall of Fallbrook, Calif., has been scrolling since 2003. He began with fretwork but switched to intarsia after seeing Kathy Wise's work. This elk, 37" by 38", is one of Kathy's patterns. Contact Darrel at darrelwall@sbcglobal.net.
- 6. Butterfly** After a car accident in 2013, James Hoffman of Utica, N.Y., was out of work and had lots of free time. A friend got him interested in woodworking. James read a few books and began creating his own projects. He made this butterfly, 12" by 36", for his sister. View more of James's work at www.facebook.com/Jims-home-decor-1584200715193950/.

Share Your Latest Work!

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

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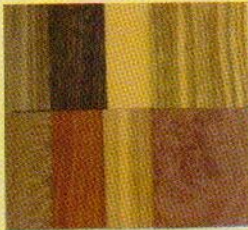


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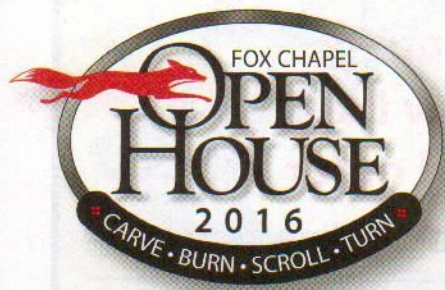
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Open House and
Woodworking Show

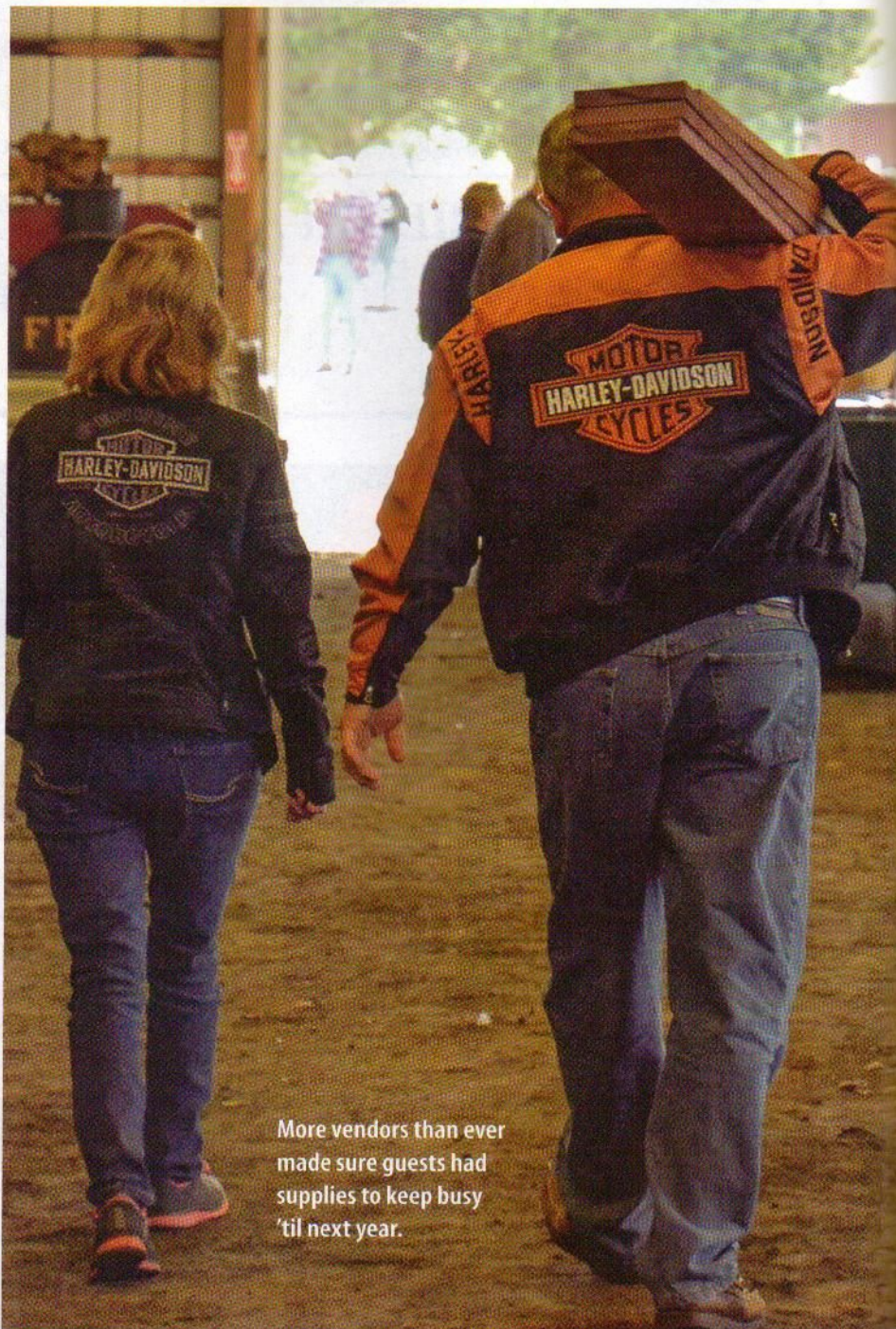
Admittedly we always think the show we just finished is the best one yet, but this one really was. Not only was the 2016 Open House, held May 13-14 in Lancaster County, Pa., bigger in every way (vendors, classes, hands-on activities), but we added some touches that guests really seemed to enjoy. Adults searched for our famous fox, brought to life in wood and hidden all over the show grounds. Kids followed clues to find “treasures” on vendor tables. Longtime subscribers, repeat show visitors, and friends from afar were all recognized. We even had a band!

We could cite numbers, list classes, name teachers, and shout out vendors, but that information doesn't get to the soul of the show. (It's on our website, wood-show.com, if you really want to know). Instead, please enjoy a gallery of scenes from the event.

Open House 2017

As much as we love hosting Open House, we're taking a break in 2017. We're moving our warehouse next spring, which will be a huge endeavor, and we have a few other projects cooking, so we need a year off.

Huge thanks to all of the readers, teachers, exhibitors, artists, clubs, and other woodworking friends who have supported the show! Visit wood-show.com and sign up for our newsletter to keep in touch.



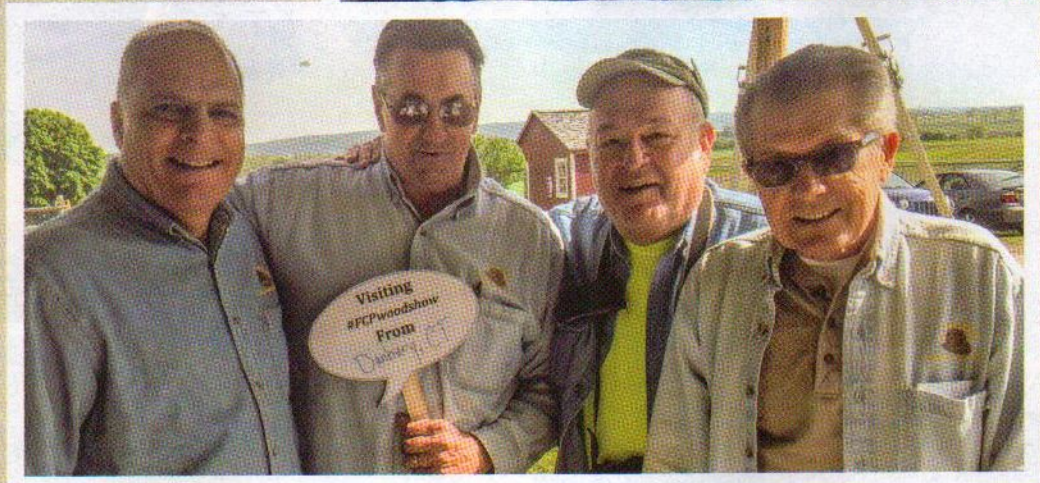
More vendors than ever
made sure guests had
supplies to keep busy
'til next year.



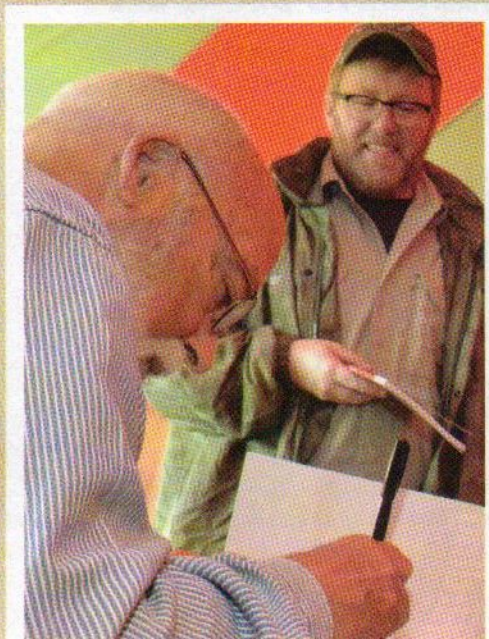
“You really do know how to throw a party!”

—Faye Benezue of Hurst, Texas

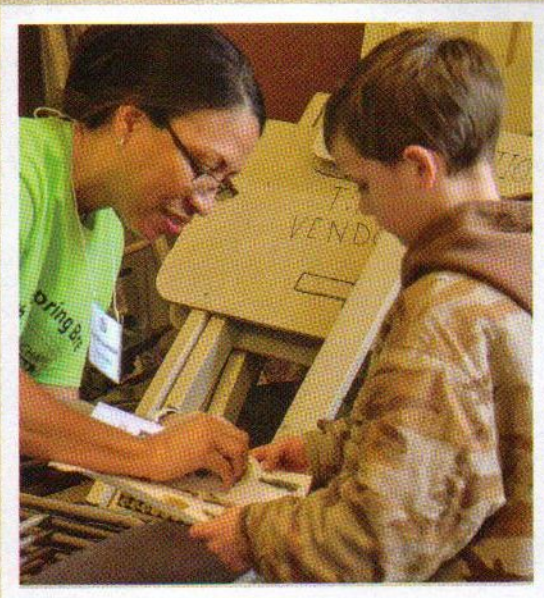
Finger knitting and coloring were popular at the craft table.



Fox Books authors signed autographs.



Guests came from all over the U.S. and Canada.

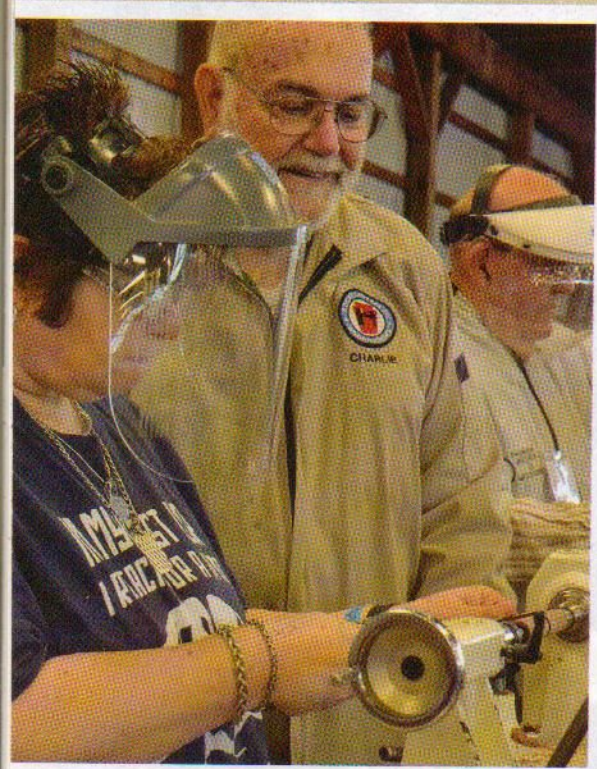


Kids enjoyed a treasure hunt among vendor tables.



Instructors shared new techniques as well as perennial favorites.

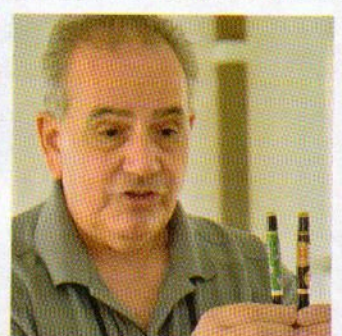
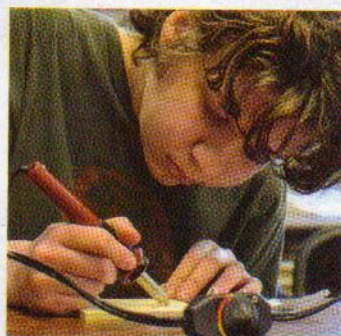
Soap carving was popular among guests of all ages.



Local clubs helped guests try turning, scrolling, carving, and woodburning.

“I headed home with ... a renewed excitement in our hobby.”

—Scott Miller of Littleton, N.C.



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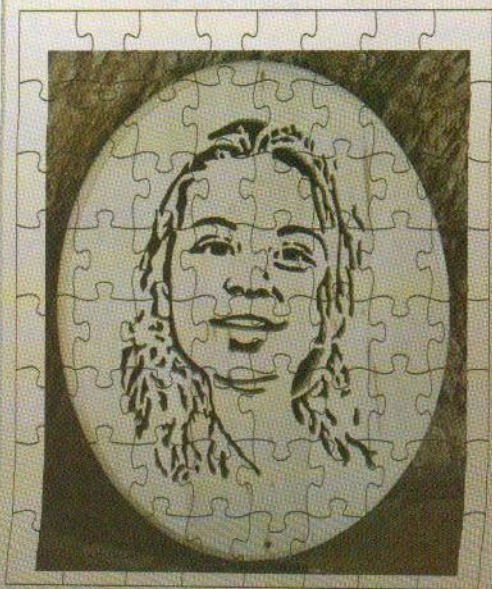


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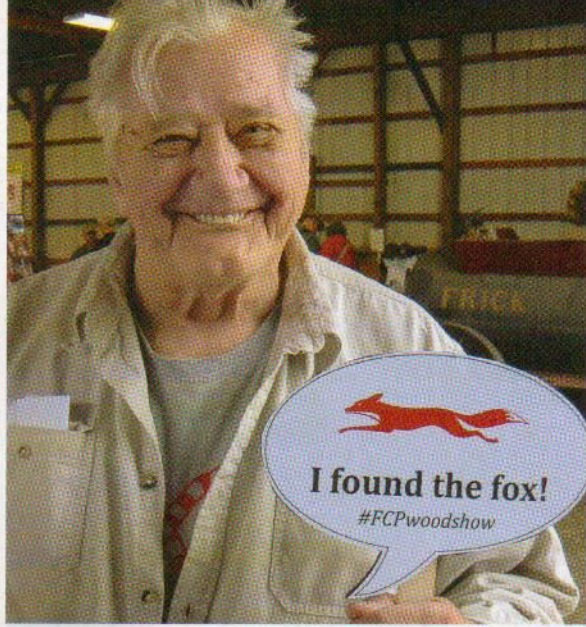
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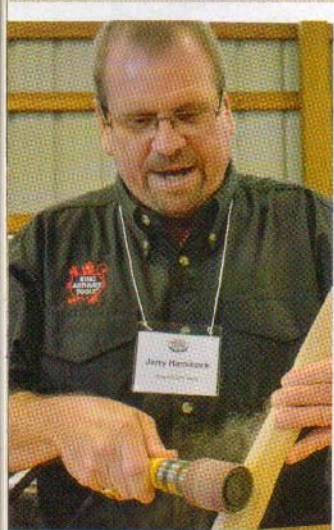
Many exhibitors allowed visitors to test the tools in their booths.



The real-life fox hunt was a big hit.



Instructors were eager to answer questions.



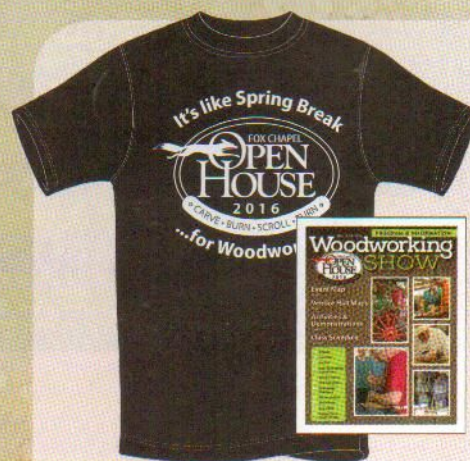
Many vendors had in-booth demonstrations.

Instructors shared their passion for their hobbies.



“We had a wonderful time; I think it gets better every year.”

—Bob Casey of Mattydale, N.Y.



Missed your chance for an Open House T-shirt?

Limited quantities are still available. Visit www.wood-show.com/t-shirt or call 1-800-457-9112 to order yours now. \$10 plus \$3.99 S&H. Plus! Add a 2016 Open House program to your T-shirt order for free. (Want just the program? It's free, but you'll pay S&H.)

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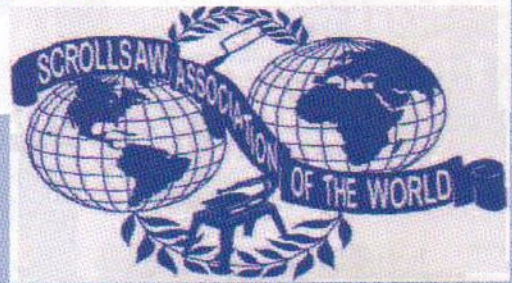
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was premature**

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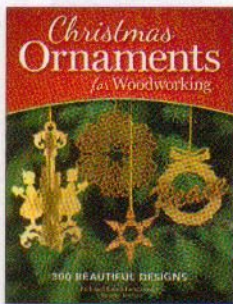
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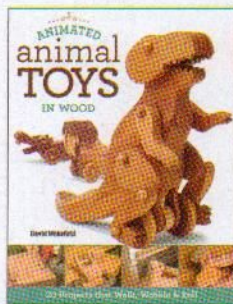
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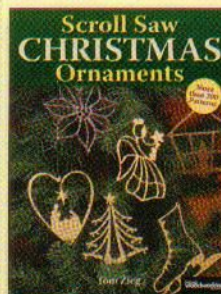
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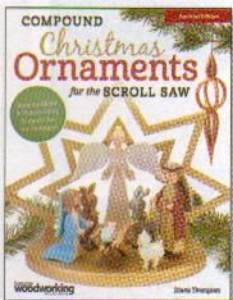
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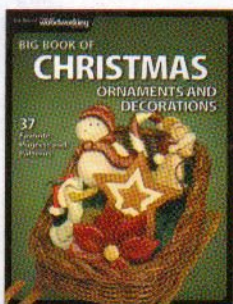
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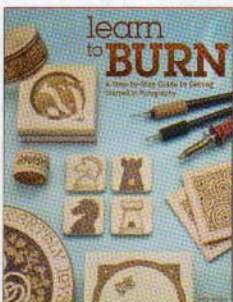


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Over 50 easy-to-follow projects for building classic wooden toys, including a Model T car, a bulldozer, steam engine, biplane and many more.

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A Step-by-Step Guide to Getting Started in Pyrography
By Simon Easton
15 step-by-step projects for making decorative gifts, illustrated with clear how-to photographs. Each project uses ready-made materials that are easy to find at your local craft store.

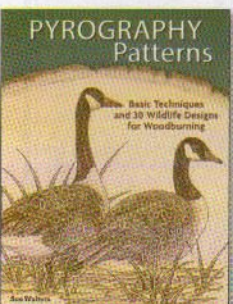
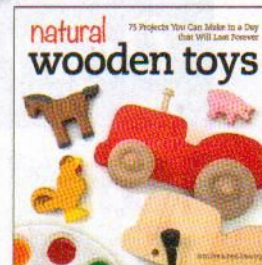
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Natural Wooden Toys

75 Projects You Can Make in a Day that Will Last Forever

By Erin Freuchtel-Dearing
A stay-at-home mom shows how to use a scroll saw to make safe, colorful, and irresistible imagination-building toys for children.

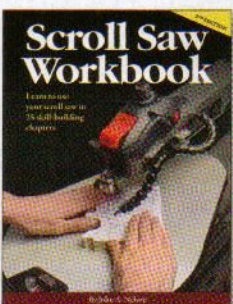
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Pyrography Patterns

Basic Techniques and 30 Wildlife Designs for Woodburning
By Sue Walters
With 30 dynamic North American wildlife illustrations and 10 original borders, each of these large ready-to-use designs is provided in both line and tonal patterns.

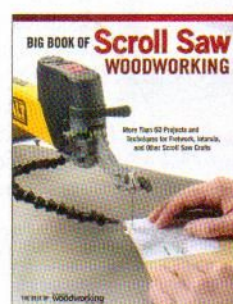
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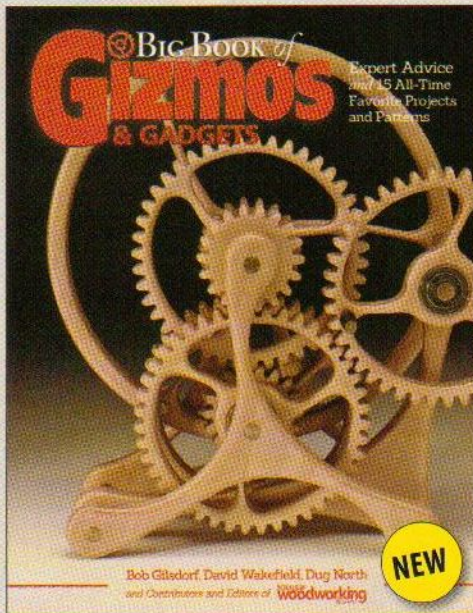
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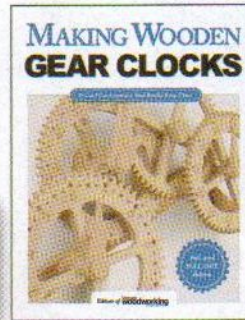
Woodworker's Pattern Book

78 Realistic Fretwork Animals

By Wayne and Jacob Fowler

Use your scroll saw to create realistic wooden animal portraits, from exotic predators to familiar backyard friends. Father and son scroll sawing team Wayne and Jacob Fowler base their patterns on their own extensive photographic studies of live animals, taken on location in the wild, in zoos, and in nature preserves. From jaguars and jackrabbits to rattlesnakes and rhinoceros, each animal can be cut as a single, freestanding piece of wood. A beautiful full color photo gallery will inspire you to make a wide range of impressive wildlife projects.

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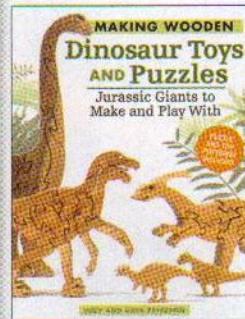
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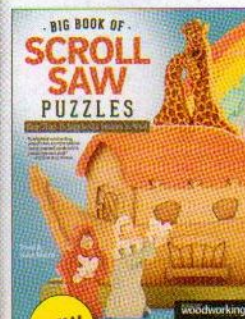
Making Wooden Dinosaur Toys and Puzzles

NEW

Jurassic Giants to Make and Play With

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By Tony & June Burns

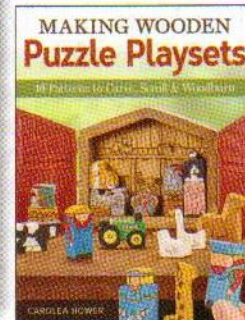
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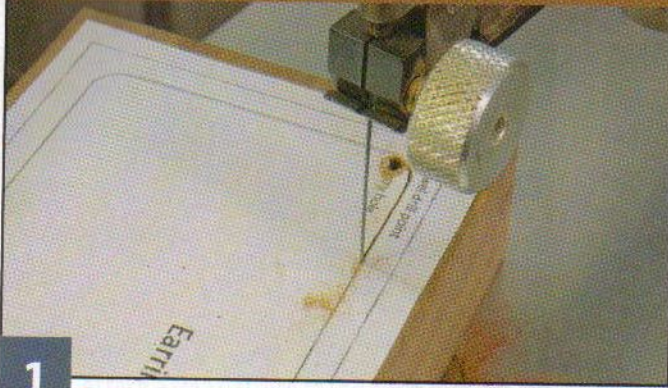
By Carole Rothman

Although the expression “good things come in small packages” usually refers to the gift, not its box, this graceful project is both a small package and a gift. Designed to mimic conventional box construction, it takes full advantage of the scroll saw’s capacity for both internal and compound cuts. The decorative lid, held in place by small dowels, features crosscut veneer, while the egg-crate divider carries the curved theme to the velvet-lined interior of the box.

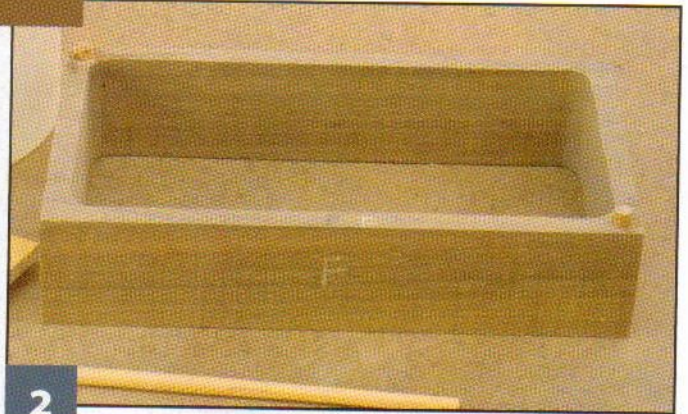
Working with Veneer

I strongly recommend that you use cyanoacrylate (CA) glue formulated for wood when gluing the veneer into place, because clamping would be difficult and a quick set time is needed. If you find it challenging to get a tight joint with three layers of veneer, use one or two layers instead. If you don’t want to use CA glue, attach a single layer of veneer with a wood glue with a short open time, like Weldbond or Titebond Quick & Thick. However, because of the longer set time, these glues require several minutes of hand clamping to ensure a good bond. Regardless of the number of strips or type of adhesive, practice with scrap wood and veneer before gluing the actual lid.

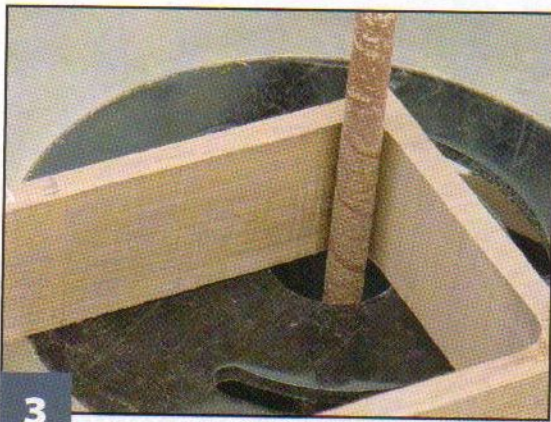
BOX: MAKING THE BODY



1 **Attach the box body pattern to the blank.** Use an awl to mark the drilling points for the dowel holes and the blade-entry hole. Drill the blade-entry hole, insert a #5 premium blade, cut along the inner line, and then cut along the outer line. Mark the front with a pencil and remove the pattern.

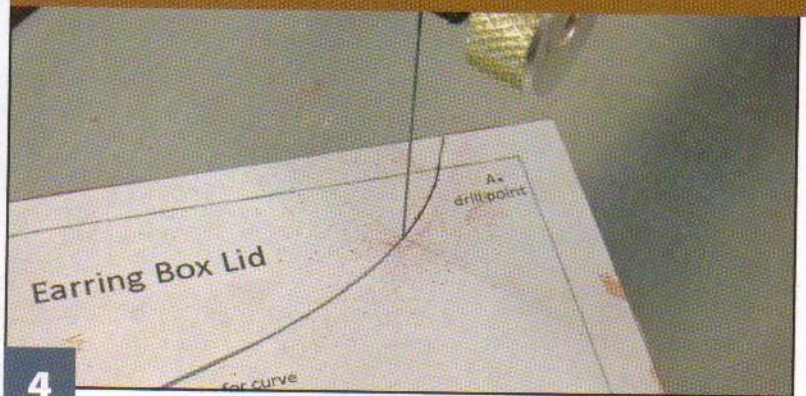


2 **Drill the dowel holes.** Use a $\frac{3}{16}$ " (5mm)-diameter bit and make each hole $\frac{1}{2}$ " (13mm) deep. Glue dowels into the holes, pressing firmly to seat them.

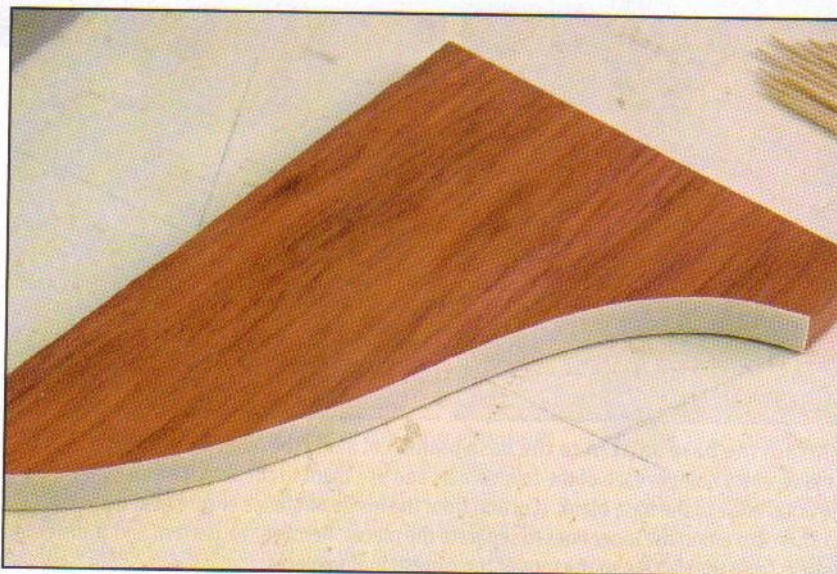


3 **Round the inside corners.** Use a spindle sander to remove burn and blade marks. Be careful not to add gouges. You will sand the project further in Step 9.

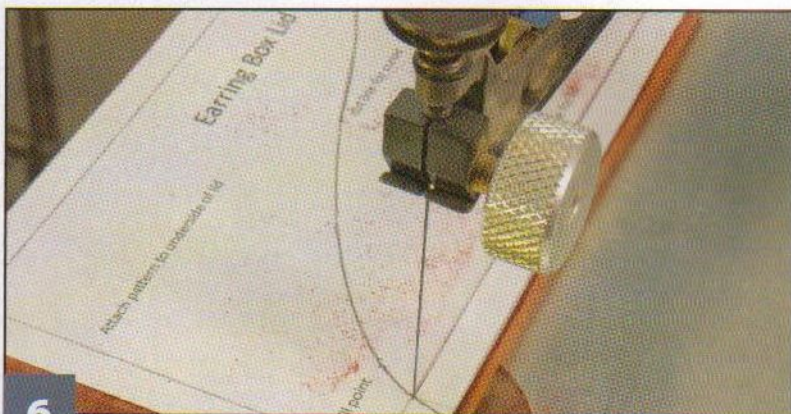
BOX: MAKING THE LID



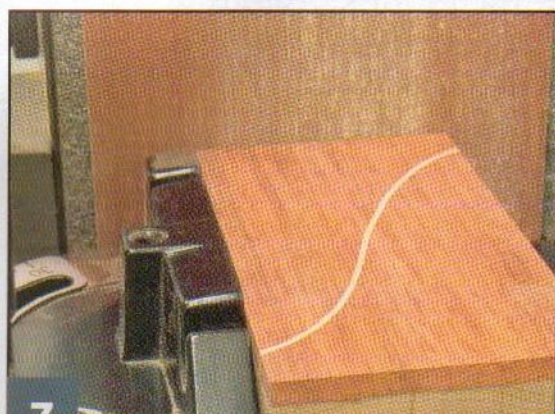
4 **Choose the most attractive orientation of the lid blank for the top and front of the lid.** Mark this position lightly with a pencil. Place the wood *facedown* and attach a copy of the lid pattern to the *underside*. Align the front of the pattern with the front edge of the lid. Cut smoothly along the curved line with a #3 reverse-tooth blade. Remove the pattern.



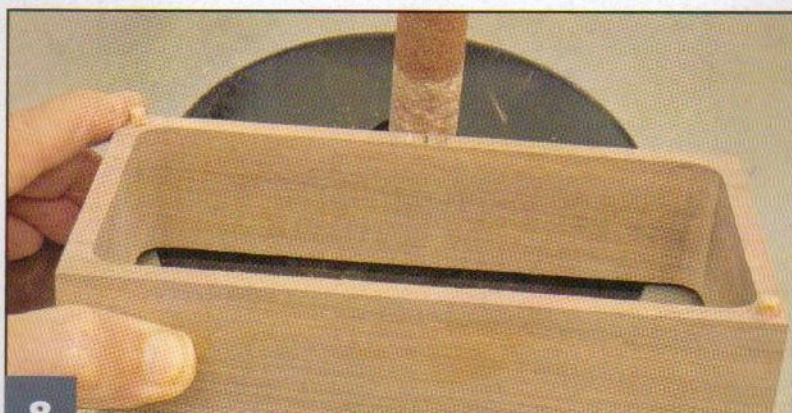
5 **Apply the veneer.** Place the two lid pieces *face up* on a flat surface covered with waxed paper or a nonstick mat. Apply cyanoacrylate (CA) glue formulated for wood to the curved edge of one lid piece and spread it evenly with a toothpick. Use your fingers to press a white veneer strip firmly into place along the glued edge. Make sure the bottom surface of the lid piece and the veneer are flush and that the outer surface of the veneer is free of glue. Press the other lid piece briefly against the veneer to exert firm pressure. When the white veneer is secure, attach the yellow veneer using the same method. Repeat the process for the final white strip. Then, attach the other lid piece, making sure that the bottom faces are flush. Hold the pieces firmly together until the glue sets. When it's fully dry, sand both faces until smooth. The lid should end up around $\frac{5}{16}$ " (8mm) thick.



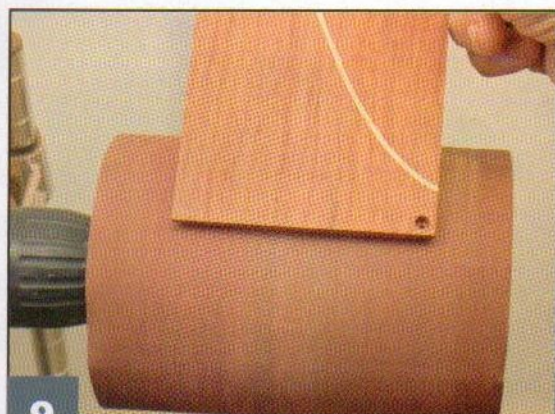
6 **Attach a second copy of the lid pattern to the underside of the lid.** Match the curve in the pattern to the one in the lid. Mark the dowel drill points with an awl and drill $\frac{3}{16}$ " (5mm)-diameter by $\frac{3}{16}$ " (5mm)-deep holes. If you are using a brad-point bit, be sure that the point does not penetrate the face of the lid. Cut to the outside of the lid perimeter line. Remove the pattern.



7 **Place the lid on the box body.** Sand the dowels and holes just until the lid can be placed and removed easily. With the lid in place, use a belt sander and miter gauge to sand the assembly until the piece is smooth and square, and the sides and lid are flush.



8 **Measure and mark the center of the top edge of the box body front.** Transfer this mark down the front. Set the spindle sander table level and install a $\frac{5}{8}$ " (16mm)-diameter spindle. Hold the front face of the box body against the spindle at a 30° angle. Sand a small indentation into the front face. Soften it by hand sanding. This indentation allows for easy removal of the lid.

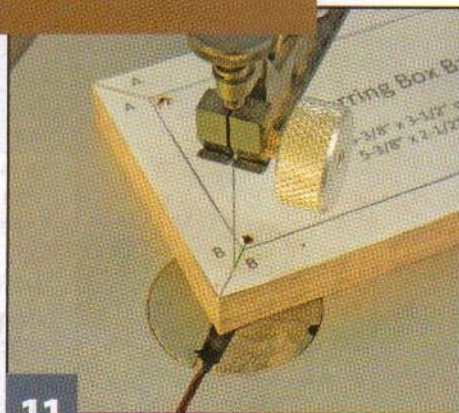


9 **Round the upper edge of the lid.** Use a pneumatic sanding drum. Sand the entire lid to 240 grit, softening the lower edge by hand. Use a detail sander to remove any remaining blade, burn, and sanding marks from the box body and to sand it to 240 grit.

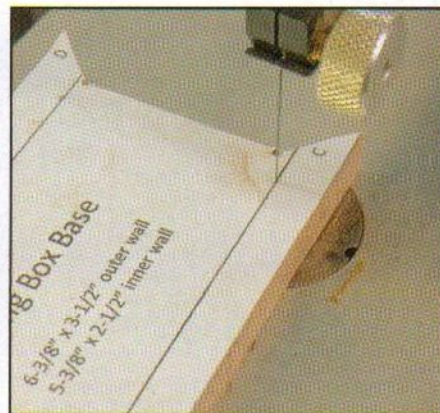
BOX: MAKING THE BASE

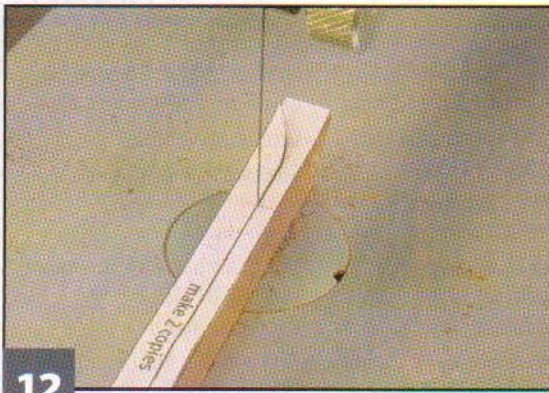


10 **Place the box body on the box bottom blank.** Trace the inside of the box body and cut it with a #3 blade. Mark the front and upper face of the piece and set it aside.



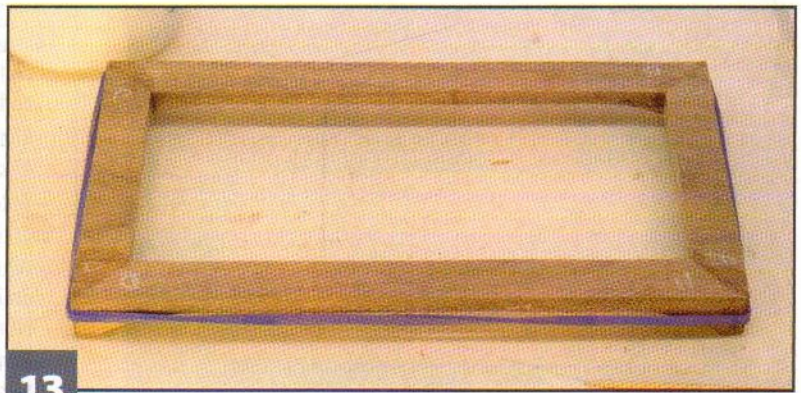
11 **Attach the base pattern to the base blank.** Cut along the outer lines with a #3 blade. Drill blade-entry holes in each of the four corners and use them to cut along the diagonal lines to the outer edge of the base blank. (Cutting from the inside out helps ensure neat diagonal cuts.) Then, cut along the inner lines to separate the pieces. Remove the pattern and transfer the letters from the pattern to the tops of the corresponding pieces.





12

Attach a side pattern to the outer face of each base piece. Rotate each piece so the pattern faces up, and cut along the lower curve. Remove the pattern. Dry-assemble the base, using the letters to keep the pieces oriented correctly.



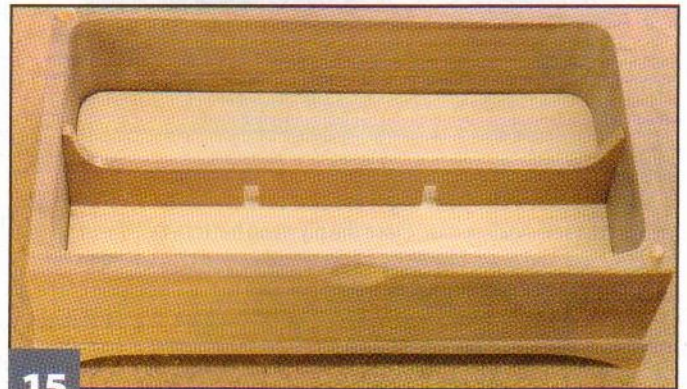
13

Apply glue to the mitered corners and assemble the base. Use a rubber band to clamp the assembly. (A helper might be useful.) Remove any glue squeeze-out, make sure that the pieces lie flat, and let the assembly dry thoroughly. When dry, sand the upper surface on a sandpaper-covered flat tile to ensure that it is flat and to remove any glue residue.



14

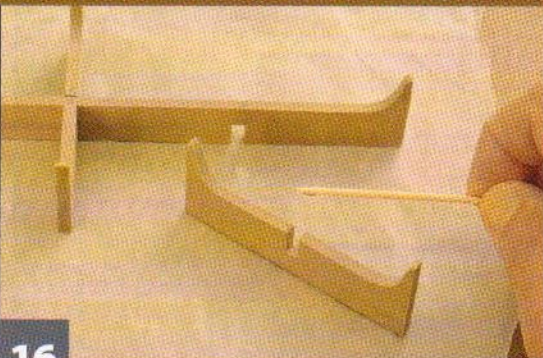
Center the box body on the base. The wood that extends beyond the box sides (called the reveal) should be even the whole way around the box. Lightly mark the position of the box body. Then, glue and clamp the box body to the base. Remove any glue squeeze-out. Then, use sandpaper to soften the top edges of the box and base, and the outer curved edges of the base.



15

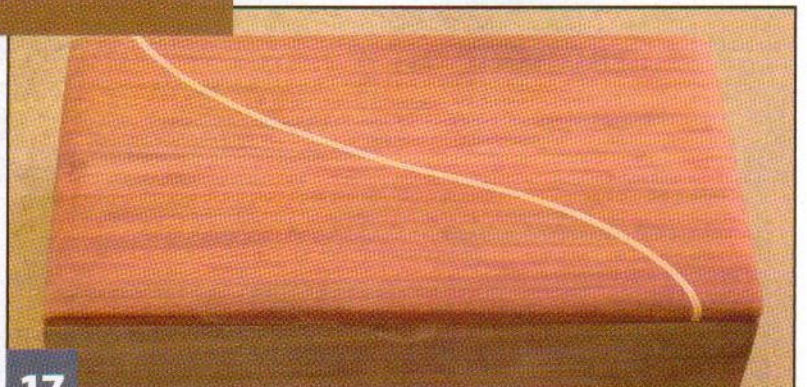
Attach the divider patterns to the blanks. Cut along the lines, but cut each piece slightly long so you can sand it to fit. Place the plywood bottom cut in Step 10 into the box. *Do not glue it in place.* Insert the long divider to check the length, and sand the ends, if needed, until it slides into place. Repeat for the short dividers. Assemble the unit to check the fit of the mating pieces. Sand the slots if needed. All of the divider pieces should fit snugly without forcing. Sand the divider pieces to 240 grit.

BOX: COMPLETING THE PROJECT



16

Place a drop of glue where the long and short dividers will join. Slide the short pieces into place, making sure that they are at right angles to the long piece. When dry, place the unit into the box to check its fit, and sand as needed. Remove the dividers and the plywood bottom.



17

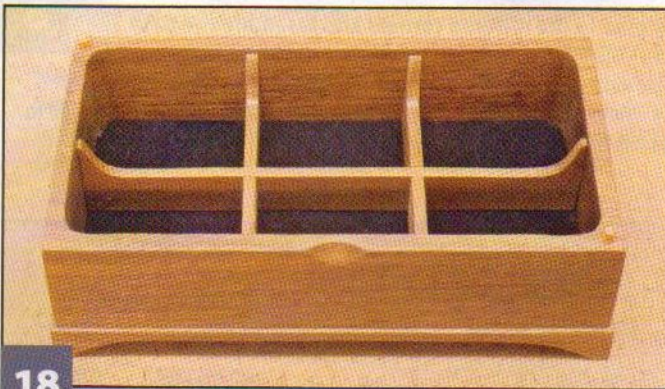
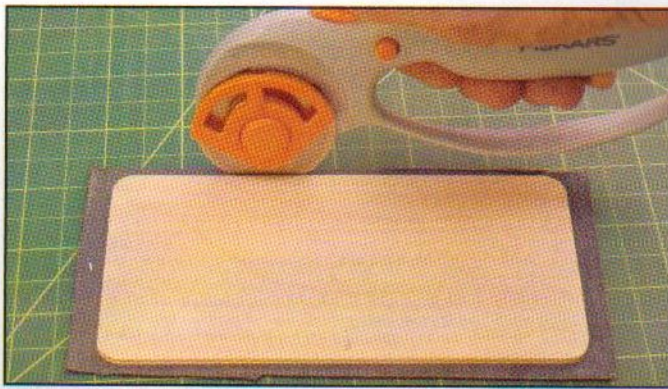
Place the lid on the box, check the fit, and sand as needed. Remove any sanding dust and apply a sealer coat of shellac to all surfaces of the box, lid, and dividers; allow it to dry. When possible, I use spray shellac, but if you must brush it on, make a 2-pound cut of dewaxed super blonde flakes. Sand with 320-grit sandpaper. Apply several coats of clear spray lacquer to the box and lid, rubbing between coats with 0000 steel wool as needed.

Materials:

- Walnut, 1 3/8" (35mm) thick: box body, 4" x 7" (102mm x 178mm)
- Redheart, 3/8" (10mm) thick: lid, 4" x 7" (102mm x 178mm)
- Yellow veneer, cut across the grain: 3/8" x 7" (10mm x 178mm)
- White veneer, cut across the grain: 2 each, 3/8" x 7" (10mm x 178mm)
- Baltic birch plywood, 1/8" (3mm) thick: box bottom, 3 1/2" x 6 1/2" (89mm x 165mm)
- Walnut, 1/2" (13mm) thick: base, 4" x 7" (102mm x 178mm)
- Walnut, 1/8" (3mm) thick: 1 1/2" x 6 1/2" (38mm x 165mm); 2 each 1 1/2" x 3 1/2" (38mm x 89mm)
- Dowels, 3/16" (5mm) dia.: 2 each 1 1/4" (18mm) long
- Sandpaper
- Glue: wood, cyanoacrylate (CA) glue formulated for wood, such as Dap RapidFuse or Titebond Instant Bond medium or thick
- Waxed paper or nonstick silicone mat
- Self-adhesive velvet: 4" x 7" (102mm x 178mm)

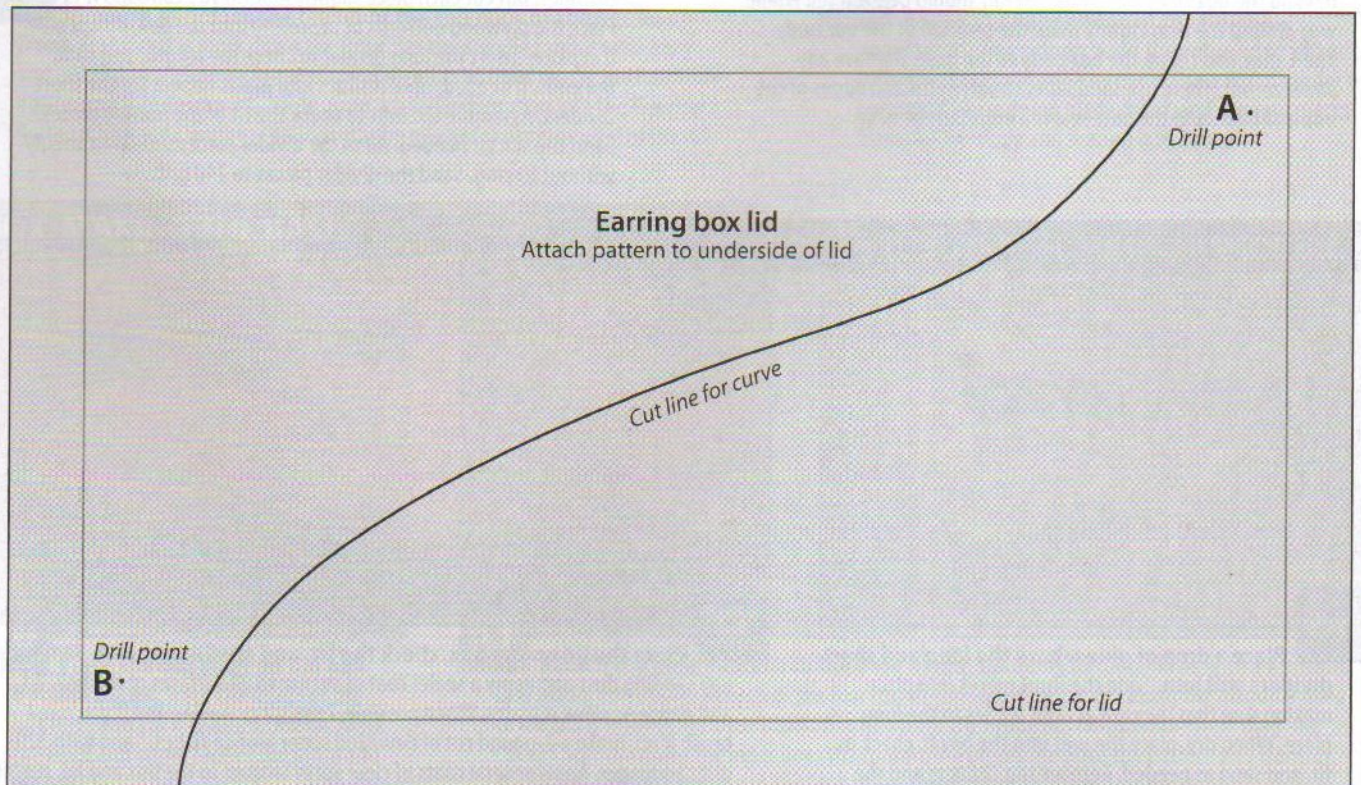
- Shellac: spray or 2-pound cut dewaxed super blonde flakes
 - Lacquer: clear spray
 - Steel wool: 0000 grit
- Tools:**
- Scroll saw blades: #5 premium, such as FD Polar; #3 reverse-tooth
 - Drill with bit: 3/16" (5mm) dia.
 - Spindle sander with assorted sizes of spindles
 - Detail sander with assorted grits of sandpaper
 - Belt sander
 - Pneumatic drum with 240-grit sleeve
 - Awl
 - Small clamps: 8 each
 - Razor knife or cutting wheel
 - Self-healing mat
 - Large rubber band (for clamping base)

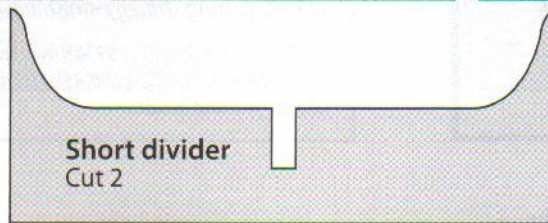
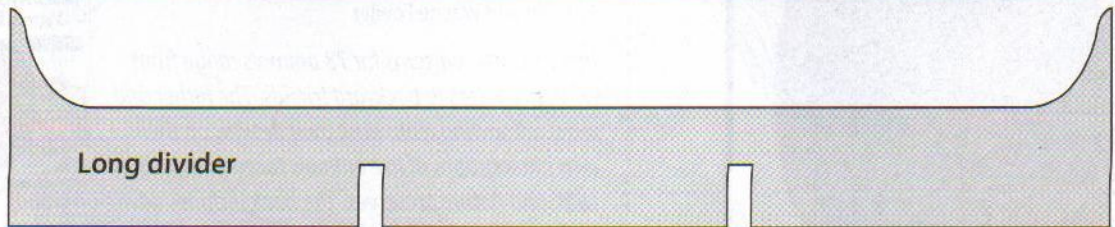
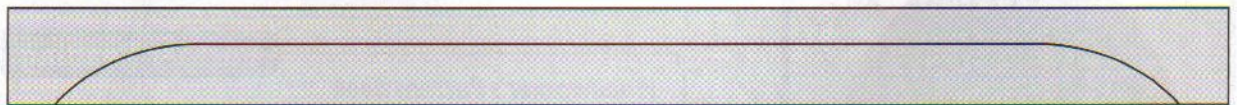
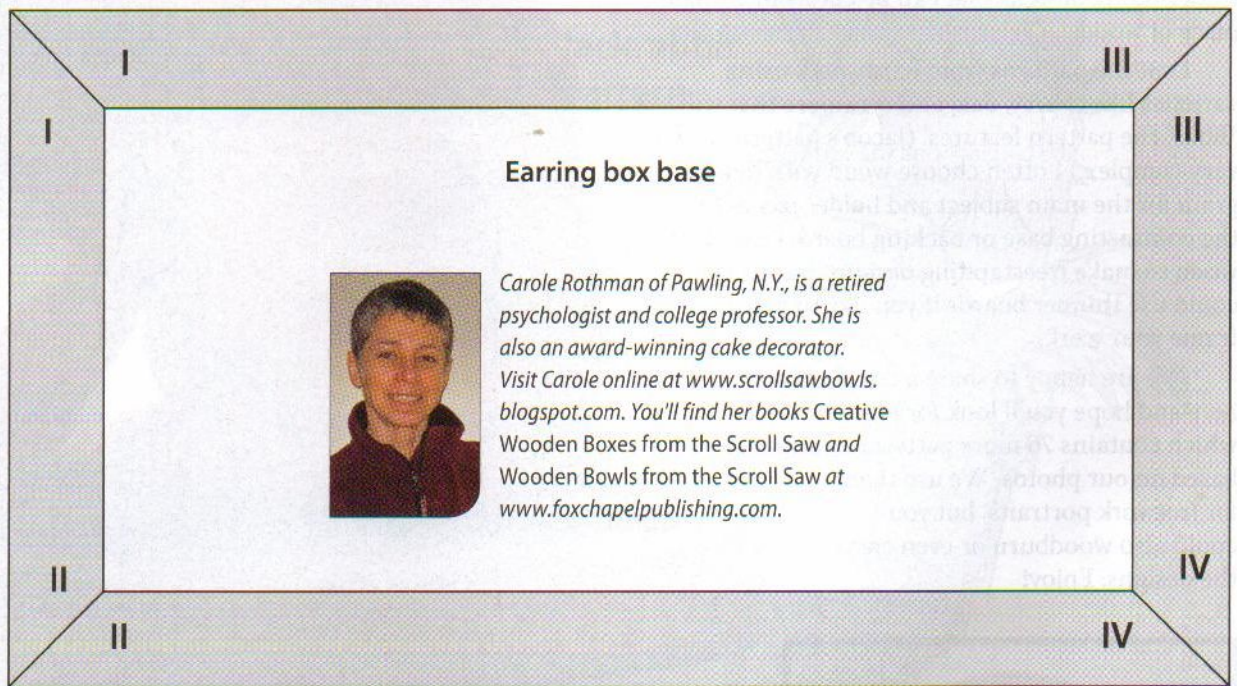
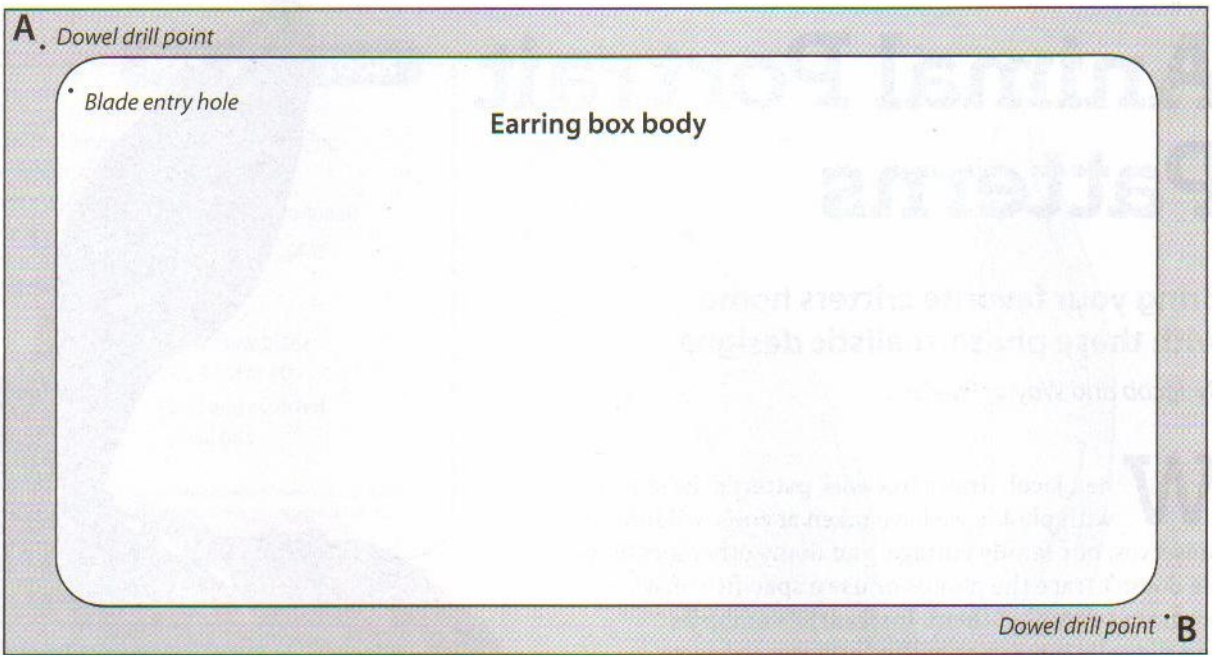
The author used these products for the project. Substitute your choice of brands, tools, and materials as desired.



18

Remove the backing from the velvet. Position it sticky side up on a self-healing mat. Place the plywood bottom facedown on the adhesive and press firmly. Use a razor knife or cutting wheel to cut the perimeter. Apply a small amount of glue to the underside of the plywood where it will meet the compound-cut base. Press the piece, velvet side up, firmly into place, and insert the dividers.





Animal Portrait Patterns

Bring your favorite critters home with these photo-realistic designs

By Jacob and Wayne Fowler

When Jacob draws fretwork patterns, he starts with photos we have taken at zoos, wildlife preserves, our family cottage, and many other locations. He doesn't trace the photos or use a specific software program to convert them. Instead, he combines and digitally interprets multiple photos to create freestanding designs that can be cut from a single piece of wood.

I cut the patterns from hardwood, using varieties like cherry, oak, and sycamore that will "hold" the pattern features. (Jacob's patterns can be very complex.) I often choose wood with lighter grain for the main subject and bolder pieces for the contrasting base or backing board. I use thick wood to make freestanding designs, but you could use thinner boards if you like to mat and frame your work.

We are happy to share a couple of patterns here and hope you'll look for our new book, which contains 76 more patterns of animals based on our photos. We use them for fretwork portraits, but you could also woodburn or even carve the designs. Enjoy!



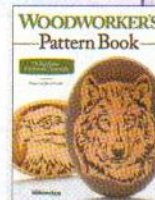
Further Reading

Woodworker's Pattern Book

By Jacob and Wayne Fowler

These realistic patterns for 78 animals range from exotic predators to backyard friends. The father and son scroll sawing team base their designs on their own photographs of live animals taken in the wild, zoos, and nature preserves. The book includes advice on wood, blades, cutting strategy, finishing, and display options.

Available for \$16.99 plus \$3.99 S&H from Fox Chapel Publishing, 1970 Broad St., East Petersburg, PA, 17520, 800-457-9112, www.foxchapelpublishing.com, or check your local retailer.



Materials & Tools

Materials:

- Hardwood, $\frac{3}{4}$ " to 1" (19mm to 25mm) thick: rabbit, 7" x 9 $\frac{1}{2}$ " (178mm x 241mm); oval base (optional), 2 $\frac{1}{2}$ " x 8" (64mm x 203mm); deer, 8" x 10 $\frac{1}{4}$ " (203mm x 260mm)
- Hardwood, $\frac{1}{4}$ " (6mm) thick: deer backing board (optional), 8" x 10 $\frac{1}{4}$ " (203mm x 260mm)
- Adhesive: spray or glue stick

- Tape: clear packing
- Sandpaper
- Wood glue (optional)
- Finish: clear spray

Tools:

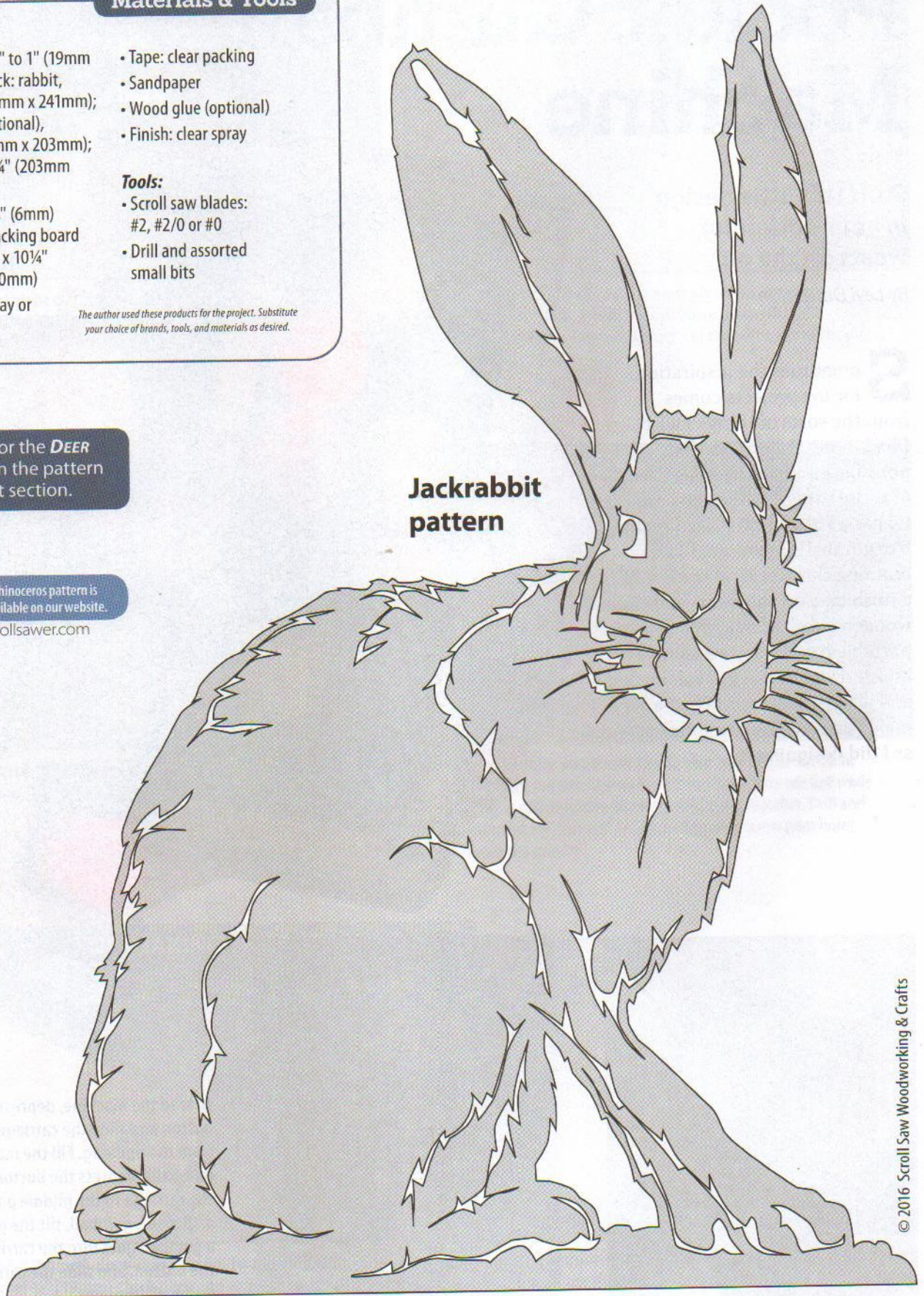
- Scroll saw blades: #2, #2/0 or #0
- Drill and assorted small bits

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

Pattern for the **DEER PLAQUE** is in the pattern pullout section.

ON THE WEB A Rhinoceros pattern is available on our website.
www.scrollsawer.com

Jackrabbit pattern



Pocket Gumball Machine

Stuff this little design in your pocket for treats on the go

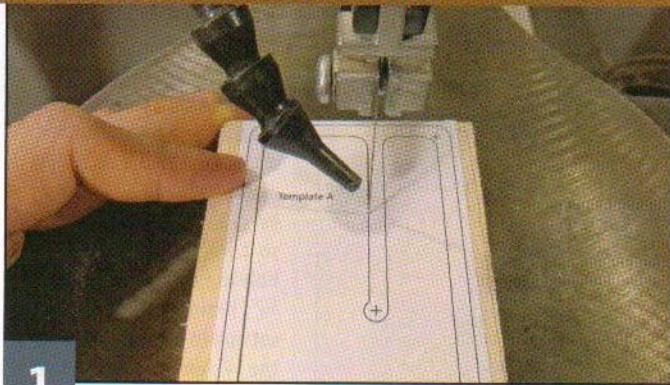
By Levi Dojczman

Sometimes the inspiration for my projects comes from the sorts of things I wish I had in my childhood. This portable gumball machine is one of those things. Although I am no longer a kid and can't say I really like gumballs anymore, I love building this weekend project. It is a fresh take on the more traditional wooden gumball machine (the less portable countertop version). This makes a wonderful gift for any kid, and it's a guaranteed one of a kind. I hope you enjoy building this as much as I did designing it.

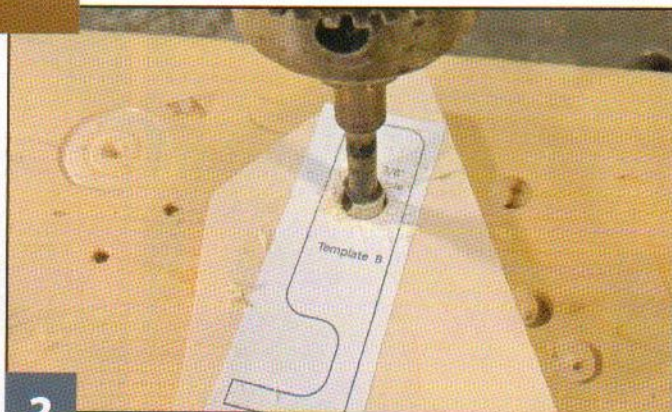


To load the machine, depress the button and slide the carriage away from the opening. Fill the machine with gumballs, depress the button, and move the carriage to the middle position. To dispense a gumball, tilt the machine until a gumball goes into the carriage, depress the button, and slide the carriage until a gumball drops out.

GUMBALL MACHINE: MAKING THE BODY

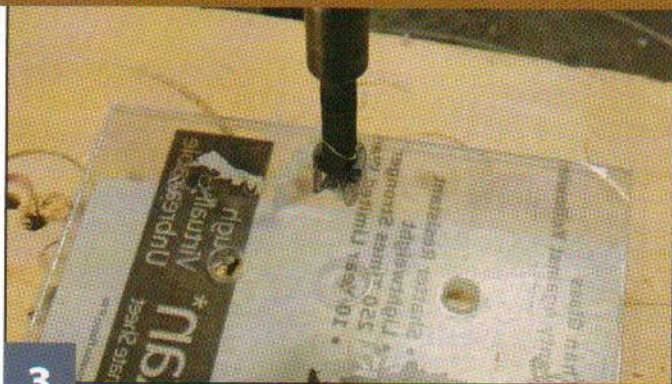


- 1** Attach the body pattern (A) to the body blank. Cut just the interior. Glue and clamp the body to the back blank. Do not drill the holes yet; the holes marked on the pattern are for reference while you cut.

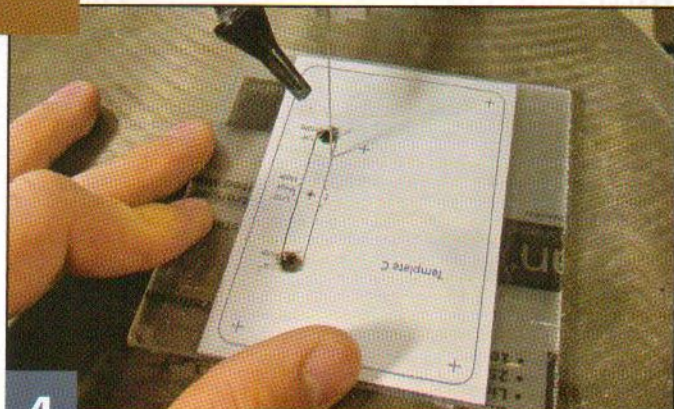


- 2** Sand a piece of $\frac{1}{16}$ " (18mm) plywood down to $\frac{5}{8}$ " (16mm) thick. Attach the carriage pattern (B) to the plywood. Drill the holes as marked. Cut the perimeter of the piece.

GUMBALL MACHINE: MAKING THE LID

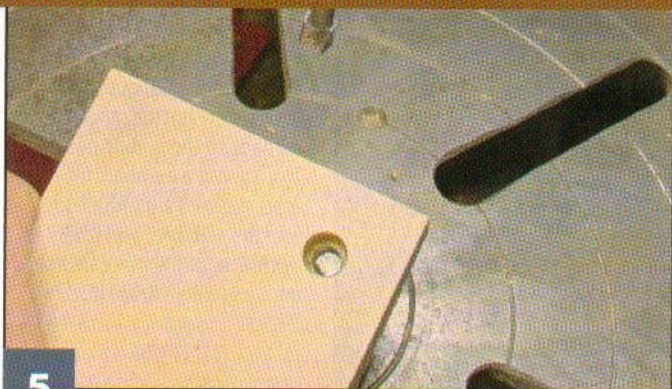


- 3** Attach the lid pattern (C) to the acrylic plastic lid blank. Drill the two $\frac{1}{4}$ " (6mm)-diameter holes where indicated. Between them, drill a $\frac{1}{16}$ " (2mm)-diameter pilot hole at the $\frac{3}{8}$ " hole location. Flip the blank over, and use the pilot hole as a guide to drill the $\frac{3}{8}$ " (10mm)-diameter by $\frac{1}{8}$ " (3mm)-deep hole in the back of the lid.

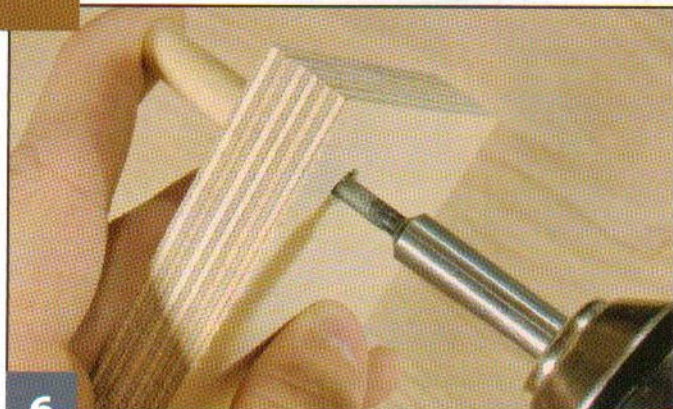


- 4** Insert the scroll saw blade into one of the holes in the lid. Cut the slot. Use caution; if the blade gets too hot while cutting, it can cause the plastic to melt back together. Drill and countersink the four $\frac{3}{32}$ " (2.5mm)-diameter screw pilot holes. Remove the pattern.

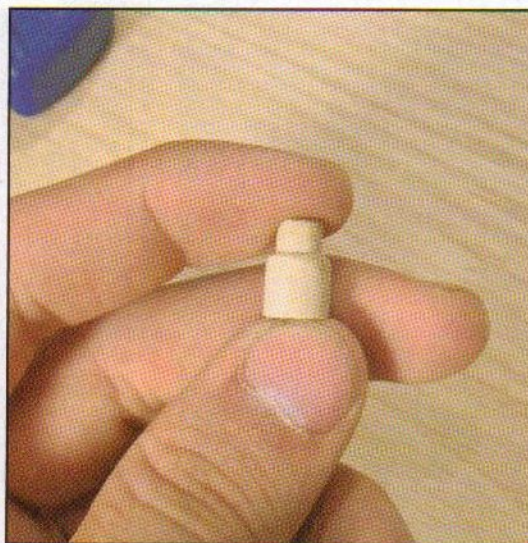
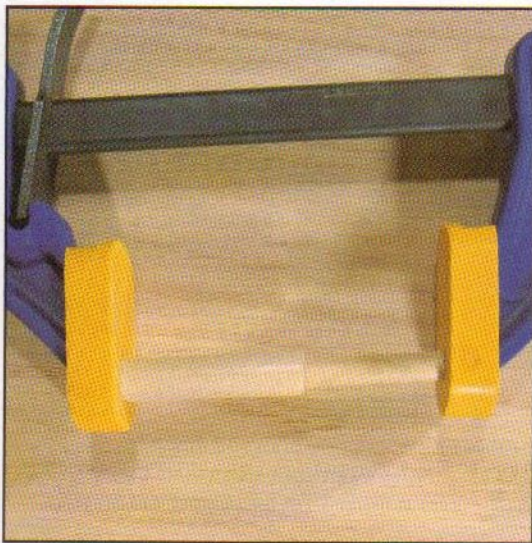
GUMBALL MACHINE: MAKING THE BUTTON



- 5** Drill a $\frac{3}{8}$ " (10mm)-diameter hole halfway through a scrap piece of $\frac{3}{4}$ " (19mm)-thick plywood. Drill the rest of the way through with a $\frac{1}{4}$ " (6mm)-diameter bit. This makes a dowel-drilling jig.



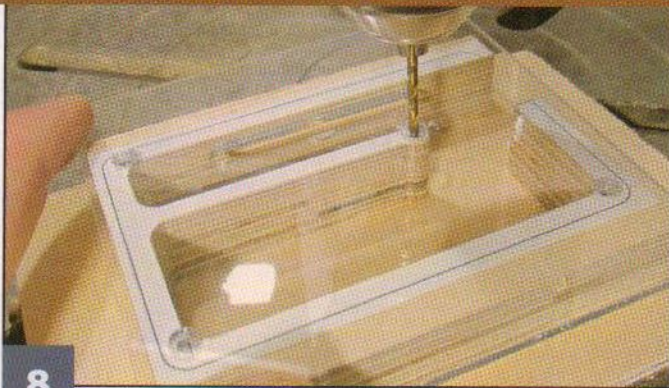
- 6** Insert a section of $\frac{3}{8}$ " (10mm)-diameter dowel into the hole in the jig. Use the smaller hole to drill a $\frac{1}{4}$ " (6mm)-diameter by $\frac{1}{4}$ " (6mm)-deep hole in the dowel. Remove the dowel from the jig.



7

Glue a section of $\frac{1}{4}$ " (6mm)-diameter dowel into the $\frac{3}{8}$ " (10mm)-diameter dowel. When dry, chuck the smaller section in a drill and sand down the $\frac{3}{8}$ " (10mm)-diameter dowel so it will slide smoothly in the hole drilled in Step 2. Cut the $\frac{3}{8}$ " (10mm)-diameter dowel section to $\frac{5}{16}$ " (8mm) long and the $\frac{1}{4}$ " (6mm)-diameter dowel section to $\frac{3}{16}$ " (5mm) long to make the overall length of the button $\frac{1}{2}$ " (13mm).

GUMBALL MACHINE: ASSEMBLING & FINISHING THE MACHINE



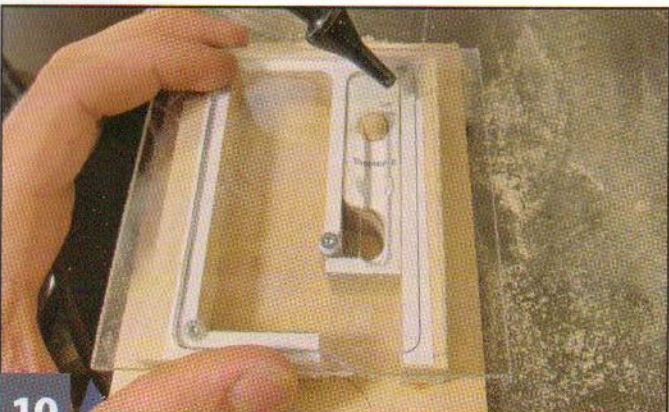
8

Position the acrylic sheet on the body and back assembly. Align the drilled holes with the hole locations on the body. Drill the screw pilot holes into the body.



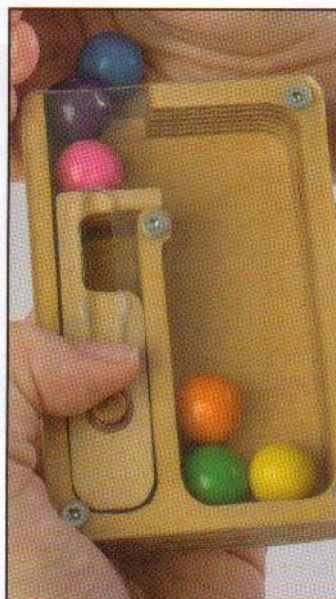
9

Cut the spring to $\frac{5}{8}$ " (16mm) long. Place the carriage in the body and the spring and button assembly in the hole in the carriage. Screw the acrylic lid to the top.



10

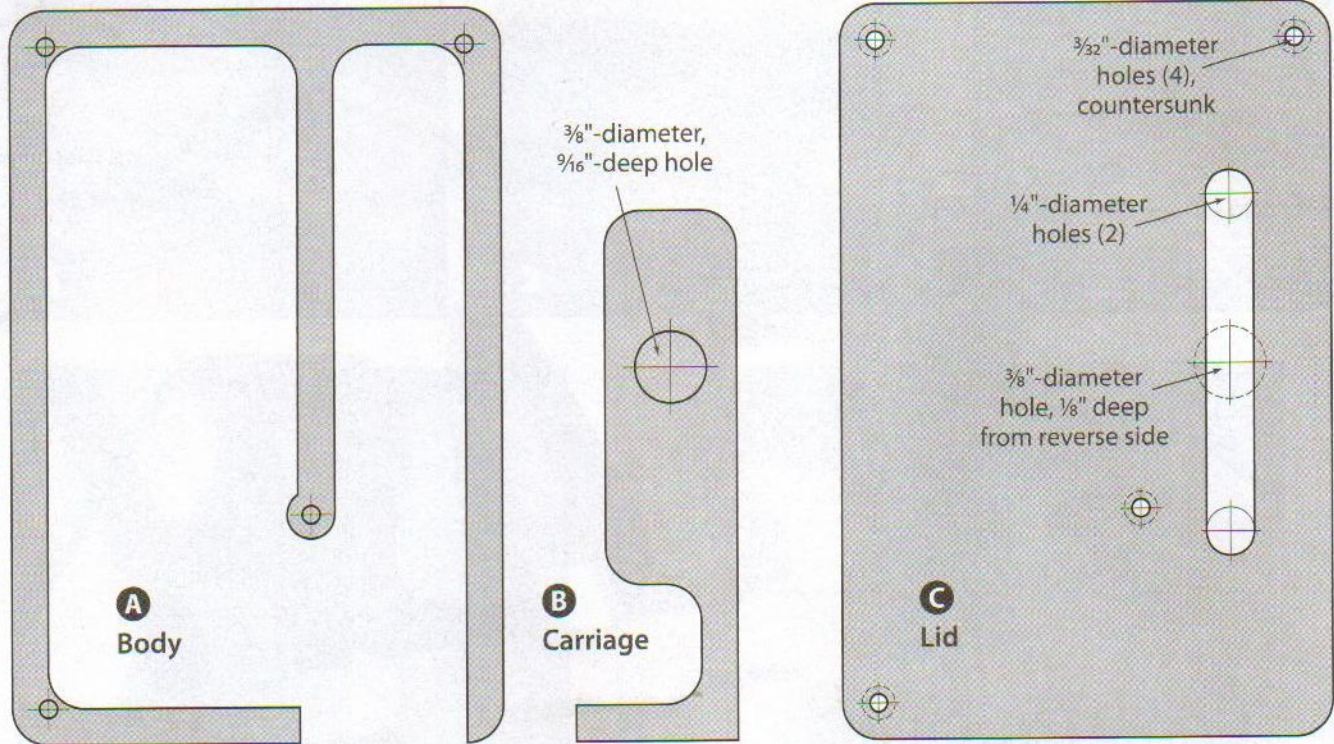
Cut the perimeter of the gumball machine. Unscrew the lid and remove the patterns. Sand everything smooth and apply a food-safe finish. Beeswax, pure linseed oil, and butcher-block varnish are good options that are immediately food safe, but all finishes are required by law to be food safe after they are fully cured. Reassemble the machine when the finish is fully cured.



Using the Gumball Machine

To load the machine, depress the button and slide the carriage away from the opening. Fill the machine with gumballs, depress the button, and slide the carriage to the middle position. To dispense a gumball, tilt the machine until a gumball goes into the carriage, push the button, and slide the carriage until a gumball drops out.

Pocket gumball dispenser patterns



© 2016 Scroll Saw Woodworking & Crafts

Materials & Tools

Materials:

- Baltic birch plywood, $\frac{1}{16}$ " (18mm) thick: body (A), $2\frac{3}{4}$ " x 4" (70mm x 102mm), carriage (B), 3" x 4" (76mm x 102mm)
- Plywood, $\frac{1}{4}$ " (6mm) thick: back, $3\frac{1}{2}$ " x 5" (89mm x 127mm)
- Acrylic plastic, $\frac{1}{4}$ " (6mm) thick: lid (C) $2\frac{3}{4}$ " x $4\frac{1}{4}$ " (70mm x 108mm)
- Drilling jig: scrap wood, $\frac{3}{4}$ " (19mm) thick
- Compression spring, $\frac{5}{16}$ " (8mm) dia.: $1\frac{5}{8}$ " (41mm) long (A wide spring from a clicking pen will work.)
- Flat-head machine screws, Robertson head: 4 each #4-40 x $\frac{1}{2}$ " (13mm) long
- Dowel, $\frac{1}{4}$ " (6mm) dia.: 2" (51mm) long
- Dowel, $\frac{3}{8}$ " (10mm) dia.: 2" (51mm) long

- Sandpaper
- Wood glue
- Finish, such as beeswax, pure linseed oil, food-safe varnish, or butcher-block varnish

Tools:

- Scroll saw blades, such as Olson: skip-reverse tooth assorted sizes
- Drill press
- Hand drill
- Forstner bits: $\frac{1}{4}$ " (6mm), $\frac{3}{8}$ " (10mm) dia.
- Twist bits: $\frac{1}{16}$ " (2mm), $\frac{3}{32}$ " (2.5mm)
- Countersink bit
- Screwdriver bit: small Robertson drive
- Clamps

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



Levi Dojczman lives in Pembroke, Ont., Canada, with his family. You can find more of his work on Instagram under the username levidojczman.

The Flash

Build a simple organizer to hold your flash drives and SD cards

By Al Baggetta

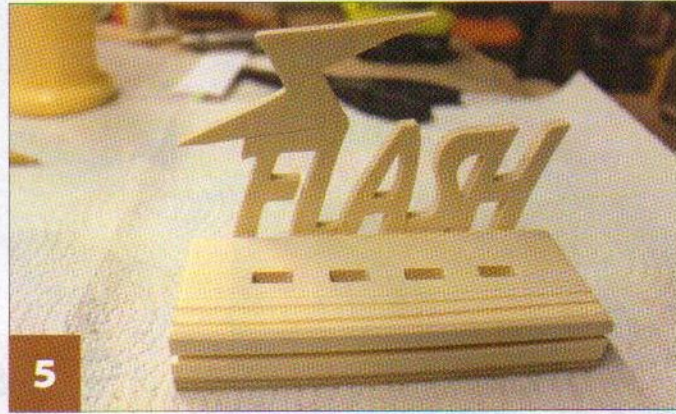
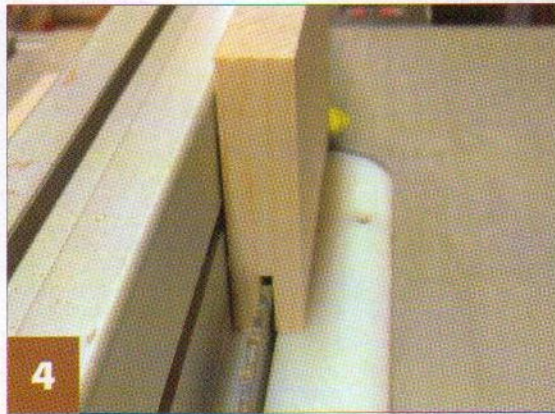
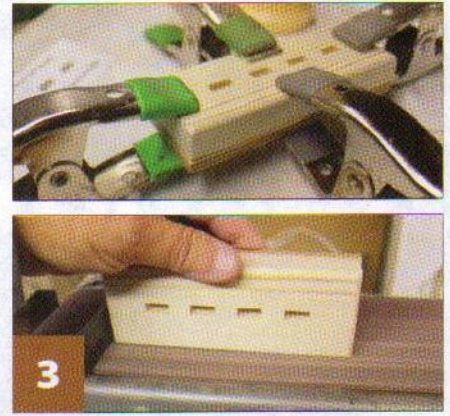
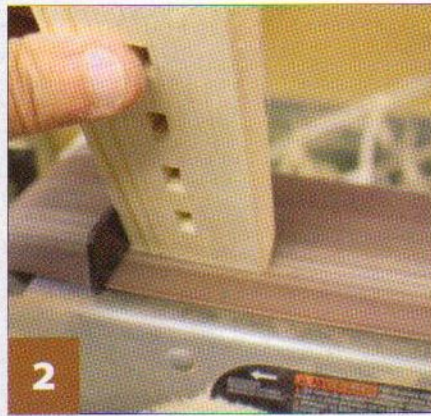
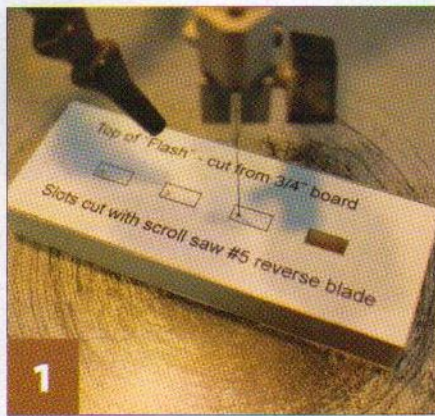


If you are like me, you have several USB flash drives and SD cards scattered around your desk, but you can't find one when you need it. Solve the problem by building this organizer. It is easy to make and can fit four USB drives and about five SD cards. If you need more room, make the blank longer and use two patterns side by side or make a couple of Flash organizers.

Getting Started

Attach the patterns to the blanks. Using scissors, cut the top pattern along the left and bottom lines. Align these edges with the edges of the wood. Then, cut the top and right edges with a table saw. Repeat the process to cut the bottom pieces.





1 Drill blade-entry holes for the top and lettering. Cut the rectangular holes in the top with a #5 reverse-tooth blade. These holes are for the ends of the USB flash drives. Then, cut the "Flash" lettering.

2 Remove the patterns. Sand all of the sides smooth. I use a belt sander. Round the edges slightly with the belt sander or a router with a roundover bit.

3 Glue and clamp the bottom to the top. Allow it to dry for an hour. Then, sand the assembly to make sure the edges are flush.

4 Rip the slot for the SD cards. Set the table saw to cut a slot 1/2" (13mm) to 3/4" (19mm) deep. Set the rip fence about 1/2" (13mm) down from the top. Use a push stick as you rip the slot in the side of the top.

5 Glue and clamp the lettering to the back. Sand everything smooth. I buff it with a sanding mop. Apply a clear finish, stain, or paint it as desired.

Materials & Tools

Materials:

- Pine, 3/4" (19mm) thick: top, 2" x 5 1/2" (51mm x 140mm)
- Plywood, 1/4" to 1/2" (6mm to 13mm) thick: bottom, 2" x 5 1/2" (51mm x 140mm)
- Plywood, 1/4" to 1/2" (6mm to 13mm) thick: letters, 4" x 5 1/2" (102mm x 140mm)
- Wood glue
- Spray adhesive
- Finish, stain, or paint

Tools:

- Blades: #5 reverse-tooth
- Table saw
- Drill with assorted small bits
- Sanders: belt, sanding mop
- Router with roundover bit (optional)
- Spring clamps
- Metal ruler, pencil

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

Pattern for the **FLASH ORGANIZER** is in the pattern pullout section.



Al Baggetta is a retired English teacher and former musician who took a liking to scroll sawing. Visit his pattern site at baggetta.com/pebooks/puzzle_patterns.htm.

Holiday Roundup

Inspiration for a joyful holiday season

By Kathleen Ryan



1 Peace on Earth • This original intarsia door topper is by Judy Gale Roberts of Roberts Studio in Seymour, Tenn. Judy finished the pieces with clear wiping gel and glued them onto hardboard. For more info, visit www.intarsia.com.

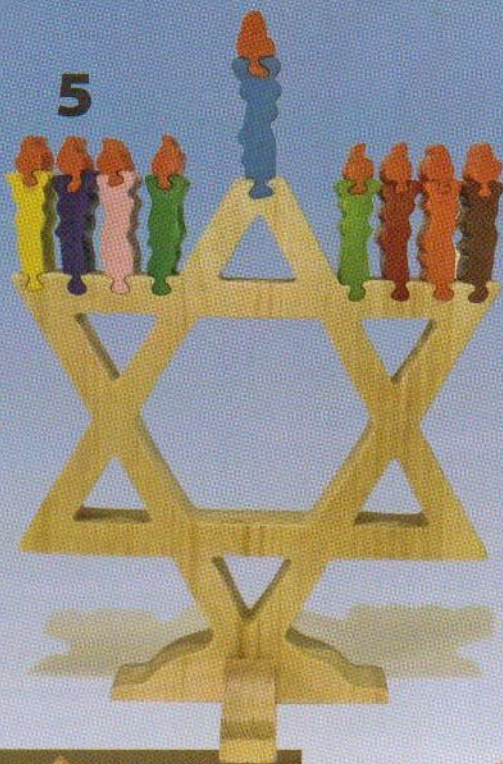
2 Christmas Snowmen • Sue Riggs of Spokane Valley, Wash., created this Christmas snowmen scene by combining her designs with a wooden train found at a yard sale. She cut the base and trees from $\frac{1}{4}$ "-thick oak plywood and the snowmen from $\frac{1}{2}$ "-thick pine. Sue painted the scene with acrylics and fixed it to a 4" by $9\frac{3}{4}$ " plywood base. For more info, visit www.etsy.com/shop/LodgeDecorNMore.

3 Beer Cap Trap • Cigar aficionado David Sabot of Tampa, Fla., found inspiration to create his unusual Beer Cap Trap after attempting to open a beer with a cigar clipper. The cap stuck and so did the

idea. A perfect gift for beer drinkers, the plywood shape holds more than 100 standard beer caps. For more info, visit www.beercaptrap.com.

4 Nativity • Ken Miller of OregonHandCrafts designed and created this nine-piece nativity set in his family-owned wood shop in Scio, Ore. Cut from a single board of Oregon oak, the figures measure $\frac{5}{8}$ " thick and range in height from 1" to 6". Each piece is carefully sanded and finished with satin polyurethane to enhance the natural beauty of the wood. For more info, visit www.etsy.com/shop/OregonHandCrafts.

5 Star of David • This Star of David menorah puzzle, designed and crafted in Karmiel, Israel, by Ralph and Anita Baker of RikmaProducts, was cut from 1"-thick pine and measures approximately $6\frac{3}{4}$ " by $9\frac{3}{4}$ ". Nontoxic airbrush paints highlight the



candles, which can be individually inserted as the celebration of Hanukkah progresses. A clear water-based varnish finishes the piece. For more info, visit www.etsy.com/shop/rikma2014.

6 Mini Snowflake Ornaments • Nathan Gieseke of Green Timber Woods in Spring Green, Wis., designed this charming gift box set of 1½"-diameter snowflake ornaments. Sustainably harvested from trees grown in the Birkemeier family forest, the wood is dried in solar kilns and digitally crafted in their studio. Each ornament is finished with nontoxic food-safe oil. For more info, visit www.etsy.com/shop/TimberGreenWoods.

7 Advent Centerpiece • Beatrix Brockman of Clarksville, Tenn., designed this multifaceted advent centerpiece. She cut the 11"-diameter recessed base from red oak and the 3"-diameter

star-shaped candleholders from white oak. She finished the candleholders with linseed oil and inserted tea candles. Other components include patterns by Diana Thompson (tree, angel), Frank Poszgai (sleigh) and web sources (reindeer). Contact Beatrix at montserrat62@yahoo.de.

8 Door Hanger • Heather O'Dell of Hayden, Ala., collaborated with her grandmother, Sharon Roper, to produce this festive Thanksgiving door hanger. Sharon drew the design and Heather cut the 22" by 26" form from ¼"-thick birch plywood. Heather painted it with exterior latex and finished it with a nonyellowing sealer. For more info, visit www.etsy.com/shop/Furnitureflipalabama.

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

Simple Mixer

An easy and kid-friendly design

By Dave Van Ess



Children often want to help in the kitchen. Make them their own hand mixer to keep their fingers away from the beaters. I derived this pattern from a traditional folk-craft eggbeater. Children can safely mix the contents of a bowl by twirling the mixer between their hands. This easy-to-use tool helps youngsters develop hand-eye coordination and keeps their hands busy.

Making the Mixer

I recommend making the mixer from hardwood. (Avoid oak because it contains tannin, which can affect the taste of food.)

Transfer the pattern to the blank. I like to cut a template from thin tempered hardboard and then trace the template to make multiple mixers.

Cut along the outer pattern lines with a #5 skip-tooth blade. Tilt the saw table to 45° and cut along the inner pattern lines with a #2 skip-tooth blade. Transfer the inner pattern lines to the back of the mixer and cut along those lines with the table set at a 45° angle. The angled cuts give the mixer a roughly round shape, which is faster to carve or sand round (use 100-grit sandpaper). Finish sanding with 120-grit sandpaper and apply a coat of mineral oil.

Materials & Tools

Materials:

- Hardwood, $\frac{3}{8}$ " (10mm) thick: two mixers, 3" x 12" (76mm x 305mm)
- Tempered hardboard (optional for template)
- Sandpaper: 100 and 120 grits
- Mineral oil

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

Tools:

- Scroll saw blades: #2, #5 skip-tooth
- Carving knife (optional, to round handle)

Pattern for the **SIMPLE MIXER** is in the pattern pullout section.



Dave Van Ess of Chandler, Ariz., is a retired engineer who has been woodworking for nearly 40 years. He has introduced more than 200 Cub Scout leaders to the joys of scroll sawing.

ONE-HANDED Book Holder

Make this clever aide with a few simple tools

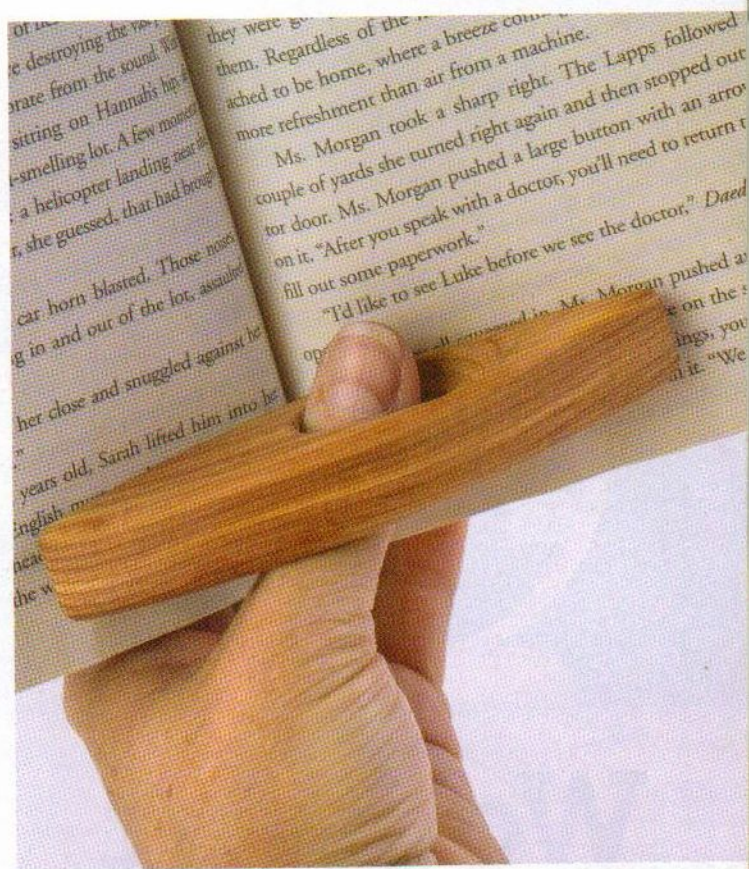
By Dan Bowe

Most people won't have any idea what this one-handed book holder is, but once you show them, they will want one! Luckily, the design is simple enough that you can make them quickly and easily.

Getting Started

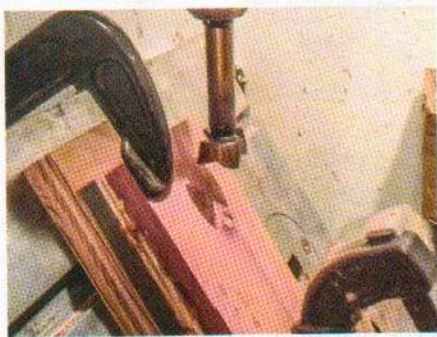
I've made most of my book holders out of cedar. Other types of wood will work just as well. You can decorate it by making a laminated blank from different colors of wood or even woodburning a design or quote onto it.

While you could attach copies of the pattern to the blanks, I suggest you make a template from stiff cardboard or thin plywood that you can simply trace; once you make one book holder, you're going to need to make a bunch!



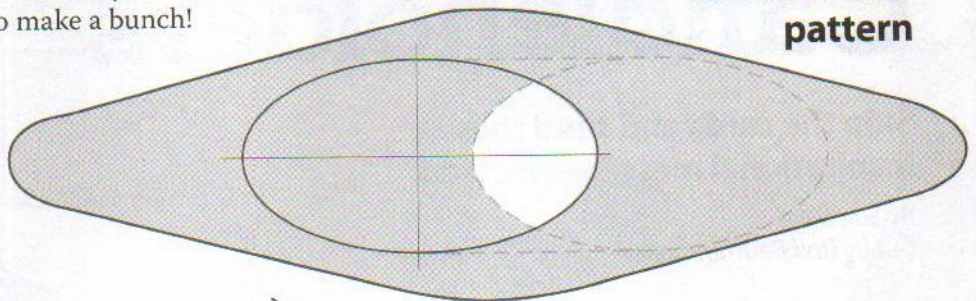
Book holder pattern

MAKING THE BOOK HOLDER



▲ Step 1: Attach or trace the pattern to the blank. Set a drill press table to 30°. Chuck a 1" (25mm)-diameter Forstner bit. Secure the blank to a sacrificial board to minimize splintering on the bottom. Drill the angled hole where indicated.

Step 2: Cut the outline of the piece. Sand everything smooth. Then, shape the outside edges with a 1/4" (6mm)-radius cove bit in a router. Apply a finish, such as oil or lacquer.



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Materials & Tools

Materials:

- Cedar, 3/4" (19mm) thick: 1 1/2" x 5" (38mm x 127mm)
- Sandpaper
- Finish: oil or lacquer

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

Tools:

- Drill press with Forstner bit: 1" (25mm) dia.
- Scroll saw blades: #5 reverse-tooth
- Router with bit: 1/4" (6mm)-radius cove



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.



Word Art Candleholders

Skip the cards and send these inspirational messages instead

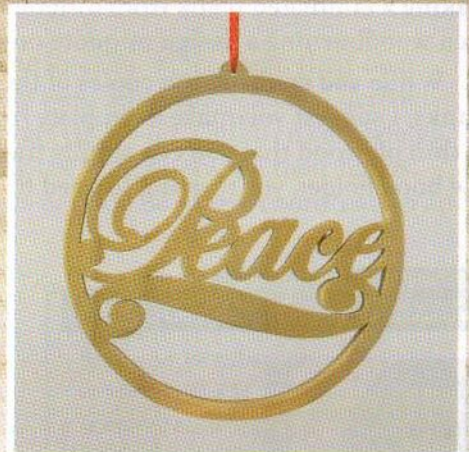
By Sue Mey
Cut by Rolf Beuttenmuller

Individually, these candleholders will spruce up your house regardless of the season. Create a whole set to make your holiday decorating even easier. Cut as many of these designs as you like; you can easily stack-cut two of each of the parts.

For a different look, cut just the word art from thin wood to make attractive ornaments. Eliminate the top support and bottom tab, making the ornaments round.

Making the Candleholders

Attach the patterns to the blanks and drill blade-entry holes. Cut the perimeter of the word art section. Then, cut the perimeter and inner square hole in the base. Fit the word art to the base; the fit should be snug without being forced. Then, cut the fretwork in the word art piece. While the patterns are sized for 1" (25mm)-thick wood, you can use ¾" (19mm) stock if you trim the tabs on the word art portion to fit.



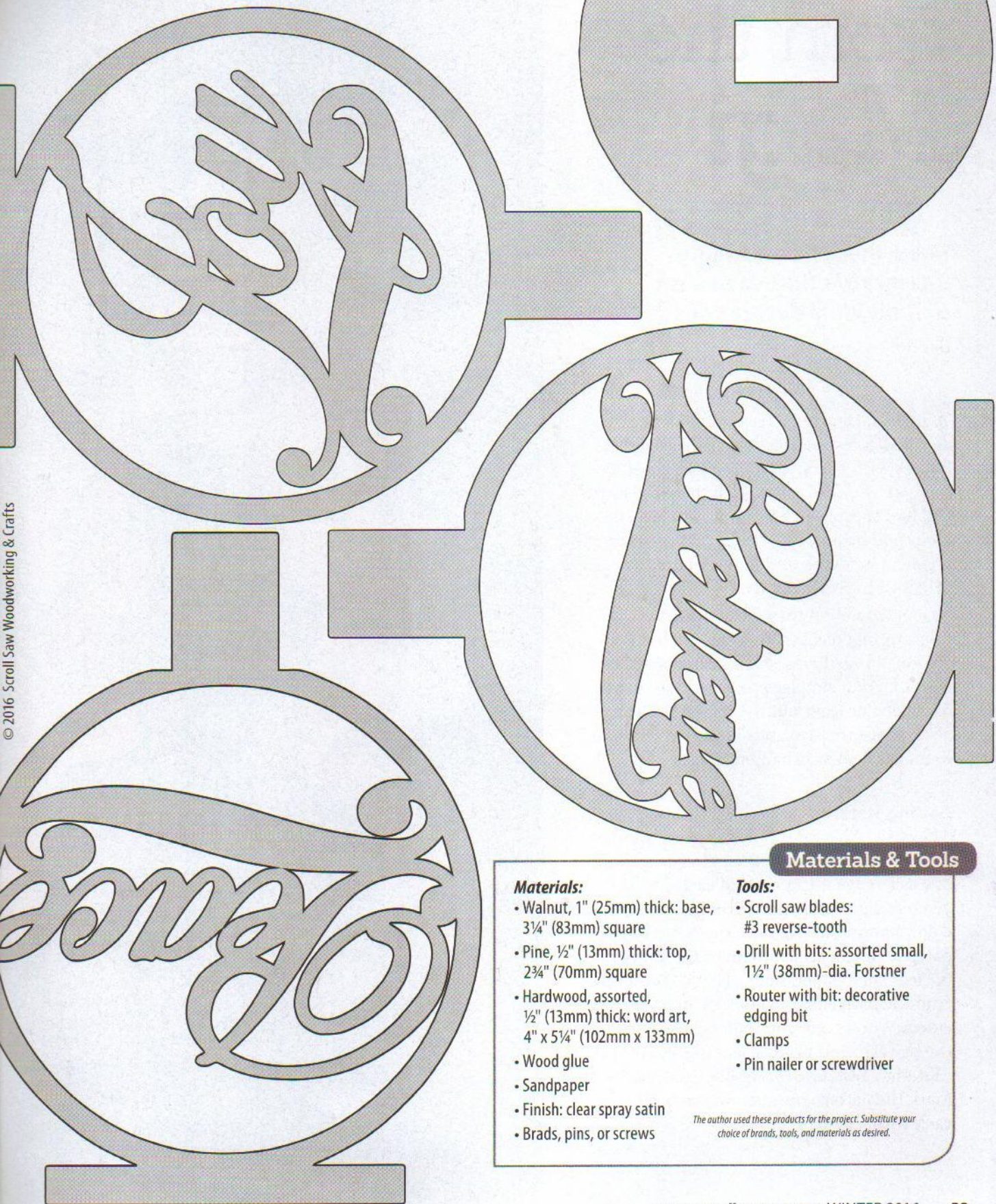
After you cut the top platform, use a 1½" (38mm)-diameter Forstner bit to drill a shallow recess for the candle. I also dressed up the edges with a router bit, but you can leave them square or sand off the sharp corners. Glue the word art to the base, and then glue and clamp the platform to the top. Reinforce the top joint with small screws or brads. Apply a clear spray finish to the completed candleholder.

Additional patterns for the **WORD ART CANDLEHOLDERS** are in the pullout section.



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

Word Art Candleholder patterns



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Materials & Tools

Materials:

- Walnut, 1" (25mm) thick: base, 3¼" (83mm) square
- Pine, ½" (13mm) thick: top, 2¾" (70mm) square
- Hardwood, assorted, ½" (13mm) thick: word art, 4" x 5¼" (102mm x 133mm)
- Wood glue
- Sandpaper
- Finish: clear spray satin
- Brads, pins, or screws

Tools:

- Scroll saw blades: #3 reverse-tooth
- Drill with bits: assorted small, 1½" (38mm)-dia. Forstner
- Router with bit: decorative edging bit
- Clamps
- Pin nailer or screwdriver

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

A Gift from the Magi

Make these freestanding 3-D intarsia figures as a set or individual decorations

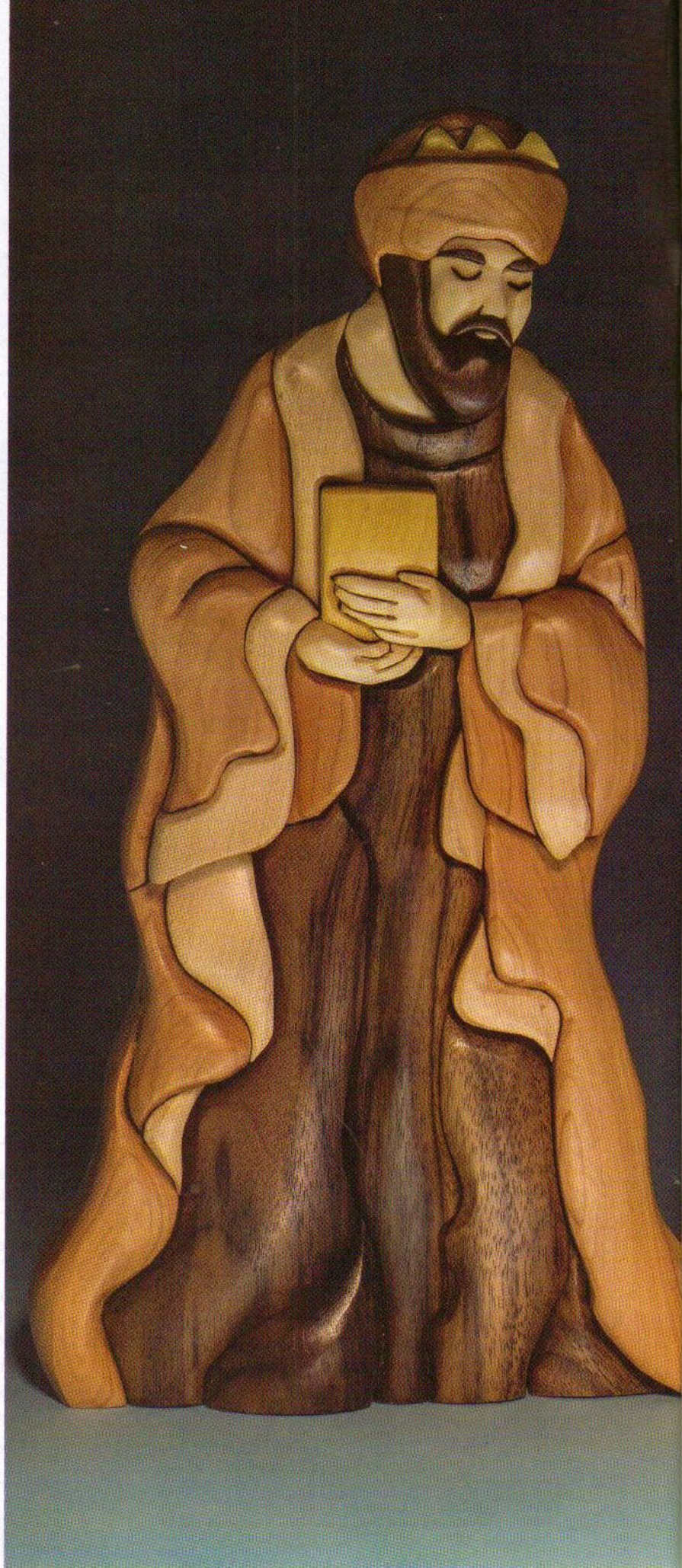
By Kathy Wise

In 2013, I started a series of 3-D, two-sided, freestanding intarsia Nativity figures with Mary, Joseph, and Jesus. Since then, we've added an angel, a shepherd boy, and two sheep. With these Wise Men, the focus will be on using shims and risers to create more depth and making sure the pieces fit together tightly.

As with all of these two-sided, freestanding pieces, the front and back are glued together, so no backing board is needed. For a simpler project, make them one-sided or leave out the risers. You can also reduce the size and simplify the design to make them as ornaments.

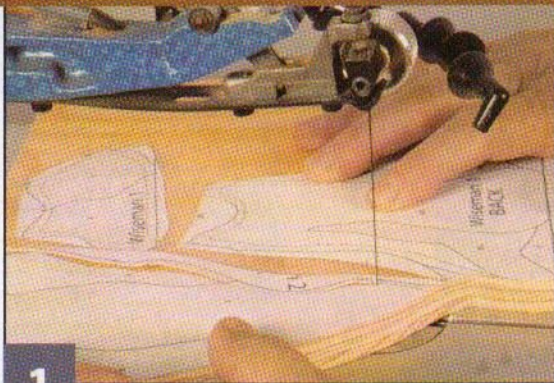
Getting Started

The basic steps for intarsia are very similar. Make several copies of the pattern, keeping one as a master. Cut around each pattern piece and sort them into groups by wood color. Spray adhesive onto the backs of the pattern pieces; attach them to the shiny side of clear shelf paper, such as Con-Tact® brand; trim the patterns; and stick them onto the wood. Wood color suggestions are listed on the pattern, and wood selections are in the Materials List. Cut the wooden pieces, and mark the pattern number on the bottom of each with a pencil.





WISE MEN: WORKING WITH RISERS



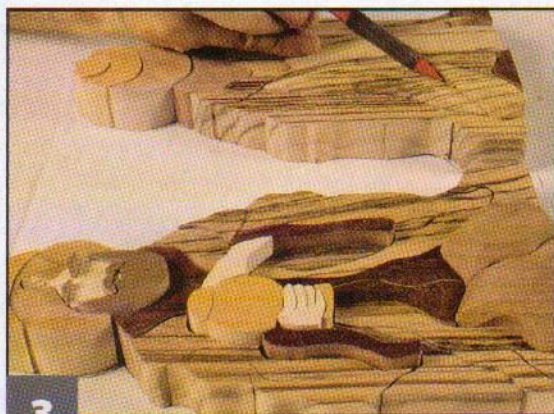
1

Cut the risers. Use ¼" (6mm) or ½" (13mm)-thick plywood or scrap wood. Attaching the risers to the back pieces makes the projects more stable when standing.



2

Check the sizes of the risers. They should be smaller than the pieces you are gluing them to. I use a small riser for each piece in areas like the gift/hands and one big shim for large sections like the gown. Use cyanoacrylate (CA) glue to attach the risers to the intarsia pieces. If you plan to attach more than one piece to a riser, shape both pieces before you glue the riser.



3

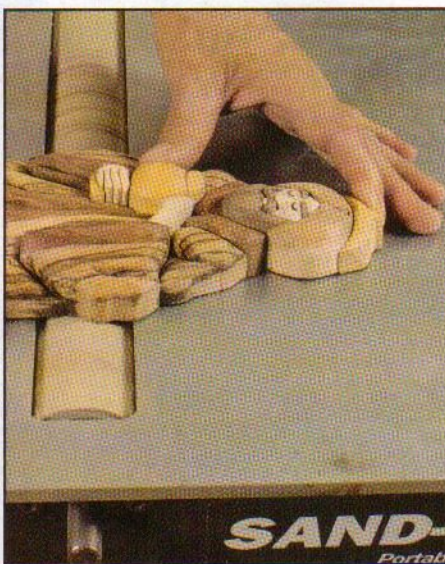
Dry-assemble the pieces on a photocopy of the pattern. Taper the edges of the pieces on the risers down to the levels of the surrounding pieces.

WISE MEN: SHAPING AND ASSEMBLING THE PROJECT



4

Refer to the shaping guide and mark the sanding levels. Then, use a 100-grit sanding drum to shape the pieces. Start with the thickest pieces, and keep the marked side up and visible. Use a 220-grit drum to soften the edges and remove scratches from the coarser grit. Use an oscillating spindle sander or a sanding drum in a rotary tool to round the sharp inside edges and add details to the hands and face. Add details to the eyes with a woodburner. Buff the pieces with a sanding mop.



5

Place the pattern on a flat surface and cover it with waxed paper. Put dots of CA glue on the sides of the pieces, starting with the head, and assemble them on the pattern. Adjust the heights of the pieces as needed. Glue the pieces of the robe together, allowing the glue to set before adding the next adjoining pieces. If you use accelerator to speed up the process, you must position the pieces quickly. You may have to make some adjustments to join the larger sections to each other. Carefully recut the line between the two sections and reglue them to draw them closer together. Use small amounts of glue at the edges to be sure it doesn't ooze out. Flat-sand the bottoms of the two sides with a portable drum sander, such as a Sand-Flee. The two surfaces must be flat for a good (and nearly invisible) glue joint.



6 Use dots of CA glue and wood glue to attach the front pieces to the back pieces. Alternately, after you've tacked together the front piece, place it facedown on the bench and glue the back pieces to it, treating the front as the backing board.

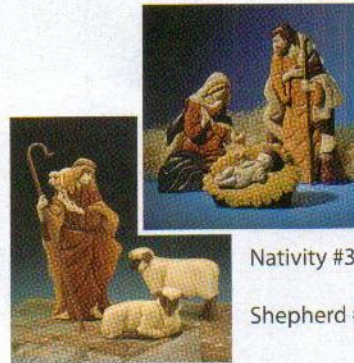


7 Clamp the edges together to get a tight fit. Let the glue dry for 15 minutes. Use a rotary tool to sand the edges so they taper into each other. Buff the edges with a sanding mop where possible, and hand-sand the tighter inside edges. Mix CA glue with matching sawdust and use it to fill any gaps. Re-sand any patched areas. Sand the bottom of each figure so it will stand flat. Spray all pieces with clear satin spray finish according to the manufacturer's instructions. Let the finish dry overnight.

Patterns for **A GIFT FROM THE MAGI** are in the pattern pullout section.



Kathy Wise is a nationally acclaimed intarsia artist. She has written consecutive articles for Scroll Saw Woodworking & Crafts for the past 12 years, including 48 articles for regular issues and additional patterns for a variety of special issues. Kathy has also written three books. For a free catalog of 500 patterns, contact Kathy Wise Designs Inc., P.O. Box 60, Yale, Mich. 48097, fax 810-387-9044, www.kathywise.com, kathywise@bignet.net.



Nativity #337

Shepherd #333

Materials & Tools

Materials:

Wise Man 1:

- Medium light wood, such as zebrawood, 1" (25mm) thick: 6" x 8" (152mm x 203mm)
- Light wood, such as maple, 1" (25mm) thick: 3" x 5" (76mm x 127mm)
- Yellow wood, such as yellowheart, 1" (25mm) thick: 3" x 3" (76mm x 76mm)
- Red wood, such as tigerwood, 1" (25mm) thick: 5" x 8" (127mm x 203mm)
- White wood, such as poplar, 1" (25mm) thick: 3" x 3" (76mm x 76mm)

Wise Man 2:

- Red wood, such as cherry, 1" (25mm) thick: 6" x 25" (152mm x 635mm)

- Medium light wood, such as maple, 1" (25mm) thick: 6" x 8" (152mm x 203mm)
- Yellow wood, such as yellowheart, 1" (25mm) thick: 3" x 3" (76mm x 76mm)
- Dark wood, such as dark walnut, 1" (25mm) thick: 8" x 10" (203mm x 254mm)
- White wood, such as poplar, 1" (25mm) thick: 3" x 3" (76mm x 76mm)

Wise Man 3:

- Medium light wood, such as ash, 1" (25mm) thick: 8" x 20" (203mm x 508mm)
- Yellow wood, such as yellowheart, 1" (25mm) thick: 3" x 5" (76mm x 127mm)

- Red wood, such as tigerwood, 1" (25mm) thick: 8" x 12" (203mm x 305mm)
- White wood, such as poplar, 1" (25mm) thick: 3" x 3" (76mm x 76mm)
- Dark wood, such as wenge, 1" (25mm) thick: 4" x 8" (102mm x 203mm)
- Different dark wood, such as black walnut, 1" (25mm) thick: 2" x 2" (51mm x 51mm)

General Materials:

- Plywood, 1/4" (6mm) to 1/2" (13mm) thick: scraps for risers
- Glue: wood, cyanoacrylate (CA) with accelerator (optional)
- Shelf paper, such as Con-Tact® brand: clear

- Sanding drums: assorted grits
- Spray adhesive
- Finish: clear satin polyurethane varnish
- Waxed paper

Tools:

- Scroll saw blades: #3, #5, or #7 skip-tooth
- Sanders: pneumatic drum, flat drum, sanding mop, oscillating spindle
- Rotary tool with sanding drums and carving bits
- Woodburner and tips

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

Layered Christmas Trees



Make a whole forest of custom trees for holiday decorating

By Sue Mey
Cut by Leldon Maxcy

The beauty of these stacked trees is their versatility. You can decorate them using countless techniques. They look great cut from attractive hardwood in almost any color, but they shine when cut from light-colored wood that can be stained, dyed, or painted.

Making the Trees

Each layer in the stack is solid. Make four copies of each nested pattern, trim them to separate the layers, and attach them to the wood.

The angles listed for each layer are based on 1½" (38mm)-thick wood, so glue up wood if necessary to get this thickness. If you use thinner wood, experiment to determine the proper angle.

Tilt the left side of the saw table down to the

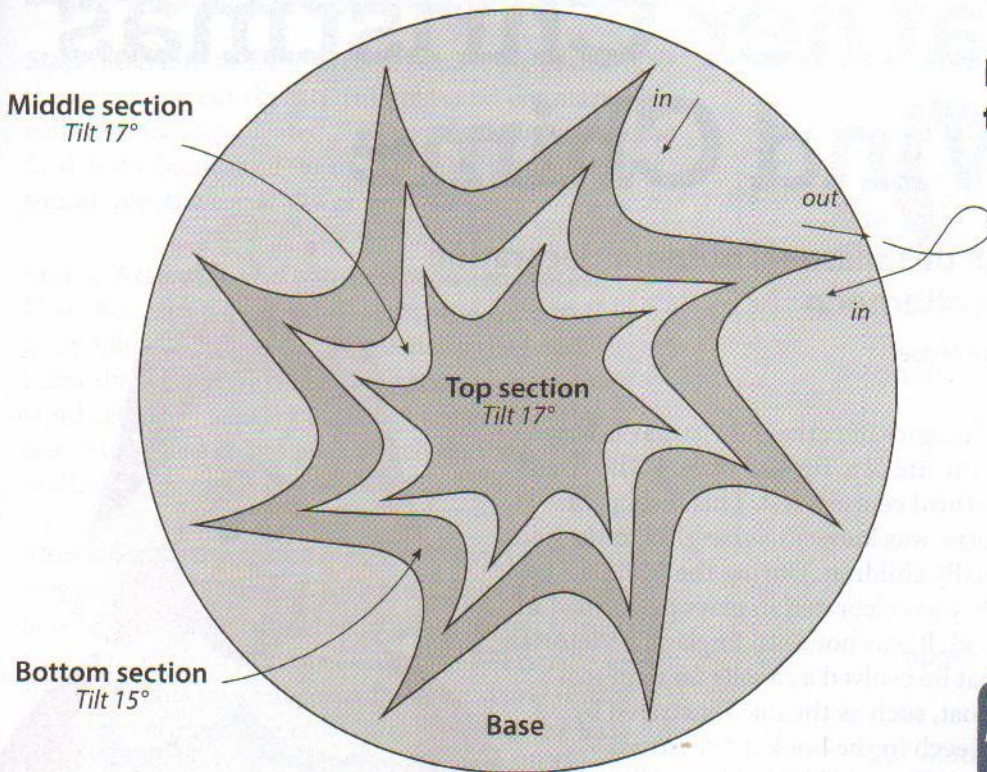
indicated angle and cut clockwise along the lines. If you want to add a trunk and base, cut the base pattern with the saw table level. Then, drill a ¼" (6mm)-diameter by ½" (13mm)-deep hole in the bottom and a matching hole in the base to accommodate a ¼" (6mm)-diameter dowel.

Finishing the Trees

Sand the cut layers smooth. Then, paint or stain as desired (mask the joint area for a solid glue joint). You could stain or paint alternating layers; paint the trees green and add snow; or use flocking or dimensional paint to accent the designs. Use your imagination.

To assemble the trees, glue and clamp the middle section to the bottom and allow the glue to dry. Repeat the process to add the top and tip.

Layered Christmas tree patterns



Additional patterns for **LAYERED CHRISTMAS TREES** are in the pullout section.

Materials & Tools

Materials:

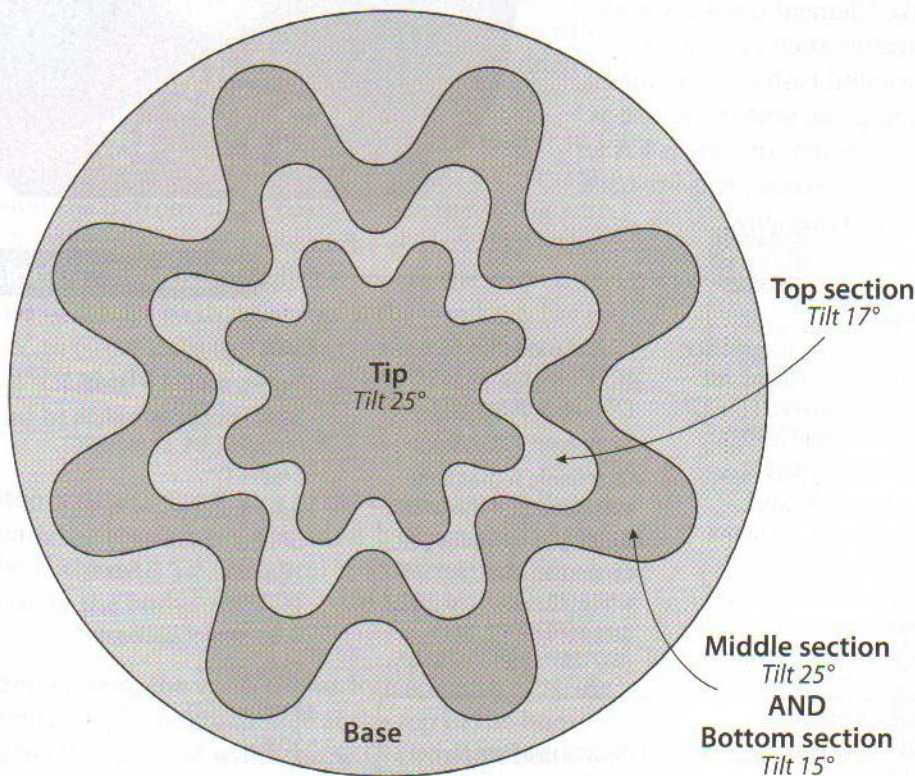
- Wood, 1½" (38mm) thick: per tree 4" x 15" (102mm x 381mm)
- Dowel, ¼" (6mm) dia.: trunk (optional) 2" (51mm) long
- Sandpaper
- Wood glue
- Finish, such as dye, stain, paint, puffy paint, and/or flocking

Tools:

- Scroll saw blades: #9 skip-tooth
- Clamps
- Drill with bit: ¼" (6mm)-dia. twist

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

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Sue Mey lives in Pretoria, South Africa. To see more of her work, including a wide variety of patterns and pattern-making tutorials available for purchase, visit www.scrollsawartist.com. She can be contacted at

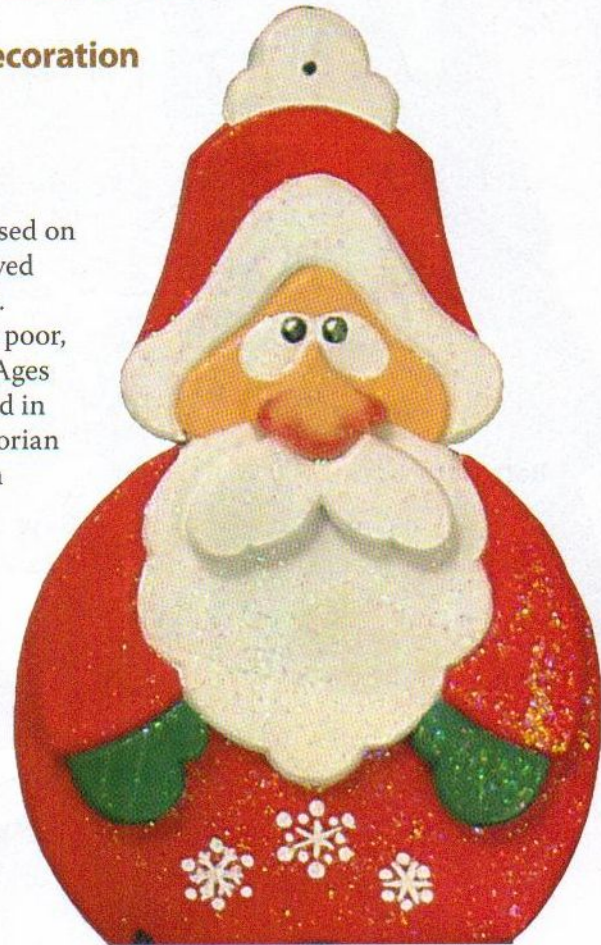
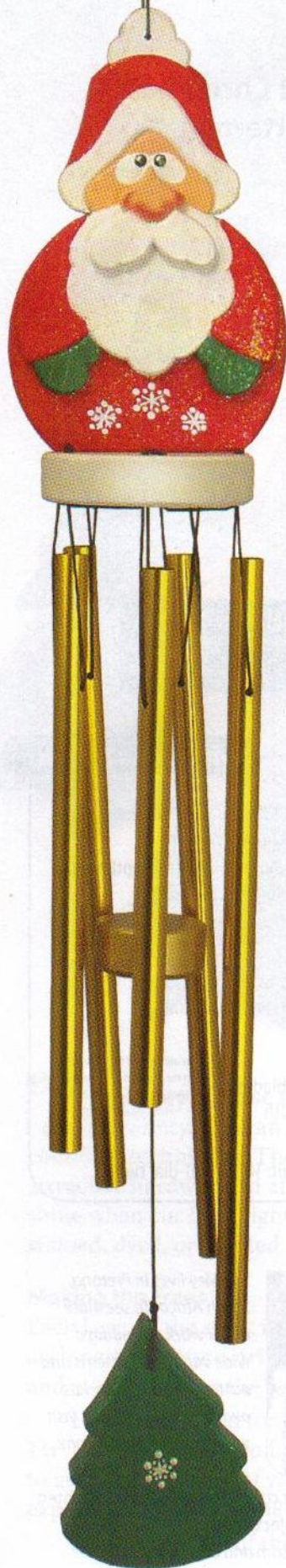
suem@storage.co.za. Her pattern book, *Lighted Scroll Saw Projects*, is available from www.schifferbooks.com and other outlets.

Father Christmas Wind Chime

Make this seasonal outdoor decoration in an afternoon

By Paul Meisel

The story of Father Christmas is based on the life of a Turkish bishop who lived in the third century AD. This bishop, St. Nicholas, was known to give gifts to the poor, especially children. During the Middle Ages his life was celebrated in plays performed in England. It was not until England's Victorian era that he evolved as a jolly fat man in a long coat, such as the one illustrated by John Leech in the book *A Christmas Carol*. Different Old World countries had their own names for this beloved saint. In France he was known as Père Noël, and in Holland he was Sinterklaas. In America, writers like Clement Clarke Moore and illustrators such as Thomas Nast reinvented Father Christmas into the image we now recognize as Santa Claus. Today, the terms Father Christmas and Santa Claus are used almost interchangeably.



Materials & Tools

Materials:

- Birch plywood, 1/4" (6mm) thick: nose, mustache, mittens, hat brim, arms, and head, 12" x 12" (305mm x 305mm) (#9560)*
- Pine, 3/4" (19mm) thick: base, body, clapper, and wind catcher, 5 1/4" x 24" (133mm x 610mm)
- Exterior screws: 2 each #6 by 2" (#1446)*
- Wind chime string: 14' (4.3m)
- Midsize wind chime tube set, 1/2" (13mm) dia.: 8" to 12" long (203mm to 305mm) (#1847)*
- Sandpaper: 100, 220 grits
- Clear finish, such as Delta exterior varnish (#07003)*
- Acrylic paints, such as Delta Ceramcoat: black (#02506)*, white (#02505)*, red (#02507)*, green (#02068)*, flesh (#02126)*, gold (#02604)*

SPECIAL SOURCES:

Items marked with an asterisk (*) are available from Meisel Hardware Specialties. To order parts or to request a catalog, call 800-441-9870 or visit www.meiselwoodhobby.com.

Tools:

- Needle: size #14 (#1364)*
- Scroll saw blades, such as Olson PGT: #5, #7 (#456PGT, #458PGT)*
- Hand drill or drill press with bits: 7/64" (2.75mm), 1/8" (3mm), 9/64" (3.5mm), 1/4" (6mm)
- Drum sander (optional)
- Screwdriver
- Paintbrushes
- Scissors

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

MAKING THE WIND CHIMES

Step 1: Cut and drill the pieces. Attach the patterns to the wood and cut them. Drill holes and countersink or counterbore as indicated. To provide definition to the face parts, hand sand (or use a small drum sander) to round over the top edges of each part.

Step 2: Assemble and paint the wooden pieces.

Glue the mittens, hat brim, arms, and head to the body. Glue the nose and mustache to the head. Paint the project, including the base, clapper, and wind catcher. I suggest using acrylic craft paints (recommended colors are marked on the pattern) and sealing them with exterior varnish.

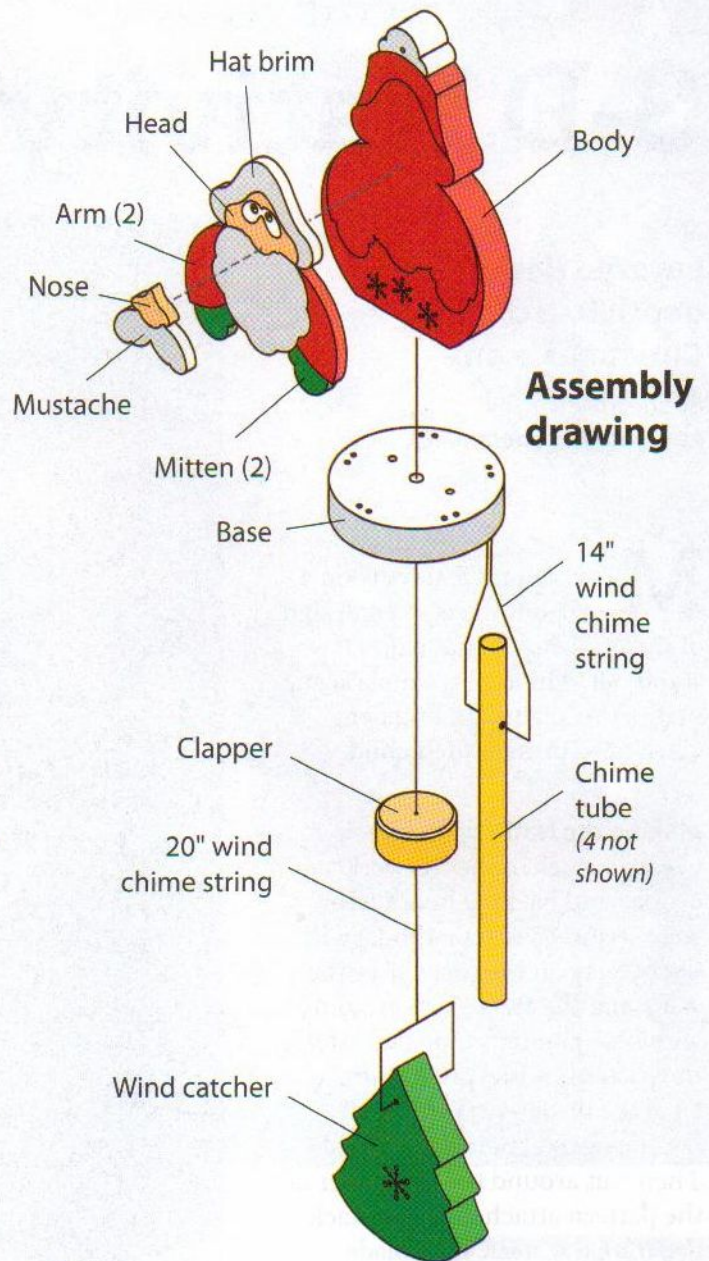
Step 3: String the chime tubes. Cut five 14" (356mm) lengths of wind chime string. Run a piece through the hole in one wind chime tube and up through the base as shown in the assembly drawing (a #14 needle greatly simplifies this procedure). Adjust the string until the top of the chime tube is $\frac{3}{4}$ " (19mm) below the base (see Tip). Tie the ends of the string. Repeat with the other tubes. Trim the excess string.

Step 4: Add the clapper and the wind catcher. Cut a 20" (508mm) length of string and thread it through the center hole in the base. Secure it with several knots to create a large enough knot ball that the string cannot be pulled back through. The knot will be hidden by the body later.

Thread the hanging string through the hole in the clapper. The top of the clapper should be 6" (152mm) from the bottom of the base. Secure the string with a knot on the bottom side of the clapper. Place the end of the string through the hole in the wind catcher and tie a knot so that the top of the wind catcher is 5½" to 6" (140mm to 152mm) below the clapper. Make a 2" (51mm) loop so the wind catcher will center itself and hang straight.

Step 5: Attach the figure to the base. Use the base to mark the locations of the screw holes in the bottom of the body; drill $\frac{7}{64}$ " (2.75mm)-diameter holes. Screw the base to the body.

Step 6: Hang the wind chime. Run a length of string run through the small hole at the top of the body. Hang the finished wind chime from an eye hook placed in a porch ceiling or under an eave.



TIP

EASY SPACING

Place a $\frac{3}{4}$ " (19mm)-thick block between the top of the tube and the bottom of the base to act as a gauge to ensure each tube is the same distance from the base.

Patterns for the **FATHER CHRISTMAS WIND CHIME** are in the pullout section.



Paul Meisel and his team at Meisel Hardware Specialties have designed over 3,500 projects and plans for the home hobbyist woodworker. More than 25 projects from Paul's collection have appeared in past issues of Scroll Saw Woodworking & Crafts magazine.

3-D Nativity Scene

Layered design adds depth to a classic Christmas scene

By Sue Mey
Cut by Rolf Beuttenmuller

Most plaques just hang on a wall, but the layered design of this peaceful scene makes it stand out. The sweet, simple scene makes this plaque an excellent Christmas present for a child.

Making the Nativity Plaque

Create a stack of the fretwork overlay and backing board (see page 70 for several methods) with the overlay on the top. Cover the stack and the stable background with blue painter's tape and attach the patterns with spray adhesive. Drill the blade-entry hole and cut the open area inside the halo. Then, cut around the perimeter of the pattern attached to the stack. Separate the stack, drill blade-entry holes, and cut the fretwork. For the stable, drill blade-entry holes and cut the openings. Then, cut around the perimeter. Sand away any fuzzies.

Paint or stain the fretwork backing board and the stable for contrast. Glue and clamp the backing board to the overlay and let the glue dry. Then, glue and clamp the fretwork assembly to the stable and let the glue dry. Apply a clear spray finish if desired. Attach a hanger to the back.

Patterns for the **3-D NATIVITY SCENE** are in the pattern pullout section.



Materials & Tools

Materials:

- Wood, $\frac{1}{8}$ " to $\frac{1}{4}$ " (3mm to 6mm) thick: fretwork overlay and backer, 2 each 5" x 9" (127mm x 229mm)
- Wood, $\frac{1}{2}$ " to $\frac{3}{4}$ " (13mm to 19mm) thick: stable, $6\frac{3}{4}$ " x 8" (171mm x 203mm)
- Spray adhesive
- Tape: blue painter's
- Wood glue

- Sandpaper
- Paint or stain (optional)
- Finish, clear spray (optional)
- Hanger

Tools:

- Scroll saw blades: #2/0, #3 reverse-tooth
- Drill with bits: assorted small
- Clamps

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



Sue Mey lives in Pretoria, South Africa. To see more of her work, including a wide variety of patterns and pattern-making

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

Dancing Angels



Brighten any room with this playful duo

By Sue Mey
Cut by Rolf Beuttenmuller

These dancing angels bring to mind the joy of the Christmas season. Cut them from thinner wood to make a plaque, or frame them on top of colorful paper. Choose plywood if you prefer to paint the silhouettes. Stack brightly colored paper or cardstock between thin plywood and cut to make Christmas card accents.

Making the Plaque

Attach the pattern (see Scroll Saw Basics, page 70). Drill blade-entry holes and cut the design. Then, sand away any fuzzies. Add color to the angels with acrylic paints if desired. Apply clear satin acrylic finish to protect the project.

Pattern for the **DANCING ANGELS** is in the pattern pullout section.

Materials & Tools

Materials:

- Maple, ¼" (6mm) thick: 8¼" x 9" (210mm x 229mm)
- Spray adhesive
- Blue painter's tape
- Sandpaper
- Paint or stain (optional)
- Finish: clear satin spray (optional)

Tools:

- Blades: #1 reverse-tooth
- Drill with bits: assorted small

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



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

Spiral Ornament

Use compound-cutting techniques to make a spring-shaped icicle

By David Holkeboer
Cut by Leldon Maxcy

While thinking about new patterns for compound-cutting Christmas ornaments, it occurred to me that I could cut a helix, like a coiled spring. I needed a sine curve on one face of a block, with a cosine curve on the other (sorry for the math, I think that way). It worked, but the result is not a true circular helix, so I call it a “helicoid.”

Selecting the Wood and Blades

Compound cutting requires cutting thick wood and using aggressive blades. I suggest using poplar or basswood for this ornament. They are both easy to cut and reasonably strong. Choose a large blade with an aggressive tooth design. I use a Titanium #7 plain blade from Judy Gale Roberts Studio (intarsia.com) or a #7 regular hook-tooth blade from Garnet Hall (sawbird.com). Avoid reverse-tooth blades. Don't force the blade to cut too fast. It takes me at least 30 minutes to cut one ornament, and the blade is noticeably dull by the time I have finished. I use a new blade for each ornament.

Materials & Tools

Materials:

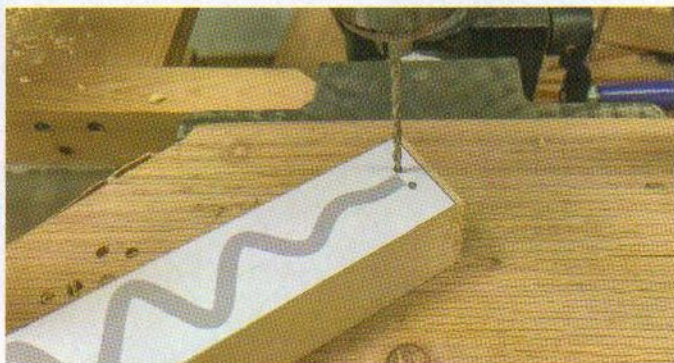
- Poplar or basswood, 1¼" (32mm) square; 6½" (165mm) long
- Adhesive: spray or glue stick
- Finish
- Thread

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

Tools:

- Scroll saw blades: #7 hook-tooth
- Drill press with bits: ¼" (2mm), ⅜" (2.5mm) twist
- Table saw (optional)

MAKING THE ORNAMENT

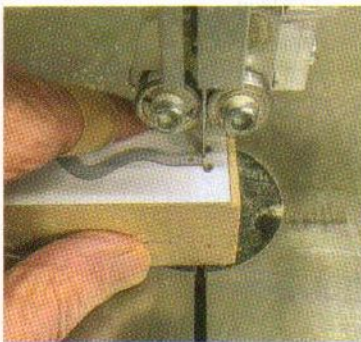


▲ Step 1: Prepare the blank. Cut 1 1/4" (32mm)-square strips with a table saw. Then, cut the strips into blanks that are at least 1/2" (13mm) longer than the pattern. Fold the pattern on the dotted line, apply adhesive to the back, and align the fold with the corner of the blank. Press the pattern into place.

Instead of cutting in from the edge of the blank, I drill four blade-entry holes and four exit holes (marked on the pattern), using a drill press to ensure the holes are perpendicular to the blank. Drill the hanging hole while the blank is still square.

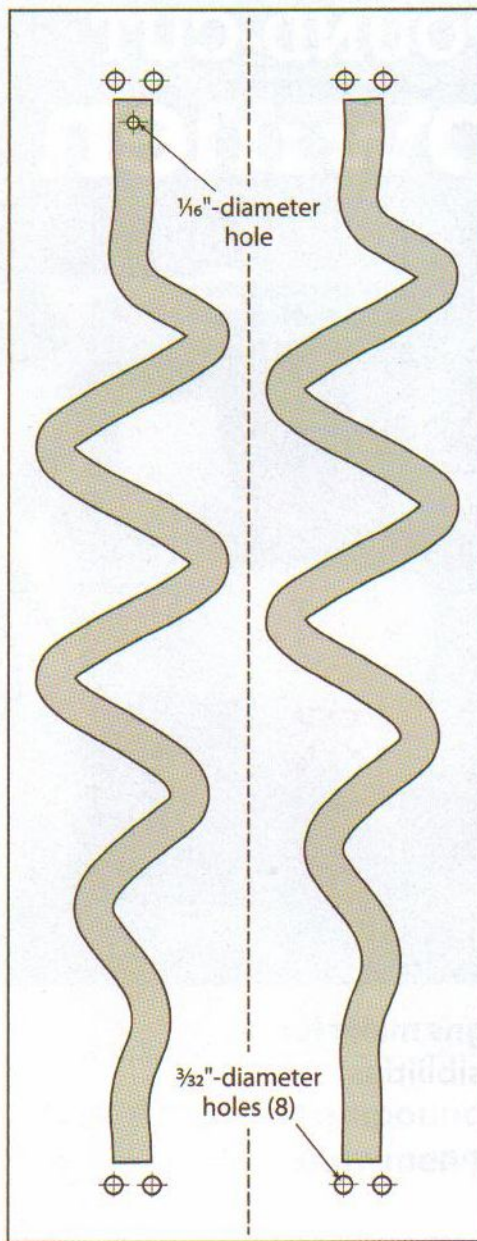


◀ Step 2: Cut the wood. Insert the blade in an entry hole. Cut along the line to the corresponding exit hole. The exit hole makes removing the blade easy. Then, repeat the process for the other line. Rotate the blank 90° and cut along the two other lines. This process leaves all of the pieces connected at the ends, so you don't need to worry about taping them back together.



◀ Step 3: Finish the ornament. Cut off the ends of the blanks. This frees the ornament from the scrap. The helicoid will be in the center of a group of interestingly shaped scrap. Apply a finish of your choice and add a loop of thread through the hole to hang it.

ON THE WEB More spiral ornament patterns available online.
www.scrollsawer.com



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Spiral ornament pattern

TIP

PRESENTING THE ORNAMENT

Some people find the waste pieces to be an interesting puzzle and prefer to receive the whole block with the helicoid inside.



David Holkeboer is a retired mechanical engineer living in Jenison, Mich. He has been scrolling since 2004.

COMPOUND-CUT Snowmen



Simple designs make for endless possibilities

By Sue Mey
Cut by Leldon Maxcy

These snowmen are fun to cut and even more fun to paint! Your imagination is the limit when it comes to giving each snowman or snowlady a different personality. Use a few pom-poms or ribbons when decorating your new snow friends for added pizzazz.

Making the Snowmen

Fold the pattern along the dotted line. Cover the blank with blue painter's tape. Use a glue stick or spray adhesive to attach the pattern to the blank, aligning the fold with the corner of the blank. Make a single uninterrupted cut around the perimeter line on one pattern view, using a #7 to #9 blade for softer woods or a #12 blade for harder woods. Remove the dust with a vacuum and wrap clear packaging tape around the block to hold the cut pieces in place. Rotate the blank 90° and make a single uninterrupted cut along the perimeter of the other pattern view. Remove the

Materials & Tools

Materials:

- Wood: 2" (51mm) square: assorted lengths from 4" (102mm) to 5½" (140mm)
- Spray adhesive or glue stick
- Tape: blue painter's
- Sandpaper, 320 grit
- Paint
- Cyanoacrylate (CA) glue, such as Super Glue

- Decorative items, such as twigs, pom-poms, ribbons (optional)
- Paint pens (optional)

Tools:

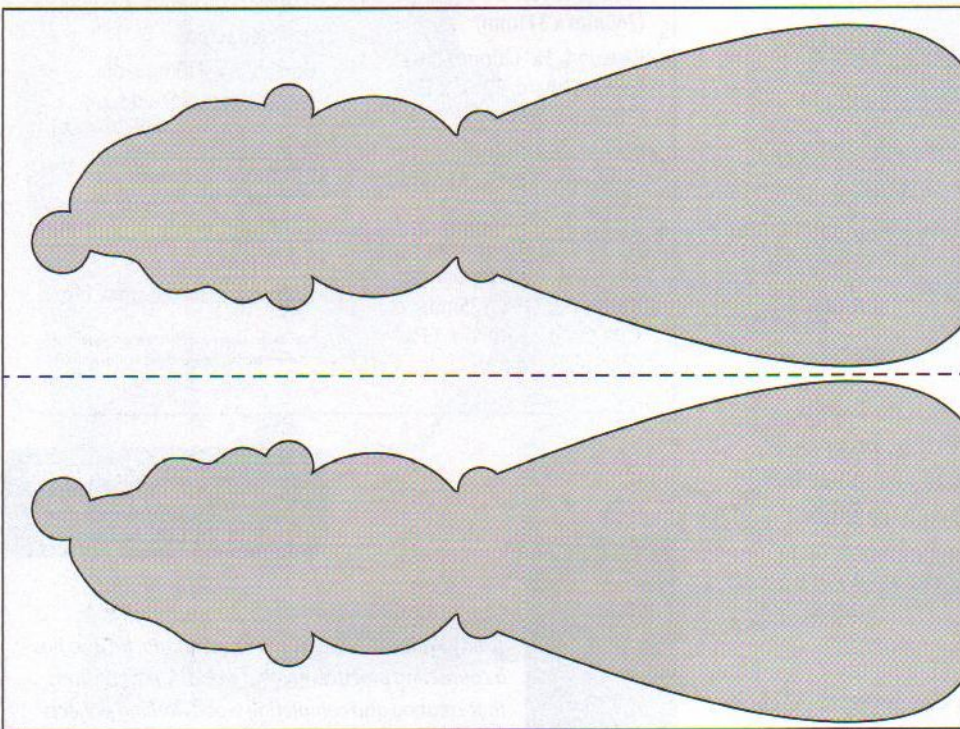
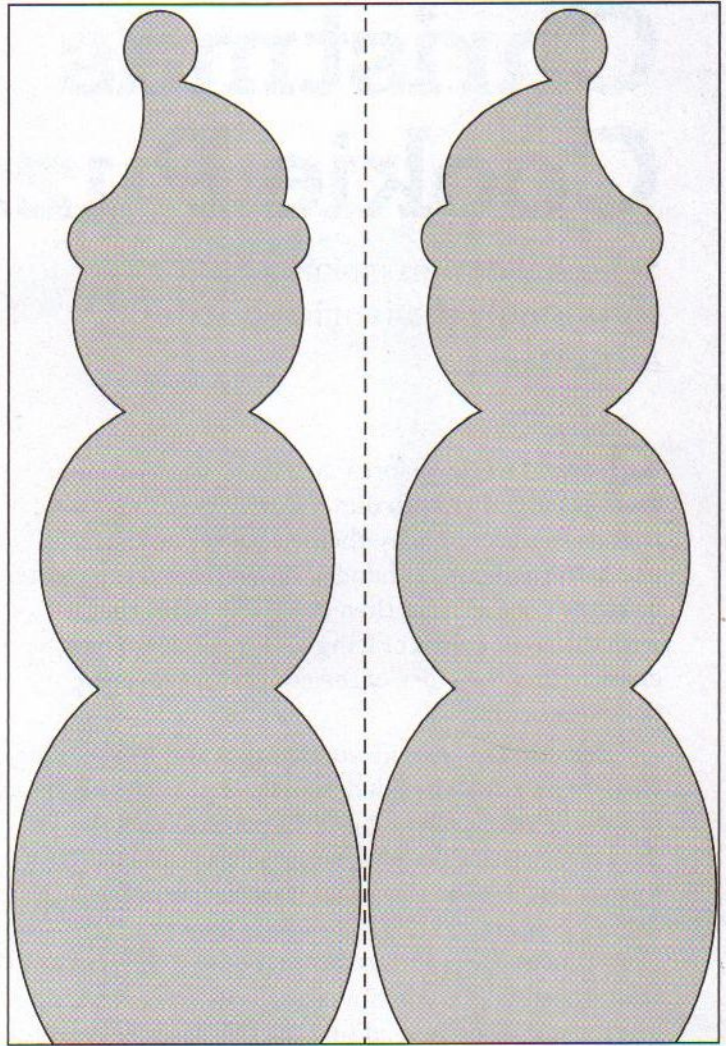
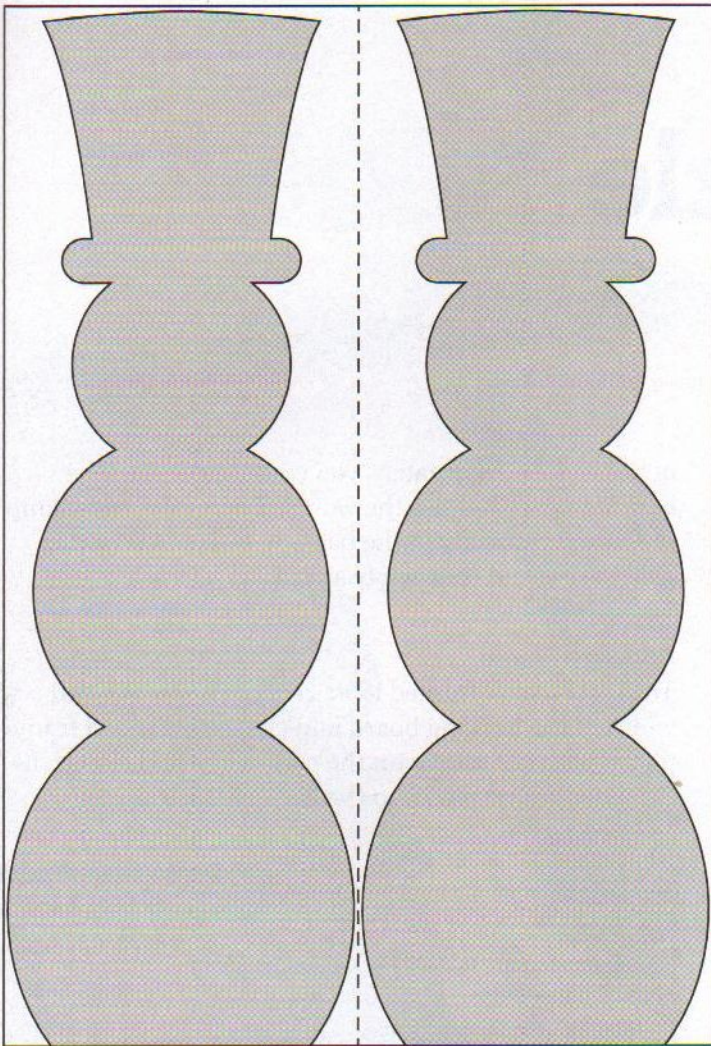
- Scroll saw blades: #7 or #9 (softwood), #12 (hardwood)
- Vacuum
- Paintbrushes

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

waste pieces. Sand the pieces with 320-grit sandpaper. Remove sanding dust using a stiff-bristled paintbrush.

Paint the snowmen as you choose. Draw details onto the wood with paint pens or a fine-tipped brush and acrylic paints.

You could also drill holes in the sides of the snowmen, insert twigs for the arms, and secure them with cyanoacrylate (CA) glue, such as Super Glue. Use fabric, ribbon, or string to make a scarf.



Compound-cut snowmen patterns

Additional patterns for **COMPOUND-CUT SNOWMEN** are in the pullout section.



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

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Christmas Cookie Puzzle

Seasonal design makes a surprisingly challenging puzzle

By Chuck MacKnee

Several weeks before Christmas, my wife and I get together with our children, grandkids, and friends to make holiday-themed sugar cookies. We use patterned cutters handed down from our parents, bake the cookies, and then creatively paint them with different colors of icing and sprinkles. Then, we enjoy telling the story of the cookie and savoring the delicious baking.

Because I'm an avid woodworker and like making Christmas gifts, I decided to make a puzzle with some of the cookie cutters. I chose 12 patterns (for the 12 days of Christmas) and arranged them until they formed the design. Pieces jut into each other and the frame, so there are clues as to how they fit together. The empty spaces add to the challenge. Children and adults both take some time to solve the puzzle. Using a variety of wood and adding my two favorite Advent words—Joy and Peace—add to the beauty and meaning of the wooden picture.

Getting Started

Cut or plane pieces of scrap hardwood to $\frac{3}{8}$ " (10mm) thick. I used hardwood dowels for eyes, skate eyelets, and buttons. Attach the patterns to the blanks and drill any required holes (including the blade-entry holes for the inlaid heart and diamonds).

Cutting and Assembling the Puzzle

Cut the pieces, including the spaces for the inlaid pieces. Make sure they fit together snugly, but not so tightly that they have to be forced. Add the dowels and inlay pieces, leaving them proud of (slightly higher than) the surface. Round them with sandpaper and glue them in place. Sand the edges of the puzzle pieces.

Making the Frame

Drill the holes for the words and cut the letters. Attach walnut veneer to the back of the frame pieces and glue the middle parts of the P, O, A, and E to the front

of the veneer. Alternately, you could spot-stain the backing board behind the words. Then, glue and clamp the frame assembly to the backing board. Allow the glue to dry, and then apply a wipe-on varnish.

Adding a Frame

To create a faux framed look, reduce the length and width of the backing board and cut the extended frame pieces with 45° miters on the ends. Glue and clamp the extended frame pieces to the back of the frame.

Materials & Tools

Materials:

- Hardwood scraps, $\frac{3}{8}$ " (10mm) thick: puzzle pieces
- Alder, $\frac{3}{8}$ " (10mm) thick: frame, 10 $\frac{1}{4}$ " x 12 $\frac{1}{4}$ " (260mm x 311mm)
- Plywood, $\frac{3}{8}$ " (10mm) thick: backing board, 10 $\frac{1}{4}$ " x 12 $\frac{1}{4}$ " (260mm x 311mm)
- Walnut veneer: scraps to fit under words in the frame OR walnut stain
- Walnut, $\frac{3}{8}$ " (10mm) thick: extended frame (optional), 2 each 1" x 11 $\frac{1}{4}$ " (25mm x 285mm); 2 each 1" x 13 $\frac{1}{4}$ " (25mm x 337mm)
- Sandpaper
- Wood glue
- Varnish: wipe-on
- Dowels, $\frac{1}{8}$ " (3mm)-dia. maple: assorted scraps
- Dowels, $\frac{3}{8}$ " (10mm)-dia. mahogany: assorted scraps

Tools:

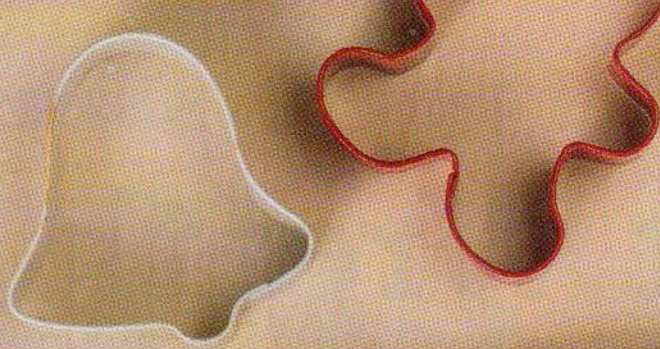
- Scroll saw blades: #5 reverse-tooth
- Sander
- Drill with assorted small bits

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

Pattern for the **CHRISTMAS COOKIE PUZZLE** is in the pattern pullout section.



Chuck MacKnee is a psychologist who teaches at Trinity Western University in B.C., Canada. He also has a counseling practice. An avid woodworker, he finds that creating and completing woodworking projects complements the ongoing process of working with the human psyche.



Holiday star puzzle pattern is available online.



ON THE WEB
www.scrollsawer.com

WOODEN Advent Wreath

Painted accents highlight this elegant candleholder

By Paul Meisel

The word “advent” is derived from a Latin word that means “to come.” Many Christians observe Advent, or the coming of Jesus Christ, by lighting candles each week during the month before Christmas. They may also celebrate the start of the season with the “hanging of the green,” which we honor with the green holly leaves and red berries on this wooden wreath. This project looks spectacular when cut from a hardwood, such as oak.

Getting Started

Make two copies of the half-wreath pattern and join them together to make a full pattern. Attach the patterns to the blanks. Stack the blanks for the angel wings, if desired (see page 70 for stacking instructions). I cut the holly leaves from basswood, which is easy to cut and has a tight, closed grain that provides a smooth surface for painting. You can stack-cut the holly leaves, as well.

For the wreath, edge-glue three pieces of wood together to obtain the required width. Alternate the curve of the grain among the three pieces to reduce warping.

MAKING THE PROJECT

Step 1: Cut the parts. Cut the pieces and drill the holes indicated on the patterns. The $\frac{1}{8}$ " (3mm)-diameter holes are pilot holes to attach the candle cups, and the $\frac{1}{4}$ " (6mm)-diameter holes are for the dowel pins to attach the holly berry balls. Use a router with a round-over bit to round the corners of the round areas of the wreath (inside and outside). Do not round the edges where the angels attach.

Step 2: Paint the pieces. Paint just the tops and sides of the holly leaves with green acrylic paint. To make a simple jig to hold the wooden balls while you paint them, insert $\frac{1}{4}$ " (6mm)-diameter by 2" (51mm)-long dowel pins into the holes in the wooden balls, and drill eight $\frac{1}{4}$ " (6mm)-diameter holes in a piece of scrap. Place the pins in the holes and paint the balls red to transform them into holly berries.

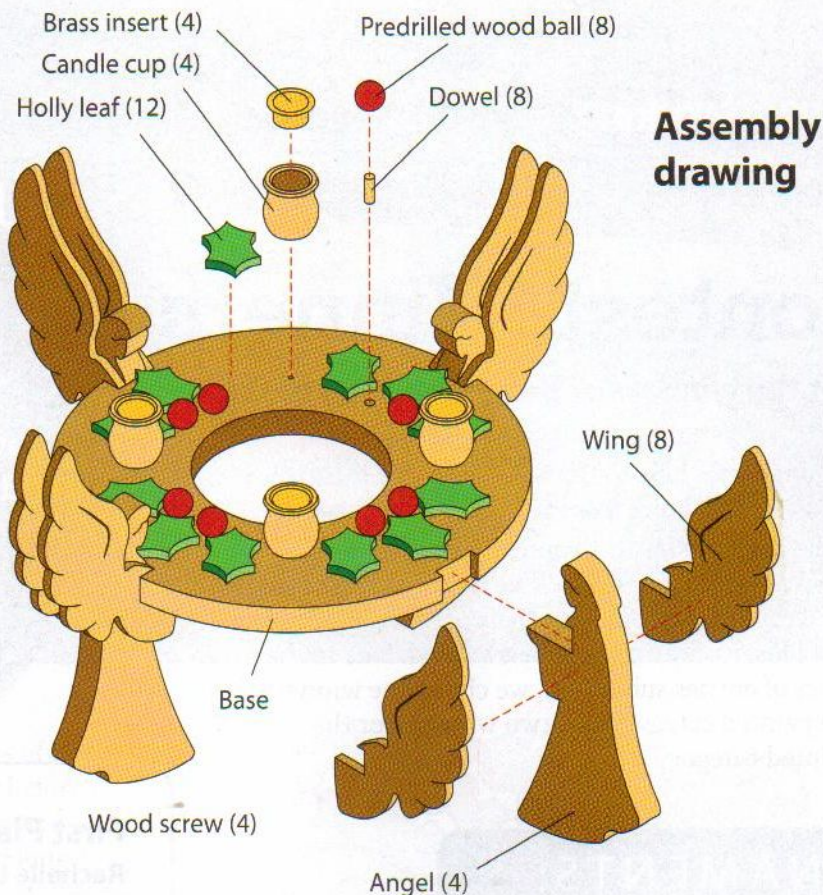
Step 3: Assemble the wreath.

Glue and clamp an angel wing to the sides of each angel, and then glue the angels to the wreath at the notches. Glue and clamp the holly leaves. Cut the dowel pins to $\frac{3}{4}$ " (19mm) long and use them to attach the holly berries to the wreath. Screw the candle cups into place.

Step 4: Finish the project. Apply a water-based satin varnish. Place the brass inserts into the candle cups. Cut and glue a small piece of felt to the bottom of each angel.



Paul Meisel and his team at Meisel Hardware Specialties have designed over 3,500 projects and plans for the home hobbyist woodworker. Dozens of projects from Paul's collection have appeared in Scroll Saw Woodworking & Crafts magazine.



Patterns for the **WOODEN ADVENT WREATH** are in the pattern pullout section.

Materials & Tools

Materials:

- Oak, $\frac{1}{4}$ " (6mm) thick: 3 each, 3" x 25" (6mm x 635mm) (#1325)*
- Oak, $\frac{3}{4}$ " (19mm) thick: 5" x 6" (127mm x 2m)
- Basswood, $\frac{1}{4}$ " (6mm) thick: 4" x 24" (102mm x 610mm) (#1316)*
- Spray adhesive: temporary bond (#1447)*
- Wood glue
- Wood screws: 4 each #6 by $1\frac{1}{4}$ " (32mm) long (#1445)*
- Dowel pins, $\frac{1}{4}$ " (6mm) dia.: 8 each 2" (51mm) long or length of $\frac{1}{4}$ " (6mm)-dia. dowel (#1142)*
- Oak candle cups, $\frac{7}{8}$ " (22mm)-dia. hole: 4 each, $1\frac{1}{2}$ " (38mm) tall (#7457)*
- Brass candle cup inserts, 4 each (#CC2)*
- Predrilled wood balls, $\frac{3}{4}$ " (19mm) dia.: 8 each (#8158)*
- Sandpaper: 100, 220 grits
- Acrylic paints, Delta Ceramcoat®: red (#02507)*, green (#02068)*
- Finish, such as Delta brand: clear satin varnish (#07003)*
- Felt sheet: 9" x 12" (#7355)*

Tools:

- Premium scroll saw blades, such as Olson PGT: #5, #7 (#456PGT & #458PGT)*
- Drill press with bits: $\frac{1}{8}$ " (3mm), $\frac{1}{4}$ " (6mm)
- Bar clamps
- Scissors
- Router with round-over bit
- Screwdriver
- Paintbrushes

SPECIAL SOURCES:

The items above marked with an asterisk (*) are available from Meisel Hardware Specialties. To request a catalog or order parts call 1-800-441-9870 or visit their website, www.meiselwoodhobby.com.

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

Contest Winners

Meet the winners of the Ornaments contest

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

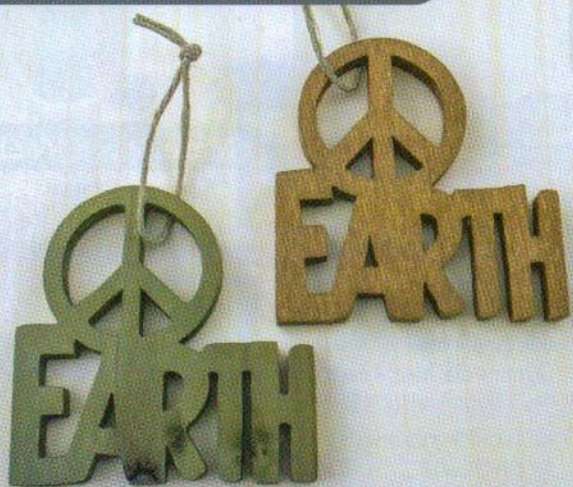
The category for this contest was Ornaments: Painted and Unpainted. We'll be talking to some of these scrollers about sharing their patterns in future issues. Plus, cash prizes will be awarded. Due to the number of entries submitted, we chose one winner in the painted category and two winners for the unpainted category.



First Place: Peace

Rachelle La Fave of Madison, Wis., scrolled her ornament because she believes we need more peace in this world. The center of the 3¼"-dia. ornament is attached with a fishing lure spinner that enables it to rotate independently from the exterior of the ornament.

ORNAMENTS: UNPAINTED



First Place: Peace on Earth

These *Peace on Earth* ornaments were designed by the husband-and-wife team **Richie and Larkin Newberry** from Summerville, S.C. Richie and Larkin created these ornaments with the idea that they can be used across all denominations and religions. They cut the 2¾"-square ornaments from poplar and stained them with a nontoxic dye.

Second Place: 3-D Deer

Daniel Blackmon of Holden, Mo., made *3-D Deer* from a 2½" maple ball. He cut the ball into thin slices with a band saw, and then cut the slices into trees and a pair of deer. He then glued the pieces back together where they had been in the ball.



Sleepy Snowman ORNAMENT



This happy fellow encourages you to fall asleep fast on Christmas Eve

By Sue Mey
Cut by Rolf Beuttenmuller

This ornament brings back memories of how excited I felt on Christmas Eve just before exhaustion set in and I fell asleep. No matter how hard I tried, I could never stay awake long enough to see Santa delivering presents.

If your Christmas tree is already bursting with ornaments, you can make a wintry sun catcher instead. After you cut the fretwork, stack the project with colored acrylic plastic as you cut the perimeter. Finish one side of the wood and then glue the acrylic to the other side.

This pattern also scales up well if you prefer to make a plaque.

Making the Ornament

Attach the pattern (see *Scroll Saw Basics*, page 70). Drill blade-entry holes and cut the design. Then, sand away any fuzzies. Add color to the snowman with acrylic paints if desired. Apply clear satin acrylic finish to protect the project.

Materials & Tools

Materials:

- Baltic birch plywood, 1/8" (3mm) thick: 4 1/2" x 5" (114mm x 127mm)
- Spray adhesive
- Blue painter's tape
- Sandpaper
- Paint or stain (optional)
- Finish: clear satin spray (optional)
- Tools:**
- Blades: #1 reverse-tooth
- Drill with assorted small bits

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



Sleepy snowman ornament pattern



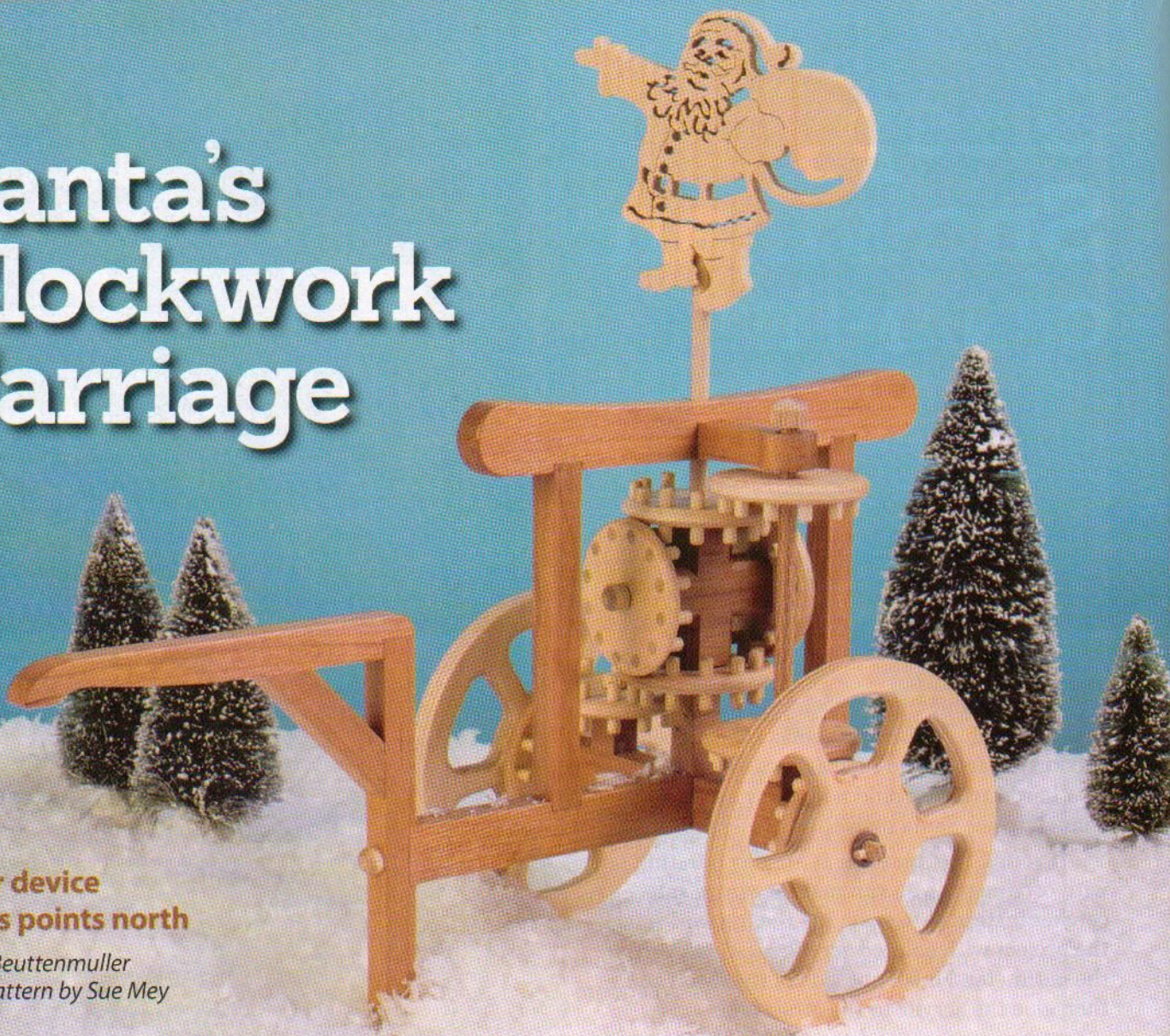
Sue Mey lives in Pretoria, South Africa. To see more of her work, including a wide variety of patterns and pattern-making tutorials available for purchase, visit www.scrollsawartist.com. She can be contacted at suem@storage.co.za. Her pattern book, *Lighted Scroll Saw Projects*, is available from www.schifferbooks.com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

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Santa's Clockwork Carriage

**Clever device
always points north**

*By Rolf Beuttenmuller
Santa pattern by Sue Mey*



Ancient Chinese people created the South-Pointing Chariot to help them navigate while traveling. Using a differential and system of gears, the pointer on the chariot could be set to always point south, which created a constant landmark used to navigate. I decided to create a North-Pointing Carriage so Santa could always find his way home.

The heart of this carriage is a differential carrier similar to the device that allows car wheels to rotate at different speeds when turning a corner. In the case of the carriage, as long as both wheels turn at the same speed the figure on top does not turn. As soon as the wheels rotate at different speeds, the differential rotates and turns the figure.

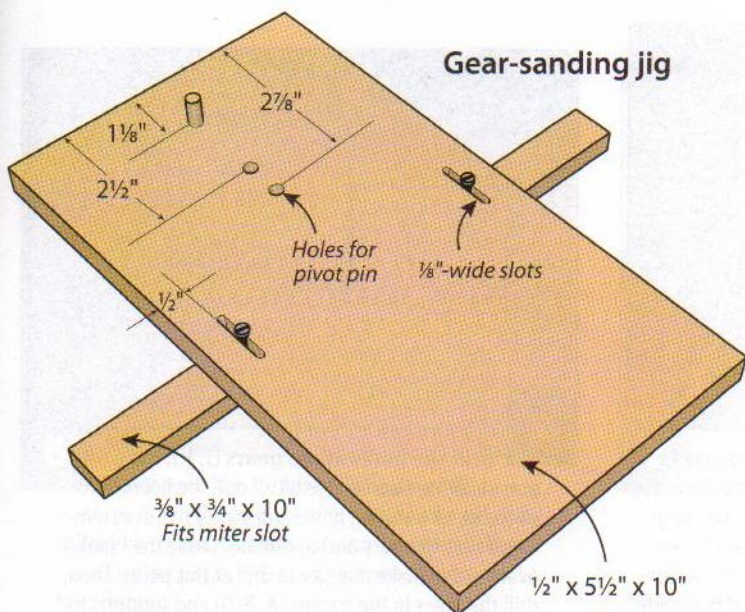
The gears are, by design, a bit loose, so don't depend on this for navigation. Also, it works as long as one wheel is stationary and the other turns; i.e., it pivots around a point. If you rotate it on its own axis,

both wheels turn around a center point at the same time. The figure rotation is doubled if both wheels turn. I see no simple solution to this. The Chinese must have gotten lost a lot.

Getting Started

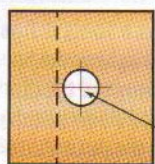
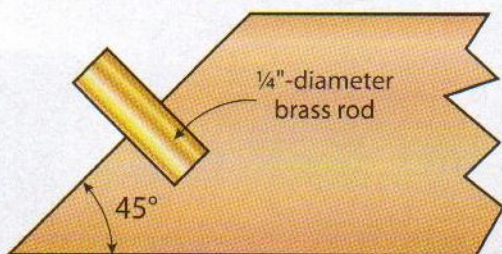
Read all of the instructions and gather the materials before you start. The entire project is made of wood, with the exception of two small screws; there are no exotic or hard-to-find materials.

Copy all of the patterns and compare them to the originals to make sure they are scaled correctly. Attach the patterns to the blanks using your favorite method (see page ••). I apply blue painter's tape to the wood and use spray adhesive to attach the pattern to the tape before cutting. Use the dimensions on the Parts List to cut the frame uprights (C), front carriage support (D), and various shafts, axles, and pins to size.



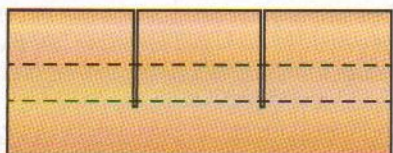
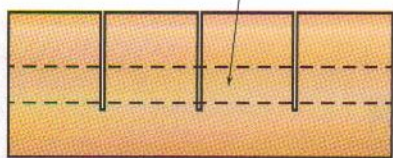
Gear-sanding jig

Bevel-sanding jig

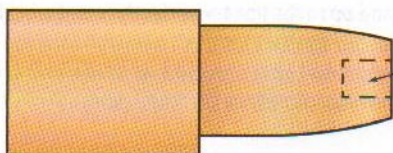


Dowel-cutting jigs

3/16"-diameter hole



Pin-holding jig



3/16"-diameter, 1/4"-deep hole

Tools & Jigs

There are many ways to build this project. Work with the tools you have and are comfortable with. I used a scroll saw, drill press, disc sander, and a router with a 1/8" (3mm)-radius round-over bit. In addition, a table saw would make it easy to cut the frame material to size. I recommend using a drill press rather than a handheld drill because the holes need to be perpendicular to the blank and precisely located.

Because there are multiple pieces that must be perfectly round and beveled, I use a few simple shop-made jigs.

Gear-Sanding Jig

I used basic hardware and scrap plywood to make an adjustable jig to sand the gears perfectly round. Cut a strip of 3/8" (10mm)-thick wood to fit the miter slot on a disc sander; sand the strip smooth. Cut the plywood to size (see the drawing). Then, cut two 1/8" (3mm)-wide by 1 1/2" (38mm)-long slots in the center of the plywood, 1/2" (13mm) in from each edge. Then, drill three 1/4" (6mm)-diameter holes for the pivot pins, using the drawing as a guide. See Step 3 for instructions on how to use the jig to true the wheels and gears to the center hole.

Bevel-Sanding Jig

I use this adjustable jig on the disc sander as well. The brass pin fits through the hole in the center of the gears and wheels, and the angled block is clamped to the miter guide on the disc sander. The jig allows you to control the width of the bevel based on how close you position it to the sanding disc. See Step 4 for instructions on how to use the jig to bevel the gears.

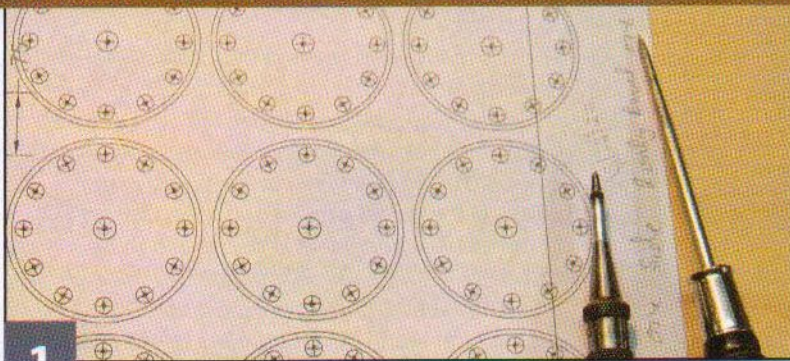
Dowel-Cutting Jig

Because you need to cut a bunch of dowels to 1/2" (13mm)- or 3/4" (19mm)-long pins, I created a simple jig to hold the dowels while you cut them. Drill a 3/16" (5mm)-diameter hole down the center of two pieces of 3/4" (19mm)-square by 2" (51mm)-long scrap wood. Measure, mark, and use a #2/0 blade to cut in at 1/2" (13mm) increments on one piece and 3/4" (19mm) increments on the other piece. Cut in past the hole in the center of the stock. See Step 7 for instructions on how to use this jig to cut the dowel pins.

Pin-Holding Jig

I use this simple jig to hold the cut pins. To make it, drill a 3/16" (5mm)-diameter by 1/4" (6mm)-deep hole in the end of a 3/4" (19mm) dowel. Use a belt sander to roughly taper the drilled end. See Step 8 for instructions on how to use this jig.

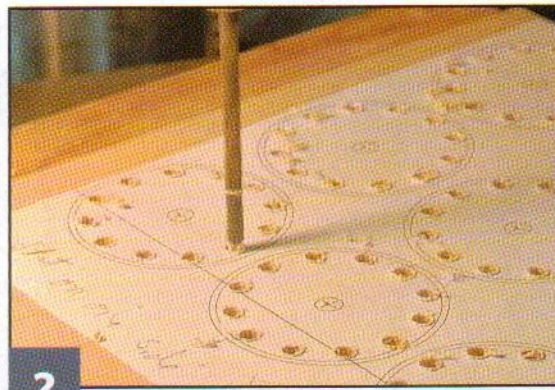
CARRIAGE: CUTTING THE GEARS



1

Mark the center points of the holes in the gears (J, K) with an awl.

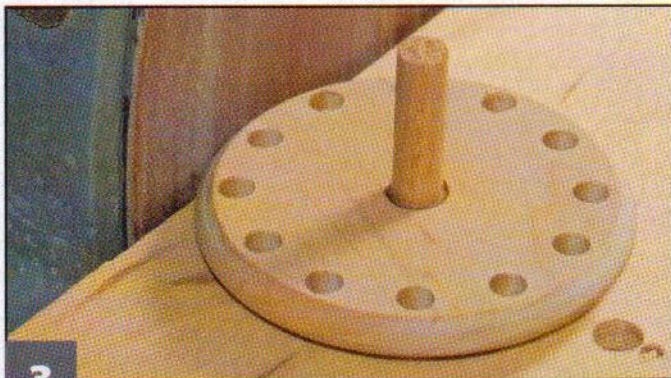
Enlarge the awl dimples with a center punch. Then, drill test holes in scrap wood to determine the sizes of the holes you need; the diameters of dowels and axle pegs can vary. I used a #14 wire-size bit to drill the holes for the gear tooth pins (Q, R) so the pins fit snugly. Choose a bit for the center holes in the gears, frames (A, B, G), and upper drive support (H) just large enough to allow the hardwood dowels to spin freely without wobbling; I used a 6.5mm bit.



2

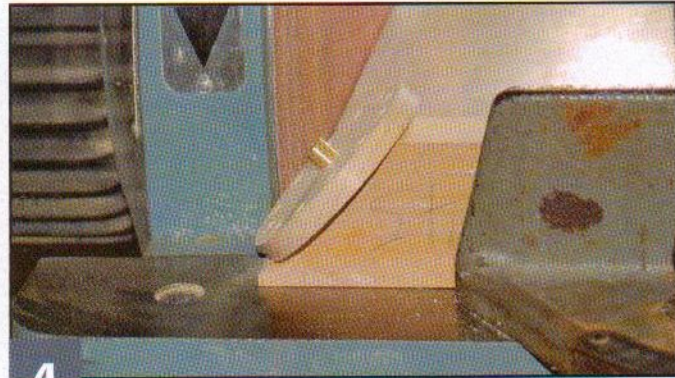
Drill the holes in the gears (J, K). Use a drill

press and the appropriate bits. I drill the holes now so the bevel-sanding process in Step 4 removes any wood that splinters during drilling. Leave the blanks oversized to make it easier to drill at this point. Then, drill the holes in the frames (A, B, G) and support (H).



3

Cut the gears. Use a #5 blade and stay slightly outside the lines. Then, place the Gear-Sanding Jig (see Tools & Jigs) on a disc sander. Insert the dowel pin through the center of the gear, and carefully position the jig so the disc removes the excess wood up to the pattern line. Slowly rotate the gear on the pin until you've sanded off the excess wood and made sure the pin is perfectly centered on the gear. Repeat for all of the gears.

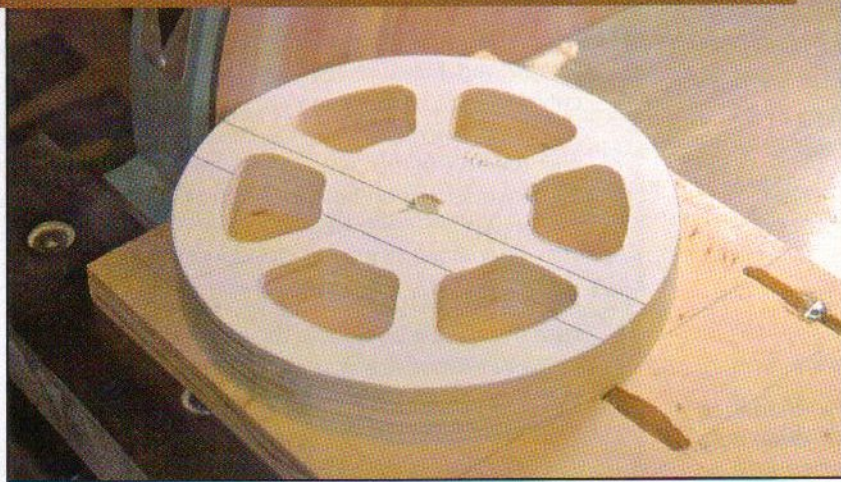


4

Position the Bevel-Sanding Jig (see Tools & Jigs) on the

disc sander table. Place the miter guide against the jig. Place the gear on the pin. Slide the jig and gear toward the disc sander until you remove about $\frac{1}{16}$ " (2mm) of wood from the top edge, stopping just before the pin holes. Clamp the jig to the miter guide and carefully rotate the gear to bevel the top. Flip the gear and bevel the other side. Repeat for all of the gears.

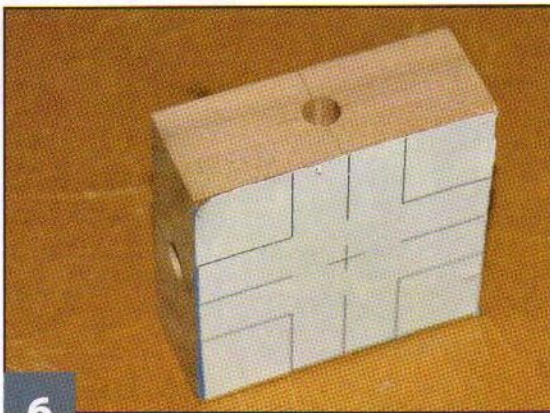
CARRIAGE: CUTTING THE REMAINING PARTS



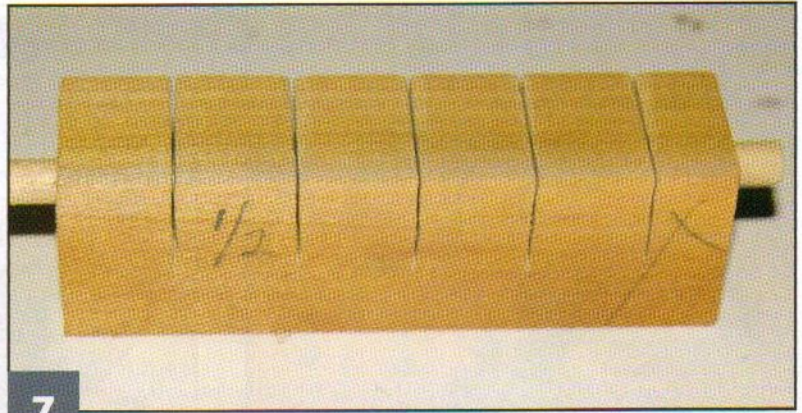
5

Stack together the wheel blanks (I). Secure

them with brads or pin nails in all four corners. Center the pattern on the blank. Use an awl to mark the center, enlarge it with a center punch, and drill the hole large enough that the axles will move freely. Insert an axle pin in the center hole to keep everything aligned. Drill blade-entry holes for the frets between the spokes, and cut the frets with a premium #9 blade, such as an Olson PGT. The birch plywood can be tough, so take your time cutting. Sand the frets smooth. Cut the perimeter just outside the lines. Then, use the Gear-Sanding Jig to sand up to the line for perfectly round wheels.



6 Make sure the differential carrier (P) is square. Drill holes large enough that the dowels can spin freely without wobbling on all four edges. Then, cut along the pattern lines. For a finished look, chamfer the edges.

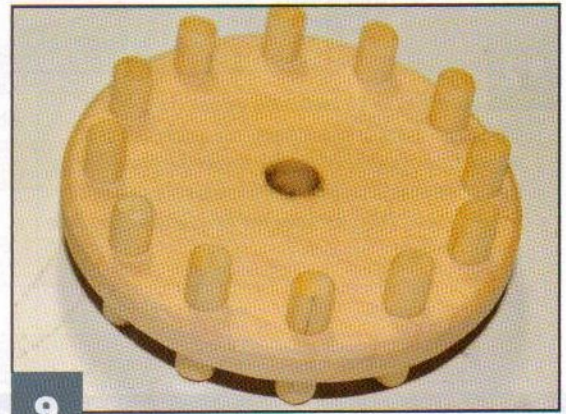


7 Cut the gear pins. Insert the dowel for the short gear pins (Q) into the 1/2" (13mm) Dowel-Cutting Jig. Use a #2/0 blade to cut in at each slot. When you've cut all of the slots, push the cut pins out, reposition the dowel, and cut in at the slots again. Repeat the process to cut 72 short pins. Use the 3/4" (19mm) Dowel-Cutting Jig to cut 36 long gear pins (R).

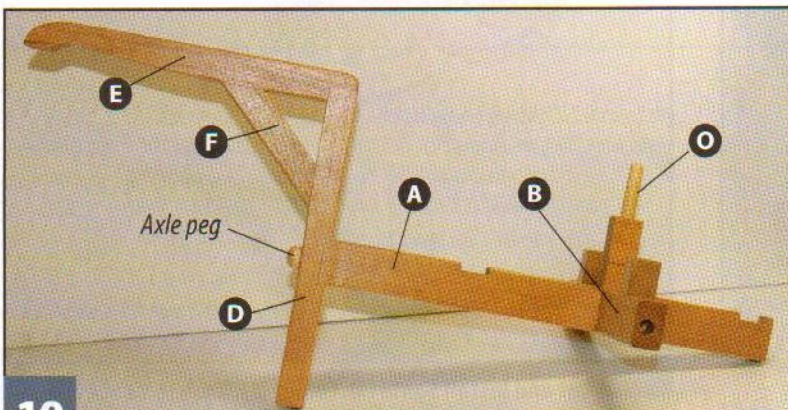
CARRIAGE: ASSEMBLING THE MACHINE



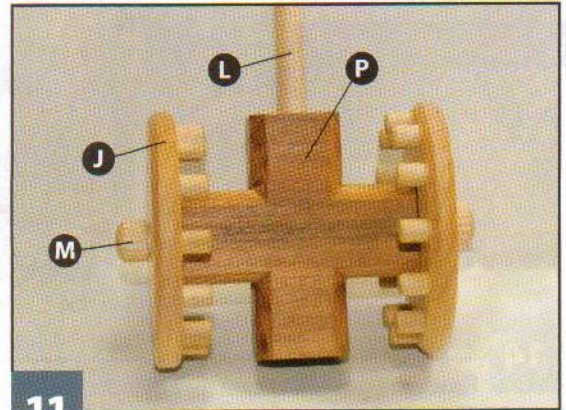
8 Insert the gear pins into the Pin-Holding Jig. Use the belt sander to remove the burrs from the ends of the pins and to round the edges slightly. Then, use the jig to start a short gear pin (Q) in a single-sided gear (J) as perpendicular as possible to the surface of the gear. Then, gently tap it into place with a small hammer. Repeat for all of the single-sided gears.



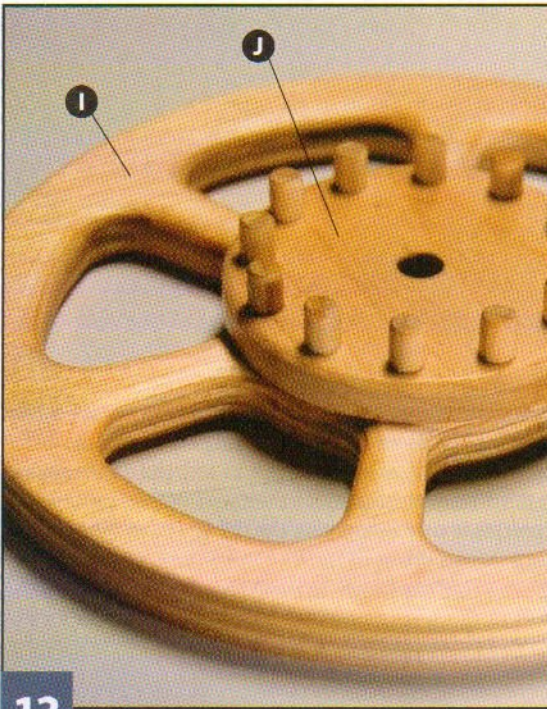
9 Install the pins in the two-sided gears (K). Position a 1/4" (6mm)-thick disc under the gear. Make sure the disc fits inside the ring of pins. Then, repeat Step 8 to install the long gear pins (R) in the holes, but drive the pins through until they reach the bench. This allows 1/4" (6mm) of each long pin to protrude from both sides of the gear.



10 Cut the frame pieces. Leave the notches undersized and trim them to fit the matching part snugly. Glue and clamp most of the elements together. Reinforce the joint between the front carriage support (D) and the main frame (A) with a dowel (I used an axle peg). I use two wood screws to attach the frame uprights (C) to the main frame (A) so the carriage can be disassembled.

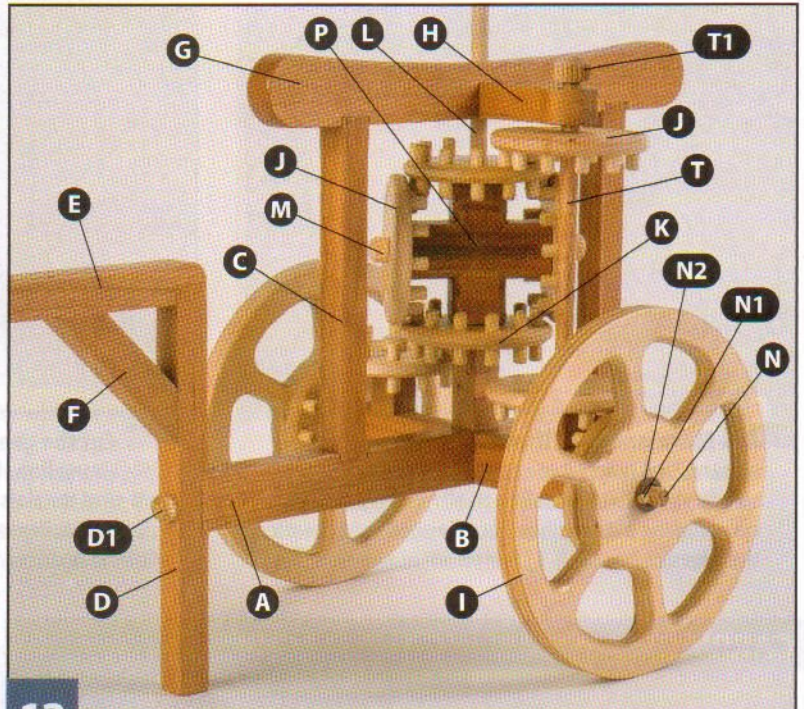


11 Glue the figure support shaft (L) to the top of the differential carrier (P). Attach the single-sided gears (J) to the differential. I turned custom pins, but you could use axle pegs. The gears should spin freely on the pins.



12

Apply wax to two axle pegs. Then, apply glue to the back of two single-sided gears (J) and attach them to the wheels (I). Insert the waxed pegs through the axle holes to keep things aligned until the glue sets. Then, remove the pegs and let the glue cure overnight.

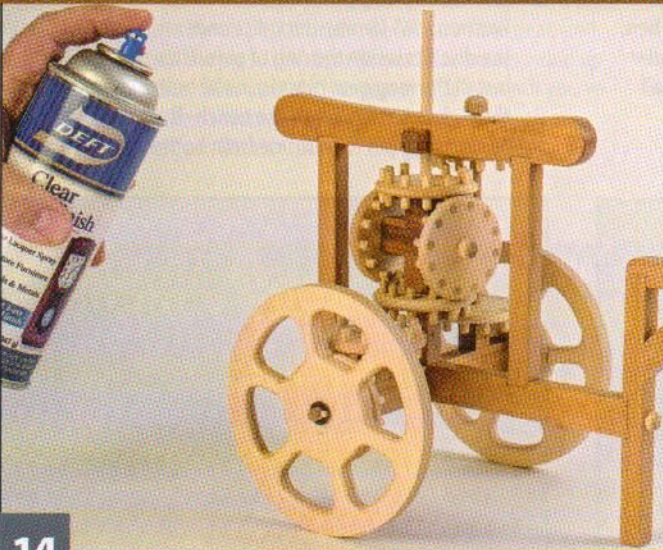


13

Place the single-sided gears (J) on the side transmission shaft (T).

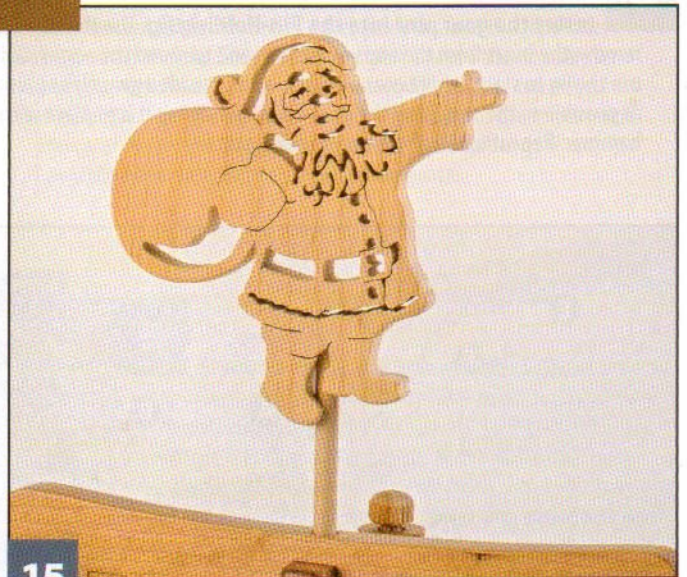
Then, add the two-sided gears (K) to the differential pivot pin (O) and figure support shaft (L). Assemble the differential mechanism and add the wheels. I use dowels that I attached with a cross pin and decorative walnut washer, but you could use axle pegs. Adjust the spacing between the gears on the side transmission shaft so they mesh properly with the gears on the wheels and differential assembly. Mark the location, move the gears on the shaft enough to add a bit of wood glue, and then return them to the proper location.

CARRIAGE: COMPLETING THE PROJECT



14

Finish the carriage. Adjust the action of the upper drive gears and differential until it works properly. Then, disassemble the carriage and soften all of the edges with a sanding mop. Apply wax to the locations on the shaft where the gears and wheels pivot. Apply a coat of spray satin lacquer to finish the piece.



15

Cut and install Santa (S). Cut the blank to a rectangle and attach the pattern, placing the bottom along one straight edge. Use a drill press to drill a hole in the edge of the blank to match the figure support shaft (L). Then, use a scroll saw and #2/0 blade to cut the perimeter of the figure. Sand and finish Santa and install him on the carriage. Use a compass to determine north so he's always pointing toward home.

Parts List

	Item	Quantity	Materials	Dimensions	Presentation
A	Main frame	1	Cherry, ½" (13mm) thick	1 15⁄16" x 8" (49mm x 203mm)	Pattern
B	Axle frame	1	Cherry, ½" (13mm) thick	1 3⁄8" x 5 9⁄16" (35mm x 142mm)	Pattern
C	Frame upright	2	Cherry, ½" (13mm) square	4 5⁄8" (117mm) long	Pattern
D	Front carriage support	1	Cherry, ½" (13mm) square	5 ¼" (133mm) long	Pattern
D1	Front carriage support pin	1	Axle peg, ¼" (6mm) dia.	1" (25mm) long	Dimensions
E	Front arm	1	Cherry, ½" (13mm) square	5 5⁄8" (143mm) long	Pattern
F	Brace	1	Cherry, ½" (13mm) square	2 ¾" (70mm) long	Pattern
G	Upper frame	1	Cherry, ½" (13mm) thick	1" x 8" (25mm x 203mm)	Pattern
H	Upper drive support	1	Cherry, ½" (13mm) thick	¾" x 2 5⁄8" (19mm x 67mm)	Pattern
I	Wheels	2	Baltic birch, 3⁄8" (10mm) thick	6 ½" (165mm) square	Pattern
J	Single-sided gears	6	Maple, ¼" (6mm) thick	2 ½" (54mm) square	Pattern
K	Two-sided gears	3	Maple, ¼" (6mm) thick	2 ½" (54mm) square	Pattern
L	Figure support shaft	1	Hardwood dowel, ¼" (6mm) dia.	4 ½" (114mm) long	Dimensions
M	Gear axle pins	3	Axle pegs, ¼" (6mm) dia.	1" (25mm) long	Dimensions
N	Wheel axles	2	Hardwood dowel or axle peg, ¼" (6mm) dia.	1 ½" (38mm) long	Dimensions
N1	Wheel axle locking pins	2	Dowel, 1⁄8" (3mm) dia.	½" (13mm) long	Dimensions
N2	Wheel axle washers	2	Walnut, 1⁄8" (3mm) thick	½" (13mm) square	Pattern
O	Differential pivot pin	1	Hardwood dowel, ¼" (6mm) dia.	1 7⁄16" (36mm) long	Dimensions
P	Differential carrier	1	Walnut, 3⁄4" (19mm) thick	2" (51mm) square	Pattern
Q	Gear tooth pins, short	72	3⁄16" dowel, 3⁄16" (5mm) dia.	½" (13mm) long	Dimensions
R	Gear tooth pins, long	36	3⁄16" dowel, 3⁄16" (5mm) dia.	¾" (19mm) long	Dimensions
S	Santa	1	Pine, ½" (13mm) thick	4" x 4 ½" (102mm x 114mm)	Pattern
T	Side transmission shaft	1	Hardwood dowel, ¼" (6mm) dia.	5 ¼" (133mm) long	Dimensions
T1	Side transmission shaft cap (optional)	1	3⁄8" (10mm) outer dia.	¼" (6mm)-dia. pilot hole	Dimensions
U	Wood screws	2	#8 flat-head	1 ¼" (32mm) long	Dimensions

Materials & Tools

Materials:

- Baltic birch plywood, 3⁄8" (10mm) thick: 5" x 10" (127mm x 254mm)
- Walnut, 3⁄4" (19mm) thick: 2" x 2" (51mm x 51mm)
- Cherry, ½" (13mm) thick: 6" x 12" (152mm x 305mm)
- Maple, ¼" (6mm) thick: 8" x 8" (203mm x 203mm)
- Pine, ½" (13mm) thick: 4" x 4 ½" (102mm x 114mm)
- Dowel, 3⁄16" (5mm) dia.: 2 each 36" (914mm) long
- Dowel, 1⁄8" (3mm) dia.: 1" (25mm) long
- Hardwood dowel, ¼" (6mm) dia.: 36" (914mm) long OR axle pegs, ¼" (6mm)-dia. shaft: 6 each 1 ½" (38mm) long
- Dowel, 3⁄8" (10mm) dia.: ½" (13mm) long
- Wood screws, #8 flat-head: 2 each 1 ¼" (32mm) long
- Blue painter's tape
- Spray adhesive
- Sandpaper
- Wood glue
- Finish: clear satin spray lacquer

- Wax
- Scraps of plywood and regular wood: various jigs

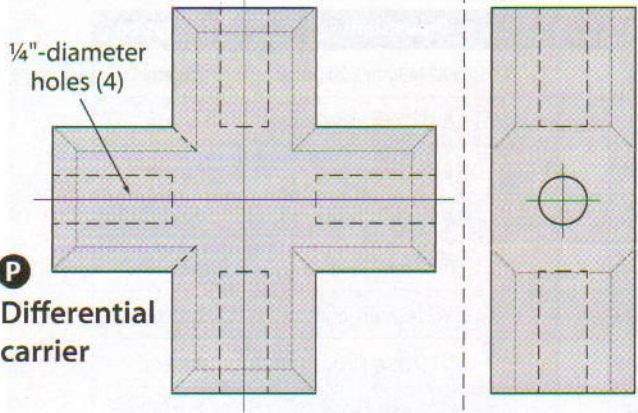
Tools:

- Scroll saw blades: #2/0; #5 skip-tooth; #9 premium, such as Olson PGT
- Sanders: disk, belt, mop
- Awl
- Spring-loaded center punch
- Drill press with twist bits: assorted wire size numbered, metric, and fractional

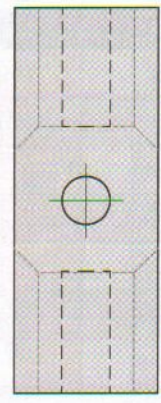
- Router with bits: chamfer, 1⁄8" (3mm)-radius round-over
- Table saw (optional)
- Screwdriver
- Clamps
- Hammer
- Brad or pin nailer
- Compass

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

Santa's carriage patterns

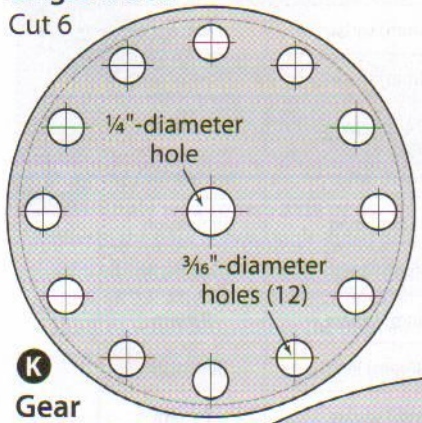


P
Differential carrier

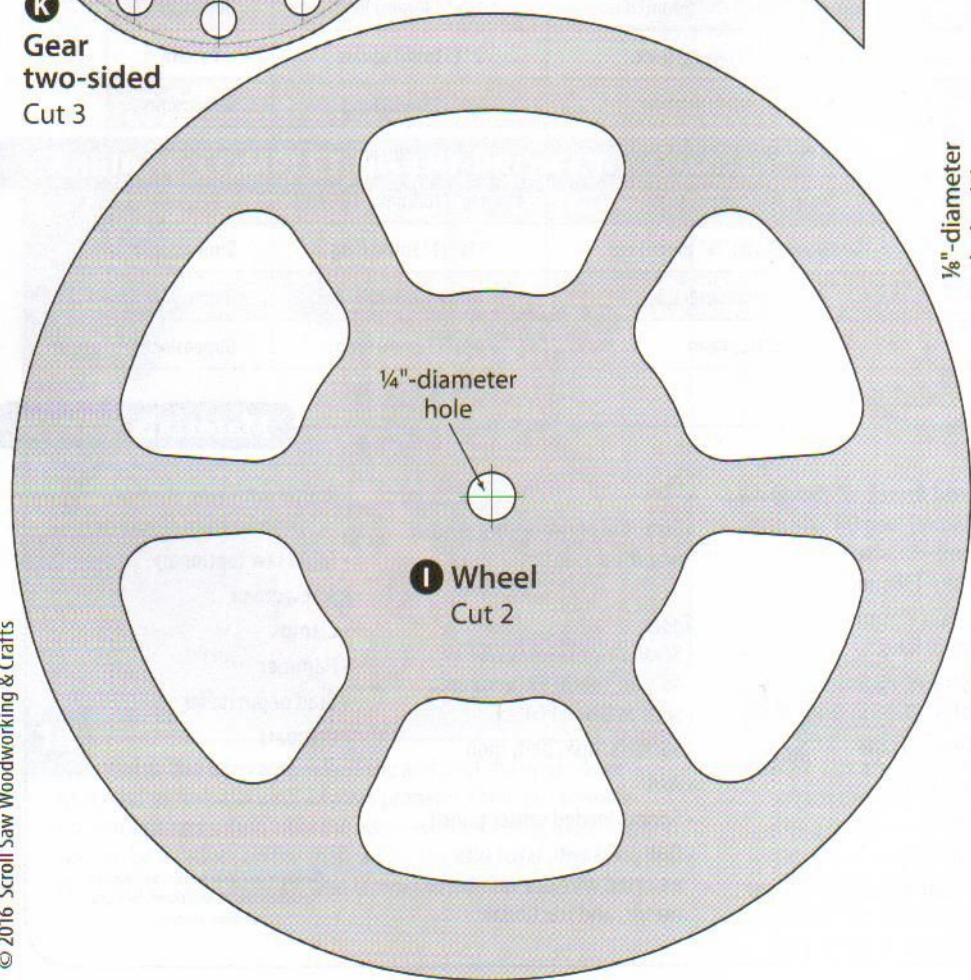
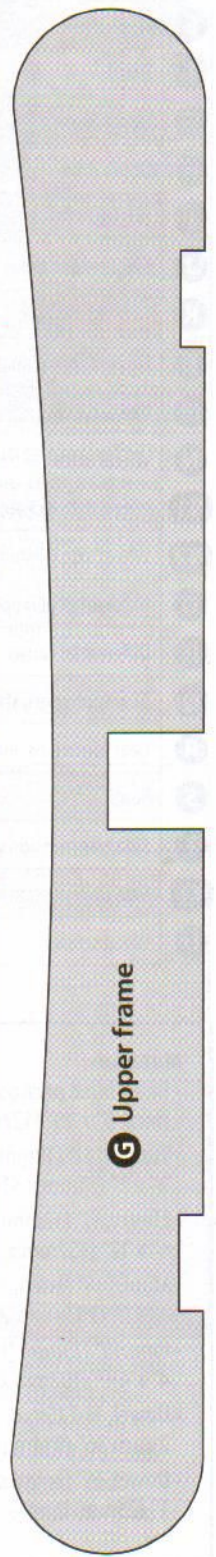
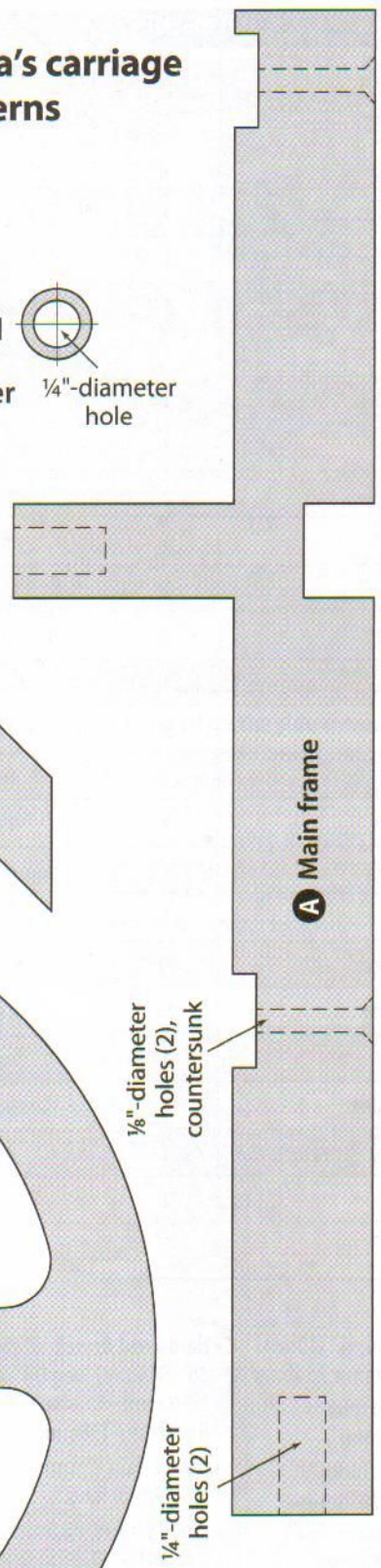
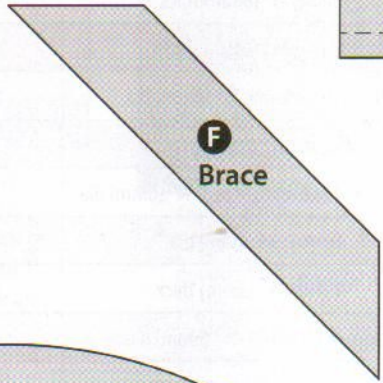


N2
Wheel axle washer
Cut 2
1/4"-diameter hole

J
Gear single-sided
Cut 6



K
Gear two-sided
Cut 3



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(Continued on page 68)

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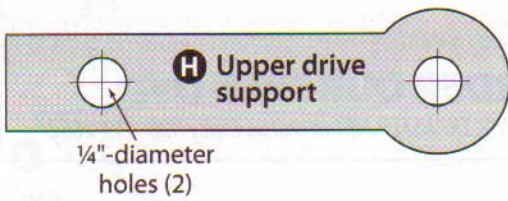
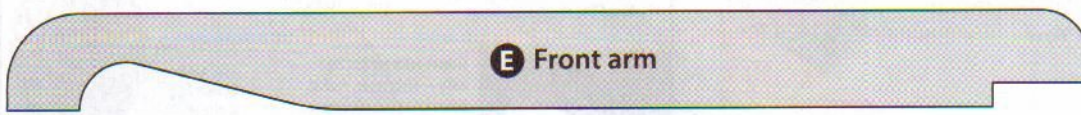
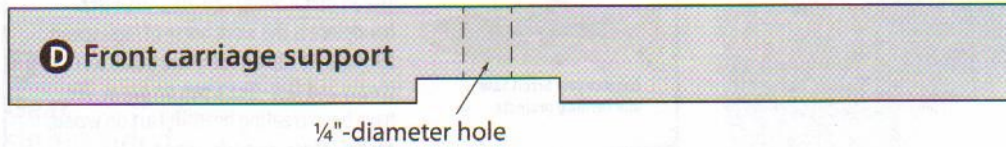
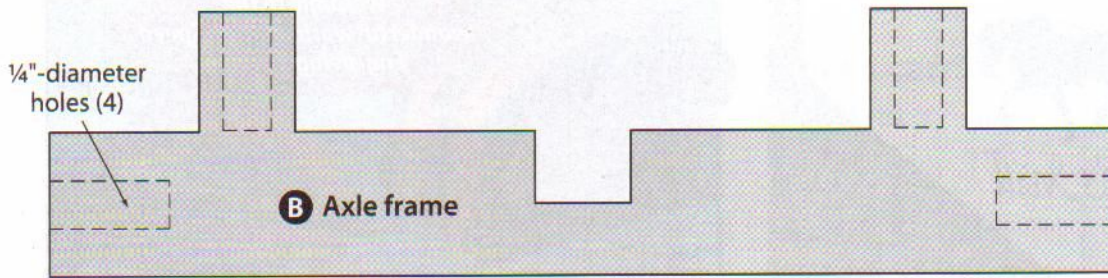
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Santa's carriage patterns



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Rolf Beuttenmuller was born in Germany—his family came to the United States in 1955. His father was a toolmaker and his mother a seamstress. As a result, working with tools and scrolling came naturally to him. He started scrolling in 2004 after his wife, June, bought a scroll saw for his birthday. He joined a local club and enjoys new and challenging projects. His motto is, "I don't know that I can't, therefore I can." Rolf recently retired from Brookhaven National Lab after 34 years of designing and building special devices using high energy and photon science research. He lives in Bellport, N.Y.

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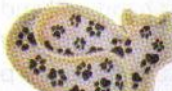
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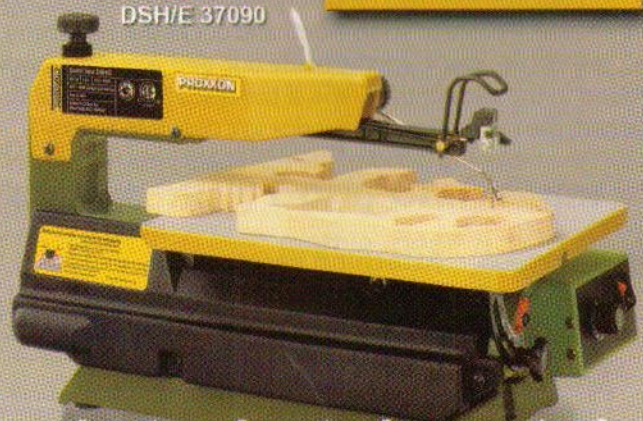
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To avoid repetitive instructions, this page is included in each issue to assist novice scrollers with basic scrolling techniques.

Squaring Your Table

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

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

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

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

Attaching Patterns

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

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

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

Stack Cutting

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

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

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

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

Blade Tension

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

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

Blade-Entry Holes

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

Removing Patterns

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

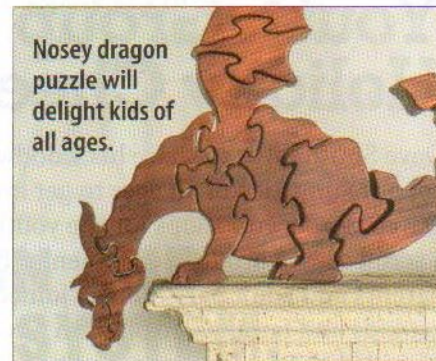




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*Christmas Scroll Saw
Ornament Designs*





Michelle Lyons

Christmas Scroll Saw Ornament Designs is a fabulous new book from author Michelle Lyons that includes over 200 beautiful ornament patterns. The projects in this book make great gifts, so be sure to order yours today!

Available through major book retailers and online from amazon.com

Youth Group Spreads Holiday Cheer

Dave Smith loves to share his woodworking skills with young people, encouraging kids of all ages to get involved with wood projects. Last year Dave offered workshops for the youth of his church to learn how to use a scroll saw to produce ornaments. The classes proved so successful that parents and adult parishioners joined the fun. "One of our goals was to get kids and families involved in a community service project, and Dave provided the perfect opportunity for us to accomplish that," said Nancy Melms of the First United Methodist Church in DeKalb, Ill.

Dave brought his scroll saw to several evening workshops where nearly 70 children, youth, adults, and seniors participated in the project. He taught the youth to operate the scroll saw while others did the sanding, painting, and finishing. Under his guiding hand, they produced 350 ornaments. The kids were allowed to keep one each. The rest were delivered by the youth to local police, firefighters, and residents in the DeKalb County Nursing Home. The ornaments came with a tag signed by the kids wishing the recipients a very merry Christmas. "Having a chance to work with those kids was a great experience," said Dave. "The excitement in their eyes as they cut and painted these ornaments was like a Christmas present for me!"

Contact Dave Smith at office@firstumc.net.



Dave Smith offers instruction to Will Paquette (top photo), while members of his church's youth group (bottom photo) decorate the gift ornaments.



Scrollers Feed the Hungry

Members of the Carolina Scrollers Club in Winston Salem, N.C., cooked up a project a few years ago—one that would turn their scrolling skills into food for the hungry. Over the past three Christmas seasons, the club's 29 members created more than 250 handmade ornaments of all shapes and sizes as part of their Christmas Tree Ornament Project. Each ornament was handcrafted with themes and designs as individual as the members themselves. The finished ornaments were hung on the club's tree at the Klingspor's Woodworking Shop in Winston Salem and sold to the general public. All of the proceeds were donated to the Second Harvest Food Bank of Northwestern North Carolina. Those sales totaled over \$800 and provided some 5,600 meals for the needy.

The scrollers, whose skill levels range from novice to advanced, are thrilled with the success of the project. "It keeps growing every year," said the club's leader, John Fiorani. "This year we want to add an additional location for another tree to increase our donations even more." The food bank reports that, due to large-volume purchasing combined with direct food donations and price consideration by suppliers, they can provide seven meals for each dollar donated. John said, "That makes scrolling these ornaments very rewarding for all of us."

Visit the Carolina Scrollers Club at www.carolinascrollers.com.

Hundreds of ornaments are sold to benefit the local food bank.

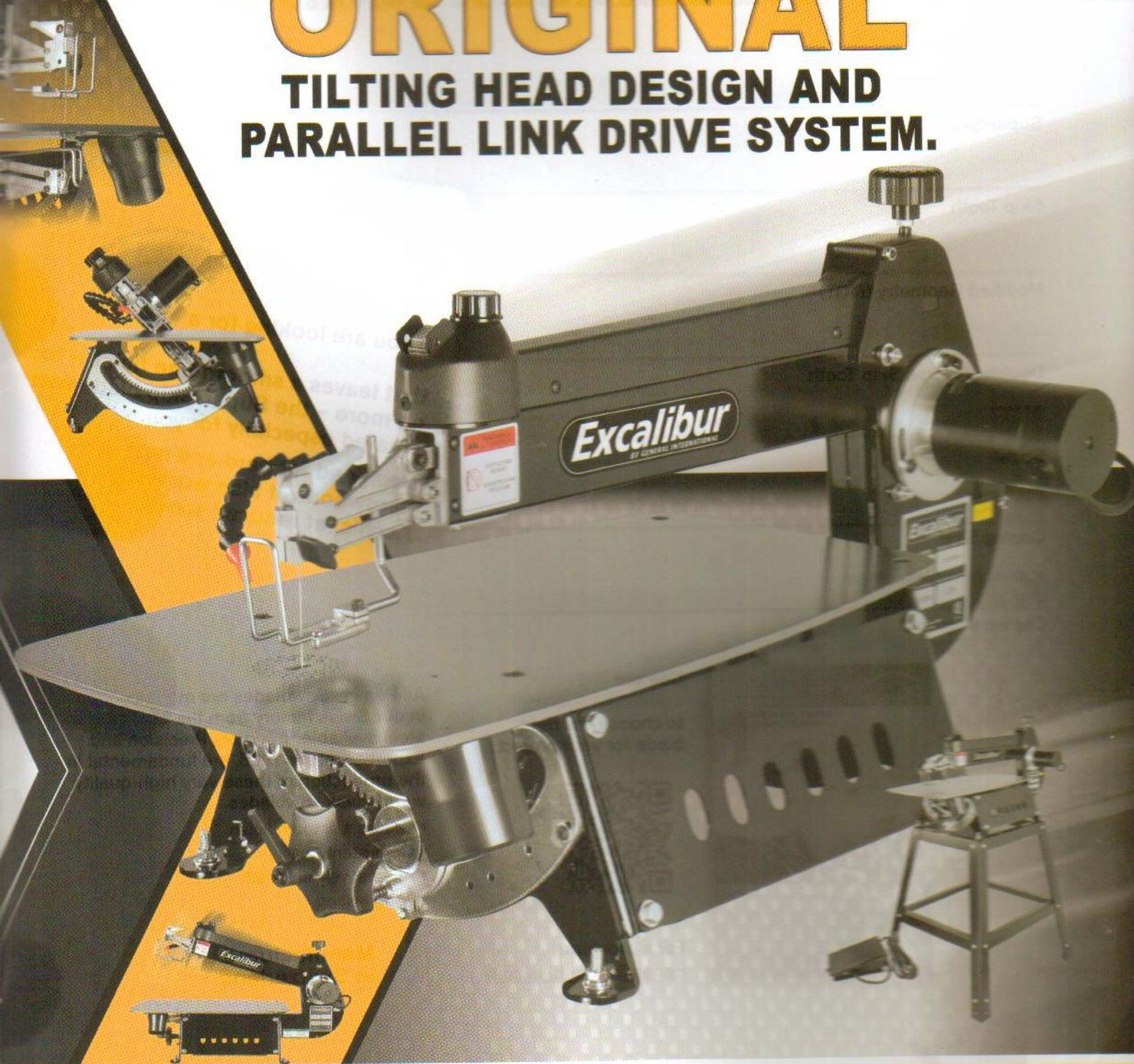
Club members (from left, Mark Assante, Robert Urane, and Leroy Spangler) setting up the display.



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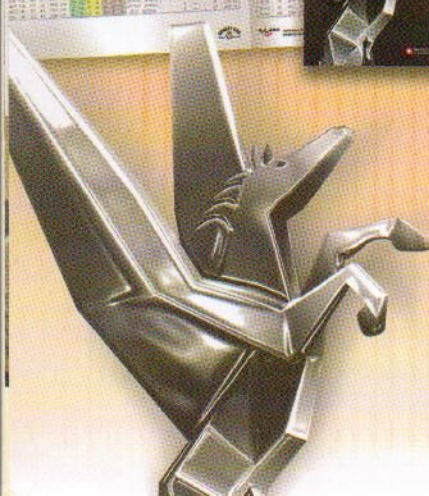


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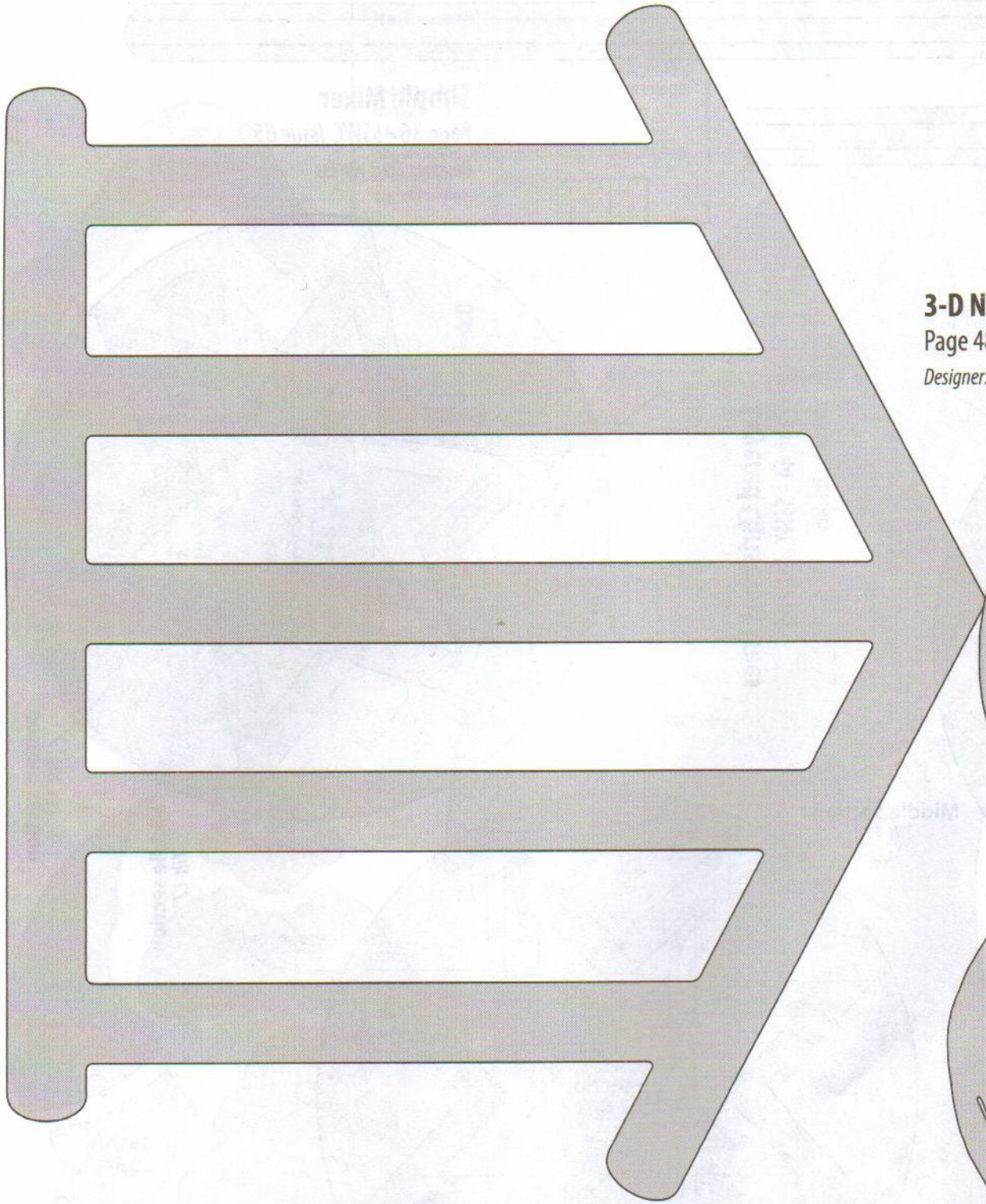
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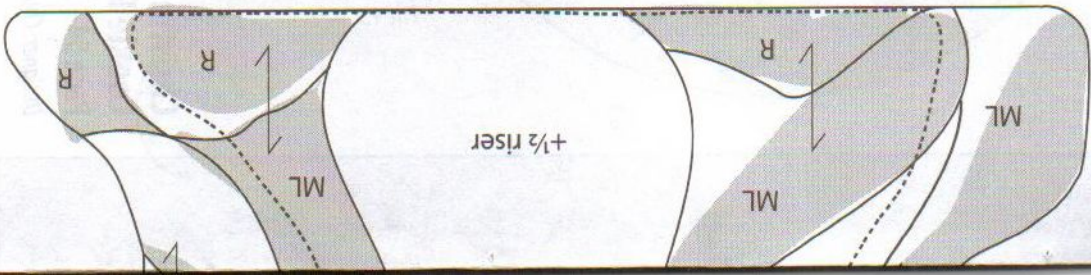
A1



3-D Nativity

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Designer: Sue Mey

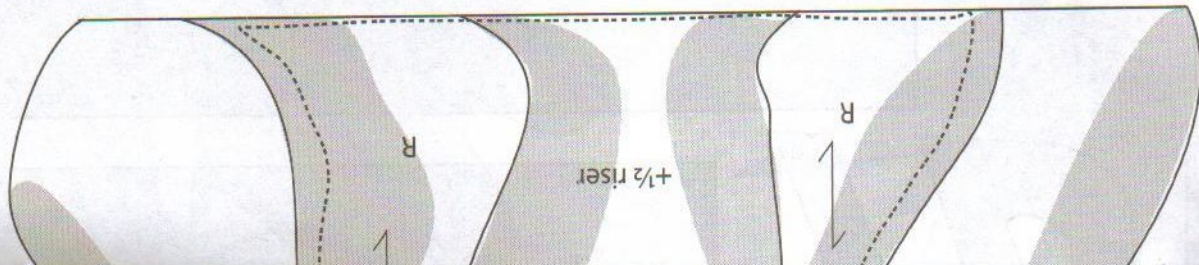


A2

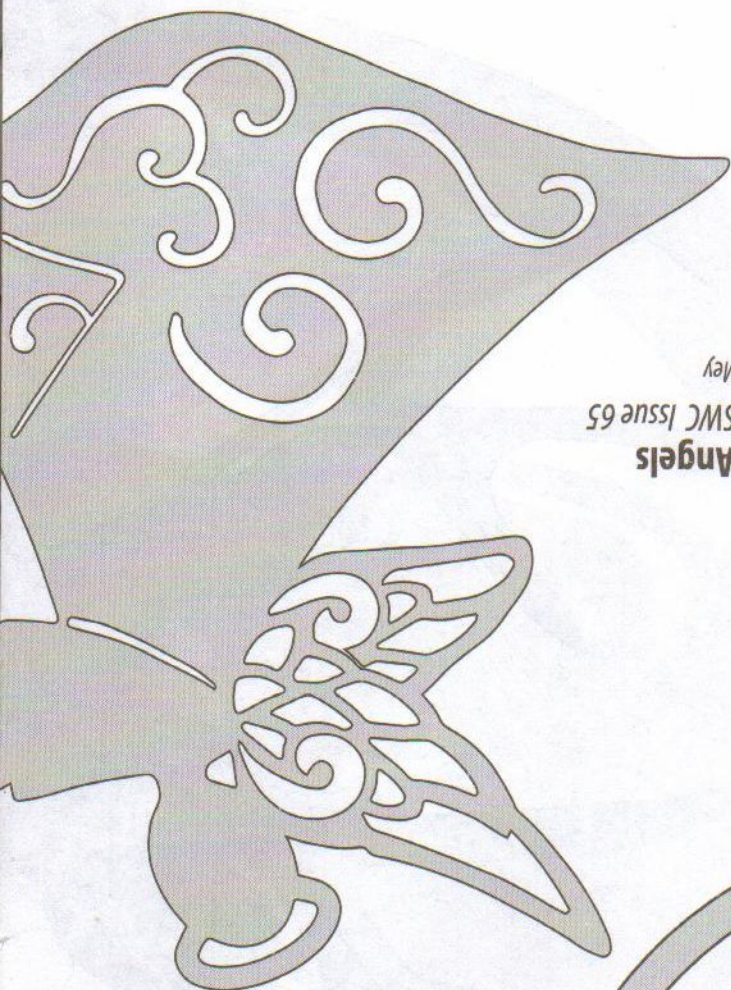
Scene
Issue 65



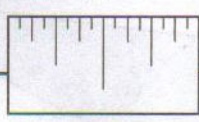
Notice all
Some photos
distort pat
them slight
Use the 1"
when copy
photocopi
to check fo
any distort



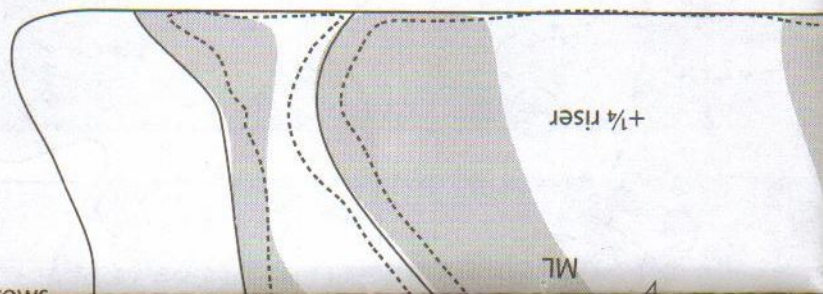
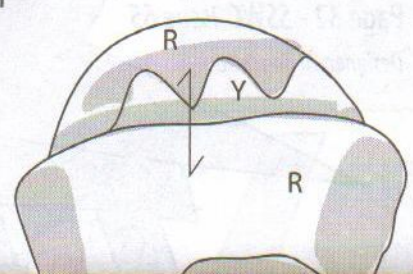
Designer: Sue Mey
Page 49 - SSWC Issue 65
Dancing Angels



About photocopying patterns
Photocopiers and home printers can distort patterns when you print them, making them slightly off-size or stretching the image. A scale bar printed below as a guide for resizing the patterns and hold the edges of the pattern up to the original for comparison.



One inch



+1/4 riser

ML

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

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

Animal Portrait Patterns	26	Father Christmas Wind Chime	46
The Flash	32	#3-D Nativity Scene	48
Simple Mixer	36	Dancing Angels.....	49
Word Art Candleholders	38	Compound-Cut Snowmen.....	52
A Gift from the Magi.....	40	Christmas Cookie Puzzle.....	54
Layered Christmas Trees	44	Wooden Advent Wreath	56

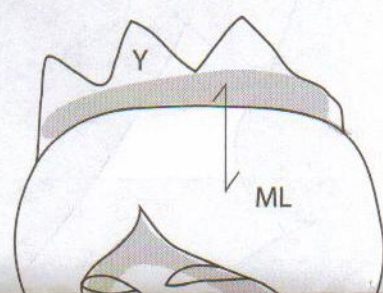
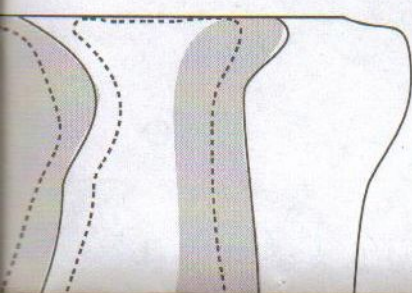
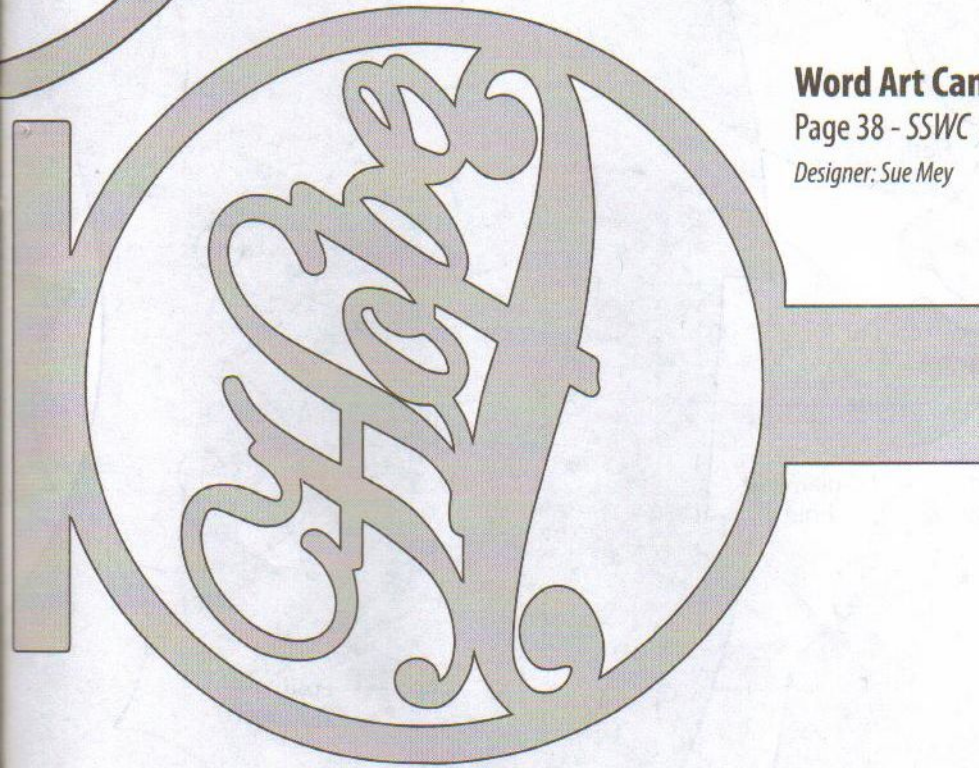
Note to professional copying services. You may make up to ten copies of these patterns for the personal use of the buyer of this magazine.



Word Art Candleholders

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Designer: Sue Mey

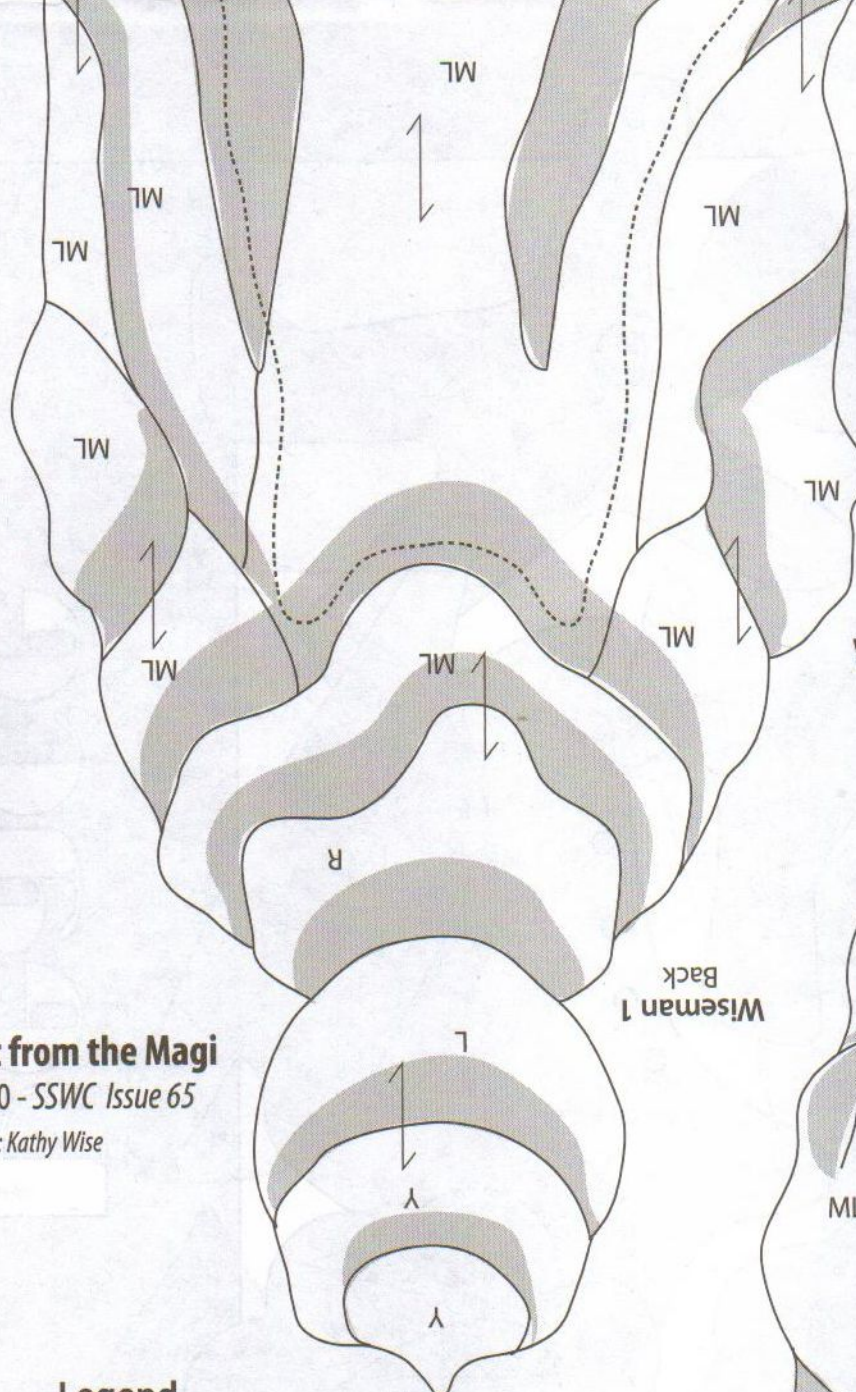


D eyebrows

Wood-burn eye detail

AS

©2016 Kathy W
 PO Box
 Yale, MI
 kathywise@k
 www.kathy



Wiseman 1
Front

Wiseman 1
Back

A Gift from the Magi

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Designer: Kathy Wise

Legend

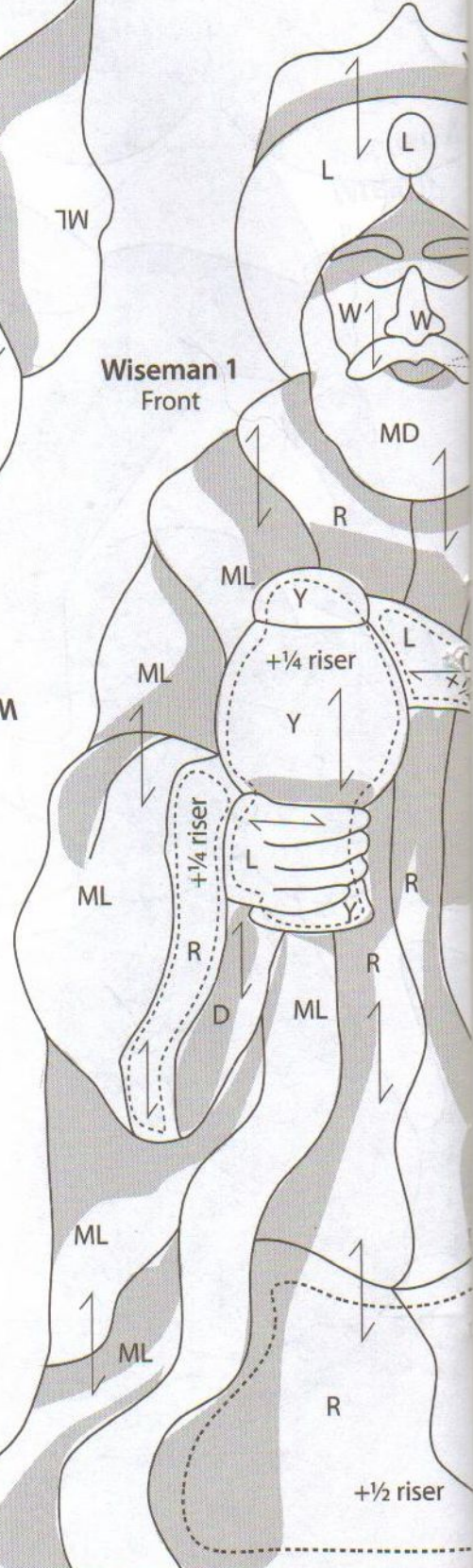
Start with 3/4" or 1" wood

← Grain direction

- B..... Black
- D..... Dark shade of wood
- MD.... Medium dark shade of wood
- R..... Reddish shade of wood
- M..... Medium shade of wood
- ML.....Medium light shade of wood
- L..... Light shade of wood
- W..... Any white wood

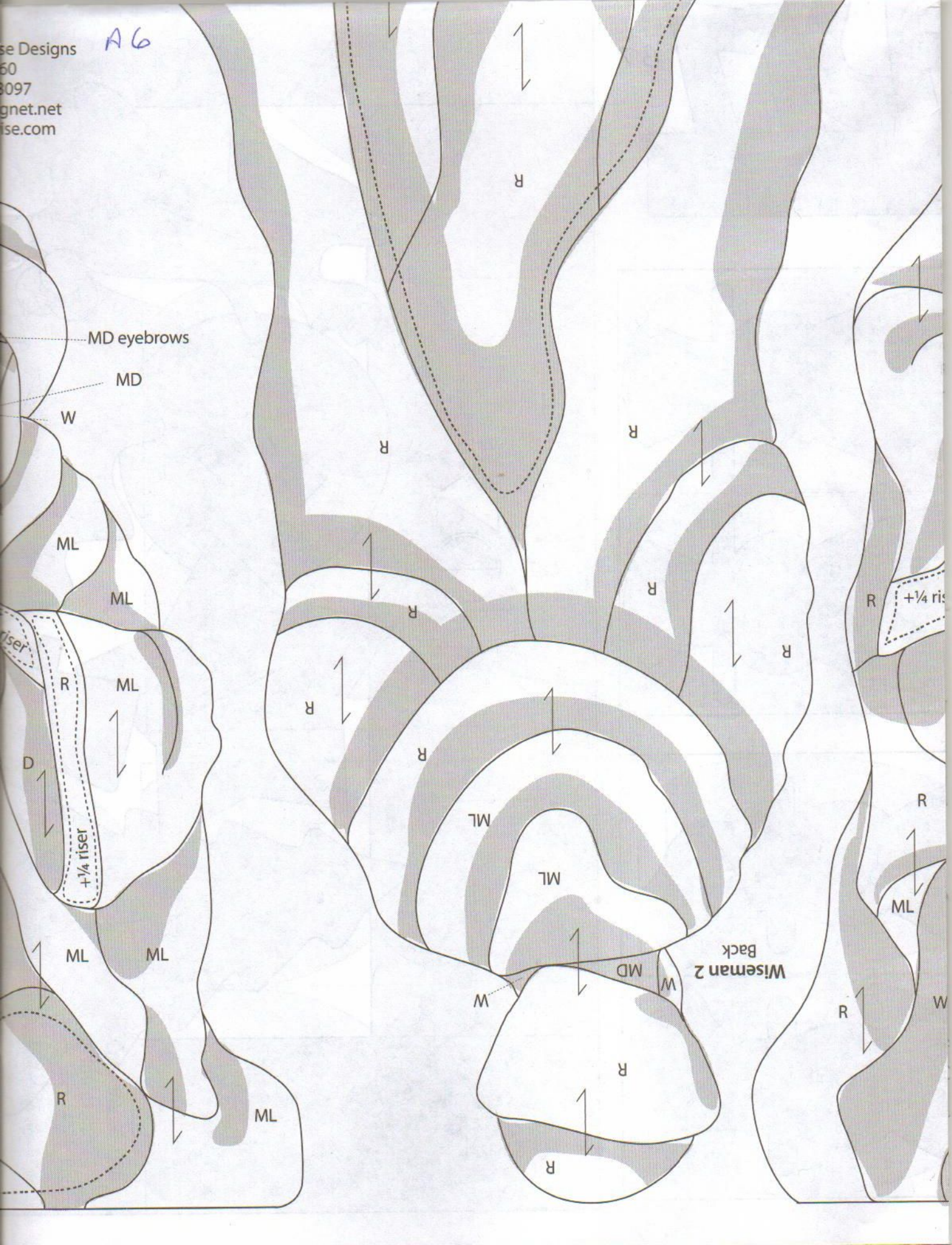
-----Riser

.....Shaping guide



+1/2 riser

AG



MD eyebrows

MD

W

ML

ML

ser

R

ML

D

+1/4 riser

ML

ML

R

ML

R

R

R

R

R

R

+1/4 riser

R

R

ML

ML

R

ML

Wiseman 2
Back

MD

W

W

R

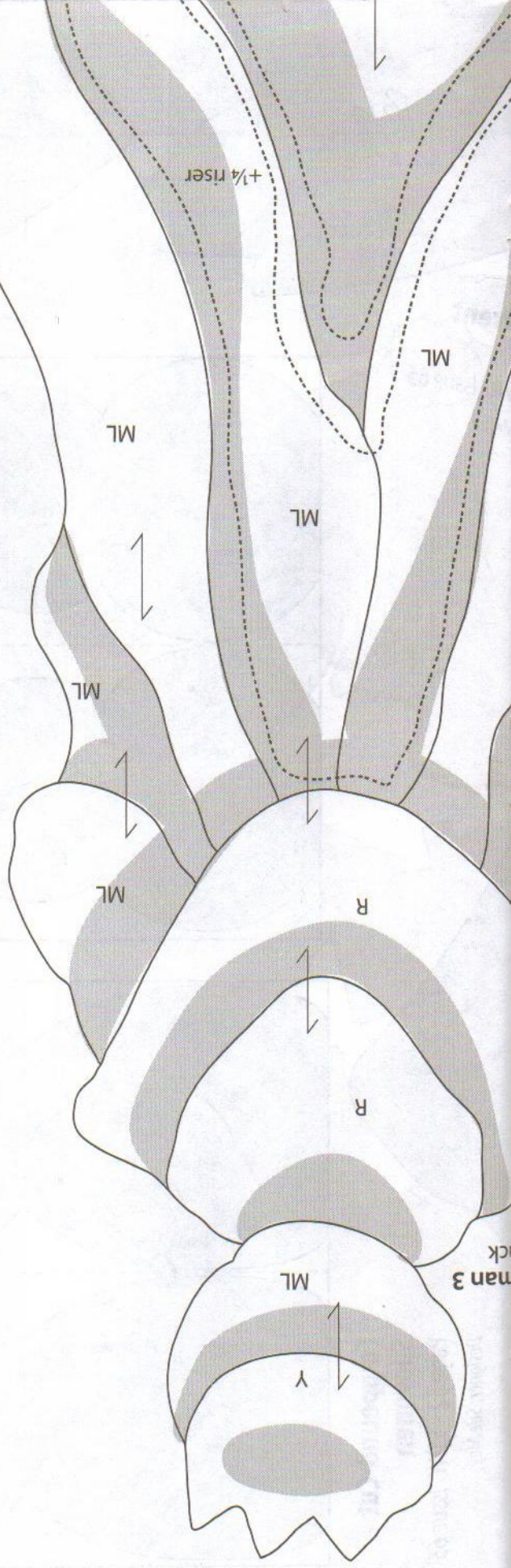
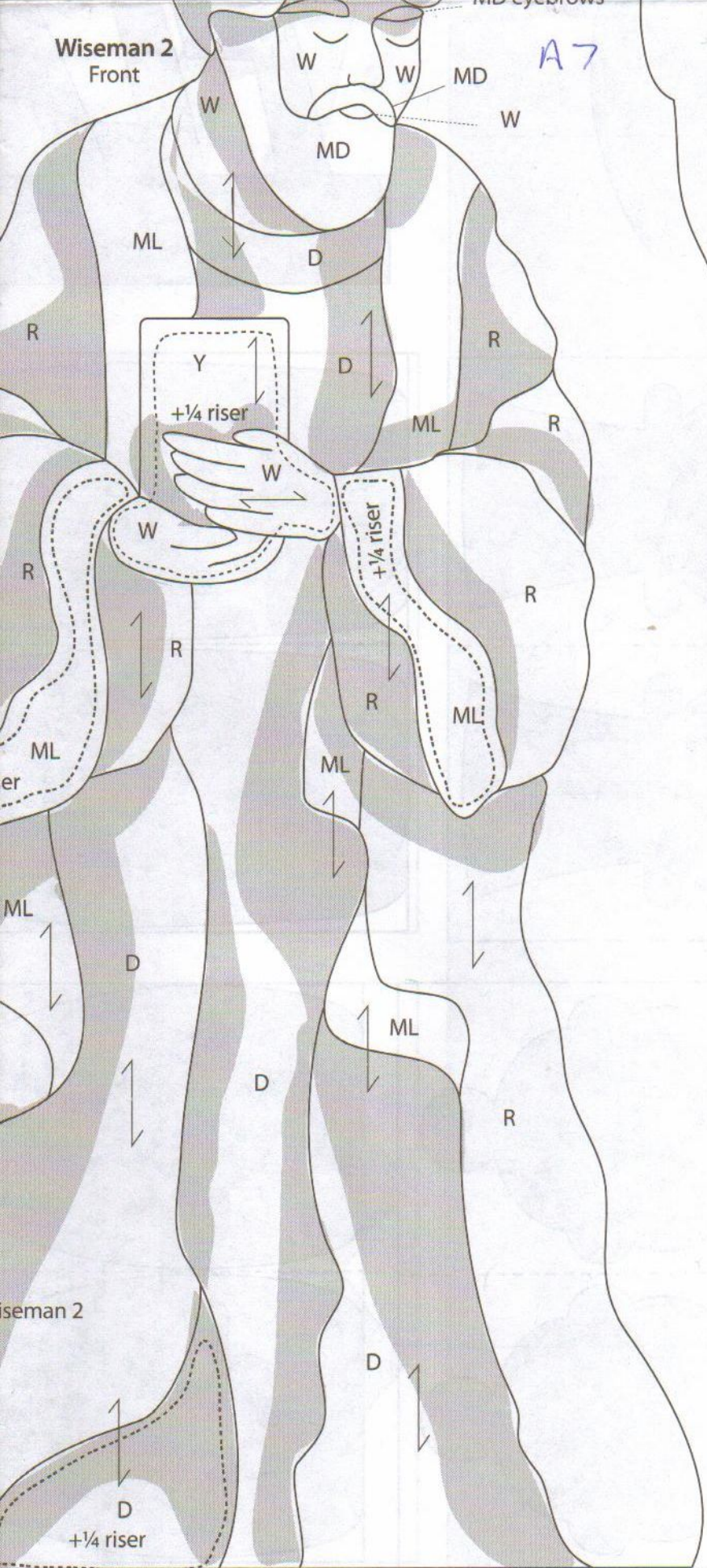
R

R

W

Wiseman 2
Front

A7

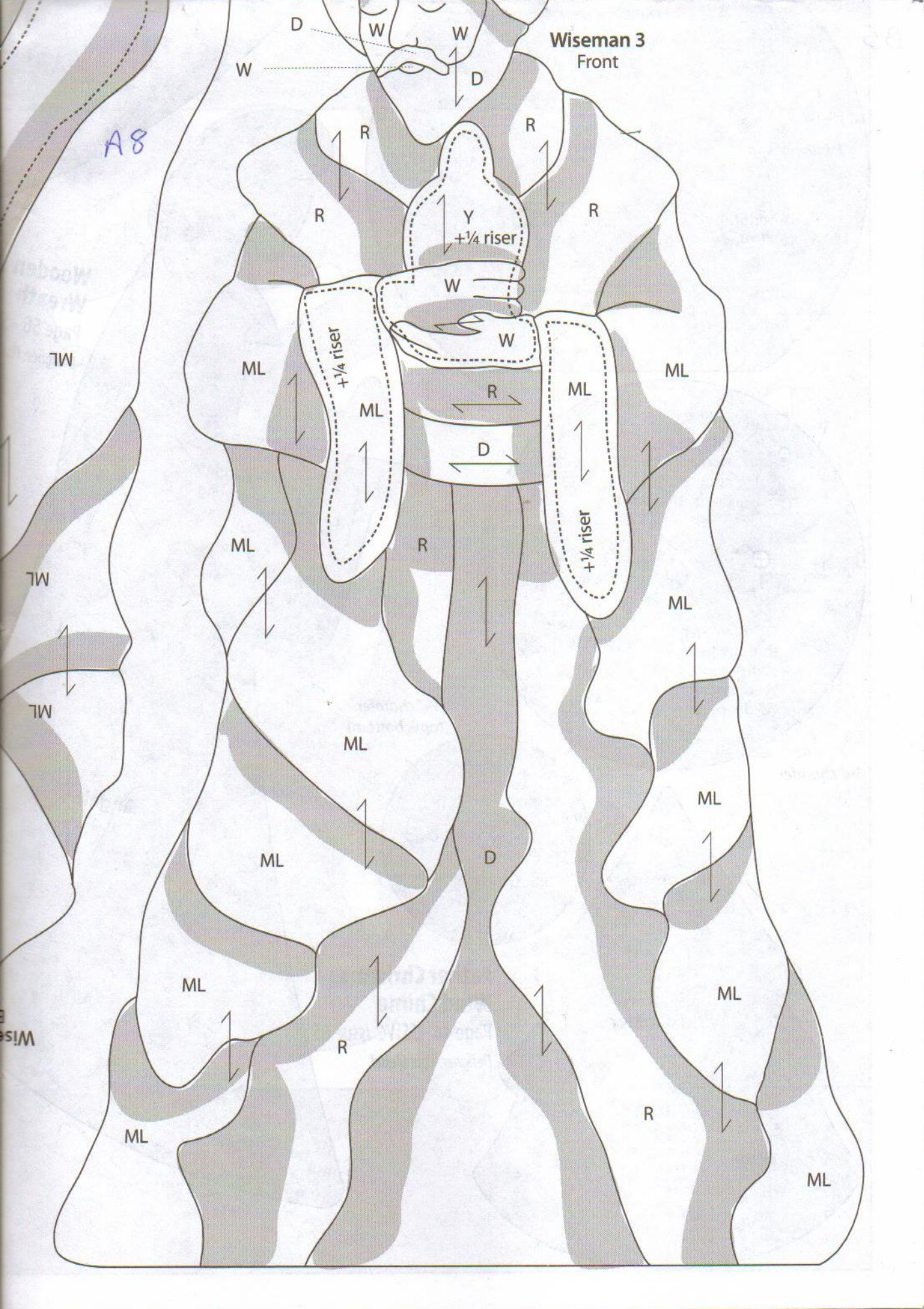


Wiseman 2

Wiseman 3

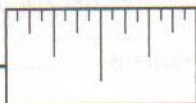
Wiseman 3
Front

A8

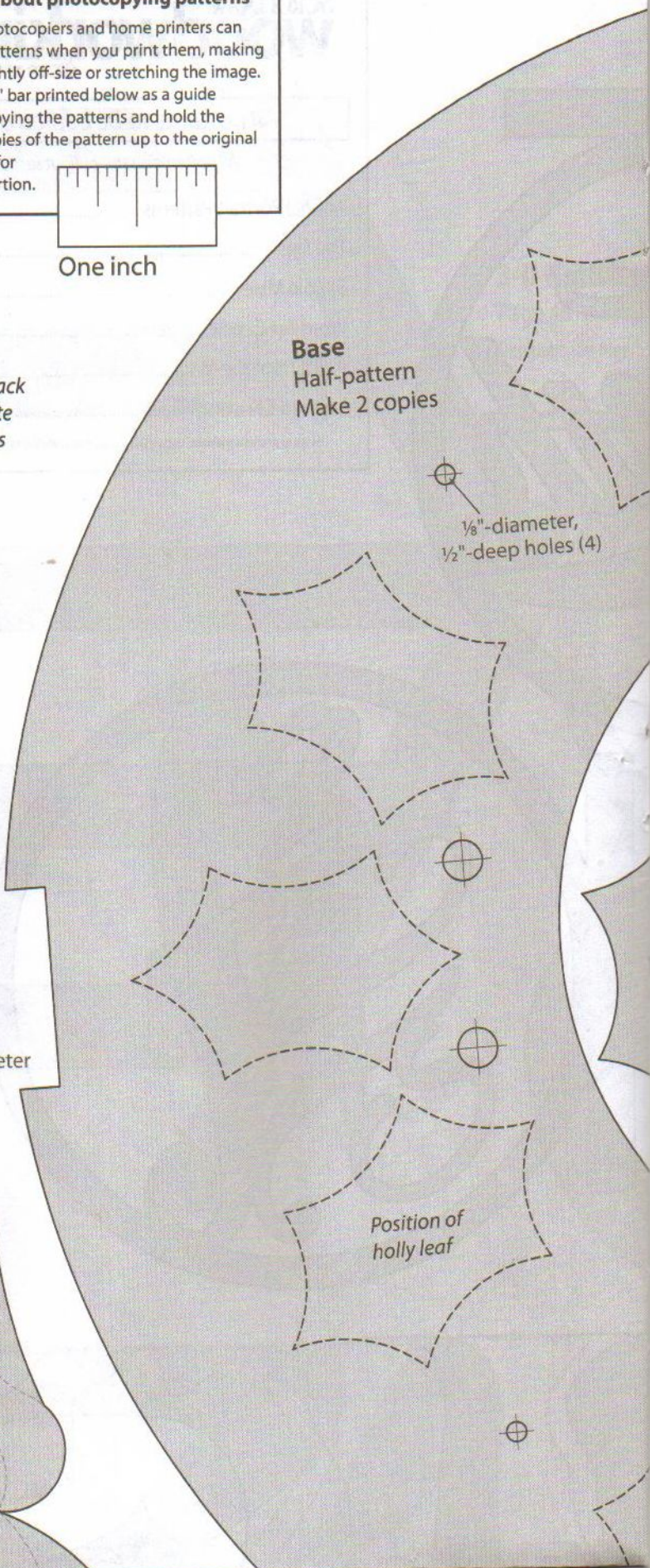
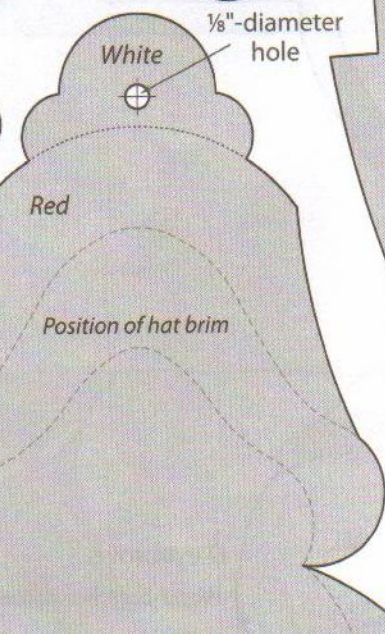
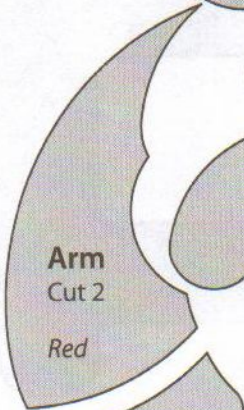
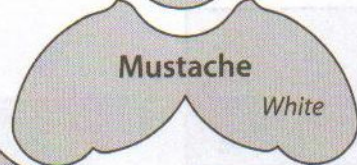
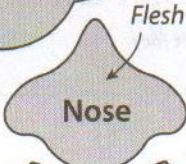
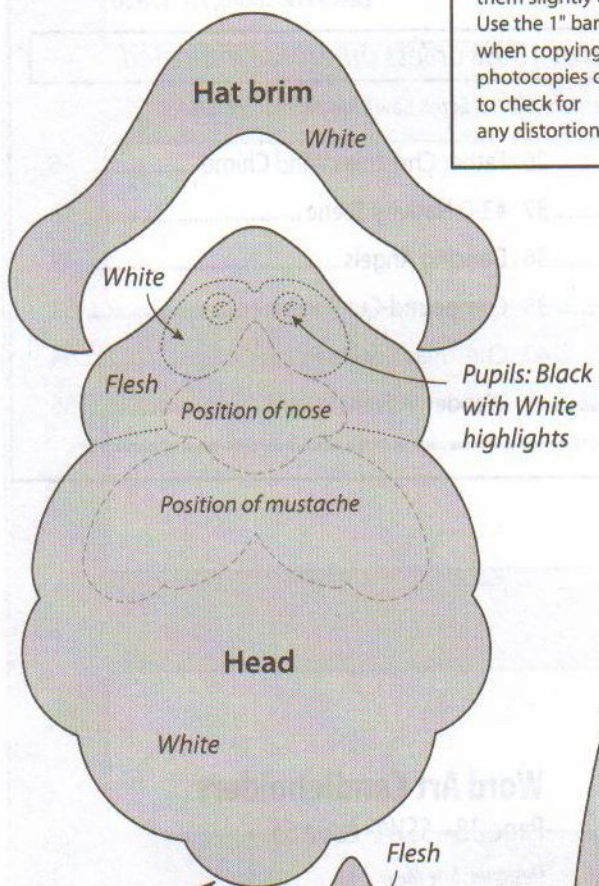


Notice about photocopying patterns

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.



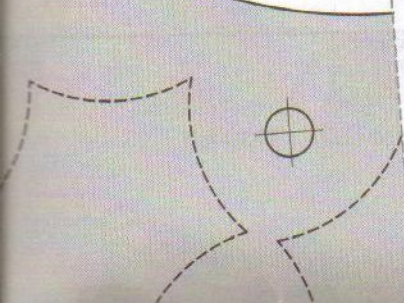
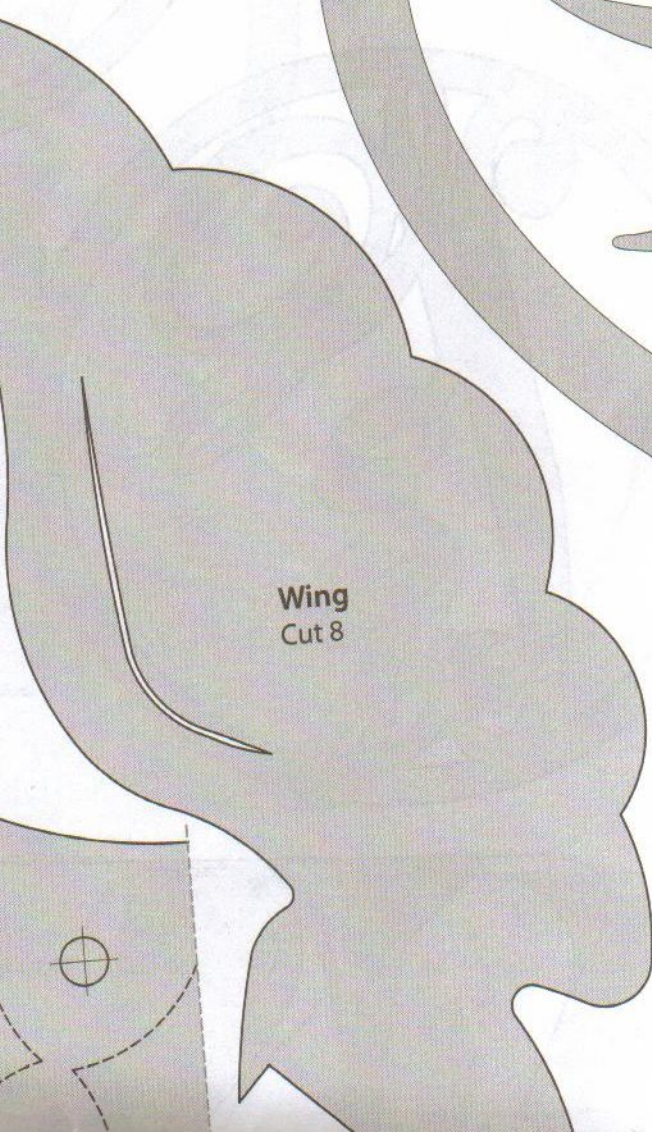
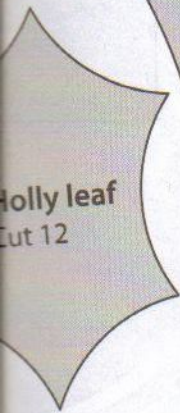
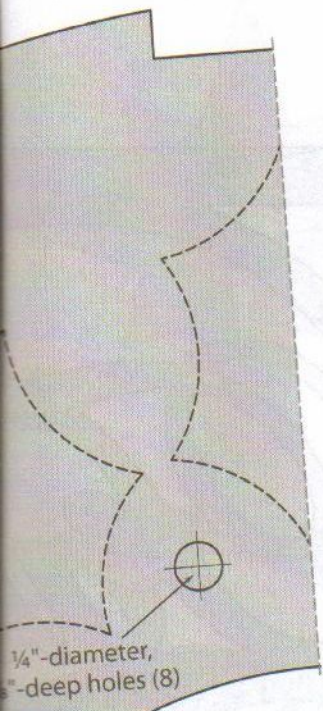
One inch



**Animal Portrait
Patterns**

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Designer: Wayne Fowler



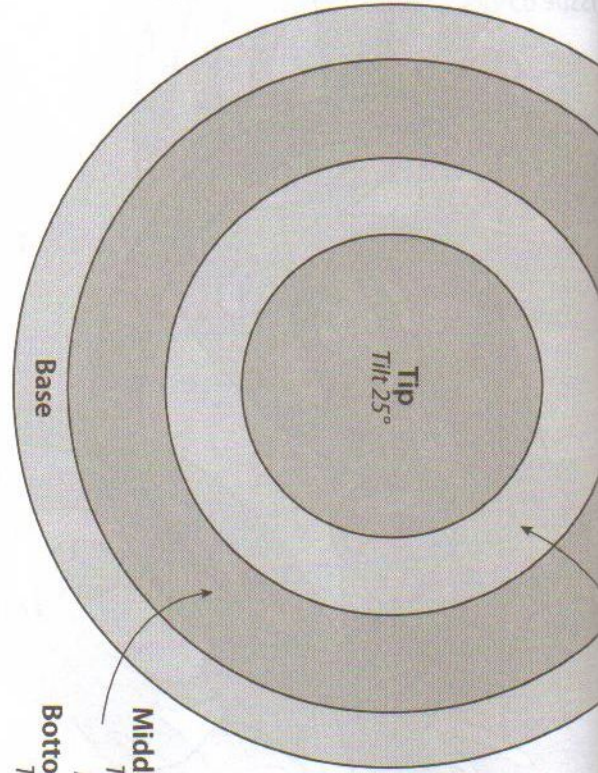
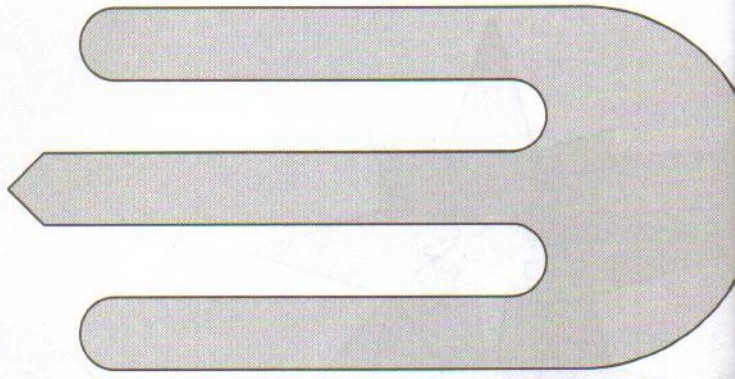
The Flash

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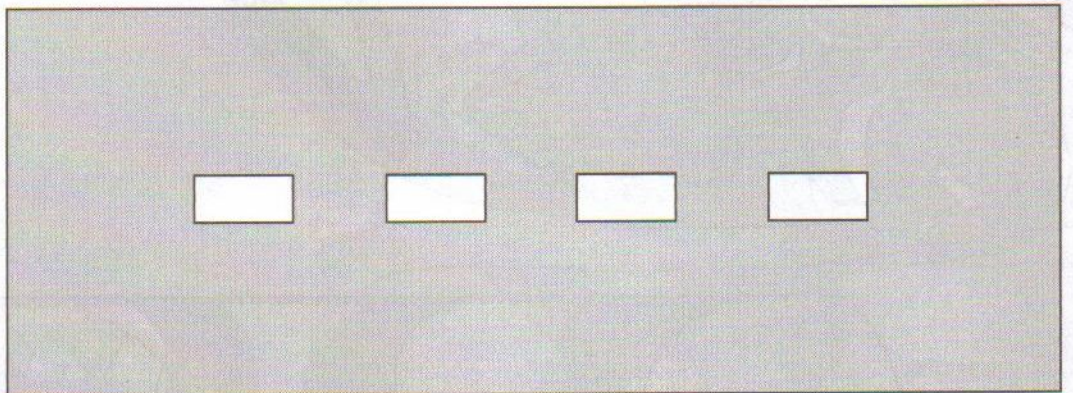
Designer: Al Baggetta



B3



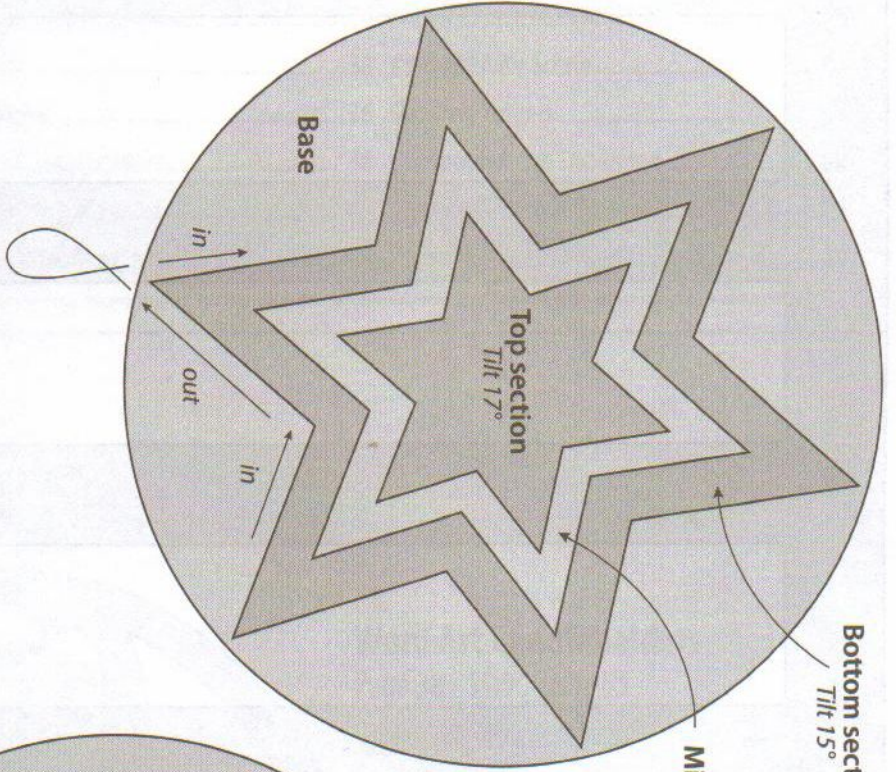
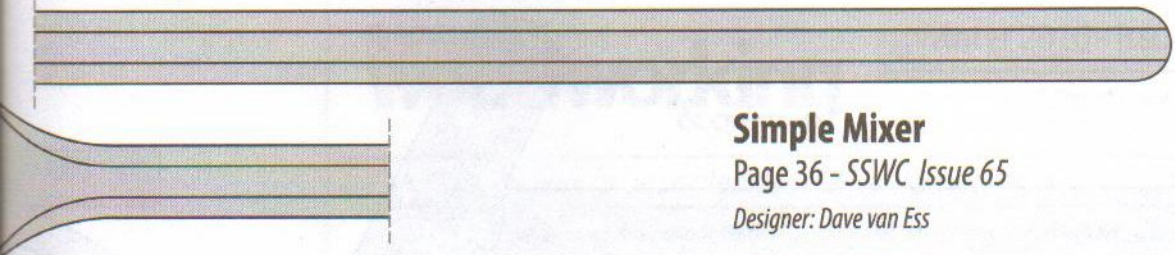
Middle section
Tilt 27°
AND
Bottom section
Tilt 15°



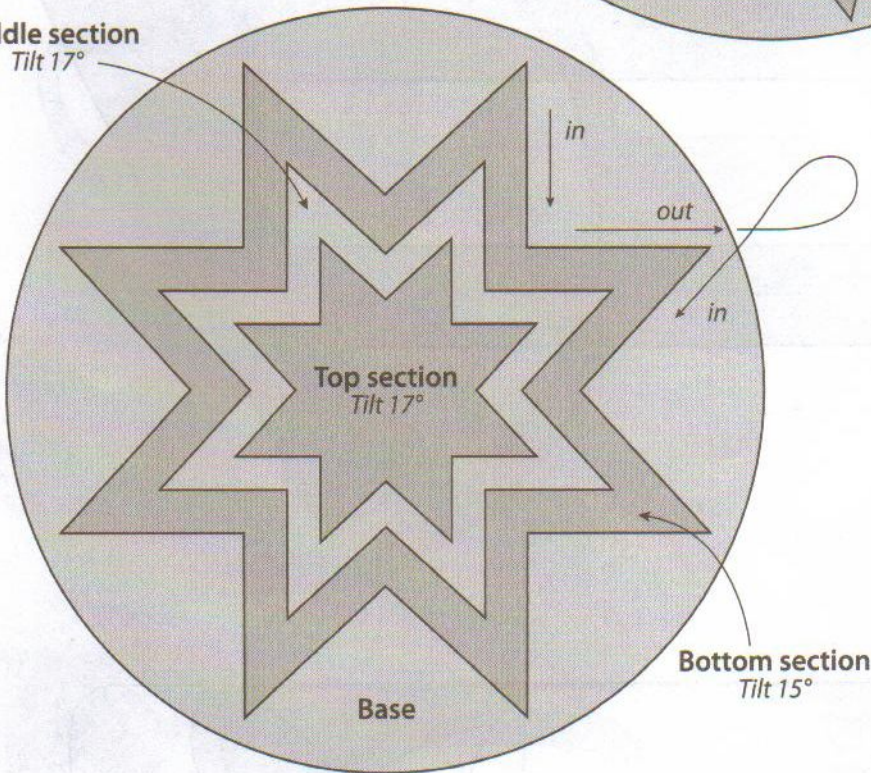
Simple Mixer

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Designer: Dave van Ess



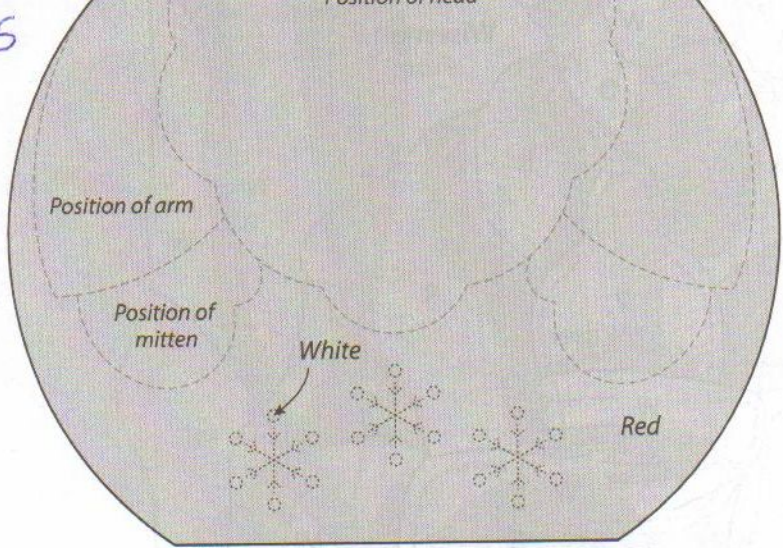
Layered Christmas Trees
 Page 44 - SSWC Issue 65
 Designer: Sue Mey



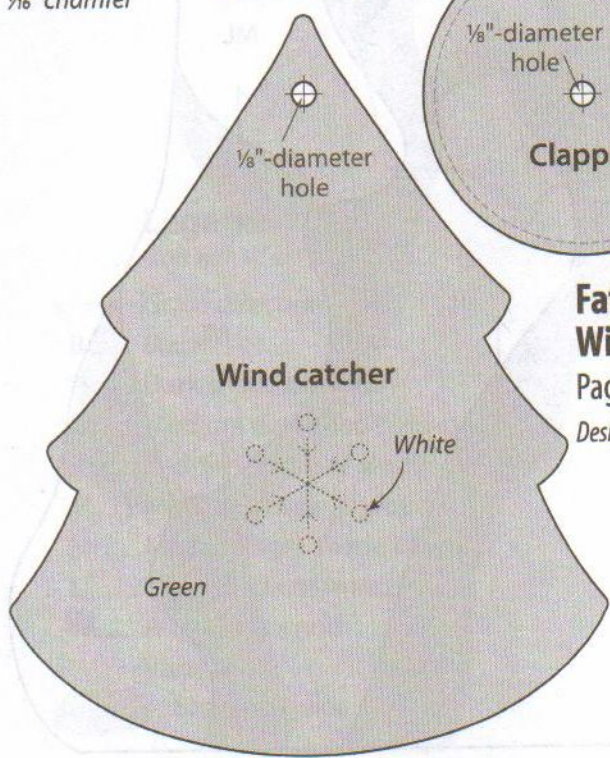
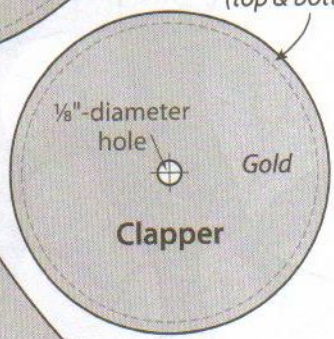
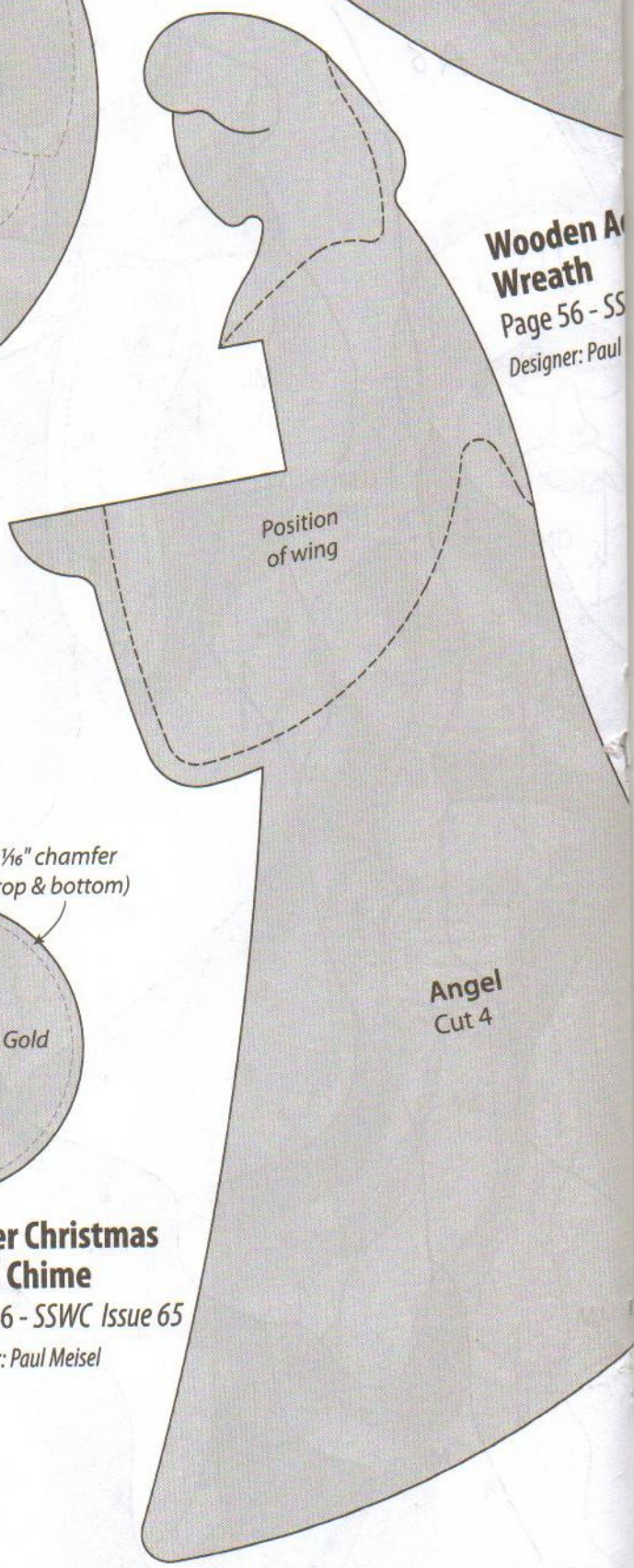
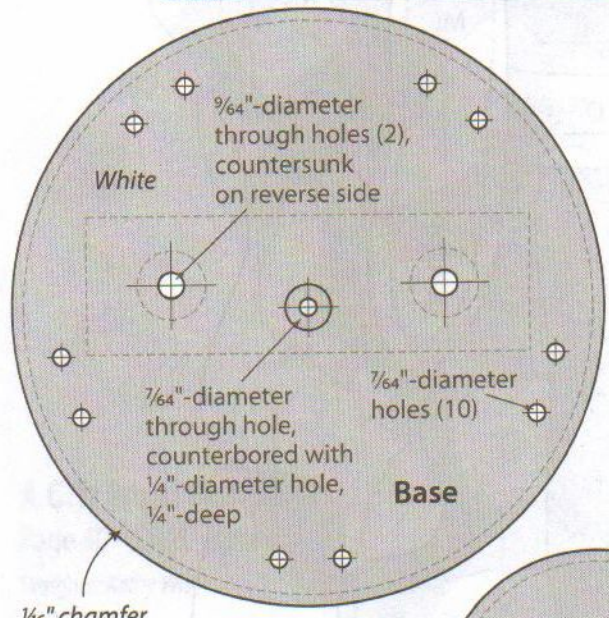
Christmas Cookie Puzzle
 Page 54 - SSWC Issue 65
 Designer: Chuck MacKnee



B5



Wooden Angel Wreath
Page 56 - SS
Designer: Paul

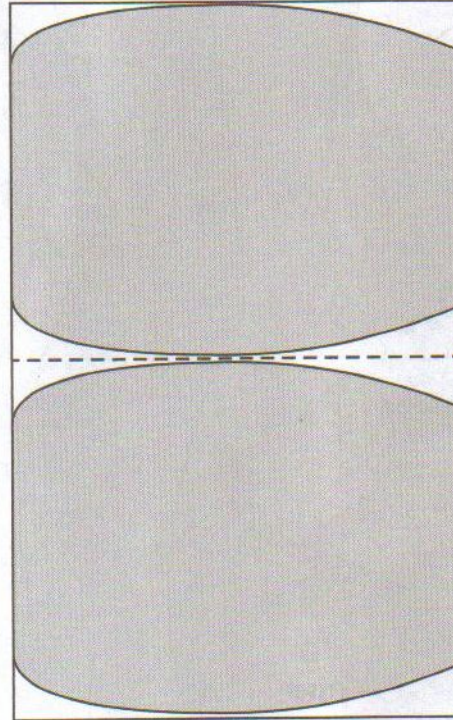
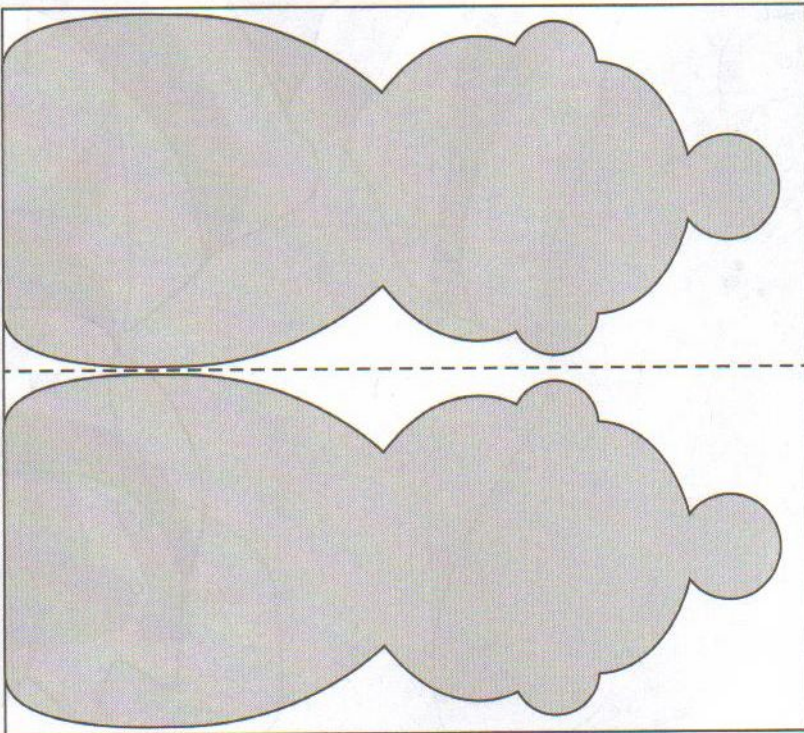
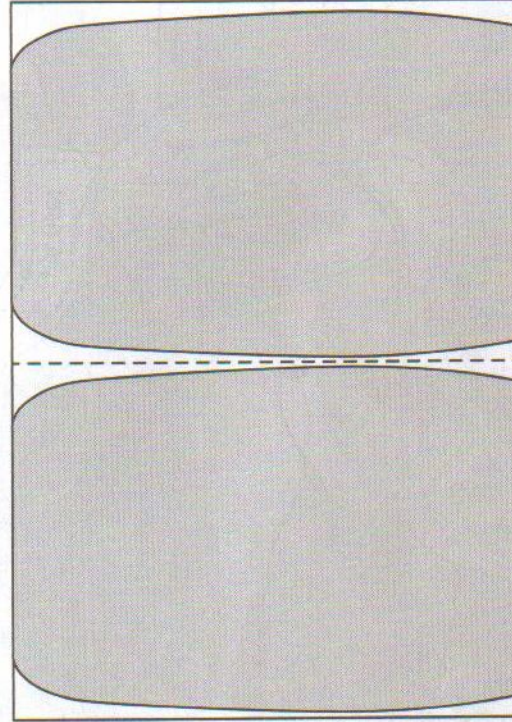
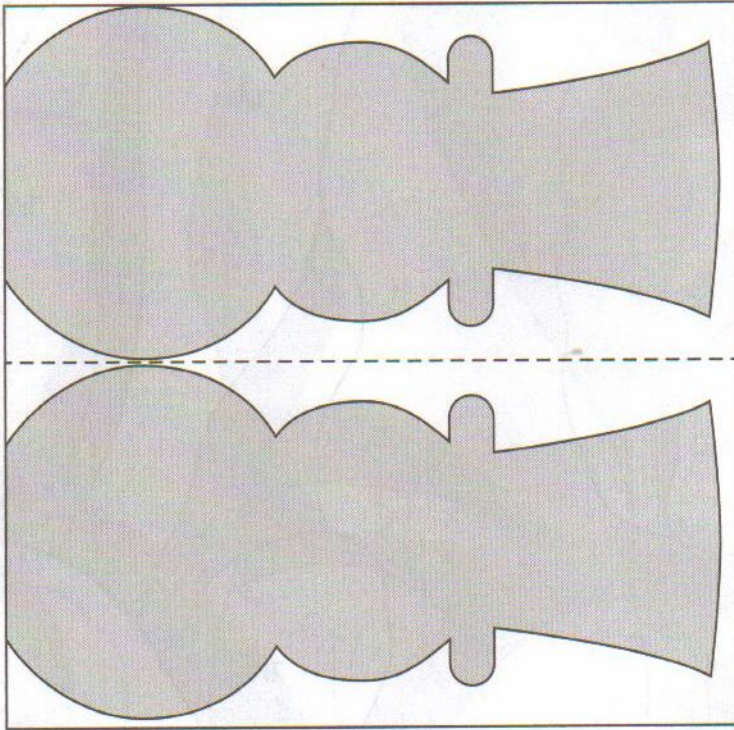


Father Christmas Wind Chime
Page 46 - SSWC Issue 65
Designer: Paul Meisel

B6

vent

WC Issue 65
Meisel



Compound-Cut

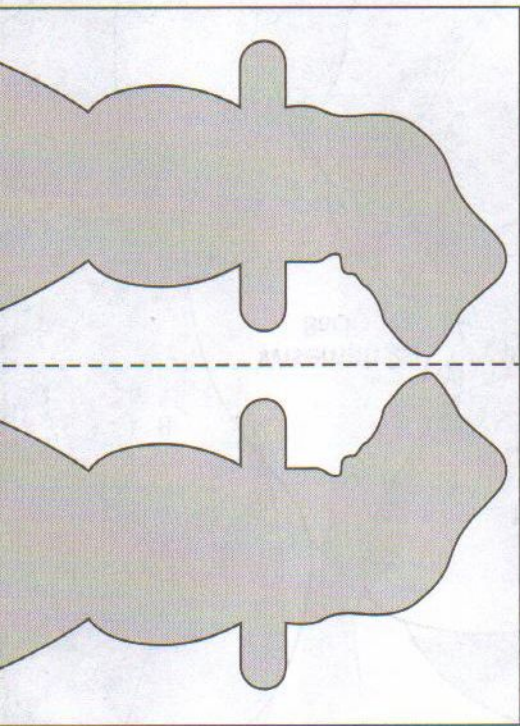
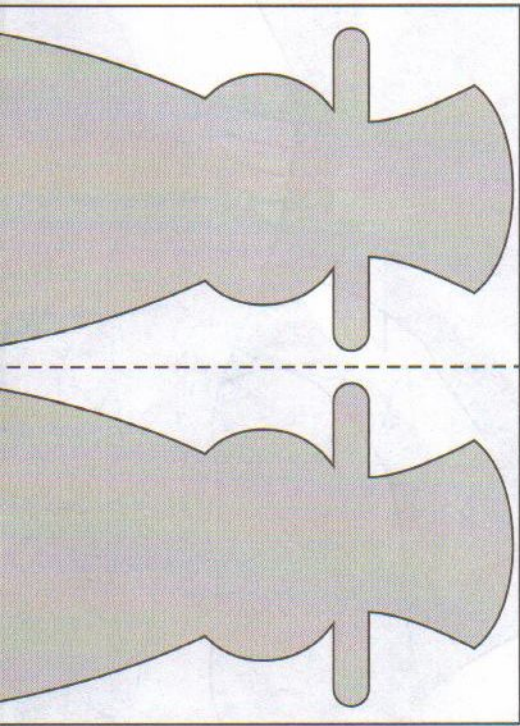
Snowmen

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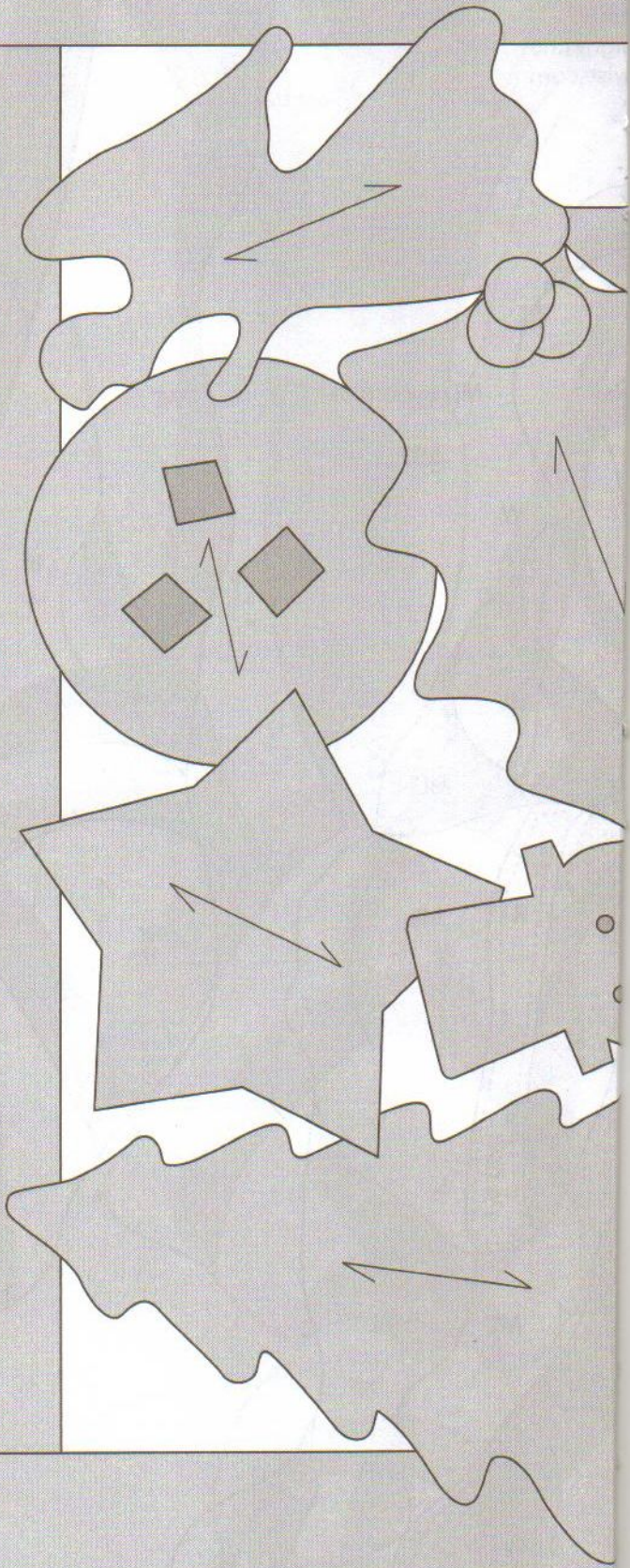
Designer: Sue Mey

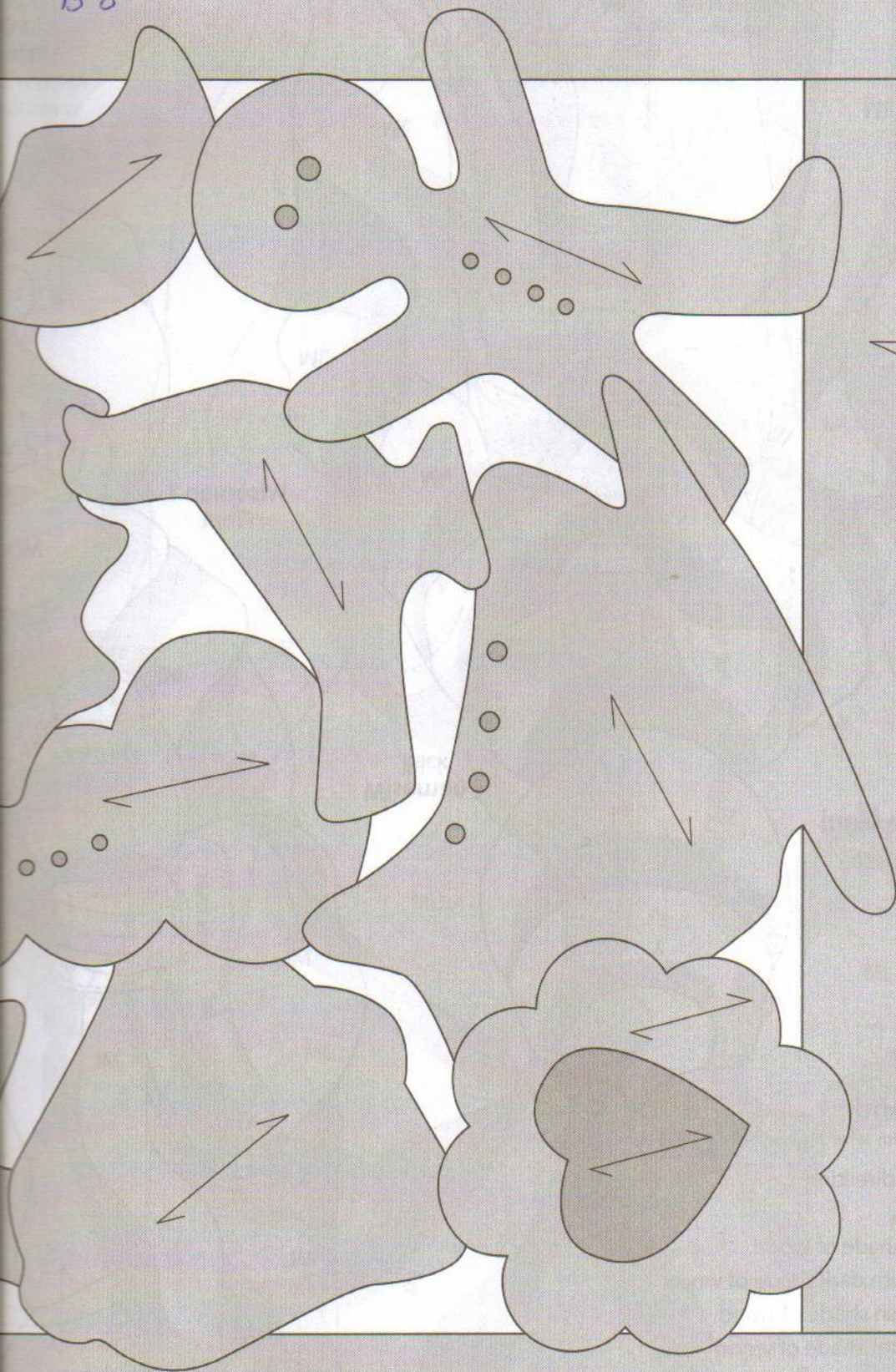


37



JOY





PEACE

