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CREATIVE Woodworks & CRAFTS®

October 1997

**GREAT
PROJECTS
WITH
FULL SIZE
PATTERNS!**

**FREE SCROLL
SAW BLADES
SEE PAGE 97!**

**EXCLUSIVE -
RV MINI CLOCK!**



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ANOTHER STEEBAR EXCLUSIVE!!

"Wrist watch" . . . #Wrist - 1
Size: 18" L x 3 1/2" W



Display box . . . #W - Box
Size: 5 1/2" W x 6" H x 7 1/2" D



Display stand . . . #W - Stand - 1

Featured in the open position below

Size: 9" W x 7 3/4" H x 6" D. Includes two plans to allow you the options of adding the executive pen & pencil set.



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- #Wrist - 1wrist watch plans \$7.50
- #W - Boxdisplay box plans \$3.75
- #W - Standplans for 2 display stands \$3.75

Insert clocks available on page 3.

#Wrist - Set . . . A BEST BUY - ALL FOUR PLANS, A \$15.00 VALUE FOR ONLY . . . \$12.00!

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E - 72 MM - R

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CREATIVE Woodworks & CRAFTS®

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Raccoon Plaque



In Memory of Misty

CREATIVE WOODWORKS & CRAFTS—October, 1997, No. 41
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Mission Style Coffee Table

MARILYN CARMIN: DEVELOPING AN ANIMAL INSTINCT

By Ghillie Ann Pridgen

A child prodigy

Growing up in southern California in a house with five children and parents who not only pursued creative projects but encouraged them, it is small wonder that Marilyn Carmin and her siblings showed their artistic abilities early on. Their small home was often filled with works in progress, and space was always found to display their creations.

Marilyn did everything with an enthusiasm that was a part of her drive for self-expression. As early as the age of five, she showed a special ability for design. Through the years, Marilyn has worked with many mediums: glass, paint, silver, and fabrics. Whatever the project, all of her creations appealed to the sense of touch as well to esthetic sensibilities.

Marilyn has been fascinated by wildlife since early childhood. She grew up surrounded by many pets—sometimes to the consternation of her parents and siblings. Any animal that was small enough to be brought (sometimes snuck!) into the house would soon become a part of Marilyn's menagerie. Oftentimes these animal friends would also share her bedroom. This room was occupied by an older sister as well, and while Marilyn's sister shared her love of art, she did not quite share her fondness for all creatures great and small, at least not within the confines of their bedroom.



Marilyn with one of her wildlife creations



The Dall Sheep is a unique and inspiring rendition of a natural subject

Two newfound loves

In 1977, Marilyn married Garth Carmin and moved to Oregon. It was there that she turned her artistic abilities to wood as a medium of expression. Marilyn began to create designs using a scroll saw, beginning with small ornaments and animal figures which she gave away as gifts to family and sold at local bazaars.

For the past 9-1/2 years, Marilyn and her husband have been selling R.B. Industries' Hawk scroll saws. Working with Garth on her sawing techniques, Marilyn also fur-



Marilyn began her scroll saw career designing small items like these beautiful ornaments featured in the upcoming Christmas 1987 edition of *Yoga's Ornaments*.

Fascinated by wildlife since early childhood, Marilyn designed the delightful "Fall Harvest" Plaque exclusively for the premier issue of *Scroll Works*.



Capturing the majesty of nature, "Wild Horses" is one of Heartland Creations' most popular patterns.

thered her interest in designing scroll saw patterns.

As animals were still her top priority, she began a serious study of them, especially wildlife. Marilyn pays close attention to animals wherever she finds them—at the zoo, from photographs, and from firsthand observation of wild animals in their natural settings. Her patterns have captured the appeal of nature, from the quiet and shy rabbit, to the mother bear guarding her young, to the wild and awesome power of the eagle in flight.

Less than three years ago, Marilyn and partner Debbie Smith started Heartland Creations, which has turned into a profitable and enjoyable venture. The patterns designed by Marilyn have proved to be much in demand.

Although she has enjoyed working with the many mediums she experimented with since early childhood, wood has become Marilyn's material of choice. "because," she says, "wood is beautiful in its own right."

To order Marilyn's beautiful patterns, please contact Heartland Creations, P.O. Box 191 Dept. WW1097, Yacolt, WA 98675 or call (360) 686-3133.



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#115 WOLF PACK

PRAYING HANDS MINI CLOCK

Designed by Dan and Raymond Wickens of Wickens Woodworking

SUPPLIES

Wood: curly maple or wood of choice—1/2" x 5-3/4" x 7-3/4" (for the upright); 3/4" x 7-3/8" x 2-7/8" (for the base)

Tools: scroll saw; drill press with bits including a 1-3/8"-Dia. Forstner bit; table saw or similar saw; planer; belt or hand held sander

Temporary-bond spray adhesive
Sandpaper, assorted grits
X-ACTO knife and/or needle pick
Wood glue

Oil finish of choice
1-7/16"-Dia. mini clock insert*

* Available from Steebar Corp, P.O. Box 908-WC9, Andover, NJ 07821-0980; (201) 383-1026; fax: (201) 383-8918. Clock shown: BFU-1716-FR.

INSTRUCTIONS

Prepare and cut the wood

Make a copy of the pattern found in the Full Size Pattern Section. Plane your wood to the proper thickness, then cut to the approximate dimensions.

Attach the pattern to the wood with the spray adhesive, placing the straight edges of the pattern along the straight edges of the wood.

With a small drill bit, bore a hole in the waste area of each cutout. For veining, bore a hole along the line, preferably at one end or at a bend or junction in the line. Bore a 1-3/8"-Dia. hole at the clock location.

Feed the scroll saw blade through the drilled holes and cut along the pattern lines. Cut the interior of the clock first, then cut the exterior lines of the pattern by first drilling a small hole just outside of the marked lines.

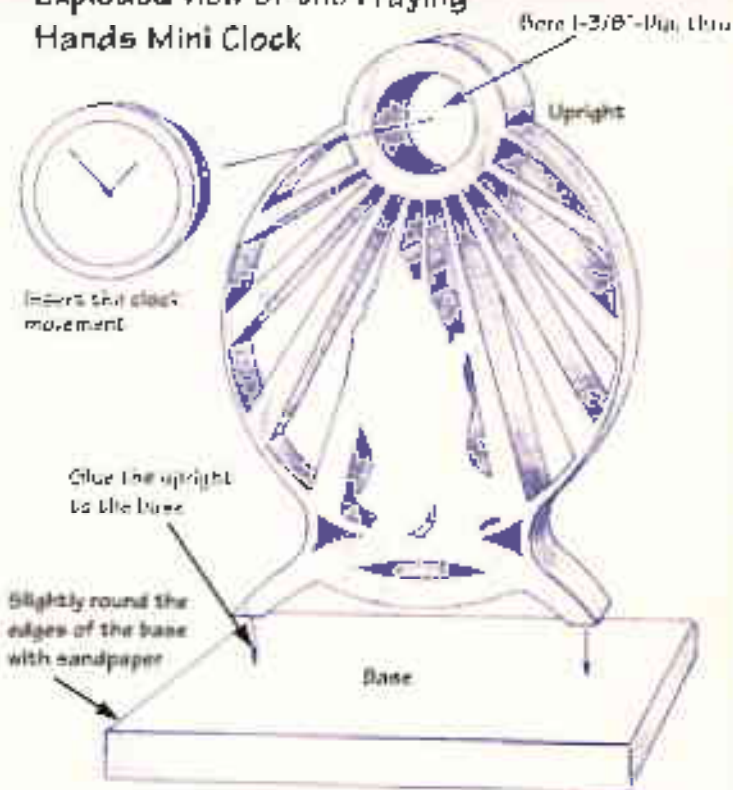
Sand and assemble

Peel the pattern from the wood, then sand all sides of the wood with a belt sander or hand held sander. Remove any burrs and clean up any cuts with the knife or needle pick.

Apply a band of wood glue to the bottom edge of the upright and attach it to the center of the base. Allow to dry thoroughly. Apply oil finish per manufacturer's instructions, then install the mini clock insert.

You can now check the time and find inspiration all at once!

Exploded view of the Praying Hands Mini Clock



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**WOOD
MACHINES**

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August 15-17	TULSA	Tulsa Fairgrounds	Tulsa, OK
August 22-24	SHREVEPORT	Convention Hall	Shreveport, LA
August 29-31	JACKSON	Trade Mart (MS State Fairgrounds)	Jackson, MS
September 5-7	SPRINGFIELD	University Plaza Trade Center	Springfield, MD
September 12-14	MICHIGAN	Novi Expo Center	Novi, MI
September 12-14	NEW ENGLAND	National Guard Armory	Manchester, NH
September 19-21	SYRACUSE	New York State Fairgrounds	Syracuse, NY
September 26-28	GREATER CLEVELAND	Cuyahoga County Fairgrounds	Berea, OH
October 3-5	TWIN CITIES	Minnesota State Fairgrounds	St. Paul, MN
October 10-12	CHICAGOLAND	Odeum	Villa Park, IL
October 17-19	HOUSTON	Astronave	Houston, TX
October 24-26	COLORADO	Denver Merchandise Mart	Denver, CO
Oct. 31 - Nov. 2	OREGON	Portland Expo Center	Portland, OR
November 7-9	SAN FRANCISCO BAY AREA	San Mateo Expo Center	San Mateo, CA
November 7-9	FT. WASHINGTON	Ft. Washington Expo Center	Ft. Washington, PA
November 14-16	SEATTLE	Seattle Center	Seattle, WA
November 21-23	GREATER LOS ANGELES	Orange County Fairgrounds	Costa Mesa, CA
December 5-7	METRO-DETROIT	Novi Expo Center	Novi, MI
December 12-14	GREATER MILWAUKEE	Wiscamin Center	Milwaukee, WI
January 9-11	NORTH JERSEY	Garden State Exhibit Center	Somerset, NJ
January 16-18	GREATER COLUMBUS	Ohio Expo Center/Fairgrounds	Columbus, OH
January 23-25	BALTIMORE	Gayland State Fair	Towson, MD
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February 6-8	ST. LOUIS	Gateway Center	Collingsville, IL
February 13-15	INDIANAPOLIS	Indiana State Fairgrounds	Indianapolis, IN
February 20-22	ATLANTA	Cosmos Live Center	Duluth, GA
Feb. 27 - Mar. 1	CENTRAL FLORIDA	Florida State Fairgrounds	Tampa, FL
March 6-8	CHARLOTTE	Merchandise Mart	Charlotte, NC
March 6-8	LOS ANGELES	Ontario Expo Center	Ontario, CA
March 13-15	NASHVILLE	Nashville Convention Center	Nashville, TN
March 20-22	WASHINGTON, DC	D.C. Armory	Washington, DC
March 27-29	HARRISBURG	Farm Show Complex	Harrisburg, PA
April 3-5	MASSACHUSETTS	Eastern States Exposition	West Springfield, MA
April 17-19	CHICAGOLAND	Odeum	Villa Park, IL
April 24-26	GREATER LOS ANGELES	Orange County Fairgrounds	Costa Mesa, CA
May 1-3	SACRAMENTO	Sacramento Convention Center	Sacramento, CA

**PS Wood Machines 10 Downing Street, Suite 3, Library, PA 15129
(800) 939-4414**

RV Mini Clock

Here's a quick and easy project sure to please RVerS from coast to coast!

Designed by Dirk Boelman



INSTRUCTIONS

Transfer the patterns and cut the wood

Copy the patterns for the base and upright, found in the Full Size Pattern Section, and adhere them to the wood with temporary-bond spray adhesive. Position the upright pattern so that the straight line at the bottom of the pattern corresponds to the straight edge of the wood, and position the base pattern in the center of the stock.

Drill blade entry holes for the interior cuts, then proceed to saw out the pattern on your scroll saw. Tilt the table 15 degrees and saw the bevel cut around the base.

Note: a 1-13/16"-Dia. hole is required in the upright piece for the 2"-Dia. clock insert. You can either saw this out on your scroll saw or use a 1-3/4" Forstner bit to bore the hole; then sand to fit.

After sawing, touch up any imperfections with sandpaper, small files or a bench knife.

Assembly

Centers are indicated on the base pattern for the two No. 6 x 1" flathead wood screws used to attach the upright. Drill pilot holes and countersink the screw heads on the bottom side of the base.

Apply the desired finish and insert the clock movement.

Your RV Mini Clock is now ready to mark the time as you travel from one adventure to another!

SUPPLIES

Wood: 3/4"-thick pine—3-3/4" x 9-1/2" (for the upright); 4-1/2" x 12-1/2" (for the base)

Tools: scroll saw, drill with bits including a 1-3/4" Forstner bit (optional); small files; bench knife

Temporary-bond spray adhesive

Sandpaper, assorted grits

Wood glue

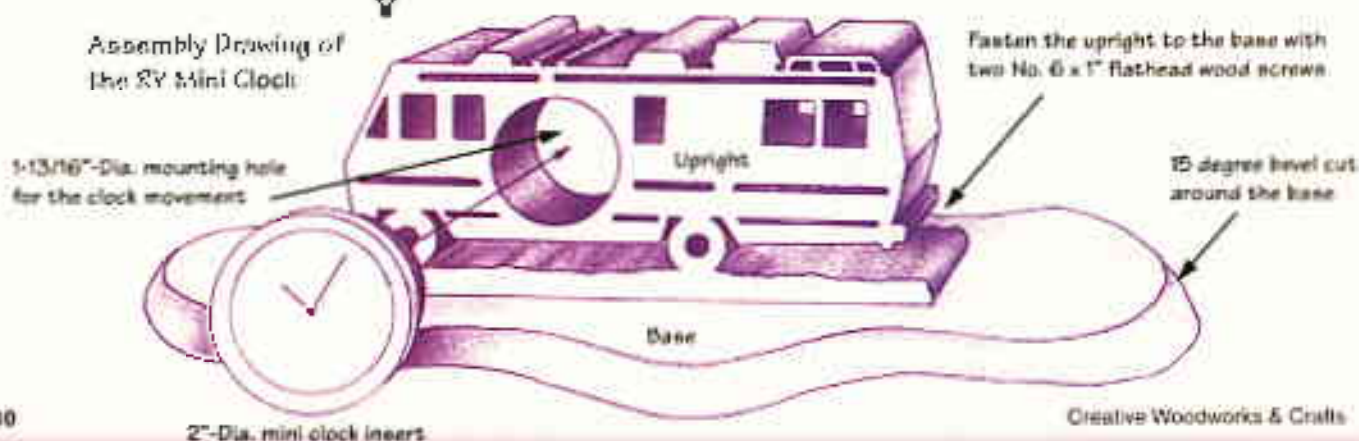
Finish of choice (optional)

2"-Dia. mini clock insert*

Two No. 6 x 1" flathead wood screws

* Available from the Art Factory, P.O. Box 701, 950 Hollman St., Platteville, WI 53818, (608) 348-8332.

Assembly Drawing of the RV Mini Clock





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Man & Child - 5 1/2" x 15" H x 8 1/2" W - 2 1/2" H x 5 1/2" W. Can be made into plastic or bamboo.

Plan #254 h 116, An/23/rak



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SCROLL WORLD is coming soon!

We are proud to bring you a very special edition entitled *Scroll World*. *Scroll World* will feature outstanding scroll saw projects, fantastic fretwork, challenging intarsia, enlightening articles, and much more. Most of the projects featured in *Scroll World* (like those pictured here) were designed exclusively for this issue, and have not been seen before. Best of all, *Scroll World* includes two Full Size Pattern Sections!

If you already subscribe to *Creative Woodworks and Crafts*, you will be sent *Scroll World* as part of your subscription. If you are not a subscriber, look for *Scroll World* on the newsstand September 16.

We'd love to hear from you—your feedback and comments are always welcome. Please direct all correspondence to Barbara d. Martin, c/o *Creative Woodworks and Crafts*, 243 Newton-Sparta Road, Newton, NJ 07860.

Sincerely,

John Nelson
Kelly Alberison

The *Creative Woodworks and Crafts*
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DINOSAUR FOUR-PACK TOY

Designed by Gus Statureac



SUPPLIES

Wood: one piece 1" x 5" x 11-1/4" (for the dinosaur case); one piece 3/4" x 1-1/2" x 5" (for the handle)

Tools: scroll saw with No. 12 blade; drill with 1/8", 3/8", 5/32", and 9/32"-Dia. bits and a 7/16"-Dia. bit long enough to bore a 6"-deep hole

Temporary-bond spray adhesive

Sandpaper, assorted grits

3/8"-Dia. dowel (approximately 16" long)

1/4"-Dia. dowel (approximately 16" long)

Sixteen 1-1/4"-Dia. wooden toy wheels (TY-125)*

Two 1" x No. 8 pan head screws

Non-toxic paint: blue, green, yellow, red

Painbrush of choice

Non-toxic clear finish

* Available from: The Little Red Toy Maker, P.O. Box 100, Lawsonville, NC 27022

use non-toxic paints and finishes, which are readily available at paint and craft stores.

Whether you're making just one for that special child in your life or one hundred for the special children in the lives of many a complete stranger, the Dinosaur Four-Pack is a terrific project.

Make the pieces

Size your stock to the dimensions indicated in the Supplies list. Transfer the patterns for the handle and the dinosaur case (found in the Full Size Pattern Section) to your wood.

Cut the handle to shape. Referring to the pattern and Fig. 1, locate and bore 1/8"-Dia. pilot holes and 3/8"-Dia. counter-sinks 1/2"-deep in the handle where indicated.

Drill all the necessary holes in the case before sawing out the dinosaurs. Bore 5/32"-Dia. holes for the eyes and 9/32"-Dia. holes for the axles. Turn the piece on its edge and bore the 7/16"-Dia. holes for the dowels which will hold the dinosaurs in place.

Bore blade entry holes in the waste areas, insert the No. 12 blade, and saw out each dinosaur. Discard the scraps, and sand all of the components. Referring to the photograph, paint the exterior surfaces of the dinosaurs.

Assembly

Screw the handle to the case and coat this assembly with a non-toxic clear finish. When dry, attach the wheels to each dinosaur (see Fig. 2). Place each dinosaur in the case, insert the dowels to retain them, and your Dinosaur Four-Pack is ready to be played with by a very lucky child!

INSTRUCTIONS

Introduction

The Dinosaur Four-Pack is a delightful toy that kids really take to. Its uncomplicated design is ideal for mass production and, in turn, for vending at craft fairs. The toy pictured was made from poplar, but any type of clear wood will suffice. Because it's meant to be played with, you should be sure to



Fig. 1. Cutaway view of the Dinosaur Four-Pack.

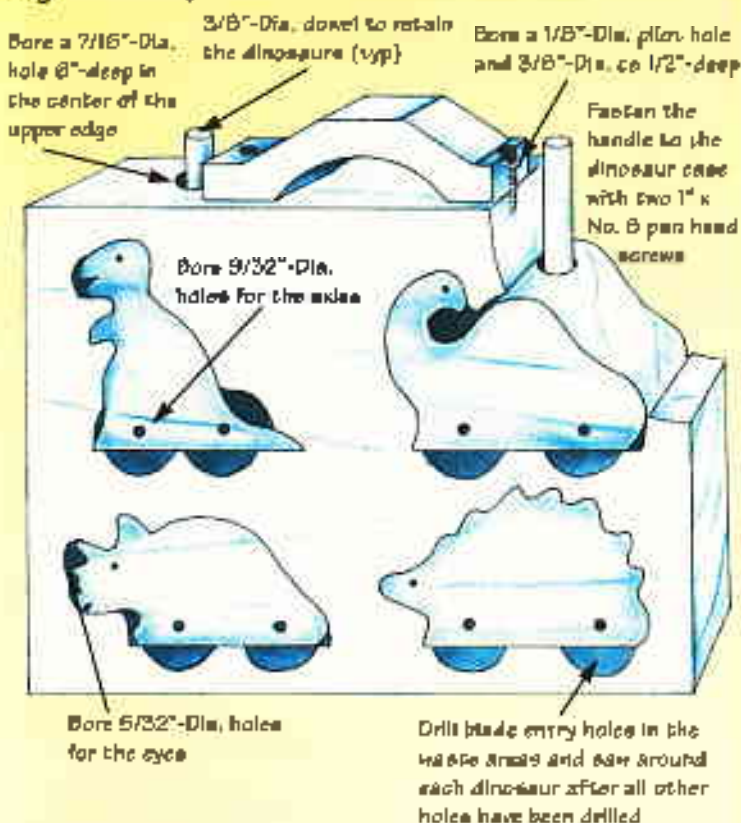
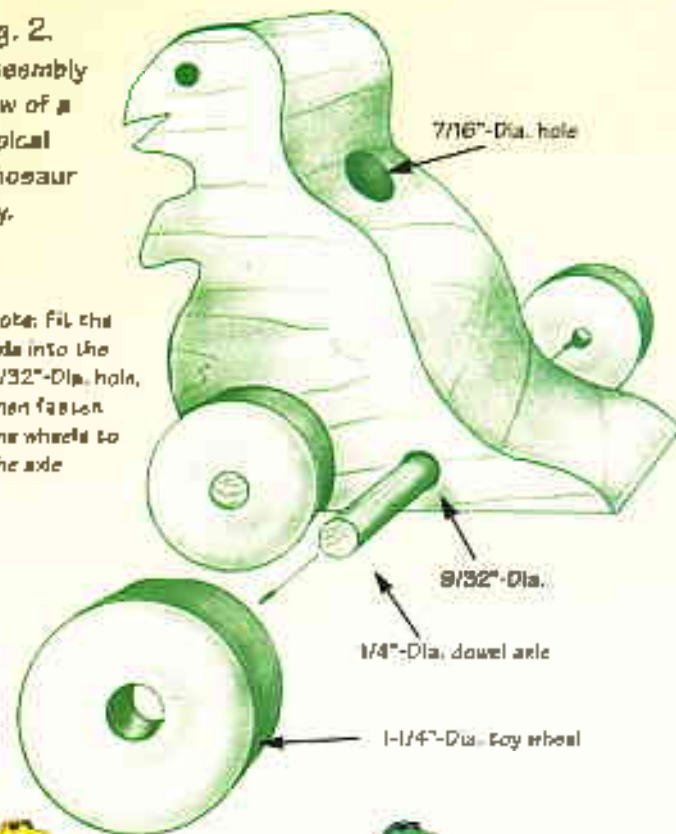


Fig. 2. Assembly view of a typical dinosaur toy.

Note: Fit the axle into the 9/32"-Dia. hole, then fasten the wheels to the axle



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INTARSIA WOOD

by Robert J. Hlavacek, Sr. of Wildlife Intarsia Designs

When I first began experimenting with intarsia, all my projects were made using western red cedar. I soon began experimenting with other types of wood and was much more satisfied with the results. Using various species of wood makes available a wider range of colors, therefore, you won't have to buy as many boards to have a good selection from which to choose. This, in turn, will help keep your workshop from looking like a lumber yard.

Shopping for wood

When looking for intarsia wood, pay more attention to interesting colors and grain configuration than to what species it is. It's amazing how much a color can vary within the same species of wood (see Fig. 1). Where the tree grew and the types of mineral deposits in the soil play a large part in these color variations.

When you decide to make an intarsia project, don't be afraid to try something different from what the instructions call for. Add your own personal touch to the project by using wood other than the type recommended. You may find yourself doing this out of necessity anyway, depending on where you live and what woods are available to you.

Attention intarsia wood shoppers

Bargains on intarsia wood can be found by seeking out lower grades of wood which are unsuitable for cabinet work. Lumber graded No. 1 or No. 2 common will have more knots, more interesting grain configuration, and lower prices to boot. And the right grain in a piece of wood can make a project truly outstanding.

Some lumber dealers also offer "shorts" or "cut offs" at a discount. This is generally stock ranging from 6" to 3' in length—perfect for intarsia work. I have found that the best way to buy wood is to stop at various lumber outlets periodically to see what looks interesting. This way you can accumulate a good selection of material and also replenish any which has been used up.

Wet wood and bugs

If you live in the vicinity of a sawmill, you can find some potential bargains in the firewood pile. But before you begin foraging, here are a couple of things to watch out for. First, the wood will most likely be too wet to use in the immediate future, even if it feels dry. If you have access to mill cutoffs, it would be wise to invest in a moisture meter to be certain that you're not using wet wood in your projects.

Here in the Midwest, the wood I buy is typically kiln dried to 7-9 percent moisture content. This percentage can vary with the humid summer and cold dry winter seasons, and with how the wood is stored.

Wood will constantly gain and lose moisture with humidity changes. Acceptable levels of moisture content in the wood used will also be determined by whether you live in Arizona or Florida. Like they say around here every summer, "It's not the heat, it's the humidity."

The second thing to watch out for is using wood with the

bark still attached. Although these rustic slabs look good as a backdrop to mount an intarsia fish on, unless the wood is properly kiln dried, a menagerie of beetle larva may be found living under the bark, just waiting to latch into who knows what kind of critters.

By mentioning this, I don't mean to imply that air-dried wood should be totally avoided. Properly air drying wood produces excellent lumber—I've used a lot of it to build furniture over the years—but it doesn't kill bugs under the bark.

Storing and organizing wood

Once you've purchased your wood and made a few projects, you'll likely encounter a new problem: what to do with all the small but usable cutoffs left from your completed projects.

A local supermarket can provide the answer—they're an excellent source of free, efficient storage containers. The 2-1/2" x 10-1/2" x 16" corrugated cardboard cartons that hold cans of soda usually end up in the store's dumpster. With these cartons, you can store up to four layers of usable scraps and quickly look through the wood to find a piece you need. Use a marking pen to indicate on the side the type of wood in each carton and then just stack them on top of each other. You now have an efficient—and free—filing system to organize and store your smaller pieces of wood (see Fig. 2).

It's best to separate and store your wood by species, keeping exceptionally figured pieces together. The time you save searching for the right piece of wood can be put to better use cutting it for a project.

Robert J. Hlavacek is the owner of Wildlife Intarsia Designs, P.O. Box 1246, North Riverside, IL 60546, (708) 788-6455.

For a mail order source of good intarsia wood, call Badger Handwoods of Wisconsin at (800) 252-2373 for a free catalog.



Fig. 1. Environmental as well as geographical factors can play a large role in color variations.



Fig. 2. Cardboard case holders provide a free and efficient way to store cut offs.

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Types of wood

The following are some of the woods I like to use for intarsia:

Ash: Heartwood color is various shades of tan, while sapwood is a creamy white. The grain resembles that of oak.

Hasswood: Light cream color; cuts, shapes, and sands easily. The even, fine grain makes it an excellent choice for painted projects (carvers love this species).

Birch: Sapwood is white to yellowish tan, while heartwood is shades of tan with a tinge of red. Since it's fairly hard, I only use birch if I find a nicely figured piece that will make a real improvement in the appearance of a project.

Butternut: Heartwood is a very nice tan color which I find ideal for deer or cougar type projects. It cuts and shapes easily, and is one of my favorite woods to work with.

Cedar (Arctic): Reddish heartwood with white sapwood. Cuts and shapes easily; the heartwood makes nice looking flowers.

Cedar (Western Red): Heartwood ranges from shades of light tan with occasional tints of pink to very dark brown. Sapwood is white to cream color and usually only in narrow strips on edges of board. The right selection of grain and color makes a nice looking pleasure, as well as good looking tree branches for birds or "logs" for raccoons. Most of the western red cedar I've seen locally is S1S (surfaced one side) and 7/8" thick. If you don't own a thickness planer, you may want to avoid it.

Cherry: When freshly planed, the heartwood is a light reddish-brown color which darkens considerably with time. Sapwood is several shades lighter than heartwood and will also darken, but to a lesser degree. The heartwood color is perfect for the breast of a sunfish or the body of a red fox.

Cottonwood: Fairly soft, smooth-grained, white colored wood cuts and shapes easily. Takes paint well and is generally low priced; a good substitute for basswood.

American Elm: Heartwood ranges from light tan to reddish brown, while sapwood is cream colored; grain resembles ash or oak. Use in conjunction with them for interesting color contrast.

Honey Locust: Has grain similar to oak, with heartwood having a very definite orange color.

Maple (Soft): Heartwood is a pinkish-tan, while the sapwood can be white in color. This cuts easily and accepts paint well.

Oak (Red): The heartwood is a light tan to pinkish color, it cuts and shapes nicely.

Oak (White): Nice shades of tan are found in the heartwood. Makes sturdy, good looking antlers for deer-type projects. Also good color for deer or antelope bodies if butternut is not available, although it is somewhat harder to cut.

Osage Orange: When freshly surfaced, it has a yellowish, iridescent color that makes excellent eyes for a cougar or tiger.

Pine: Cuts and shapes easily. Take care when selecting pine to be sure it doesn't have excess pitch which will gum up the saw blades and sanding sleeves more than other woods. Pine takes paint nicely.

Poplar: One of my favorite woods because it offers so much variety. The color ranges from off-white sapwood to light and dark green heartwood. Occasionally you'll find some wonderful dark blue to purple mineral streaks in the wood. Being smooth grained and light colored, the sapwood accepts

paint nicely. Poplar cuts and shapes easily and is on the lower end of the price scale.

Sycamore: The sapwood, which I find very desirable for many intarsia projects, is white, while the heartwood is light tan. The flecked grain reminds me of fur or feathers, which makes it ideal for wildlife projects.

Walnut: Sapwood ranges from off-white to light grey. The heartwood varies from light to deep chocolate brown with occasional hints of grey and purple. It cuts and shapes well. Although somewhat expensive, probably the most costly wood I use, walnut is very desirable when you need dark colored wood.

Because some of the mentioned woods are more readily available in some parts of the country than others, use this list and the photos as a guide. If you can't find the particular type of wood I've used in a project, use your imagination and substitute with something you have available. You might just get better results using wood with interesting color and grain configuration available in your area than trying to find a specific type.

Continued on page 20



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Basswood



Birch

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Types of wood (con't)



Butternut



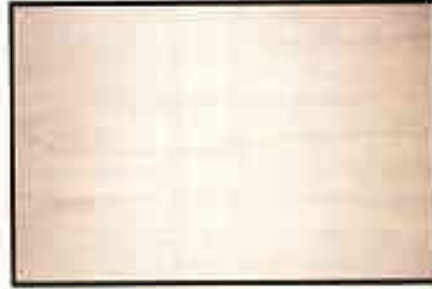
Cedar (Aromatic)



Cedar (Western Red)



Cherry



Cottonwood



American Elm



Honey Locust



Maple (Soft)



Oak (Red)



Oak (White)



Osage Orange



Pine



Poplar



Sycamore



Walnut

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INTARSIA—IN MEMORY OF MISTY

Designed by Robert J. Hlavacek Sr. of Wildlife Intarsia Designs



INSTRUCTIONS

An intarsia editor's best friend

My wife, Kathy, and I got Misty at the ripe old age of five weeks and a hefty weight of 4-1/4 pounds. Her mother was a gentle, 110-pound Rotweiler-Shepherd mix who went on a "date" with the neighbor's Doberman. Paul, the neighbor in question whom I had met at our local sawmill, called and said, "If you want a puppy, get over here Saturday morning." We did, and enjoyed every day of her too-short life.

The first toy Misty played with was an old softball. She couldn't figure out how to get it in her tiny mouth to fetch, but she made an all-out effort trying. Her antics inspired my first Basswood Hound.

Here's how to make this project in memory of Misty, or your own lovable canine companion.

Ready, set, go

Make two copies of the pattern, found in the Full Size Pattern Section. Attach one copy of the pattern to the wood with the spray adhesive. Before curing, drill all necessary holes: 1/4"-Dia. x 1/4"-deep in the nose and 5/8"-Dia. x 1-3/8"-deep for the 15mm eyes. If you are using plastic eyes, drill 5/16"-Dia. holes through the center of the eye holes for the stems.

Separate the various components on the scroll saw with a No. 7 reverse tooth blade. The reverse teeth will eliminate any burr on the bottom of the workpieces so that they will lay flat during assembly. If you use a reg-

SUPPLIES

Wood: basswood or pine—1-1/2" x 7" x 10" (for the puppy) and 1/4" x 7/8" x 3/4" (for the tongue); plywood—1/4" x 7" x 10" (for the backboard); 1/2" x 1" x 1-3/4" and 1/4" x 1" x 1-1/4" (for the shims)

Tools: scroll saw with No. 7 reverse tooth blade; router with a 1/2" roundover bit; drill press with 1/4", 5/16", and 5/8"-Dia. bits; sanding drums with 100 grit sleeves, flutter wheels with 100 and 180 grit sheets*; 1/4 sheet finish sander with 80, 100, and 120 grit abrasive paper

Temporary-bond spray adhesive

Woodburning pen (optional)

C-clamps

Hot glue gun

Wax paper

Carbon paper

Carpenter's glue

5-minute epoxy

Krylon No. 1311 matte finish

Hydrocote high-gloss finish

Sawtooth hanger

Delta Ceramcoat acrylic paints: Black;

Quaker Grey; White

Folk Art acrylic paint: Honeycomb

Accent Country Colors acrylic paint: Painted Desert
15mm glass or plastic brown eyes**

* 2" x 6" flutter sheets and arbor are available from The Sanding Catalogue, (800) 228-0000.

** Glass and plastic eyes can be purchased from Van Dyke's, (605) 796-4425. Call for a catalog.

For a FREE catalog offering nine more Basswood Hound patterns, contact Wildlife Intarsia Designs, P.O. Box 1246, North Riverside, IL 60546-0646, (708) 788-6455.

ular blade, remove the burr with a sanding block. Use the muzzle and nose as a template to trace an accurate cutting line on the tongue (see Fig. 1).

The entire muzzle must be raised 1/2" with a plywood shim glued to the back. To make the shim, place the muzzle on the plywood and trace its outline, cut about 1/8" within the line, and glue the shim in place. Next, raise the nose an additional 1/4" following the same procedure.

Reduce the thickness of the pieces as indicated on the pattern by resawing or sanding off the proper amount.

Contouring

Begin contouring by rounding the edge of the ball with a router and a 1/2" roundover bit. Rout the edge in several passes to prevent tearout on the end grain. Do not rout the edges which have indentations (see Fig. 2).

Contour the lowest pieces first. A drill press and sanding drums are used to shape all of the small

pieces. I use 100 grit sleeves and operate my drill press at 2,000 rpm. After shaping, trace the profiles of these pieces to the sides of the higher, adjoining pieces. Use these lines as guides when contouring the parts.

Continue contouring the edges of the ball with a finish sander (see Fig. 3). Start with 80 grit, progress to 100 grit, and finish with 120 grit paper. Repeat this procedure for rounding the edges of the head.

Tip: to sand really small pieces such as the tongue, place a dab of hot glue on the end of a 4" x 3/8"-dia. dowel and attach this to the back side of the tongue, as shown in Fig. 4. This will allow you to keep a good hold on pieces which might otherwise be hard to sand.

Once you have finished contouring the pieces, they should look as though cut from one piece of wood. When this look has been achieved, smooth the ridges left by the sanding drums with a flutter wheel. Use the edge of the wheel and light pressure to quickly smooth the pieces.

Properly position the pattern on the ball, then trace the stitching with carbon paper. Use a woodburning pen to create the stitching as well as the toes on the puppy. If you have a cone point tip, add a few whiskers to the sides of the muzzle. **Note:** if you don't have a woodburning pen, you can just paint the ball a bright color, like a child's play ball, and cut the toes by making simple V cuts with a sharp knife.

Painting

For my painted projects, I like to thin acrylic paints with water to about a 50/50 mixture, which allows the wood grain to show through. On this project, however, don't thin the Honeycomb too much, or else the eyebrows and muzzle will run together. Allow the project to dry overnight.

Since thinned waterbased paint raises the wood grain, the pieces should be "deluzzed" after drying. This can be done easily with a 180 grit flutter wheel run at approximately 700 rpm on the drill press. Start with the lightest colors first and clean the flutter wheel on the edge of a light-colored piece of scrap wood or a rubber abrasive clearing sock. This will prevent transferring color from one piece to another.

Gluing

Place the second copy of the pattern on a flat surface and cover it with a sheet of wax paper. This will help you to properly align the lower legs to the edge of the ball. Apply a small

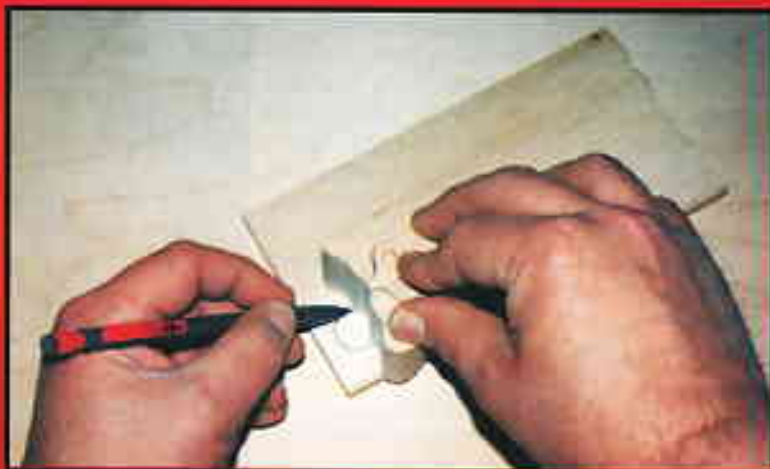


Fig. 1. Use the muzzle and nose as a template to trace an accurate cut line on the tongue. Perform this step before gluing the limbs underneath these pieces.

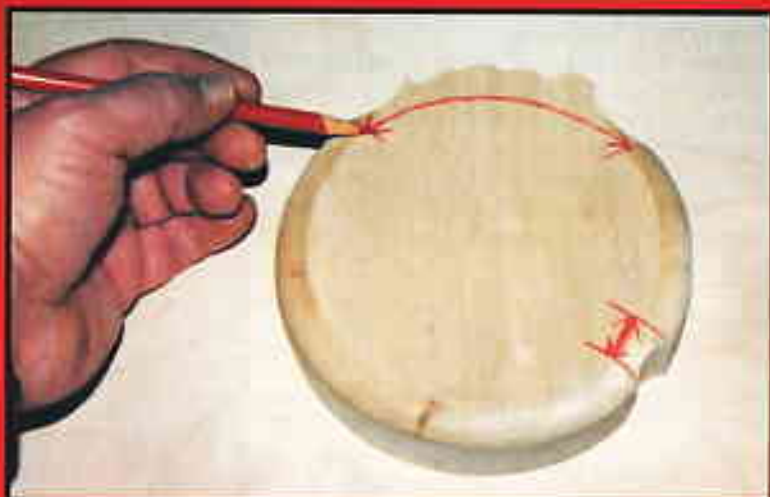


Fig. 2. A router and 1/2" roundover bit can be used to quickly contour most of the ball edge. Note: do not rout the edges shown in red.



Fig. 3. Use a finish sander to contour and smooth the ball and puppy's head.

amount of glue toward the back edge of the pieces to prevent squeeze-out (see Fig. 5). Do not glue the eyes, nose, or tongue in place until the finish has been applied.

Allow the glue to dry for at least 45 minutes. Remove the project from the wax paper, place it on the 1/4" plywood, then trace the project outline. Cut the backboard at a 15 degree angle toward the back side and about 1/8" inside of the pencil line. Paint the plywood edge black.

Apply glue to the backboard and attach the puppy. A few C-clamps, with scraps of plywood to protect the surface, will insure a good bond (see Fig. 6).

Finishing

Apply four or five light coats of matte finish on the puppy. This finish dries fast and the low sheen contrasts nicely with the sparkle of the eyes. Brush two to three coats of high gloss finish on the nose and tongue for a "wet" look.

Glue the eyes and nose in place with epoxy. When dry, place a small amount of epoxy on the edge of the tongue and glue it to the muzzle, using a 1/4"-thick piece of plywood to hold the tongue in position.

Attach a sawtooth hanger to the back and this playful puppy is ready to grace your wall.



The real-life "Misty"



Fig. 4. Create a handle on small parts with a dab of hot glue on the end of a dowel rod. Leave the tongue attached until it's painted; cut through the glue line with a sharp knife to remove.



Fig. 5. A little carpenter's glue holds everything together.



Fig. 6. A few C-clamps, with scraps of plywood to protect the surface, will insure a good bond to the backboard.



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Designed by Robert E. Belke



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B	Sides	1/2 x 8 x 5	2
C	Front	1/2 x 4-1/2 x 11	1
D	Back	1/2 x 8 x 11	1
E	Divider	1/4 x 7 x 11	1
F	Divider	1/4 x 5-1/2 x 11	1

SUPPLIES

Tools: table or radial arm saw; router with dovetail, 1/2" and 1/4" straight bits; Leigh Dovetail Jig[®]; plane

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**Available from: Old Masters, (800) 747-3436; 1900 Albany Place South, Orange City, IA 51041.

INSTRUCTIONS

Introduction

Made from cherry, the Craftsman Style Desk Organizer will hold your important documents in an orderly manner, allowing more room on your desk for writing, studying, paying bills, or just enjoying a good crossword puzzle. Since cherry is the recommended material, no stain is necessary; instead, a clear acrylic varnish is all that is needed.

Make the box assembly

Size the stock for the sides (B), front (C), and back (D) to the dimensions indicated in the Bill of Materials. The width listed for the front (C) is actually slightly larger than the finished piece—it will be trimmed to size while making the bevel cut.

The half-blind dovetail joinery was cut with a Leigh Dovetail Jig (see the accompanying sidebar). This joint imparts an especially elegant look to the project.

After cutting the dovetails, dry assemble the box and mark the 45 degree angles to be cut on both sides (B), as well as the bevel cut on the front (C). Disassemble and make the required cuts.

Lay out and rout the 1/4"-wide x 1/4"-deep dados on the inside surfaces of both sides (B). Sand each

component and glue the dovetail joints together (see Fig. 1), making sure the assembly is square.

Make the base

Size the stock for the base (A) and cut the 45 degree chamfers around all four edges. Set the box assembly on top of the base (A), and trace the location of the 1/2"-wide x 1/8"-deep stopped dado. Rout the dado and square the corners with a chisel. Sand and glue the box assembly in place (see Fig. 2).


Make the dividers

Cut the 1/4" stock for the dividers (E and F) to the length which will fit into the dados previously cut in the sides (B). This length should be 10-1/2", but it can vary depending on how accurately the dovetails are cut. Measure your box and use that dimension.

Fit the dividers into the dados and plane the top edges to conform with the side angles.

Finishing

Apply one coat of acrylic gloss varnish and follow with two coats of acrylic satin varnish. Sand lightly with 400 grit wet/dry abrasive paper between coats.

The first step on the path to success is organization, so sort those bills, coordinate that paperwork, and put your desk organizer to good use! 

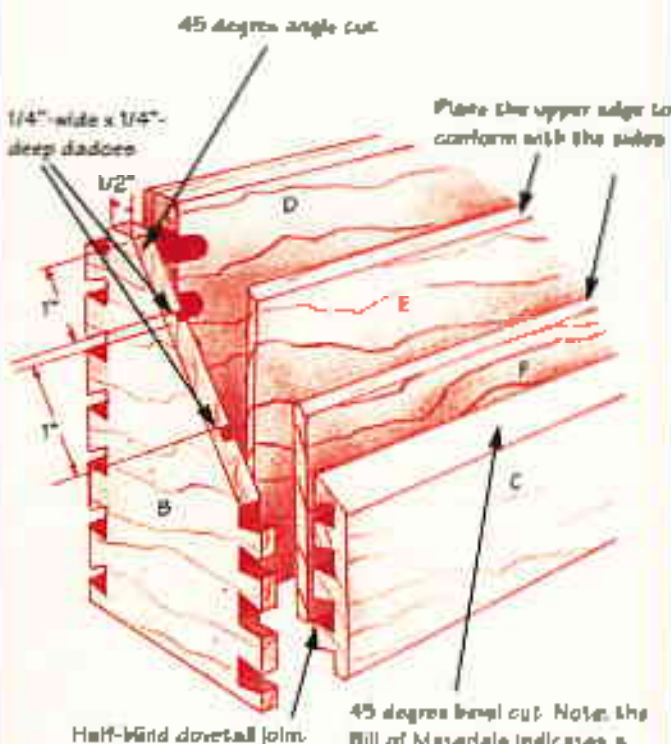


Fig. 1. The box assembly and dividers.

45 degree bevel cut. Note: the Bill of Materials indicates a width of 4-1/2" for the front—this should allow plenty of material for the bevel cut.

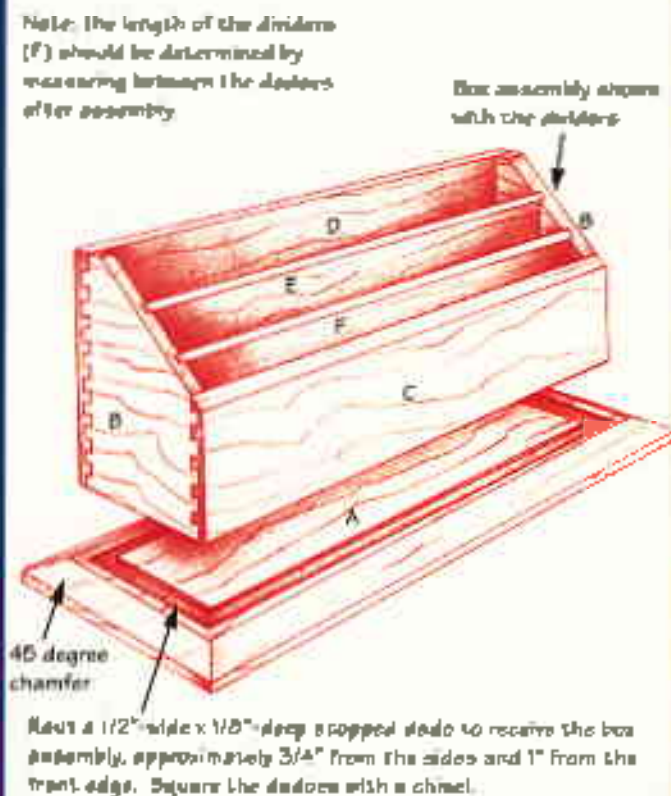


Fig. 2. Attach the box assembly to the base.

THE LEIGH D4 DOVETAIL JIG

Whether half-blind dovetails for drawers or through dovetails for a cabinet's carcass, there is nothing more elegant than a well-made dovetail joint. It sets a piece of furniture apart as a quality item and is the soulmate of joinery techniques.

As you are probably well aware, dovetails can be made many ways. They can be hand cut, using the tried and true methods of the masters, or they can be fabricated using a router and a dovetail jig. There are a myriad of such jigs on the market, each one varying in price and complexity.

In my opinion, the best of the lot is the Leigh D4 Dovetail Jig. After using this jig for a while, I discovered that the resultant dovetails truly do look the same, if not better, than well-made, hand-cut dovetails. Although this jig is somewhat pricey, it is easy to use and you get a lot of machine for your money.

The jig comes with two router bits, a 1/2" dovetail cutter and a 5/16" straight cutter, and a 170 page user's guide. This is an excellent resource, as it is well illustrated and clearly explains each function of the jig. Leigh also offers a 40 minute video on the setup and use of the jig. It shows the tool in action, making through, half-blind, and sliding dovetails. Although the video was produced in 1988 and an earlier model of the jig is shown, it is still well worth purchasing.

What sets this jig apart

Unlike other dovetail jigs, which only cut half-blind dovetails in a single operation, the Leigh jig cuts the tails and pins in separate operations. This is accomplished by a two-sided template which has tapered fingers on one side and straight fingers on the other. All that is required is to flip the template either side-to-side or end-to-end, depending upon the type of joint being cut. The template has graduated scales to create a tighter or looser fitting joint. Another great feature of the template is the

variable fingers which can be adjusted to any number of configurations and spacings.

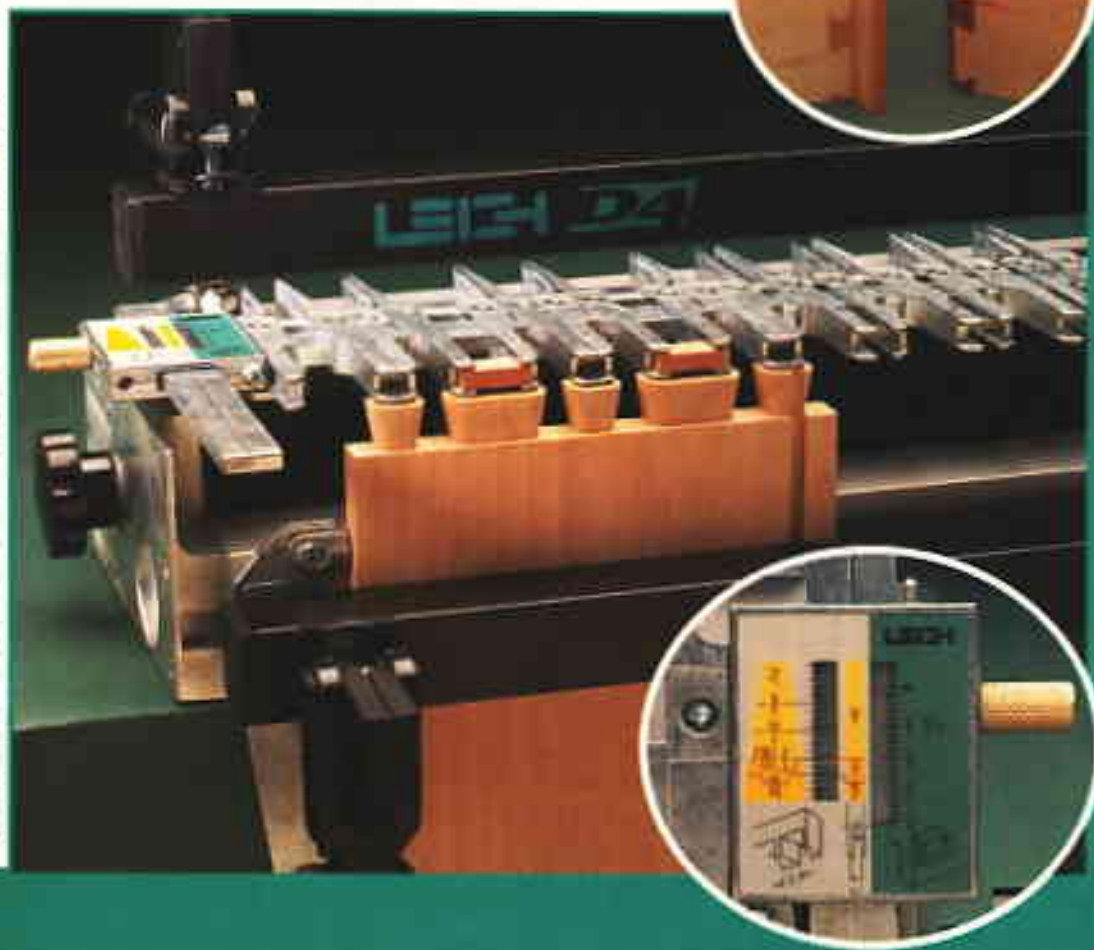
Guidebushes, which are a vital link between the router and the dovetail jig, must be used. Depending upon the router in use, different bushes are required. There is an excellent section in the user's guide on guidebush selection. Most common routers are listed and the appropriate guidebush identified.

The Leigh D4 Dovetail Jig requires router bits that have a longer shank length than usual. Again, the user's guide helps with the selection of the correct cutter.

Leigh also offers templates that turn the jig into both a finger joint maker and a jig to produce mortise and tenon joints.

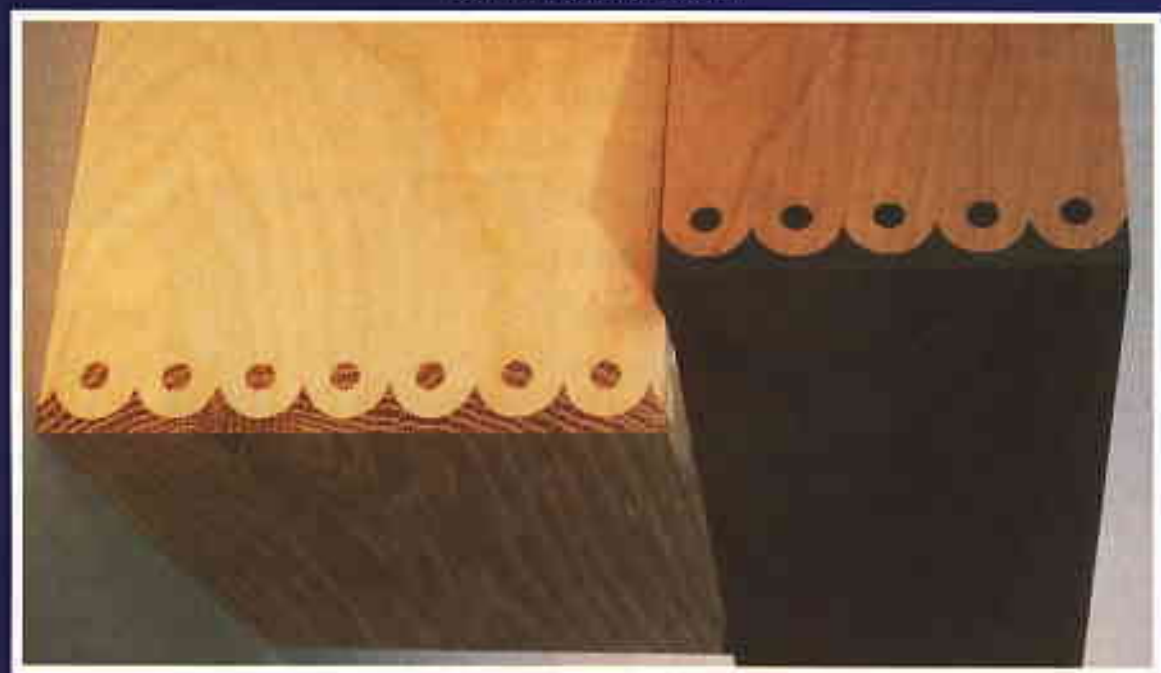
The Leigh D4 Dovetail Jig is a quality tool that I highly recommend. You'll be truly amazed at the beautiful joints you'll be able to master with ease.

The Leigh D4 Dovetail Jig lists for \$349.99 and is available from Woodcraft Supply, 210 Wood County Industrial Park, P.O. Box 1686, Parkersburg, WV 26102-1686.



The Pinned Cove Joint: Joinery from your scroll saw!

By Patrick Spielman



As an alternative to dovetail jigs or hand saw work, woodworking author Patrick Spielman has added a contemporary twist to an old approach. This joinery technique, known as the pinned cove joint, has a distinguished look and can be applied to many projects, including the Letter Organizer featured in this issue.

Here's what you need to make this joint:
Spielman pin and cove template*; scroll saw; drill press with 1/4"-Dia. bit; plunge or fixed base router with a 5/8"-Dia. pattern bit that has a shank mounted bearing and a 1/2" or 5/8" cutting edge length; wood glue; clamps; 1/4"-Dia. dowels.

INSTRUCTIONS

Introduction

This joint dates back to at least the previous century, and was believed to have been first used for furniture and cabinetry in Europe. Presented here is a simplified version of the pinned cove joint, as it uses separately cut dowels for the pins as opposed to pins that are cut as part of the whole member.

Prepare the stock

Sand and square the ends of your workpiece. Clamp the template to the stock, making sure that the center of a cove is situated equally at either end of the stock. Mark a reference line on the clamping board of the template to assure that the front and side members are cut identically and will align when assembled.

Next, insert the 5/8"-Dia. pattern bit into your router.

Roul the workpiece as shown in Fig. 1. Set the depth of cut so that it is equal to or just slightly deeper than the thickness of the piece to be mated. Before you unclamp the template from the workpiece, carefully check that the cut is uniform.



Fig. 1. Roul the workpiece.



Fig. 2. Hold the workpiece vertically and mark off the scallops.

It takes two

For the mating, or male, component, hold your piece of wood vertically on the template and accurately trace the cuts to the wood with a sharp pencil (see Fig. 2). Set your scroll saw at a slow speed and carefully cut the scallops, as shown in Fig. 3.

Dry assemble the joint before gluing (see Fig. 4). If pieces need to be adjusted, carefully sand them or shave them with the scroll saw. If the fit is slightly off, glue will fill in the small gaps and become hardly noticeable.

Apply wood glue to both of the mating surfaces and to the end grain, then clamp the pieces together, assuring that the joint is square.

When the glue has dried thoroughly, unclamp the two pieces and drill a 1/4"-dia. hole in the center of each scallop. The depth of these pin holes should be at least 1/2" deeper than the thickness of the stock.

Use dowels of the same wood species cut to the proper length. Apply a drop of glue to the bottom end of each dowel and tap them into the drilled holes. When dry, sand dowels flush with surface.

And you thought that your scroll saw was just for fretwork!

**The pinned cove template is available for \$24.95 plus \$4.95 S&H from Spielman Publishing Company, P.O. Box 867, Fish Creek, WI 54212. WI residents please add 5.5 percent sales tax.*

Fig. 3. Scroll sawing the mating component.



Fig. 4. The joint ready for assembly.



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Reader's Gallery

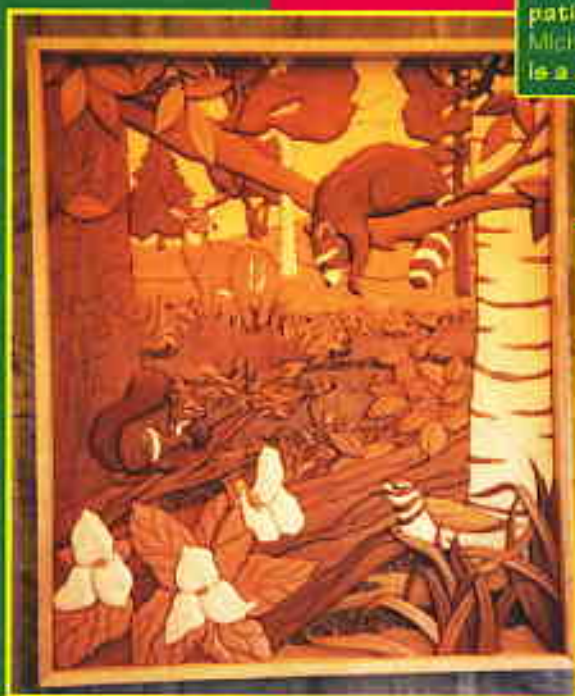


An "Die But Happy Scroller," Larry Carlson of Ellenton, FL, sent us these Scroller, Ltd. projects. The frame for the "Nature's Majesty" plaque (below) was made from an old piece of barn board.



"My name is Drew McDershy, from New Orleans, LA, and I'm a scroll saw nut" began one enthusiastic letter. The "Chimas of Normandy" and the table are both paucerne from Wildwood Design.

From western red cedar, basswood, white pine, birch, and a lot of patience came this creation from Michael Cebula from Ware, MA. This is a Judy Gale Roberts design.



Send us a clear photo of the project you're proudest of, and maybe you'll be included in the next issue! Send to: Reader's Gallery, Creative Woodworks and Crafts, 243 Newton-Sparta Road, Newton, NJ 07860. If you would like your pictures returned, please include an SASE.

Continued on page 97

COLLAPSIBLE DOVE BASKET

Designed by Rick Longabaugh

Painted by Jane Gutrie

We have taken the ever-popular collapsible basket one unique step further with painting instructions, designed exclusively for Creative Woodworks and Crafts readers.



Select and prepare your stock

We used curly maple for the basket shown, but any 3/4"-thick domestic hardwood that is free of knots or defects will suffice.

Size your wood to the dimensions indicated and then finish sand the entire piece, starting with 80 grit sandpaper and working through to 220 grit paper.

Transfer and cut the pattern

Copy the pattern from the Full Size Pattern Section and affix it to your stock. Set your table at 90 degrees and saw out the exterior lines of the pattern using a No. 9 blade.

Referring to the pattern, drill the basket and foot pivot points 5/8"-deep with the 1/8"-Dia. drill bit. **Hint:** To drill these holes to their precise depths, wrap a piece of masking tape around the drill bit to mark the depth. Next, bore the blade access holes in the waste areas of

SUPPLIES

Wood: hardwood of choice—3/4" x 8-1/4" x 10-1/4"
Tools: scroll saw with No. 7 and No. 9 blade; drill with 1/8" and 1/16"-Dia. bits and countersink bit; router and router table with 1/4" roundover bit
Temporary-bond spray adhesive
Sandpaper, assorted grits
Three No. 6 x 5/8" wood screws
Penetrating oil finish of choice
Pan (large enough to hold the basket)
Loew Cornell paintbrushes: No. 4 and No. 6 liners (series 7350)
Delta Ceramic acrylic paints: Barn Red; Black; Hunter Green; Maple Sugar Tan; Pumpkin Spice Brown; White
Palette
Tracing paper
Transfer paper

INSTRUCTIONS

Two factors will determine how deep the basket will fold out: the thickness of the blade and the bevel of the table when cutting. A thicker blade produces a deeper basket, as does a 4 degree bevel compared to a 5 degree bevel. To best determine this, practice cutting the basket on an inexpensive grade of wood until you determine the proper bevel for the thickness of the blade you are using.



Fig. 1. Basecoat the doves and ribbon.

Fig. 2. Shade the doves and ribbon.

the dove design at points A, B, and C on the basket with the 1/16"-Dia. bit.

Make the interior cuts

Tilt your scroll saw table 4 degrees to the left, then begin cutting the basket rungs with the No. 9 blade. Start at the center and cut clockwise until you reach the end of the spiral. **Note:** if your table tilts to the right, you must begin at the outer rung and finish at the center of the spiral. This is a bit more difficult, so cut slowly and carefully.

Level the table, cut out the circle, and remove it from the outer shape. Next, cut out the foot. Again keeping the table level, saw out the interior dove design. Sand all of the cut edges with 220 grit paper.

Rout and countersink

Using the 1/4" roundover bit, shape the front edge of the basket frame, the opening of the basket, and the exterior of the basket itself.

Countersink the basket and foot pivot holes to receive the wood screws.

Assemble and finish

Attach the basket and foot to the outer frame with the wood screws as shown in the pattern. Pour a penetrating oil finish into the pan, then soak the basket for 20-30 seconds. This will assure an even application of the finish.

PAINTING INSTRUCTIONS

Basecoat the design

After transferring the painting pattern, also found in the Full Size Pattern Section, basecoat the heads of both doves with Hunter Green. Let dry thoroughly, then apply a second coat of paint.

Basecoat the chests of the doves with Maple Sugar Tan and each wing with Barn Red (see Fig. 1).

Paint the beaks with Pumpkin, and add the lines under each wing with Black. Add the neck band and the heart on each eye with White. With the wooden end of your brush, apply the White dots on the chest. Rinse the brush, and use the wooden end again to apply a Black dot for each eye. **Note:** allow the White hearts surrounding each pupil to dry completely first.

When all paint has dried thoroughly,

pick up a small amount of Maple Sugar Tan and, starting at the tip of the wing feathers, drag the paintbrush through the feathers and into the wing area (see Fig. 2).

Rinse the brush and pick up a small amount of Barn Red. Starting at the tip of the tail feathers, repeat this process, this time dragging the brush into the bottom of the chest area.


Paint the ribbon

Basecoat the entire bow with White. Let dry, then apply several more coats of paint until the ribbon

is completely opaque.

Pick up a small amount of Maple Sugar Tan and, while the last coat of White is still wet, blend the Maple Sugar Tan into the ribbon, referring to the photograph and Fig. 2 for placement.

When dry, pick up a small amount of Spice Brown and accent the right side of the bow knot and the ribbon loops.

Allow to dry thoroughly, apply your finish of choice or leave natural, then fill the basket with anything from polypourri to paper clips and enjoy! 

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SANTA FE PUEBLO

Designed by Judy Erickson



SUPPLIES

Wood, wood of choice— $3/4$ " x $3-7/8$ " x $10-1/4$ " (for the plaque); $1/2$ " x $2-3/4$ " x 13 " (for the base); Baltic birch plywood— $1/8$ " x $3-7/8$ " x $10-1/4$ " (for the back); one piece of molding, $1/4$ " x $1-1/4$ " x 17 " (for the trim)

Tools: scroll saw with No. 2 blade; drill with $1/16$ " bit; router with roundover bit

Sandpaper, assorted grits

Tack cloth

Spray adhesive

Wallpaper edge roller

Wood glue

Delta Ceramcoat acrylic paints: Coral; Liberty Blue; Lilac Dust; Wedgewood Blue; Woodland Night

copy of the pattern (on page 36), affix it to the plaque stock and saw as directed. Since time is saved, these production pieces can be sold at a reduced rate compared to handpainted pieces, while still maintaining a reasonable cost to profit ratio.

INSTRUCTIONS

Cut the wood and attach the picture

With the scroll saw, trim the wood for both the plaque and the back to the sizes indicated. It is extremely important to sand the front side of the plaque, making sure that the surface is smooth, with no dips or ridges. After sanding, wipe off all surface dust with a tack cloth.

Make a color copy of the pueblo picture as shown in Fig. 1. Generously coat the back of the picture with spray adhesive (see Fig. 2) and carefully apply the picture to the wood, lining up the edges (Fig. 3). Smooth out any air bubbles with a wallpaper edge roller before the glue sets. This will also ensure a good bond between the picture and the wood.

Referring to the diagram in the Full Size Pattern Section, drill $1/16$ "-Dia. pilot holes in each window and

This unique project was developed specifically with craft show vendors in mind. Easily made, it will quickly and beautifully fill shelf space for craft sales. The secret to this innovative design is that each pueblo requires very little painting. You simply make a color

door and cut these out using a No. 2 blade. Drill a pilot hole for the sky at the point indicated on Line A, then tilt the saw table 2 degrees to the left and cut along that line in the direction indicated.

Remove the frame and set aside. Tilt the saw table five degrees to the left and, starting at the point indicated on Line B, cut out the top of the pueblo in the direction indicated. Remove the sky piece and set aside. Continue cutting Line C, then Line D.

Using the paint colors listed, match the colors to the picture and paint the sawn edges to match the color copy.

Brush glue to the edges of the cut pieces that were set aside, then place them back in the plaque. The finished plaque should have the first pueblo recessed 1/16", with each additional layer spaced 1/16" behind. Glue the 1/8" Baltic birch back piece in place (see Fig. 4).

Make the frame and base

Measure the height and length of the plaque, then mark the molding accordingly. Cut the molding to size, mitering the corners, and glue to the outer edges of the plaque. Cut the base to size and round the edges with a roundover bit, then center and glue the assembly to the base. Paint the molding and base to blend with the picture as you did for the sawn edges of the plaque. If desired, glue some small stones or animal figures (found at any craft store) to the plaque and base.

When the throngs of customers at your craft booth ask how in the world you made something so beautiful, simply reply: "A wise craftsman never reveals his secrets."

For information on more of Judy Erickson's innovative scroll saw designs, send an SASE to: 1235 East Frances Unit F, Ontario, CA 91761; (909) 923-1072.



Fig. 1. The color copy ready to be glued to the workpiece.



Fig. 2. Applying the spray adhesive.



Fig. 3. Use a small roller to eliminate any bubbles.

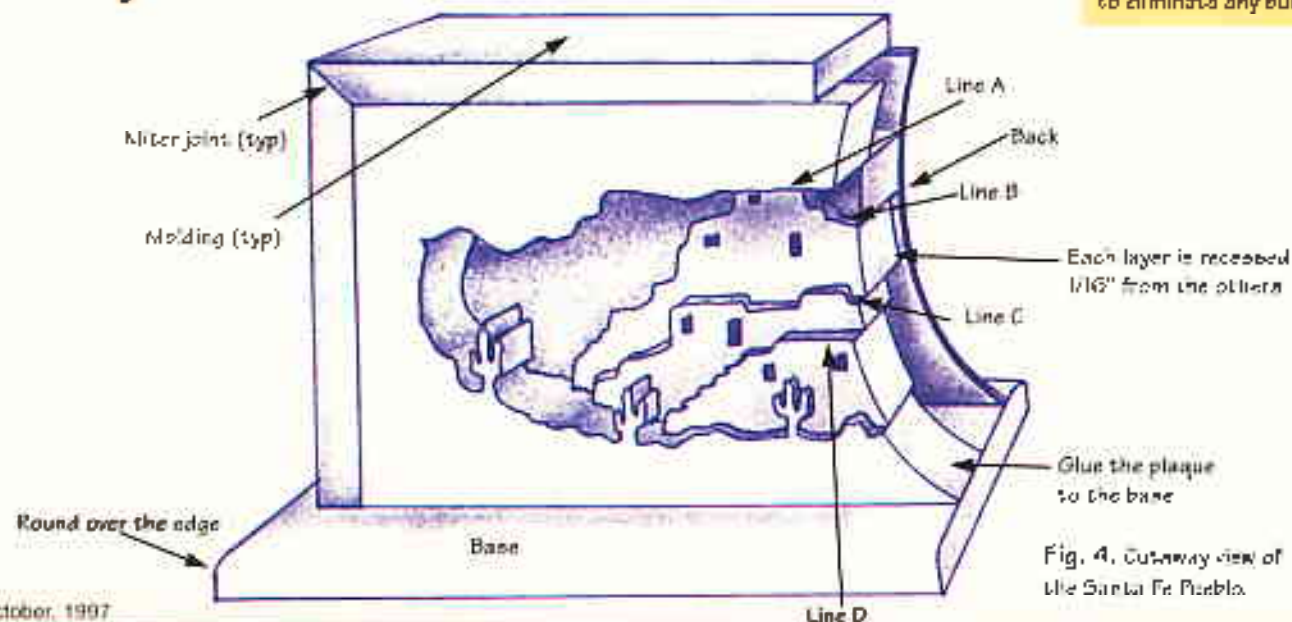


Fig. 4. Cutaway view of the Santa Fe Pueblo.

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MISSION STYLE COFFEE TABLE

Designed by Robert E. Belke



SUPPLIES

Tools: table saw with dado blade;
lanoning jig No. 85N96*
(optional); router and 1/4"
roundover bit; band saw or sabre
saw; chisel
Sandpaper, assorted grits
Wood glue
Table top fasteners (No. 27N10)*
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BILL OF MATERIALS

Part	Description	Size in inches	Quantity
A	Top	3/4 x 20 x 40	1
B	Shelf	3/4 x 15-3/4 x 25-11/16	1
C	Legs	1-3/4 x 1-3/4 x 16-1/4	4
D	Upper Side Aprons	3/4 x 2 x 29-3/4	2
E	Lower Side Aprons	3/4 x 3 x 29-3/4	2
F	Upper End Aprons	3/4 x 2 x 13-3/4	2
G	Lower End Aprons	3/4 x 4-1/4 x 13-3/4	2
H	End Slats	1/2 x 1/2 x 9-3/4	14

INSTRUCTIONS

Introduction

Both Craftsman and Mission style furniture enjoyed a great deal of popularity during the late 19th and early 20th century. The coffee table presented here incorporates elements derived from both styles. For example, the soft sweep of the lower side aprons can be attributed to a Mission influence, while the vertical end slats owe their origin to the Craftsman style. Traditionally, Craftsman furniture is made from quarter sawn white oak, but the lines of this design are so strong that any hardwood will look equally stunning.

The top and shelf

Cut and joint enough 3/4" stock to yield the top (A) and the shelf (B). Saw the notches in the shelf (see **Drawing No. 1**). Thoroughly sand the top and bottom surfaces of both pieces. Round over all edges of the top with a router and 1/4" roundover bit.

The legs

Size the stock for the legs (C) and cut the mortises which will receive the upper and lower aprons (see **Fig. 1**). Remember, each end assembly has a right and left leg; therefore a mortise cut into one leg should mirror its counterpart on the opposing leg.

The mortises can be made by laying them out, removing most of the waste by boring a series of 1/4"-dia. holes within the boundaries, then squaring them with a sharp chisel.

Round over all edges of the legs with a router and 1/4" roundover bit, then thoroughly sand each piece.

The end slats

Cut fourteen pieces for the end slats (H) to the dimensions indicated in the Bill of Materials. Referring to **Fig. 2**, cut a 1/16" shoulder on each end of all fourteen pieces. The resultant tenons should measure 3/8" x 3/8" x 5-1/8". These tenons will eventually mate with the mortises in the end aprons. Thoroughly sand all of the end slats.

The aprons

Referring to the Bill of Materials, size the stock for the upper side (D), upper end (F), lower side (E), and lower end (G) aprons to

the dimensions indicated. With a table saw and dado blade, make the tenons on each end (see Figs. 3, 4, and 5). **Tip:** the use of a tenon jig, although not absolutely necessary, will make this step easier.

Cut a saw kerf (approximately 1/8" wide) in both upper aprons (D and F) and in the lower side apron (E) for the table top fasteners. All kerfs are located 3/8" from the inside top edge of each piece and are about 1/4" deep.

Referring to Fig. 4, cut the dado for the shelf into the lower end apron (G).

Using a band saw or sabre saw, cut the long sweeping curve on the lower side apron (E) as shown in Fig. 5. Sand all aprons smooth.

End slat mortises

Lay out and drill 3/8"-Dia. holes in both the upper and lower end aprons (see Drawing No. 2). Square each mortise with a sharp chisel as you did previously for the legs.

Assembly

Glue and clamp the end slats (H), upper and lower end aprons (F and G), and legs (C) together to make the end assembly.

Once the glue has set, dry assemble the remaining upper and lower side aprons (D and E) to one of the end assemblies. Insert the shelf (B) into the dado in the lower end apron (see Fig. 6), then attach the remaining end assembly. If necessary, adjust the shelf so that it is centered properly between end assemblies and make any adjustments to the joinery that may be necessary.

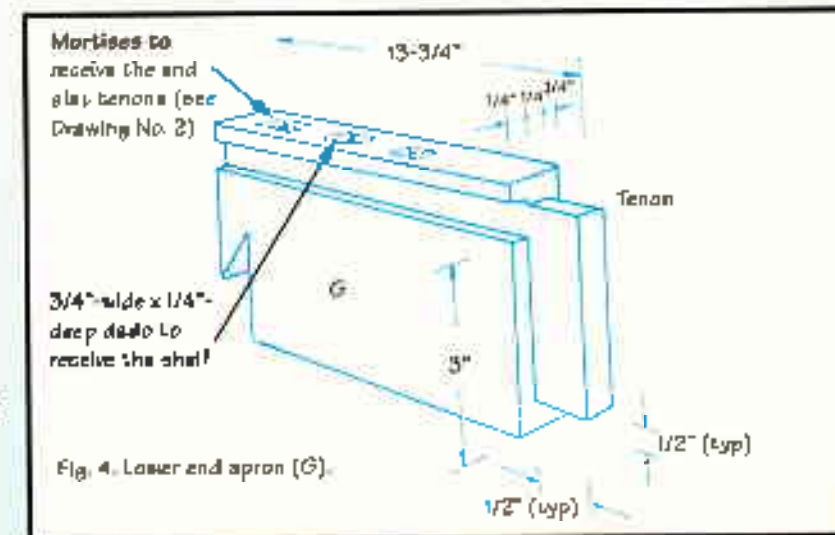
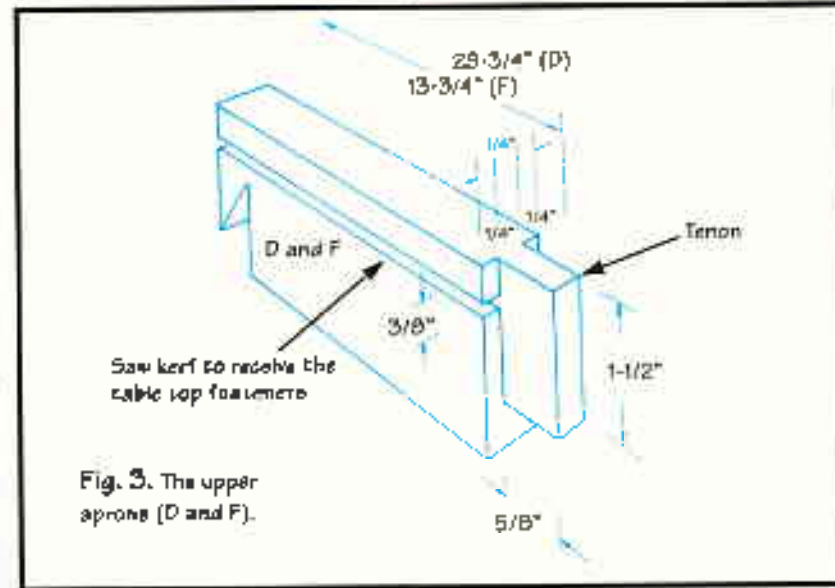
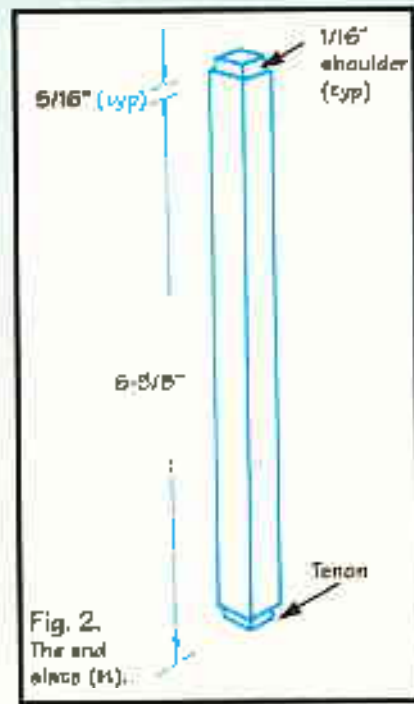
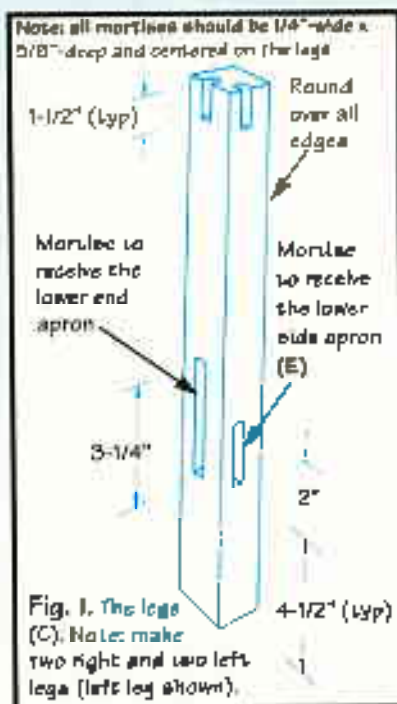
Temporarily clamp the table together. While still clamped, invert the assembly and center it on the underside of the top (A); mark the screw locations for both the top (A) and shelf (B) table top fasteners. Three per side and two per end are recommended.

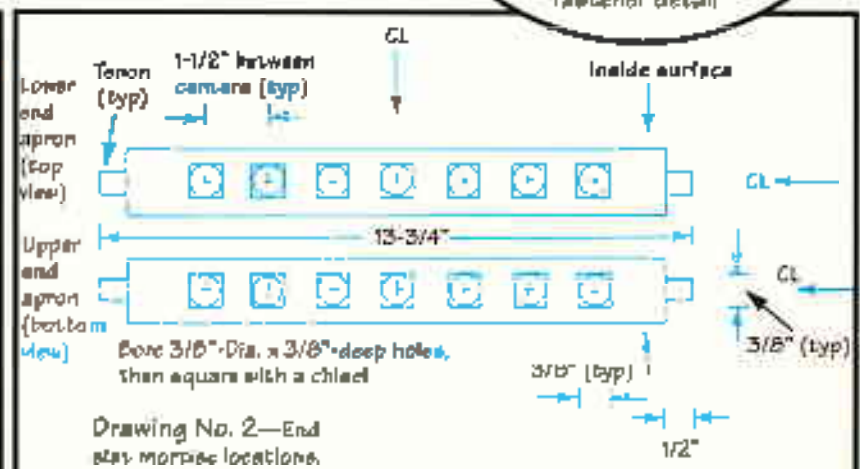
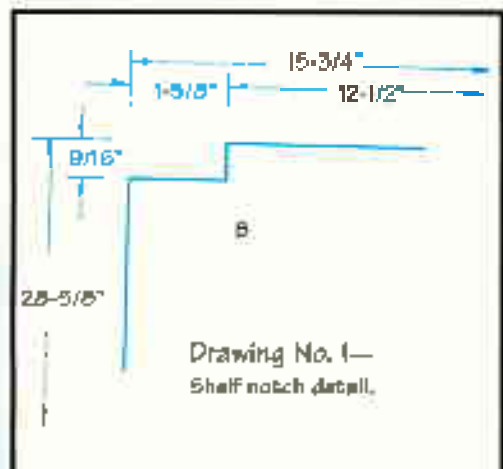
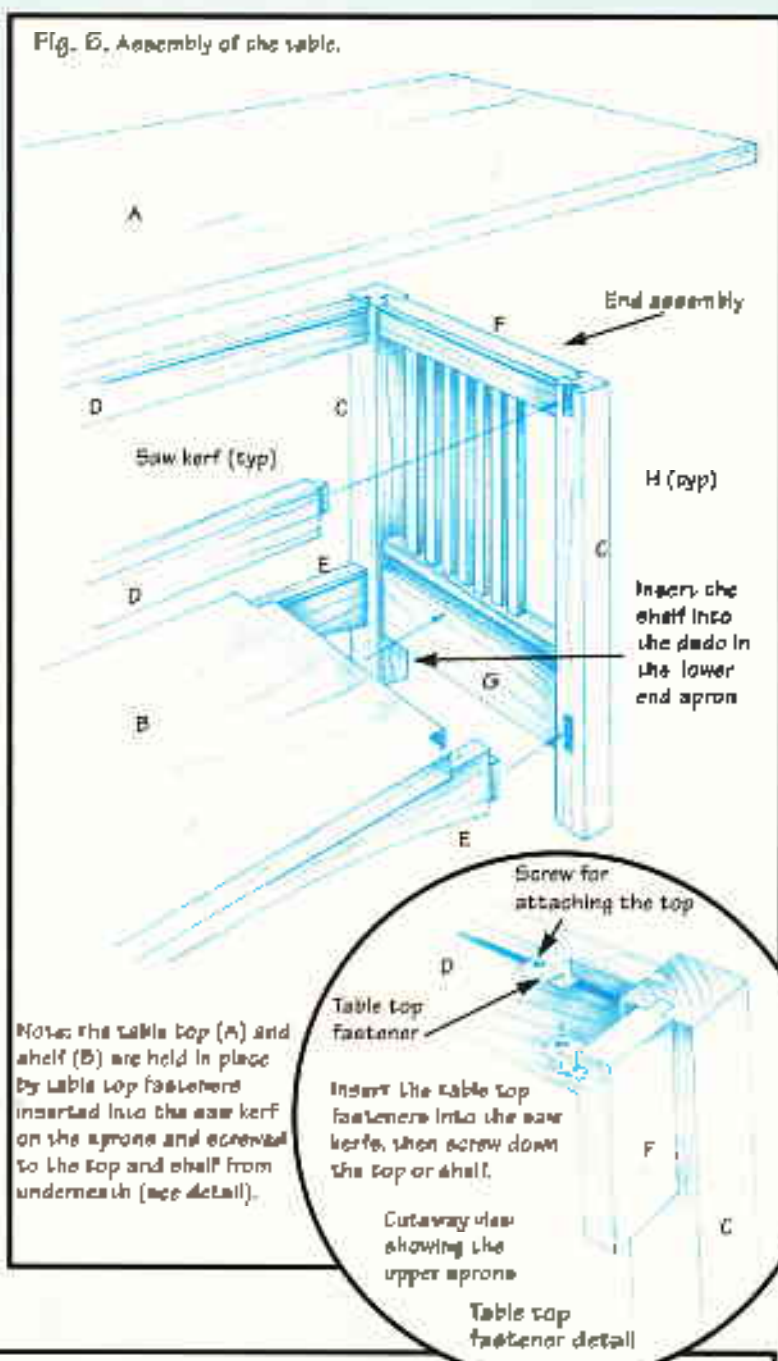
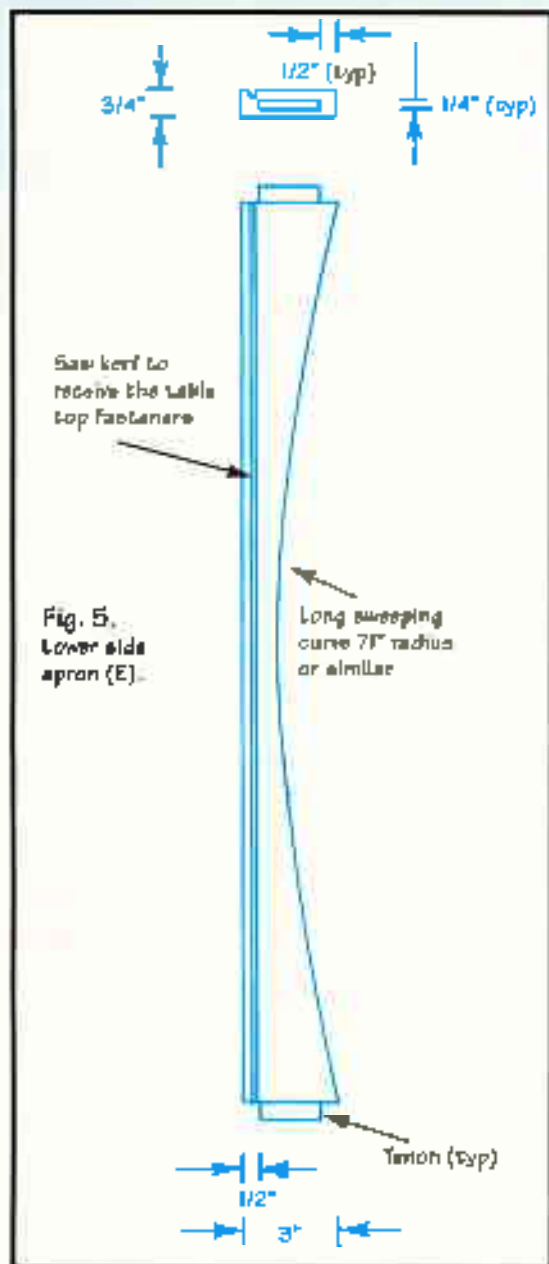
Disassemble the table and bore pilot holes for the screws, taking care not to drill completely through the components. Reassemble the table, this time gluing and clamping the joints. **Note:** do not glue either the shelf (B) or the top (A); they will be held in place by the table top fasteners. After the glue has cured, attach the top (A) and shelf (B).

Finishing

The table pictured was stained with Golden Oak followed by three coats of sprayed lacquer. When the lacquer had cured for about a day, the table was rubbed with pumice and oil. Finally, a coat of wax was applied.

The Mission style coffee table looks contemporary, yet is reminiscent of the style and craftsmanship of the old masters.







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3/4" x 5 1/4" x 12"	1	18	2.95	\$53.10
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Perfect to hold mini drills, bits, reamers, taps, needles, scribers, etc. Has 2 double-ended collets in the handle with capacity range of 0 to .125" (1/8"). Revolving head.

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FORNEMER DRILL BITS

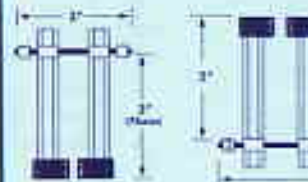
Ideal bits for making perfect holes for clock inserts. Clean & level.

- SJ266 (1 1/8" dia. 3/8" shank, 3 3/4" long) \$9.95
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polycarbonate jaws; two soft silicone rubber buffers; two self-cure rubber stops.

- 38710 3" Beam with 3" Jaws each \$4.95
- 38720 8" Beam with 3" Jaws each \$5.95
- 38725 Assortment Pack. Contains two 38710 clamps, one 38720 clamp, and a connector strip. each \$16.95



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The teeth on this flexible blade have no set, so they will cut dowels, pegs, and plugs all flush without marring the work surface. Can also be used for cutting through tenons and excess trim in joinery and hard to reach spots. Cuts on the pull stroke. 16 HPI. 6 1/2" long. 1/4" wide. .012" thick. 35500 \$7.95



PROPORTIONAL SCALE

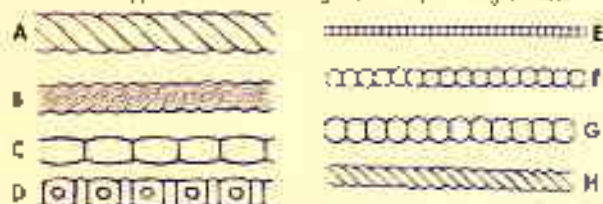
Takes the guesswork out of resizing patterns on a copy machine. Calibrated from 1/4" to 100". Instructions included.

M100 \$3.95



EMBOSSED MOLDINGS

Beautiful moldings for borders and trim around all your projects. Dress up scroll saw jewelry boxes, clocks, cabinets, etc. All moldings are sold by the foot and are supplied in random lengths, usually 3' long or less.



	Price Per Ft.
EM120A 3/16" wide x 3/32" thick—Birch or Maple	\$1.90
EM121B 7/16" wide x 3/16" thick—Birch or Maple	1.90
EM122C 9/16" wide x 1/4" thick—Birch or Maple	2.00
EM123D 1/8" Half Round—Poplar	1.60
EM124D 3/8" Half Round—Oak	2.45
EM125E 3/4" Half Round—Poplar	2.35
EM126E 3/4" Half Round—Oak	3.20
EM127F 5/8" wide x 1/16" thick—Maple	2.20
EM128G 5/8" wide x 5/16" thick—Maple	2.30
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Perfect for boxes, cabinets, etc. Prices include mounting hardware. Pkg of 12.

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Two sizes available. Nails included.

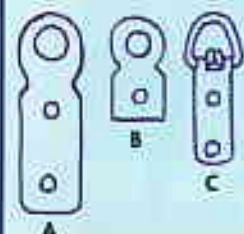
1 3/8" Long Pkg of 24	\$2.50
2 5/8" Long Pkg of 24	\$3.75



ASSORTED HANGERS

Price per pkg of 12

A Heavy Duty Hanger 2" x 5/8"	\$2.25
B Hanger 1 1/4" x 1/2"	\$1.30
C Triangle Hanger 1 1/2" H	\$2.20



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Length	Shank Number	Price Dozen	Price Gross
3/8"	4	.75	5.65
1/2"	3	.60	4.55
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3/4"	6	1.35	9.15
1"	6	1.85	12.25
1 1/2"	6	1.95	13.25



WIRE BRADS

1/2" x 20 gauge (approx. 784) 4 oz.	\$1.90
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3/4" x 18 gauge (approx. 326) 4 oz.	\$1.90

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2404	Cadmium Orange	2416	Prima Pink
2405	Cadmium Red Lt.	2417	Quinacridone Violet
2406	Cadmium Red Med.	2418	Raw Sienna
2407	Cadmium Yellow Lt.	2419	Raw Umber
2408	Carulean Blue Hue	2420	Titanium White
2409	Cobalt Blue Hue	2421	Turquoise
2410	Dioxazine Purple	2422	Ultramarine Blue
2411	Iridescent White	2423	Prima Gray
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The patterns shown are by scroll saw artist extraordinaire Dirk Boelman



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Dragon Desk Clock AF-188



Lute AF-148



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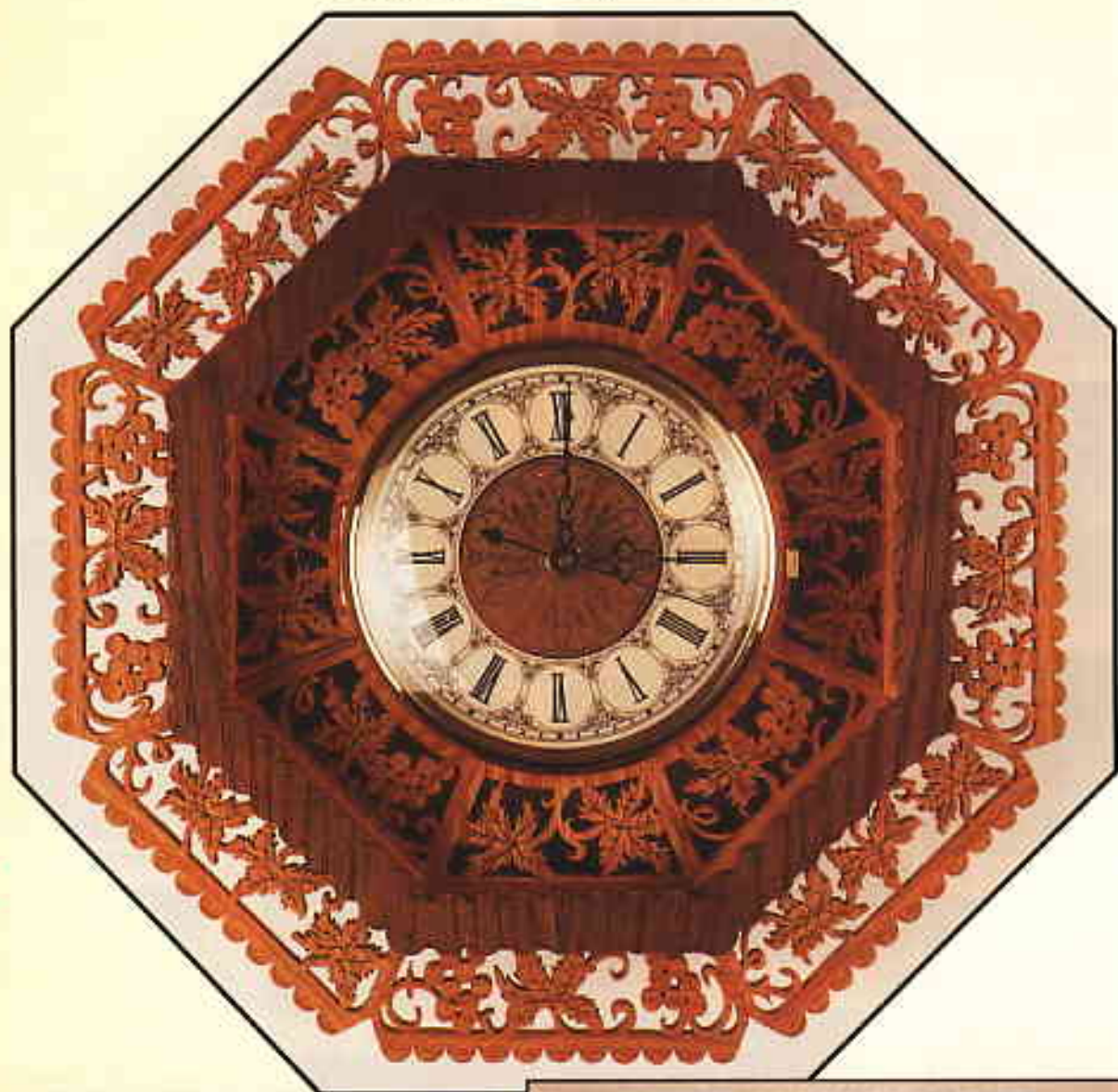
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BILL OF MATERIALS

Part	Description	Size in inches	Quantity
Oak:			
Front pieces:			
A	With leaves	1/4 x 3-3/8 x 4	4
B	With grapes	1/4 x 3-3/8 x 4	4
C	Side pieces	1/2 x 3 x 3-3/8	8
Outer ring pieces:			
D	With leaves	1/4 x 2 x 4-3/8	4
E	With grapes	1/4 x 2 x 4-3/8	4
Walnut:			
F	Ring overlay	1/4 x 9 x 9	1
G	Porthole covers	1/4 x 1-1/2 x 3	8
Plywood:			
H	Back	1/4 x 8 x 8	1

SUPPLIES

Tools: scroll saw; drill press with bits including a 3/8"-Dia. bit for the quartz movement shaft; table saw or similar saw; planer; belt or hand held sander

Temporary-bond spray adhesive

Sandpaper, assorted grits

X-ACTO knife or needle pick

Clamps

Wood glue

Oil finish of choice

Four turn catches

Sawtooth hanger

Two large rubber bands

Quartz movement and 5-1/8"-Dia. bezel*

*Available from Steebar Corp., P.O. Box 980-WC3, Andover, NJ 07821-0980.

INSTRUCTIONS

Shape the components

Cut the stock for the various components to the sizes indicated in the Bill of Materials. All straight-edged pieces should be cut to size on a table saw or equivalent for accurate dimensions and straight edges. **Note:** make sure the pieces that will have mitered edges are cut carefully, as the fit of these pieces is critical.

Copy the patterns and affix them to the wood with the temporary-bond spray adhesive. **Tip:** cut out the patterns along the straight edges and align them with the straight edges of the wood.

With a small drill bit, bore holes in the waste areas of each cutout. Feed your scroll saw blade through the small holes and make the interior cuts.

Remove patterns and sand the pieces with a belt sander or hand held sander, then remove any burrs and clean up any cuts with the X-ACTO knife or needle pick.

Make the face

Lay out and glue the face "pie" pieces (A and B), to make two halves of four pieces each. Make sure you have the pieces oriented correctly, as shown in Fig. 1. After the two halves are glued, sand the centerline surface flat. Fill any gaps with a small bead of glue, and sand smooth while the glue is still wet.

Bore the shaft clearance hole at the clock location.

Assemble the case

Cut the dados on each of the side pieces (C). Put glue on these pieces and assemble them around the face (see Fig. 2), then place the

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- 8" H x 10" L
- Attractive, easy silhouette
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LEAF SHELF

- Back piece approx. 2" H x 15" W, shelf is 4" D x 13" W
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two rubber bands around the assembly. Adjust the pieces into place and allow the glue to dry. The face board should be adjusted at this time as well.

Fill any gaps on the octagon body assembly with a small bead of glue and sand smooth before the glue dries.

Make the outer ring

Glue the outer ring pieces (D and E) to make two halves of four pieces each (see Fig. 3), checking for the correct orientation of the pieces. Glue the halves together, again filling any gaps with glue and sanding thereafter.

Final assembly

Glue the outer ring onto the case assembly (see Fig. 4), then glue the ring overlay (F) in place (see Fig. 5). The porthole covers (G) can be glued next, after squaring them on the clock properly (see Fig. 5).

Place the back of the clock (H) into place (see Fig. 6). Attach it with four turn catches. If it is too large, sand it for a snug fit, again adding the turn catches.

Allow all glue to dry for one hour, then apply the oil finish following manufacturer's instructions. When the finish has dried thoroughly, install the clock movement and bezel.

Attach a sawtooth hanger to the back, hang, and enjoy the work of art—and time—that you've created!

Fig. 1. Glue two halves (four pieces each) of the front pieces (A and B) together. When dry, glue the halves together to make the face.

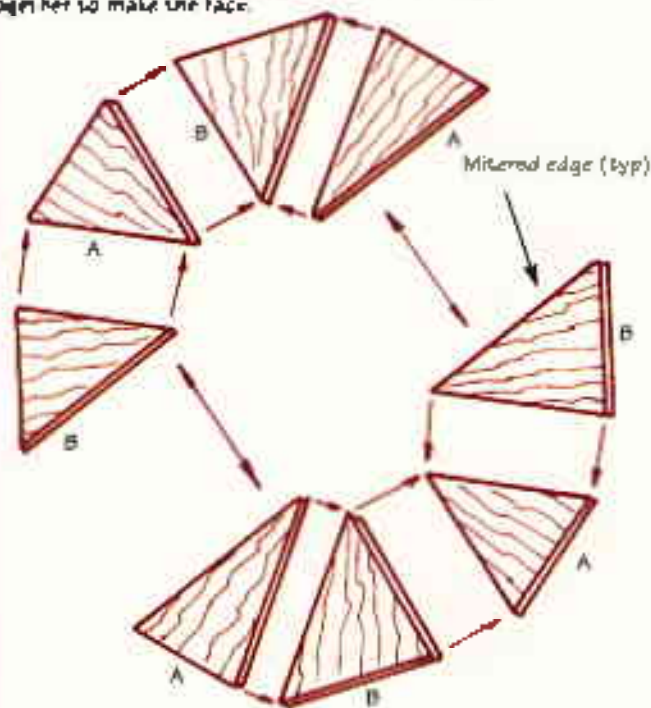


Fig. 2. Glue the case assembly together.

Front view

Rabbet on the back edge (typ)

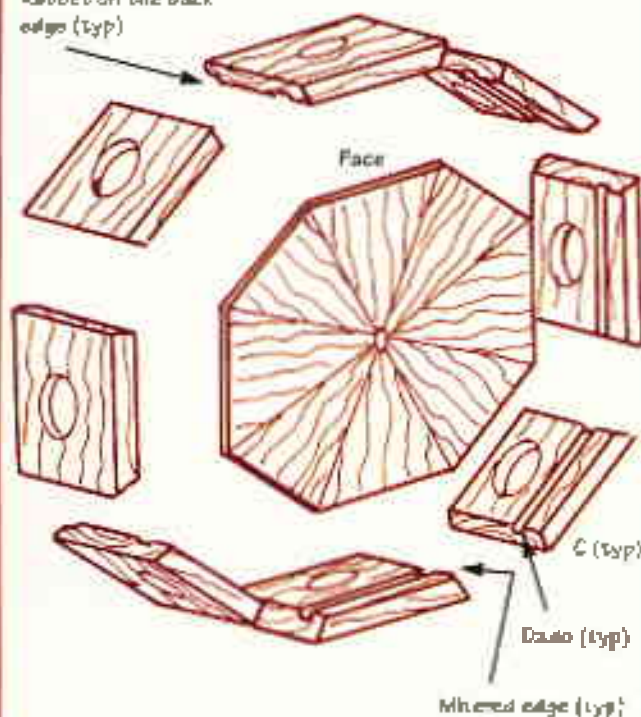
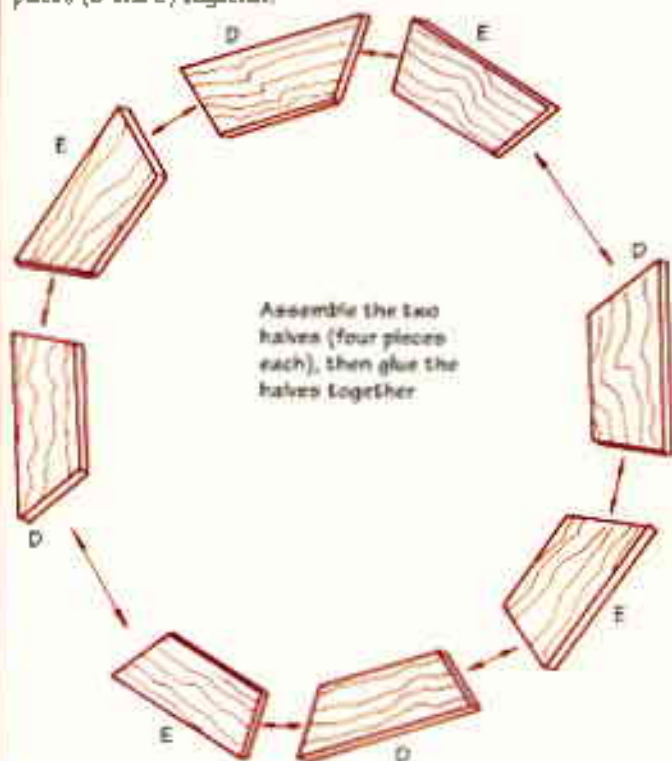


Fig. 3. Glue the outer ring pieces (D and E) together.



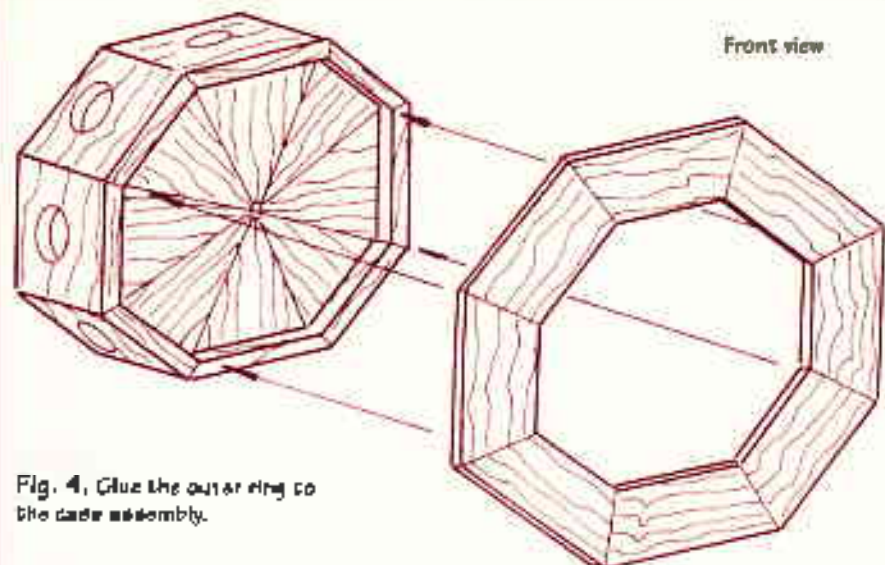


Fig. 4. Glue the outer ring to the case assembly.

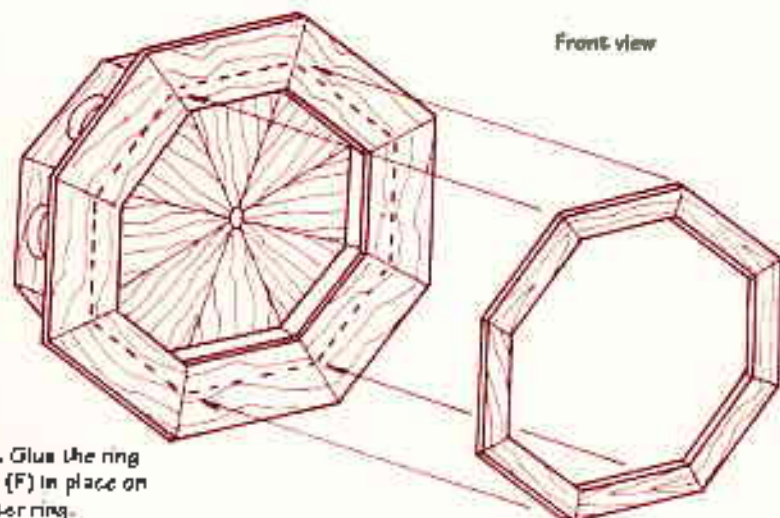


Fig. 5. Glue the ring overlay (F) in place on the outer ring.

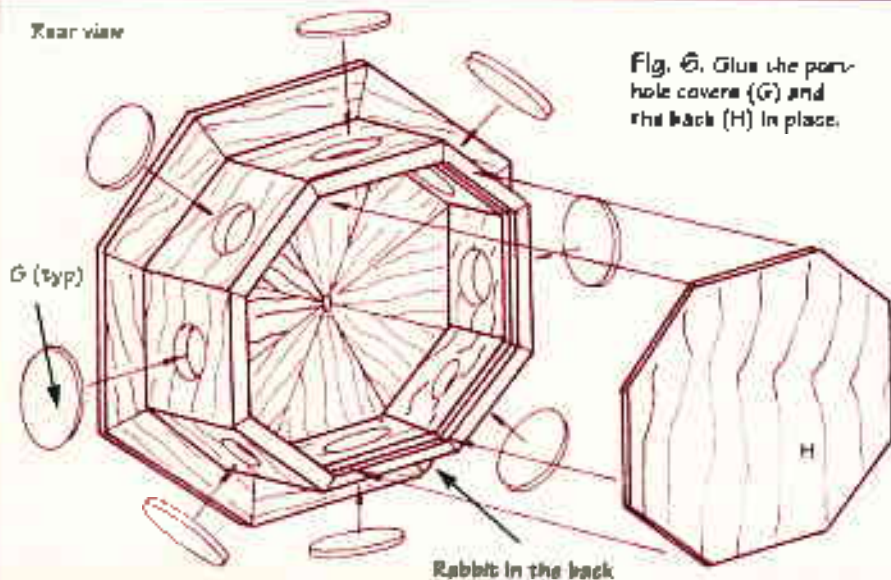


Fig. 6. Glue the port-hole covers (G) and the back (H) in place.

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RACCOON PLAQUE

Designed by Scroller, Ltd.

Painted by Joanne Lockwood

Background painted by "The Wizard"



SUPPLIES

Wood: 1/8" thick Baltic birch—17" x 22" (for the scrolled pieces and spacers) and 11-1/2" x 12" (for the backing)

Tools: scroll saw with No. 2 blade; drill with bits

Frame*

Sandpaper, assorted grits

Small wood screws

Sawtooth hanger

Testors Visions AirPainting system and paints*

Black, Holiday Red, Royal Blue, Saffron, White

Delta Ceramcoat Acrylic paints: Autumn Brown;

Barn Red, Black, Black Green, Boston Fern;

Cinnamon, Dark Burnt Umber, Dark Jungle

Green, English Yew, Light Ivory, Luscious Lemon;

Red Iron Oxide, Sandstone, Seminole, Tangerine;

Vibrant Green, White

Delta Ceramcoat Gleams acrylic paint: Silver

Delta Art Gel Thickener

Loew-Cornell American Painter Series

paintbrushes*: No. 2 liner (series 4350); No. 5 round (series 4000); 3/8" angular shader (series 4400); 3/4" wash (series 4550)

Very fine clear glitter (optional)

*The frame and the Testors Visions AirPainting system and paints are available from Scroller, Ltd., (800) 486-6053, 9033 South Nashville, Oak Lawn, IL 60453. Call to receive their FREE catalog!

**The paintbrushes used here are available as a set for only \$12.95 plus \$2.00 S&H, exclusively for Creative Woodworks and Crafts readers! Order from Creative Wings, Inc., P.O. Box 155 Dept WW1, Bogota, NJ 07603-0155. NJ residents please add 6 percent sales tax.

INSTRUCTIONS

Cut the pieces, spacers, and backing

Transfer the patterns from the Full Size Pattern Section and cut them to shape. Use a No. 2 blade to saw out the pieces, cutting in a clockwise direction. Leave approximately 1/2" of material around each piece until all of the interior details have been sawn. This will add extra support to the workpiece.

PAINTING INSTRUCTIONS

Paint the background

Starting at the top of the backer board, spray concentric arcs of color: first Black, then Royal Blue, then Holiday Red, and finally Saffron. Each band of color should be about 2" wide and gradually blend into the adjacent arc (see Fig. 1).

Spray a dot of White in the spot where the moon (piece No. 1) will be glued (see Fig. 2). Lightly mist the entire background with White to further blend and mute the colors.

Pre-painting preparation

If you are new to painting, turn to the Scrolling and Toling column on page 78, and set up your work table...now you're ready to go!

Lay the wood pieces upside-down on a flat surface and very gently sand off any "fuzz." Be very careful not to break any of the pieces.

Thin all of the paint colors by using two parts paint to one part water, and apply two coats if necessary.

Paint the house and trees

Begin by basecoating the house and chimneys with Barn Red using the 3/4" wash brush, leaving the lower windows unpainted. While this coat is still wet, shade around the door, the windows, under the eaves, next to a few of the vertical cut lines, and the back portion of the house with Dark Burnt Umber and the 3/8" angular shader.

Again using the angular shader, paint the upper windows and the back two windows with Dark Burnt Umber (the lights are out). Rinse

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the brush and paint the front four windows on the first floor with Luscious Lemon, then shade the upper left corners of these windows very lightly with Tangerine using the No. 5 round. Allow to dry. Using the No. 2 liner, paint a thin line on the top and left side of these four lower windows with Dark Burnt Umber for window casings.

Around the three upper windows, the bottom side window, the front door frame, and the side of the steps, basecoat the "frames" with Cinnamon using the "toe" of the angular shader. Paint the actual

steps Dark Burnt Umber.

For the large tree, basecoat with Autumn Brown using the 3/4" wash. While still wet, pick up Dark Burnt Umber and shade around the veining and the bottoms of each branch.

Basecoat the pine trees in the background with Black Green, then float shade with White as shown in the photograph.

Paint the shrubs

Note: for all of the shrubbery in the background, foreground, and in front of the house, all shading should be done behind the cut lines

and all highlighting in front of the cut lines (remember, light brings forward, dark recedes).

For the shrubs in front of the house, basecoat with English Yew and shade with Seminole. Highlight with an even mix of Luscious Lemon and English Yew.

For the shrubs in front of the pine trees (in the background), basecoat with Dark Jungle Green and highlight with a mixture of Dark Jungle Green and White.

For the shrubs in the foreground, basecoat with Boston Fern and highlight with Vibrant Green.

The tin cans nestled in the foreground shrubbery can be painted any color you like. I painted the labels with Sandstone.

New technique: dry brushing

The drums will be painted with a technique called "drybrushing." For this technique, you will be using the 3/4" wash and the step-by-step painting instructions shown in Figs. 3 through 7.

First, dampen the brush, then blot it on a paper towel to remove most of the moisture. Next, load some of the color onto the brush, blot that on a paper towel, then press the brush down on your paper palette and make several "back and forth" passes on the paper until the paint no longer looks like a solid strip of color, but rather a "dry" look. Paint the piece. You may first want to practice on a scrap of wood until you feel comfortable with this technique.

Paint the drums with Silver and allow to dry (see Fig. 3).

Drybrush the drums with Red Iron Oxide, starting at each edge of the drum and fading away at the center (see Fig. 4). You should have very little paint left on your brush by the time you reach the middle.

Drybrush Dark Burnt Umber over the same area, again starting at either edge and working your way toward the middle (see Fig. 5). As soon as you are finished, dampen your brush and quickly drag the brush from left to right on the drum. This will blend some of the color over the Silver center.

Shade with Dark Burnt Umber on each side of the drum, above and below each of the rims and under the cut lines on the drum (see Fig. 6).

For the drum in the background, turn the drum so that it is facing upward, then repeat this process. Shade with Dark Burnt Umber a bit more than you did on the first drum, to visually place this drum behind the first (see Fig. 7).

Paint the raccoons, the moon, and the clouds

Basecoat each raccoon with Light Ivory. When dry, paint all of the dark areas shown in the photograph with Dark Burnt Umber. Lightly highlight on all cut lines with Light Ivory to bring out the detail in each little crevice. Paint each eye Black and dot with Light Ivory to highlight.

The moon is painted with Luscious Lemon, and the clouds with Sandstone. Highlight the top of the clouds with White.



Fig. 1. Apply color to the backer board in concentric bands.



Fig. 2. Spray a small dot of White where the moon will be glued.

The forecast calls for snow

The snow is applied with the No. 5 round. Mix one part White with two parts Gel Thickener. Let sit for about a minute, mix well on your brush, and starting with the house, begin to dab snow on the rooftop. Build this up a bit on the dormer roofs to add dimension. Add some snow in the windows and on the stairs as shown, then allow to dry thoroughly.

Dab snow on the three ground pieces and allow to dry.

Add snow to the trees and the shrubs. Don't overdo it, however. Just a little here and there will add the effect of melting snow.

If you'd like a "sparkle" effect, sprinkle the snow with a very fine clear glitter.

When all pieces are completely dry, follow Figs. 8 to 11 and assemble as shown.

Attach a sawtooth hanger to the back and hang your Raccoon Plaque with pride! (And don't forget to rinse your paintbrushes!)

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Color Worksheet – Painting The Drums

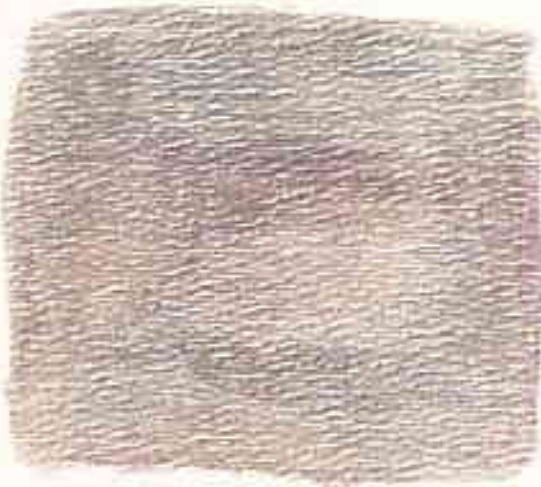


Fig. 3. Basecoat the drums with Silver.

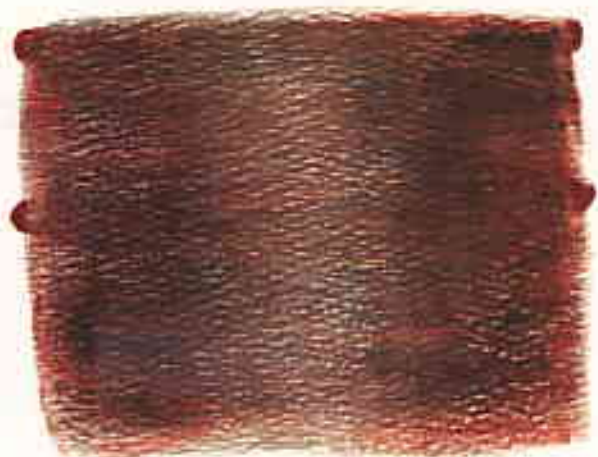


Fig. 4. Drybrush the drums with Red Iron Oxide.

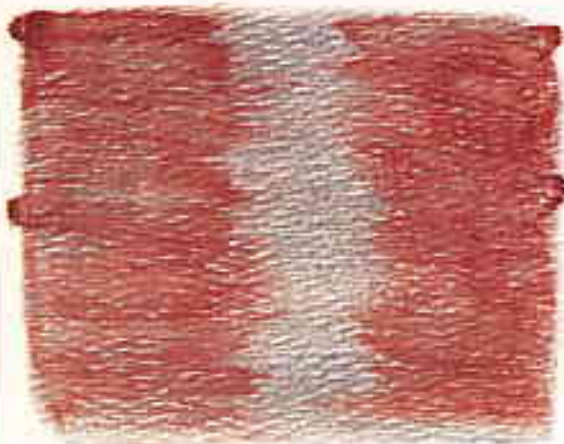


Fig. 5. Drybrush Dark Burnt Umber onto the drums.



Fig. 6. Float shade with Dark Burnt Umber.



Fig. 7. Example of where to shade around the cut lines of both drums. Shade a bit more with the Dark Burnt Umber on the second drum.

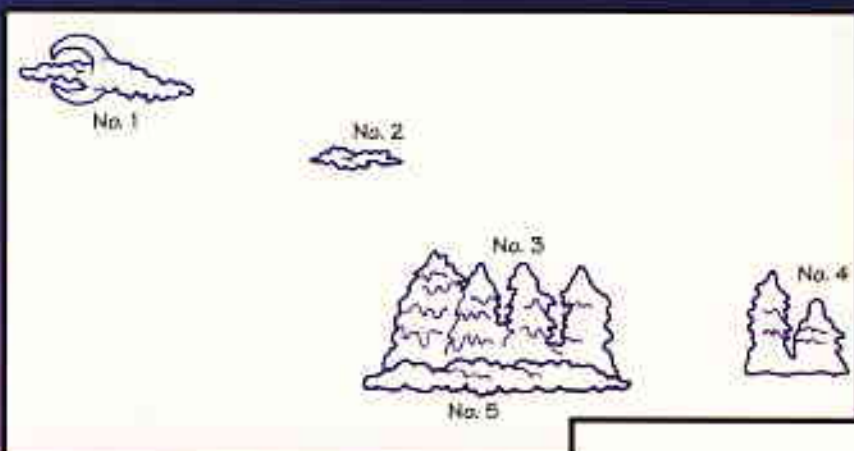


Fig. 8. Glue piece No. 5 to piece No. 3, then fasten pieces No. 1, 2, 3, and 4 directly to the backer board.

Fig. 9. Glue piece No. 6 to the front and the spacers to the back of the house (piece No. 7). Attach this assembly to the backer board.

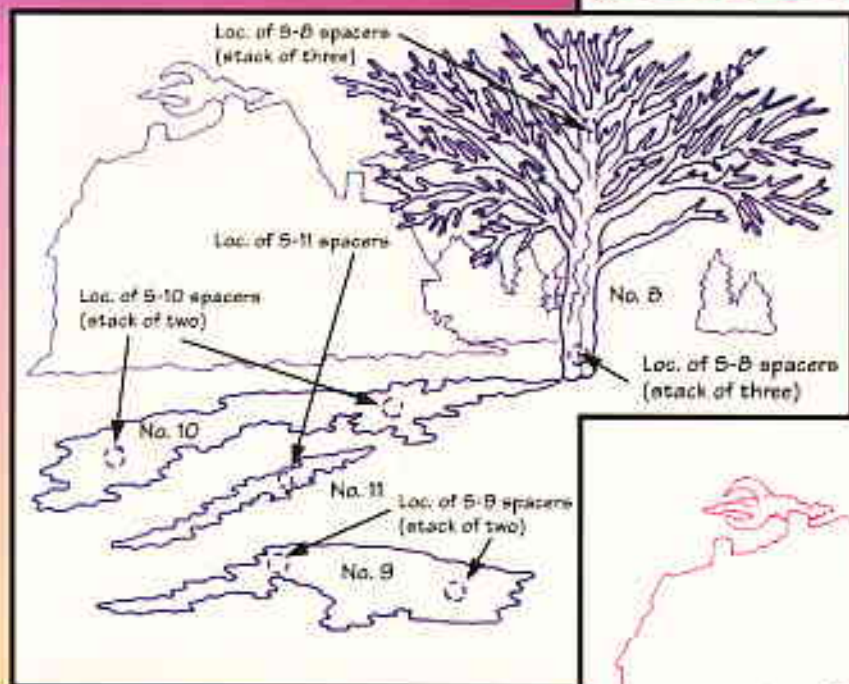
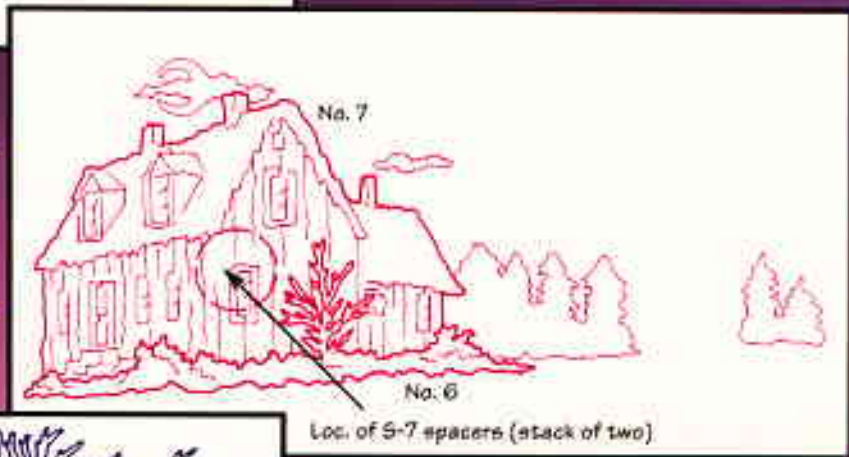
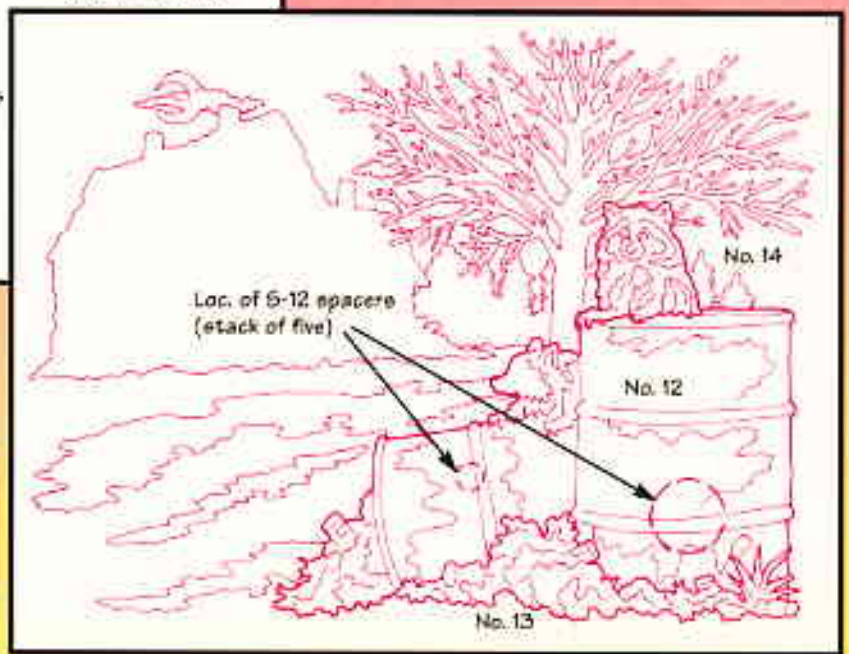


Fig. 10. Glue the spacers to pieces No. 8, 9, 10, and 11, then attach them to the backer board.

Fig. 11. Glue the spacers to the back of piece No. 12, then glue piece No. 13 and No. 14 to the front. Then attach to the backer board.



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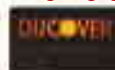
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Scrolling Editor Dirk Boelman tries out a new line of band saw blades...

PUT SOME EXCITEMENT INTO YOUR OL' DUSTY BANDSAW!



Sure, you've gotten plenty of good use out of your band saw. But up until now, if you're like me, you've pretty much used it for those "once in a while" jobs that require fairly grad-

ual curved cuts in thick stock. Most of the time the saw just sits there idle, waiting to be called upon.

Well, hold on to your hat! Your band saw is going to take on a whole new life with the introduction of a line of low-tension silicon steel band saw blades from PS Wood Machines and manufactured by Gschwind Group in Sweden.

Remember when the band saw chart in shop class looked like the one pictured on page 73? Who would have ever dreamed of the day when it would be possible to do very intricate work on a band saw? Well, that day has finally arrived! PS Wood Machines' new blades slice through wood like a knife through soft butter! They leave a much cleaner and smoother cut than other blades, and I was amazed at the intricate designs which could now be cut on a band saw.

I tried four sizes of the new blades: 1/8" with 14 TPI (teeth per inch); 3/16" with 10 TPI; 1/4" with 6 TPI; and 1/2" with 4 TPI. They were all .025"-thick and 93-1/2"-long.

All four blades performed wonderfully. The 1/8" blade really surprised me! It was no problem at all to cut curves that were close to 1/4" in diameter (1/8" radius) into a chunk of 3/4"-thick black walnut. So I tried a few projects just to see what I could do.

The 3-D giraffe is cut from a scrap piece of 2 x 4 pine about 17" long; the little fish is cut from 3/4" pine about 1-3/4" x 3-1/4"; my name is cut from a piece of *Hobbywood* clear pine measuring 1-7/16" x 1-7/16" x 9-1/2".

The 3/16" blade performed just as well as the 1/8" blade, and once again outperformed the old shop charts by cutting curves and circles about 7/16" in diameter (7/32" radius, which is just a hair over 3/16"). I also did a little compound sawing in a scrap piece of 2 x 4 pine to make the fish.

The 1/4" blade cut incredibly fast through 1-1/2"-



All four blades performed great. All cuts were very smooth—none of the projects shown were sanded prior to photography.

thick wood and almost as easily through 3-1/2"-thick wood, making compound sawing on scrap 2 x 4's with this blade a breeze! It is also quite flexible and turns in about a 15/16"-dia.

A monster with big teeth

And now a bit about the 1/2" blade. This blade works like nothing short of a wood-eating monster. It has just 4 teeth per inch and goes through 6"-thick wood like nobody's business! That makes this blade a resawer's dream come true. With this blade, you can produce your own thin stock for scroll sawing and other woodworking by simply resawing 3/4", 4/4, and 5/4-thick stock into thinner boards. For example, you can buy 3/4"-thick stock for almost the same price as 1/2"-thick boards. So your options are as follows: take the stock back to your shop, run it



You'll get lots more use out of your band saw once you start sawing with PS Wood Machines silicon steel blades. Here's Dirk with a sample of some of the projects he made to test these blades.

through a planer, and create a great big pile of sawdust. OR, resaw the 3/4"-thick board down the center to create two boards each a little under 3/8"-thick. Run those boards through a planer or a belt sander to take them down to 1/4", making yourself two boards for the same outlay of money, or as they say in the world of retail, buy one and get the second one FREE!


It's easy to slice off 3/16", 1/4", 3/8", 1/2", or whatever thickness of boards you'd like. I even made some 1/8"-thick boards without any problem. However, I should mention that I made a resawing jig to guide the wood through the blade. The jig is easy to make and worked really well (see the photographs and the illustrations on page 74).

Overall, I was really impressed with all four blades. The kerf where the blade enters the wood is extremely clean and smoother than that produced by other brands of blades. Tearout on the bottom side of the workpiece was minimal, and the rippling effect on the face (which is common to band sawing) is also less than you would expect and easily removed by sanding. Note: none of the saw-cuts on any of the items shown in the photographs have been sanded or smoothed in any manner. They have been left exactly as they were as they came off the band saw.

In my opinion, you'll get lots more use out of your band saw once you start sawing with PS Wood Machines' silicon steel blades. I've thoroughly enjoyed working with these blades, and you'll be hearing much more from me about my new found love for the band saw!

But before we end, allow me to impart a word of caution. Always keep your hands away from the band saw blade! Use push sticks, guides, or even the eraser end of a pencil. Use whatever you can find to push and guide the wood without slipping that allows you to keep your fingers attached to your hands, and as far away from the blade as possible!

So blow the dust off your band saw and give PS Wood Machines' silicon steel blades a try! You'll be glad that you did!

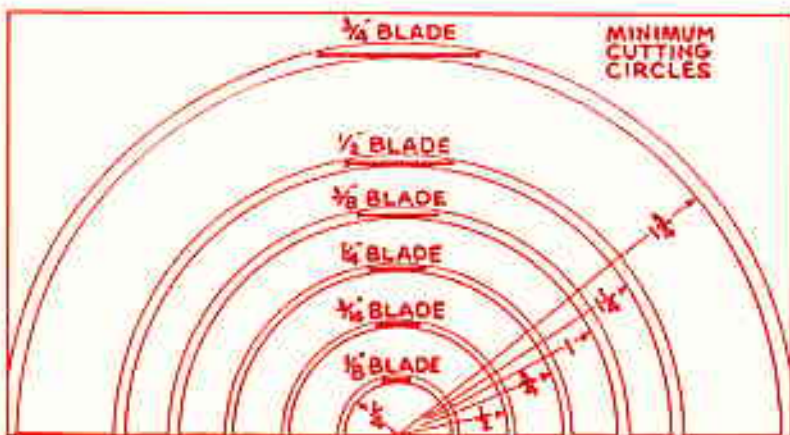
For more information about silicon steel blades, contact PS Wood Machines! (800) 939-4414; 6367 Mitch Haven Drive, Bethel Park, PA 15102. 



The resaw jig in action.



The resaw jig is both easy to make and practical to have. A band saw, PS Wood Machine's 1/2" blade, and Dirk's jig are all you need to resaw hard-to-find thin stock for your scroll saw.



The silicon steel bandsaw blades from PS Wood Machines cut so cleanly that charts like this will soon have to be revised.

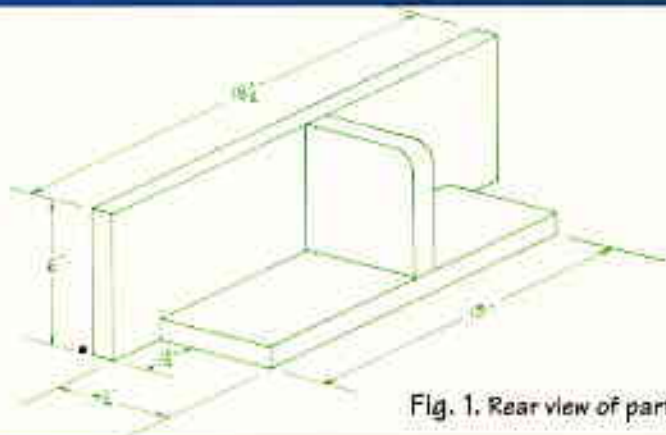


Fig. 1. Rear view of part A.

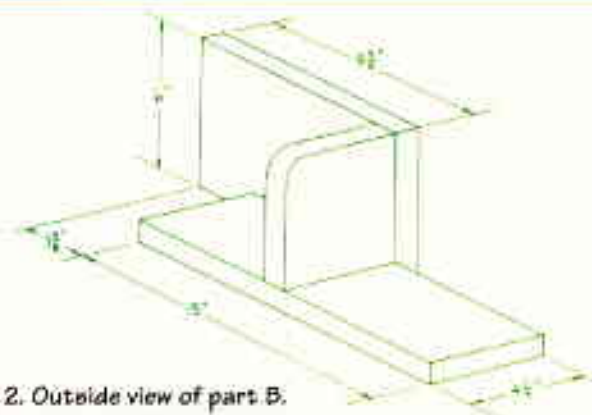


Fig. 2. Outside view of part B.

BONUS – BAND SAW RESAW JIG

Here's what you'll need to make the resawing jig. Simply refer to the two drawings to size the components and for assembly. We recommend selecting a hardwood such as oak to construct the two parts.

Part A: one piece, 3/4" x 6" x 18-1/2"; one piece, 3/4" x 4-1/4" x 15"; and one piece 3/4" x 4-1/4" x 4-1/4"

Part B: one piece, 3/4" x 6" x 9-3/4"; one piece, 3/4" x 4-1/4" x 15"; and one piece, 3/4" x 4-1/4" x 5-1/4"



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"SPIRIT OF FREEDOM" PLAQUE

Designed by Marilyn Carmin of Heartland Creations



Cutting rock with a scroll saw can be fun, interesting, and provide a valuable skill as well. The knowledge acquired will definitely pay dividends on many projects. However, if for some reason you don't quite feel up to the challenge of cutting stone, you can also inlay another material such as metal, leather, or a contrasting wood instead.

INSTRUCTIONS

Rock cutting basics

Not all scroll saws will cut rock. Some experimentation may be necessary to determine if and how well your saw will handle the task.

Rock should be cut with a diamond blade and there are certain other requirements that must be considered, primary among them is the fact that the blade needs to be frequently cleaned and cooled with water during the cutting process (see Fig. 1). This can be achieved in any of the following ways: 1) a proprietary drip system

SUPPLIES

Wood: 1/2" to 3/4"-thick burl hardwood slab*
Tools: variable speed or multi-speed scroll saw with diamond blade** and Nos. 2 and 5 blades; drill with 1.5mm diamond bit** and No. 58 bit
Rock slice, 4" x 5" x 1/4"*** **Note:** metal, leather, or contrasting wood can also be used. If using a rock alternative, begin at the notation in the section entitled "From theory to practice."
Water delivery system*** (see "Rock Cutting Basics")
Grease pencil or paint pen
Mechanical pencil
Clear packing tape
Sandpaper, assorted grits
Wood glue and glue brush
Leather lacing
Oil, clear spray, or finish of choice

*The burl hardwood slab is available at local hardware stores or from Custom Woodwork, 2240 Ferry St., Anderson, CA 96007; (916) 365-8220.

**The diamond cutting blade, diamond drill bit, and rock slices are available at local lapidary and hardware stores, or from Ed's House of Gems, 7712 NE Sandy Blvd., Portland, OR 97213; (503) 284-8990.

***A very good water delivery system is available from RBindustries, 1801 Vine St., Harrisonville, MO 64701; (800) 487-2623.

in which a reservoir with a delivery tube automatically applies water to the blade; 2) an inverted plastic bottle secured where water can drip on the blade; or 3) a spray bottle. This last method works, but is inconvenient as it requires you to stop cutting to spray water onto the blade periodically.

An absorbent rag or a shallow dish is also necessary to catch the excess water. **Note:** remember, water and electricity do not mix, so check with the manufacturer of your scroll saw for its compatibility with water.

Rock cutting should be done at a lower speed than is usual with wood, therefore a variable or multi-speed scroll saw is recommended. With a multi-speed saw, use either the slow or middle speed. The type of stone will determine the exact speed, so do some testing.

Let the blade do the work. A diamond blade cuts by filing the stone. Pushing more aggressively will only result in premature blade wear, and will not speed up cutting. Stone cutting can be a very slow process, so be patient! The end result, however, makes it well worth the effort.

When using a diamond drill bit, use an up-and-down motion and flush with water.

From theory to practice

Cover the face of the rock with clear packing tape. Transfer Pattern A (the small eagle) from the Full Size Pattern Section to the rock slice using either a grease pencil or a paint pen, or make a copy of the pattern and place it on top then cover with another layer of tape—this sandwiching protects the pattern from the water.

Drill for the inside cuts with the diamond bit and set up your scroll saw for rock cutting, with the water delivery system of choice, proper speed setting, and diamond blade. Cut the small eagle from the rock, making the inside cuts first.

Set the cut rock on Pattern B (the large eagle) and trace around the outside perimeter. The placement of the stone inlay is indicated by the dotted lines. The more accurate the tracing and subsequent cutting, the better the fit of the rock inset. Drill holes at the X's and use a No. 2 blade to cut around the traced line with the table set level. **Note:** if you are using metal, leather, or a contrasting wood in lieu of the rock slice, place the "alternate pattern," also found in the Full Size Pattern Section, on Pattern B.

Cut the wood

To cut Pattern B, drill blade entry holes where necessary and use a No. 5 blade to cut all veining lines. Tilt the table 3 degrees to the right. Drill at the X and cut following directional arrows. As with this and any other tilting table instructions, if your table has a left tilt, set it to the same angle but cut in the opposite direction of the arrows.

For cutting the leathers, repeat the preceding cutting directions, but with the table set at 2 degrees. Remove the leathers from the surrounding wood. Set the saw table level again and separate the leathers, cutting along the dotted line.

Tilt table 6 degrees to the right. Turn each leather on edge, right edge down, and mark a line down the center with a mechanical pencil. Cut a wavy line between the pencil line and the leather face (see Fig. 2). With a table that tilts right, cut from the top down.

Assembling the plaque

Sand all wood as necessary. Apply glue to the lower half of the eagle and the leather edges. Insert these into the wood and push into relief (see Fig. 3).

Brush glue on the back and edges of the rock. Insert rock into the project and position it flush with the surrounding eagle. Finish the plaque with oil, clear spray, or finish of choice.

Thread the leather lacing several times through the slots at the top of the leathers and knot at the front. Trim the cord, leaving 1" to 2" tails.

Attach a sawtooth hanger to the back, and hang your "Spirit of Freedom" Plaque with pride!

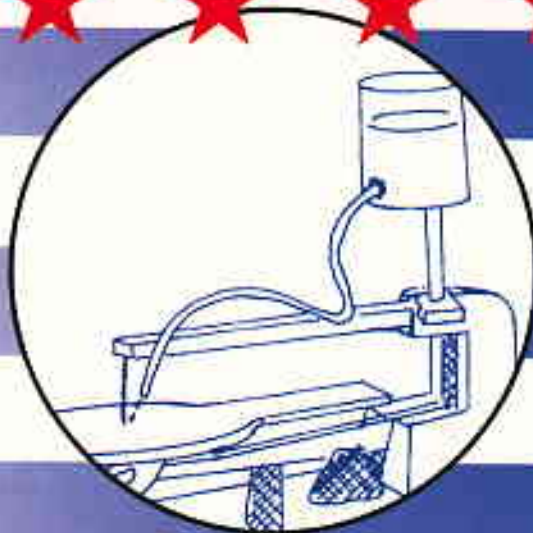


Fig. 1. When cutting stone, the diamond blade should be cooled and kept clean with water. Here is a sketch of a water delivery system available from R. Industries.

Fig. 2. Cutting the wavy lines on the leathers. Tilt the saw table 2 degrees.

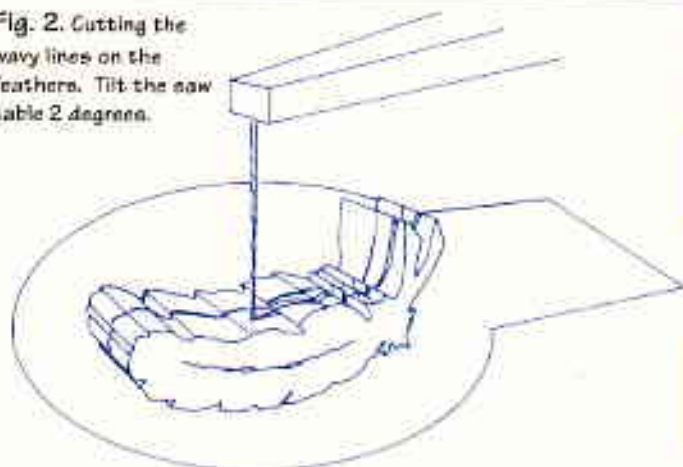


Fig. 3. Cutaway view of the "Spirit of Freedom" Plaque.



Apply glue to the edges and push them into relief

Trace around the rock inlay and saw out the shape, set the table level



SCROLLING AND TOLING WITH JOANNE

By Joanne Lockwood

The painted projects featured in the past few issues of Creative Woodworks and Crafts have received such a warm response that we have decided to offer an ongoing "painting class." In this first lesson, I will discuss some of the supplies you will need and cover a few basic painting techniques. There is even a practice sheet for you to work on when you are ready.

Setting up

Here are a few basic supplies you'll need to start painting. Many of the items can be found right in your kitchen—at no cost! However, decorative painting is quite a popular craft and you can be sure that if there's a need for something, there's a company manufacturing it. If you wish, you can purchase any painting accessory from water jars to tote bags. When I think a particular manufacturer makes an exceptional item, I'll recommend it.

Water container. Any jar will do, but you may want to purchase a commercial tub that has ridges to rub the bristles of your paintbrush across and holes to store your brushes in when they're not in use. One that I would highly recommend is the *Loew-Cornell Brush Tub*.

Brush holder. Again, a jar will work fine for now. But be sure to store your paintbrushes with the bristles up after they are cleaned!

Wood sealer. *Delta* makes a clear wood sealer that is very good, and is reasonably priced too.

A few more items that you'll need to gather are palette paper, a paint palette, tracing paper, paper towels, cotton swabs, pencils, a stylus, an eraser, a small easel to hold your directions (Tip: a large plate holder works great for this!), *Loew-Cornell Brush Cleaner* No. 387, graphite paper, and some 6" x 6" squares of brown paper bag (we'll cover their use in the next column).

For the practice exercise in this issue, you will also need a plastic sleeve (the kind you put into a binder) to protect the worksheet while you trace over the various strokes.

Paints and brushes

Of course, if you're going to go through all of this, you might want to purchase some paint too!

Delta Ceramcoat Acrylics is one of the more popular brands. They have been around for a long time and feature so many beautiful colors that you could paint forever without

ever having to mix them if you so desire. I strongly recommend sticking to one brand of paint. There are conversion charts available so that you don't have to purchase a different brand for each project.

You will also need some kind of extender and a good final finish for your projects. Again, *Delta* has an extender and several wonderful finishes—we'll be experimenting with different ones in upcoming projects.

Now we come to choosing paintbrushes. My goodness, there are so many brands on the market! You can spend a fortune on brushes right off the bat, but if you are new to painting I don't recommend this. Start painting with an affordable set of brushes, such as the special set that *Loew-Cornell* is offering exclusively for *Creative Woodworks and Crafts* readers. I used this set to make the practice sheet reproduced here and found them to be very good. Look for their *American Painter Series* ad on page 65 of this issue. The set consists of a No. 2 liner, a No. 5 round, a 3/8" angular shiner, and a 3/4" wash. These, along with a No. 1 liner (*Loew-Cornell La Cornielle series 7350*) are the brushes I most commonly use.

Your work area

You will want to sit in a well-lit area with plenty of room to spread out. In front of you will be the paper or workpiece you will be painting. Behind that, you will want to set your paints, roll of paper towels, and the jar with your brushes in it. To your right, place your paper palette to mix your colors, behind that your paint palette to hold your raw colors, then behind that, on a double-folded paper towel, your water container. Next to this, you will want to have a small jar for the *Delta Color Float* you will use for float shading, a technique which is covered in the accompanying sidebar.

To your left you may want to place an easel to set your instructions on and a tray to set your "stuff" in (i.e. pencils, eraser, graphite and tracing paper, stylus, etc.). If you are painting on a good table, I suggest that you put a piece of plastic over your work area to protect the surface.

And we're off!

Okay, now you are ready to start painting. Let's begin with a few practice strokes. Turn to the color worksheet on page 80 and slip the magazine into the plastic sleeve (or make a copy of just that page). With a brush and paint, prac-

rice your strokes right on the plastic. When you are finished, simply wipe the paint off with a damp cloth and practice some more.

Worksheet instructions

Line One: Practice Coils Brush used: No. 2 liner

Dip the brush in the extender, put on a paper towel, and load with paint thinned with water to the consistency of ink, rolling the paintbrush out of the paint as opposed to just lifting it out. Hold the brush straight up, allowing only the tip of the brush to touch the paper. Make circular motions in one direction, then in the opposite direction. The brush must be held in a perpendicular position in order to accomplish this exercise successfully.

Line Two: Comma Strokes Brush used: No. 2 liner

Fully load your brush with paint that has not been thinned, leaving a little ball of paint on the tip of the bristles. Hold the brush just slightly off perpendicular, and touch the tip of the brush to the surface, laying the bristles down, allowing them to fan out just a little. This will form a nice round ball at the head of the comma stroke. Next, start pulling off to the right and downward, lifting the brush slightly as you pull, until the bristles are completely relaxed (unfanned).

All of your strokes should look rounded and should come to a fine "tail." Notice that the "tail" is a little too fat on the first stroke in the row. This is what happens when you do not bring your bristles back to that perpendicular position before lifting from the surface.

Line Three: Cursive Writing Brush used: No. 2 liner

This exercise takes a great deal of control, so you will want to wait until you feel a bit more secure in your stroke-work before attempting it. Thin the paint for this one, and hold the brush straight up.

Line Four: More Comma Strokes Brushes used: No. 5 round and 3/8" angular shader

Large comma strokes (No. 5 round brush)—These strokes are done much the same as with the smaller No. 2 liner brush, except that you will not be thinning the paint. Dip the brush into the extender, put on a paper towel to remove any excess, fully load the brush, and roll it out of the paint to reshape the bristles.

Holding the brush just slightly off perpendicular, touch it to the paper, lay the bristles down slightly, and allow it to fan out to make a round head the size of the sample. *Notes:* make sure you do not push the brush forward during this step. Lift and pull at the same time until you have come to the very tip of the bristles again.

Square Comma Strokes (3/8" angular shader)—This is a great practice stroke for learning how to use the chiseled edge of your angular or flat brushes. Saturate your brush with water, then put it on a paper towel to remove excess moisture. Load your brush halfway up to the metal ferrule with paint. Pat it on the palette to make sure that the paint is distributed evenly throughout the bristles, then pat the very edge of the brush on both sides to bring it to a sharp chisel or knife edge.

Holding the brush straight up, touch the edge to the surface, lay the bristles down while pulling off to the right, then lift the brush gradually to form a curve, making sure that the bristles are in their relaxed position before lifting off of the surface.

If you practice all of these strokes whenever you get the chance, you will soon be able to paint anything you desire in no time at all.

Additional reading

For further practice, I recommend Jackie Shaw's *Brush Stroke Workbook*. I think that every student I have ever taught has purchased one after taking a look at it. The book even has a reusable practice sheet that you can paint on with water. When I first started to paint, I used to keep her book, my liner brush, and a glass of water by the phone. I practiced my stroke-work while talking to my friends and family. No pain, so no mess to clean up.

At this writing, the book sells for \$7.95 in most craft stores and it is the best investment you will ever make as a beginner.

If you cannot find the book locally, I can ship a copy to you by adding \$1.25 for postage, and in California 7-3/4 percent sales tax. U.S. orders only please.

Until next time...

In our next lesson, I will cover some of the exercises we just went over in more detail, and I'll give you yet another practice sheet to work on. Your homework assignment: practice, practice, practice!

Remember, you can reach me on-line at demhears@gvn.net. And my web page can be viewed at <http://www.gvn.net/~demhears>.

Until next time, happy toiling! 🎨



Just a few of the painting supplies available.

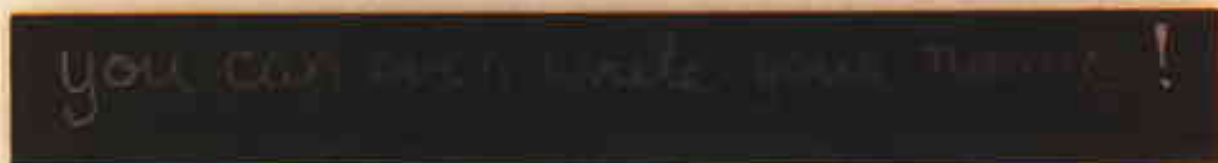
Color Worksheet



Line 1



Line 2



Line 3



Line 4



PAINTING TERMS

Here are a few painting terms and their definitions:

Basecoat. The first color of paint you put on your piece.

Extender. An additive which extends the working or drying time of your paint.

Ferrule. The metal part of a paintbrush which holds the bristles.

Glossy or Gloss. A shiny type of finish. It can be either brushed or sprayed on.

Graphite paper. Used to transfer patterns—not to be confused with carbon paper! This type of transfer paper is erasable.

Highlighting. Using a lighter color of paint to bring a portion of the work "forward" by making it brighter. Also used to make an object appear round or shaped. A good rule of thumb is to remember that "light brings forward, dark recedes."

Intensity. Brightness of color.

Matte finish. Flat (not shiny) finish.

Opaque. Not transparent.

Palette. This sometimes refers to simply the different colors used in any given project. Palette paper is a wax-coated paper that you can mix your colors on, while a paint palette is a plastic paint holder with individual "cups" that can hold your raw, unmixed paints. You can use one or the other to serve both purposes, but I find it easier to keep my mixed and unmixed paints separate.

Retarder. A paint additive that will slow the drying time of paint.

Semi-gloss. A finish that is neither high shine nor matte; an "in-between" finish.

Stippled. A technique used each time you shade or highlight your work, where only one side of an angular shader brush picks up the paint.

Satin finish. My personal favorite of all finishes, it produces a soft, shimmering finish.

Shading. Applying a darker value of a color to add dimension to your piece; the opposite of highlighting.

Stylus. A small pencil-like tool used primarily to transfer patterns or paint dots.

Transfer paper. A type of paper that is used to transfer painting patterns. It produces a line which is easily removed with water. Loose-Cornell Chauxpaper is my personal favorite.

Transparent paint. Paint you can see through when applied.

Undercoat or pebbcoat. Painting everything white before basecoating. (Dulux-Gusso works well for this.)

Wash. A thin coat of watered-down paint that gives you close to the same look as manufactured transparent paint.

There is a lot more to painting terminology than this, but it's a good start. These are the terms I will be using most often.

Advanced techniques

After you've become proficient with the strokes covered on the worksheet, why not try applying what you just learned. Practice these exercises on a piece of watercolor or drawing paper.

Borders

Let's add a little interest here and see if we can make something with the basic comma stroke (see Fig. 1). Put another color of paint on your palette, lay your No. 2 liner at an angle, dip one side of the brush into the first color, then the other side into the second color. This is called "doubleloading." Make a series of comma strokes as shown.

Painting this border design illustrates how much more control you really have when pulling the brush toward you rather than pushing it away. Work from left to right and try to reproduce the border just as it appears here. **Hint:** turn your practice sheet a little to the right while painting, as this will make your comma strokes align more naturally.

The next border shows what can be done by doubleloading a $3/8$ " angular shader. It consists of a series of "S" strokes, and you can see the effect better than on the comma strokes.

Doubleload shading

Doubleload the $3/8$ " angular shader, placing the darker color on the toe of the brush and the lighter color on the heel. (On an angular shader, the "toe" would be the longest tip of the bristles, while the "heel" would be the tip in the short edge of the bristles.) Work the paint together by touching the chiseled edge of the brush to the paper, laying the bristles down gently, and pulling to the right for about 1" or 2". Keeping the brush there, come up to the chisel edge again, lay the brush down, then pull back to the left over the same point. Repeat this several times until the paint is blended and there is no hard line where the two colors meet (see Fig. 2). This will take time to learn, so don't be discouraged!

Applying a wash

Put out a small puddle of paint on the palette, then dilute it with two parts water to one part paint. With your $3/4$ " wash, paint a 3" x 3" square. Do not apply a second coat; you want to be able to see the background through the paint. This is how a

wash will appear. If it is streaked, you can apply another wash on top to even it out, but wait until the first coat is dry (see Fig. 4a).

Now you will need that little jar of water to put your Color Float in.

With the $3/4$ " wash brush, paint a 1" or 2" strip solidly with the lighter color (Fig. 4b). Allow this to dry. Dip the $3/8$ " angular shader into the Color Float added water and blot on a paper towel. Lay the brush down almost flat with the toe end of the brush in the darker color of paint. Do not allow the paint to reach the heel end of the brush. Next, blend the colors out on your palette, brushing back and forth several times until you have a nice blend. With the darker color to the left edge of your square and the toe of the brush facing to the left, touch the brush to the paper, push the bristles all the way down to the metal ferrule, and pull the brush toward you until you hit the edge of your painted square. Next, lift to the chiseled edge and remove the brush from the paper. Turn your paper upside down to float on the other side. If necessary, reload your brush (Fig. 4c). Notice how this gives the appearance of receding edges.

Practice this until you develop a smooth flow from dark to light. Using the Color Float will really help you master this technique.

Ribbon effect

Have fun with this one. Dip your $3/8$ " angular shader into the extender, then doubleload your brush with the color on the toe. Holding your brush with the toe to the left and straight up, touch the paper. Next, push the bristles down firmly so that the tips of the bristles are pointing toward you and pull the brush away from you while lifting back up to the chiseled edge. As soon as you are on the chiseled edge, flatten out the bristles and pull toward you while you lift. Continue this procedure until you run out of paint, creating a long ribbon (see Fig. 5). This one will take a lot of practice to master as well.

Painting a circle in one stroke

Load the $3/8$ " angular shader with paint. Set the brush down on the surface, push the bristles flat, and make the circle by rotating your brush (see Fig. 6). Position your fingers so that you can make a complete circle without stopping.



Fig. 1. Comma stroke border.



Fig. 2. "S" stroke border.



Fig. 3. Doubleload shading.



Fig. 4. Wash shading.



Fig. 5. Ribbon effect.



Fig. 6. Brushstroke circle.

BONUS PROJECT! NAME TRAY PUZZLE

Designed by Joanne Lockwood



SUPPLIES

Wood: one piece of Baltic birch plywood, 1/8" x 7" x 18"; one piece of luan plywood, 1/4" x 7" x 18"; one piece of pine, 3/4" x 7" x 18"

Tools: table saw; scroll saw; drill with bits; belt sander; hand sander or router with a 1/4" roundover bit

Temporary-bond spray adhesive

Graphite paper

Yellow wood glue

Sandpaper, assorted grits

Tack cloth

Small C-clamps

High gloss non-toxic finish of choice

Sharpie Ultra Fine Permanent Marker

Delta Ceramcoat acrylic paints: Blueberry; Calypso Orange; Dark Goldenrod; Leaf Green; Mulberry; Ocean Mist Blue; Opaque Yellow; Pine Green; Pink Parfait; Purple Dusk; Rose Petal Pink; Williamsburg Blue (**Note:** those are the colors I used—they are merely a guide. If you have a good selection of paints to choose from, or if you have other colors in mind, feel free to improvise!)

Delta Wood Sealer

Stylus (optional)

Loew-Cornell American Painter Series paintbrushes: No. 2 liner (series 4350); No. 5 round (series 4000); 3/8" angular shader (series 4400); 3/4" wash (series 4550)

The brushes used here, and in many other projects featured in Creative Woodworks and Crafts, can be purchased as a set for \$12.95 plus \$2.00 S&H from Creative Wings, Inc., P.O. Box 155, Dept. WW1, Bogota, NJ 07603-0155. NJ residents please add 6 percent sales tax. Receive a FREE scroll saw pattern with your order!

This project is similar to the Alphabet Puzzle from the last issue, but we're going to paint this one! You can also make the whole alphabet, if you really feel daring! The finished measurements will depend upon how long the name of that special child is.

INSTRUCTIONS

Cut out the puzzle

With a pencil, mark a line across the 3/4"-thick piece of wood about 1" from the bottom. Copy the letter pattern, then cut out the letters you will need for your name tray. Line these up along the pencil line, carefully affixing each letter to the wood with the temporary-bond spray adhesive. Mark a margin of at least an inch around all sides of the name.

With the table saw, cut the 3/4" pine letter stock, the 1/4" luan plywood tray stock, and 1/8" Baltic birch bottom piece to the size that you will need. When finished, lay the bottom piece aside.

Stack the tray and letter stock. First drill small blade entry holes in inconspicuous places on the edge of each letter. Remember that there is no waste wood here, so be careful where you drill. Insert the blade and cut each letter out.

After the boards have been cut, glue the top and bottom

boards together (see the Exploded View Drawing). With the letters removed from the puzzle, apply a light, even coat of glue to the tray and bottom board, then rub them together to ensure a good bond. Clamp the pieces and wipe away any excess glue with a cotton swab and water before it dries.

If you would like to soften the outside edges of the puzzle tray, use a hand sander or a router and a 1/4" roundover bit.

Paint-by-letter

Sand the top piece, removing any dust with the tack cloth. Spray the wood with wood sealer and allow to dry. This will raise the grain slightly, so sand the wood again with very fine grit paper and retack.

If necessary, transfer the "seams" from each letter with graphite paper using a second copy of the pattern. The stripes, polka dots, and other designs can be drawn freehand, so you do not need to transfer them. If you are uncomfortable, however, feel free to transfer any and all lines that you might need.

For each piece, basecoat individual areas with the color shown, or with the color of your choice. Allow to dry, then add a second coat of paint. For larger areas, the 3/4" wash brush will work well, and for smaller areas with lots of corners, use the 3/8" angular shader.

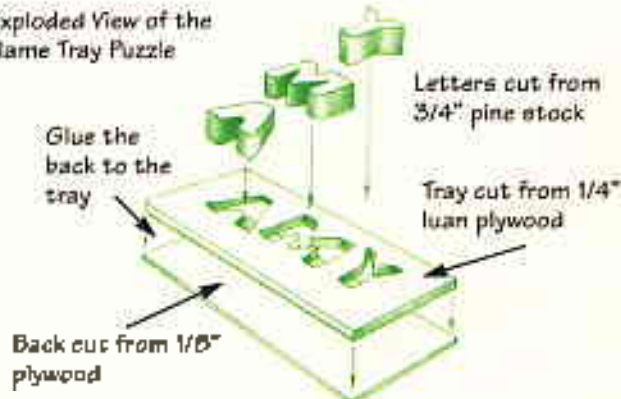
For the lines and crosshatches, dip the tip of the No. 2 liner into the paint, twist the brush while drawing it out to reshape the bristles, then slowly and lightly paint on the stripes and squiggly lines.

The No. 5 round or a stylus pressed just slightly onto the wood will make perfect polka dots. Leaving only a small dollop of paint on the end of the brush will help as well.

When all paint has dried thoroughly, add the outline of each letter by simply following along the edges and add the "seams" with the permanent marker. Apply two or three coats of non-toxic finish to each letter and allow to dry thoroughly.

Your child now has a very personal toy to call his or her own!

Exploded View of the Name Tray Puzzle



New Products Editor Jacob Schulzinger reviews...

THE PSI PORTABLE PANEL SAW SYSTEM

Now there's a better way to cut sheet goods with your power hand saw that I think you're really going to like. It's a big step up from those thin aluminum saw guides, and once you start to use it, you'll quickly understand just why I recommend this tool from Penn State Industries.

How it works

To understand what's so special about the Portable Panel Saw System, let's first go over how the tool works. The two main pieces that comprise it are a thick aluminum fence and a special ball-bearing tracking fixture.

The fence is a good quality extrusion with a wall thickness of 3/16". It's a sturdy piece that holds its straightness without any problems, and you don't have to worry about it bowing when it's used. The tracking unit, used to hold the saw, is guided along the fence by a set of five ball bearings. In addition to keeping the fixture steady, the bearings also provide a minimally frictional ride for the saw that's mounted on it.

The saw is attached to the fixture with a special pair of clamps, and is aligned so that the blade is perfectly parallel to the fence. This method of securing the saw in the fixture is a good one, as it eliminates the frustration of the blade not being parallel with the edge of the saw's sole plate (a problem with less expensive saws).

Fast, easy setup

When you unpack the system from its sturdy shipping tube, you will have to spend just a few minutes dressing the ends of the two fences—the system includes a 64" crosscut and a 108" rip fence—with the included file. Remove any adhesive that's left on the fences from the strapping tape, and then set the fixture on one of the fences to adjust the bearings. It took me only about 15 minutes to make all the necessary adjustments and this is work that only needs to be done once, regardless of how many times you remove the saw from the fixture.

There's a special blade-setting tool that comes with the kit that makes the saw-setting operation as easy as can be. When I first mounted and aligned my old saw into the tracking fixture, it took less than 10 minutes to do the job, and I'm positive that I can beat that time now that I know what to expect.

More than your average saw guide

Using this tool is totally different from using a common straight edge saw guide. It feels different, acts different, and cuts different. The straight edges that most of us are familiar with are thin aluminum extrusions that are about 1/2" wide with each segment measuring a bit over 4" long, so that when a pair of them are bolted together they are long enough to handle an 8' piece of plywood. Even though these lightweight extrusions have a formed shape, they will bow under pressure from the saw. This guide will not bow, and the 1/16" thick extruded fence is very stable.

Absolutely no tracking problems

When using a common straight edge, there is always the possibility that if you don't watch what you're doing, the saw can track away from the guide. The bearing-guided fixture used here totally eliminates that problem.

Tracking problems, by the way, can also be caused by an improperly sharpened blade or a blade that is not parallel to the edge of the sole (not an uncommon occurrence on a less expensive saw). With this tool, the saw guides itself and has minimal contact with the surface being cut. Because the saw rides on low friction ball bearings against a very sturdy guide rail, it will cut straight every time. You really can't ask for much more than that.

Put to the test

Now that I've described the design of the tool, the setup procedure, and some of the tool's advantages, it's time to talk about actually using the Portable Panel Saw System.

I positioned a board on my bench, set the guide rail in position, clamped it securely in place, hooked the fixture onto the rail, and proceeded to make my first cut. I was really impressed with the results.

Setup was a pretty straightforward job. Mark the desired size of the material, lay out the distance from the cut line to the guide fence, and clamp it into position. Set the fixture with the saw onto the guide rail and make your cut.

The first thing I noted was that my saw didn't seem to have the drag against the workpiece that it usually has. This is because the bottom of the saw fixture is raised slightly above the workpiece. There was no tendency for the saw to wander away from the guide; it couldn't because it was secured by those five smooth-running bearings. There were no

burn spots on the wood because the blade was aligned parallel to the guide rail.

The cut will always be straight and on the mark. All things considered, it's one of the nicest experiences you can have with a power hand saw.

And there's more

There's a router attachment available for this tool, as well as a portable cut-off table. While I didn't test these two devices, I feel that both would be as good a value as the tool I did try out. The router attachment would be especially handy for working long parts where it's easier to manipulate the tool than it is to handle a clumsy, heavy piece of wood. You could make the router adapter plate yourself, as Penn State suggests, or buy it from them. The portable cut-off table is also an interesting tool that you might want to look at in their catalog.

The Portable Panel Saw System sells for \$89, and is available from Penn State Industries, 2850 Conly Road, Philadelphia, PA 19154, (800) 377-7297.



A DAY AT SCROLL SAW CENTRAL

By Lawrice Brazel
Photos by Andy Chen



John Nelson (left) and Scroll Saw Central owner Mike Dunbar. Mike conducts week-long Windsor chair classes here as well. Each class graduate receives a diploma (foreground), but has to listen to Mike Dunbar sing *Pomp and Circumstances*.

On a sunny spring day, we were thrilled to visit a 2,400 square foot, state-of-the-art woodworking facility on New Hampshire's seacoast. The workshop was built in 1996 by Sue and Mike Dunbar. On weekdays, Mike uses the shop to build his world-famous Windsor chairs. But on weekends, the facility becomes Scroll Saw Central—a classroom buzzing with saws, students, and cheerful scroll saw instruction from teachers John and Joyce Nelson.

Back to school

The scroll saw classes began about two years ago, and continue to grow in popularity. The eight-hour classes are held on Saturdays (basic class) and Sundays (advanced class). Each class is limited to ten people. The

cost for one day is \$75 per person or \$100 per couple. Students can bring their own saw or rent one for \$25 a day. The price includes a “godly bag” full of wood, metal, scroll saw literature, and one of John Nelson’s books.

A day of learning

When the beginners’ class starts at 8:30 a.m., students are often very tense. “Sometimes there are women in the class who have never used a power tool in their lives, so they are very apprehensive,” says John. But after some hot coffee, Joyce’s homemade coffee cake, and the friendly manner of John’s teaching, students begin to relax and enjoy themselves.

John starts each class with a brief overview of scroll saws. He explains the differences between various saws as well as their advantages. Next, he takes the class through a series of basic cuts. As students try out the cuts, John and Joyce offer advice and encouragement. By



Joyce Nelson encouraging Dave Brackett of Massachusetts. The class centers around giving one-on-one attention to each student.

late morning, John has started the first of the series of projects that the students will make throughout the day. Each project introduces another scroll saw technique and reinforces the ones already learned.

“We show them everything the saw can do,” explains John. “We cut paper and metal. We cut puzzles. We do compound cutting, which is cutting in three dimensions. We even do inlay work, which looks extremely complicated but is actually very easy once you know how to do it.”

By lunchtime, friendships have formed, and class members talk eagerly while enjoying a box lunch delivered from a local sandwich shop. In the afternoon, the room is humming with the sound of scroll saws as students enjoy their new skills and confidence.



A Scroll Saw Central class in progress.



Virginia and Addison Redfield of Rusland, Massachusetts, scrolling for the first time. By the end of the class, they felt comfortable scroll sawing and were pleased with their progress.




Another husband and wife team, Bud and June Bjornholm of Middletown, Massachusetts, learning about one of the seven different scroll saws at Scroll Saw Central.

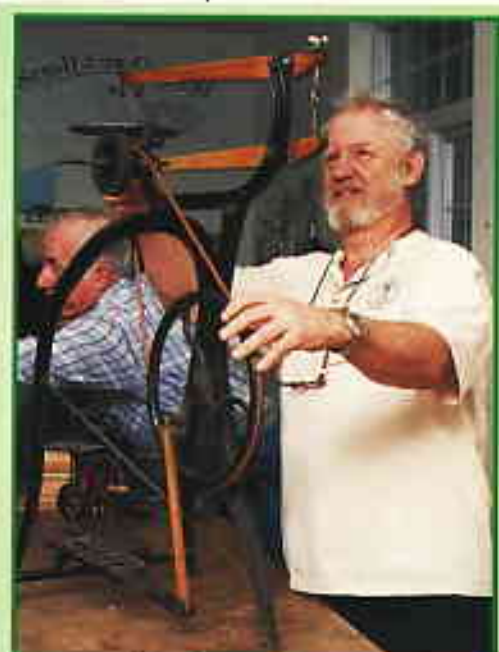
seven different saw brands, and students are rotated around each saw. "Most of our students are beginners. About half of them don't even own a saw and don't know what to buy," John explains. "So they will be working on a \$200 saw, then they will work on a \$1,400 saw, as well as everything in between. By the end of the day, they know what kind of saw they want to buy. They know what they can afford and what they want to do with it."

The future

Scroll Saw Central plans to expand and offer two to three sets of classes per month. John is now waiting expert scroller William Guimond to teach the class as

well. Future events include *The First Annual Northeast Scroll Saw Picnic*, scheduled for October 18 on the school grounds.

For more information or a class schedule, contact Sue Dunbar at Scroll Saw Central, 44 Timber Swamp Road, Hampton, NH 03842. 



John with a New Rogers scroll saw, circa 1880.

ABOUT THE TEACHERS

The author of over 40 woodworking books, John Nelson is probably best known as a scroll saw pattern designer. "I've always done more designing than sawing," says John. "But when I design something, I will have to cut it out to be sure my drawings are correct. So my scrolling experience came almost of necessity."

John has co-authored several books with his wife, Joyce. "For a few of the books, Joyce cut out almost all of the designs," John admits. "Then she painted them all. I just did the designing part." This experience has helped Joyce to become an expert scroller herself.

"Joyce is my right arm when I am teaching," notes John. "Especially when we have a big class. She walks around helping people while I am doing the teaching up front."

In the future, John plans to continue designing and creating new books. He would also like to teach teachers. "I'd like to go to scroll saw manufacturers and teach them how to demonstrate their saws," says John. "Also, I'd be willing to travel to teach groups. If someone could get about 10 to 15 people together, Joyce and I could probably bring the classes to them. I think that would be fun."

To order the Nelsons' pattern books, contact your local bookstore or call Stackpole Books at (800) 732-3669.

FLORAL MIRROR FRAME

Designed by Ivan Whillock



This is a very attractive project that uses a mirror to set off the beauty of the wood.

INSTRUCTIONS

Prepare the stock

Size a piece of 1"-thick stock to 9" x 12" and trace the pattern (found in the Full Size Pattern Section) onto the front. On the back of the board, lay out 3/4" borders on the top and sides and a 1-1/2" border on the bottom. This will become the rabbet into which the mirror will fit.

Use a router to honeycomb the area within the borders to a depth of 3/8", leaving small islands on the back to support the center during carving (see Fig. 1). These islands can then be easily removed after the front has been carved. **Tip:** if you enjoy using carving tools more than power tools, then freehand the waste

SUPPLIES

Wood: 9" x 12" x 1" butt-joint board
Carving tools: No. 1-20mm chisel; No. 3-6mm gouge; No. 3-16mm gouge; No. 5-6mm gouge; No. 11-4mm gouge; No. 41-16mm parting tool
Tools: scroll saw, jigsaw, or coping saw; router with a straight bit
7-1/4" x 9-1/2" mirror
Sawtooth hanger
Satin varnish or lacquer

removal with the router and true up the edges of the border with a mallet and chisel.

Establish the relief

Use the No. 41-16mm parting tool (also known as the V tool) to make stop cuts all around the pattern (see Fig. 2). Lower the background about 3/8". The two No. 3 sweep gouges work very well for leveling off the background. Use the 16mm gouge wherever you can and the No. 3-6mm gouge for tight places. **Tip:** always use the biggest tool that space allows.

Referring to the finished mirror, pay particular attention to the pattern's overlapping elements. You may want to shade the lower portion of each with a pencil to help you visualize which areas need to be lowered and which are left proud (see Fig. 3).

Systematically work your way around the carving, making stop cuts along the overlapping edges and lowering the wood where one form goes under the other.

The cluster in the lower left corner of the frame, for example, has several elements which are in relief. The stem is level with the original surface, the first leaf is about 1/8" lower, and the second leaf is 1/4" lower. Fig. 4 shows the levels in the leaf and whip pattern of the lower left corner.

Shape the elements

Once the levels have been determined, start shaping the forms. Use the V-tool to make the center cut of



Fig. 1. Trace the pattern onto the wood. When routing out the back, be sure to leave a few islands to support the piece while carving.

Fig. 2. Making a stop cut. Always use the largest tool you can (in this case, the 16mm V-tool).



Fig. 3. After removing the background wood, study the different levels of the pattern. In better discern each level of the pattern, shade the lower portion of each overlap.



Fig. 4. Make each level approximately 1/8" deep.



Fig. 5. After making stop cuts around each tulip layer and round them.

each leaf and use the No. 3-16mm gouge to shape the leaves. This tool can be used upside-down for convex cuts and right-side up for concave cuts. Let the pattern suggest ways to shape the leaves, but feel free to experiment for yourself.

Carve the tulip shapes by first making stop cuts around the petals and then by layering and rounding them as shown in Fig. 5.

Use plunge cuts with the No. 5-6mm gouge to trim up the curves of the leaves. The No. 11-4mm gouge will help you get into some of the curves that are too tight for the No. 5-6mm gouge.

Final assembly

Drill pilot holes in the five shaded areas of the pattern so that they can be sawn away to expose the mirror, (see Fig. 6). Use a scroll saw, jigsaw, or coping saw to remove the waste wood. Clean up any rough edges with the carving tools.

Carve away any remaining islands on the back, then finish with a satin varnish or lacquer. Attach a sawtooth hanger to the back and install the mirror into the rabbet, then hang up the mirror, and give a big smile which will be reflected back to you. ♪



Fig. 6. Drill blade entry holes in each waste area of the frame and saw out.

Carving Section

TRY CARVING IN COTTONWOOD BARK!

Tips from George Sheryka, Bark Carver
By Ivan Whitlock



A typical cottonwood tree trunk.

Old cottonwood trees have very thick, furrowed bark that is prized by carvers who enjoy its ease of carving and the "driftwood" look of the finished piece. There are about a dozen varieties of cottonwood found throughout the United States, making its bark fairly easy to acquire by carvers who are willing to scout around for it.

line and takes a wedge of wood away, angling down from the lip of the nose to

the stop cut at the brow line. This gives the profile shape to the nose. George then makes a stop cut along the base of the nose and takes a similar wedge of bark out to complete the profile shape of the nose.

Step 4. Next, George recuts the top at the eyebrow line and then shaves away the bark from each side of the nose to elevate it from the face. It is important to keep the angle of the facial curve as these cuts are made.

Step 5. George then cuts away small wedges of bark from the base of the nose to create a shallow V shape. This allows him to later cut in the nostrils that can be seen from the profile view, making the nose shape more realistic.

Step 6. George cuts in the "wings" of the nose by slicing the cutting edge of the knife into the fibers at a point where the top of the wings would be located. Once he has sliced through the fibers, George turns the knife abruptly as he continues the cutting stroke up to the



George Sheryka has been carving for more than 35 years!

Barking up the right tree

George Sheryka, of Westmont, Illinois, is an expert on bark carving. He points out that the best trees for harvesting bark are those that have been dormant for quite a while. It is from those trees that the bark can be easily pulled away. George suggests field toasting the bark before hauling it home. "Cut away the rough outer bark, exposing the medium or pale brown color of the inner bark. Look for solid, tightly formed bark fibers. Test the inner fibers to be sure that they will hold a cut made by your bench knife and chisel."

If the back side of the bark is really wet and stringy, George suggests air drying it for a while, then the stringy parts can be pulled away and the bark can be cut into workable pieces.

A bark face

Here is the procedure George uses for carving a spirit face in cottonwood bark. You will need a piece of cottonwood bark, a band saw, a bench knife, a V-tool, a small gouge, and clear spray sealer.

Step 1. After selecting or curing a piece of bark to the size he wants to work with, George trims off the flaky outer layer in the area where the spirit face will be carved. When he gets down to solid cork, he rounds the area to create a facial curve using a band saw.

Step 2. Next, George draws a center line and sketches in lines for the eyebrows, the base of the nose, and the width of the nose. He carves a slight V shape at the base of the nose.

Step 3. George makes a stop cut along the eyebrow



Two examples of George's bark carving.



Roughing out a cottonwood bark carving blank with a hand saw.



Sketching in the lines for the eyebrows and nose.



Using a knife to pare away small wedges of bark from the base of the nose to create a shallow V shape.



Making stop cuts around the mustache with a V-tool.

eyebrow line. He does this on both sides of the nose.

Step 7. Next, George draws in the size, shape, and location of the mustache. If in any step he has cut away some of the center line, he redraws it to make sure that the carving is balanced.

Step 8. George uses a V-tool to make the stop cuts around the perimeter of the mustache. He turns the V-tool when cutting in order to create a vertical wall just outside the pencil guidelines.

Step 9. At this point, George pencils in guidelines for the hair strands. He wants to show where the lace ends and the hair begins. Then he draws long S turns to represent the strands of hair on the head, sides of the face, and beard.

Step 10. George makes a stop cut on the hairline surrounding the face. Then he cuts away the excess bark in order to shape the forehead and reestablish the facial curve along the sides of the face. He also adds V cuts along the hair strand guidelines.

Step 11. Next, George flattens the center of the forehead above the nose, then elevates the eyebrow line with curved cuts to give more room for the eyes. Moving on to the mouth, George cuts in a small lower lip.

Step 12. George draws in the eyes, then he makes a stop cut around the eye shape and takes a shallow slice of bark from the eyeball area up to the stop cuts. This creates the roundness of the eyeball and suggests that it goes under the lid.

Step 13. To cut in the upper and lower eyelids, George uses a V-tool to make a cut parallel to the shape of the eye. He cautions that this cut should not be made too closely to the eye shape or fragments may chip off. He also cuts in the sweeping U shape of the cheek bone below the lower eye lid. He then softens these cuts with fine sandpaper.

Step 14. George uses a small gouge to cut in the nostrils. First he draws the size, shape, and location of the nostrils and then pushes the gouge down into the drawn area. The gouge enters at a 45 degree angle and is pulled out at the exact reverse angle. Next, he cuts away unneeded bark with the tip of the bench knife.

Step 15. To put on the finishing touches, George undercuts the hair line, then adds wrinkles and more detailed hair strands. He puts hair strand cuts in the mustache and cuts in the iris and pupil.

The layers of bark fiber create a very interesting pattern in the carving. Not much is needed in the way of finishing except a light spray coat of sealer to help keep the carving clean.

So if you want a new challenge, give bark carving a try. Bark pieces are found in an endless variety of sizes and shapes. Let your imagination go as you create a carving that uses the unique shapes and textures found in each piece of cottonwood bark.

George Sheryka has been carving since 1961. He has written numerous articles on carving and regularly teaches carving classes. His book, *Bark Carving*, is available at wood carving suppliers, or write to: George Sheryka, 5516 King Arthur Court 2, Westmont, IL 60559.

ART OLVER, BARK CARVER

Another very prolific bark carver is Art Olver of Butte, Montana. Art gets his material from the blackbark cottonwood tree. He notes that the Indians of northern Montana call it "bam." When it rains, the wet bark turns quite dark and dense. When it's dry, it turns gray or even white.

Art finds that each piece of bark is quite unique, and can range from very soft to downright brittle. Each tree seems to be a little different from the last. Art studies each piece of bark until he sees some sort of image, akin to looking for shapes in the clouds. Then, "with that piece of bark and a good gouge," he develops the image. "Sometimes," Art says, "it's almost like magic."

Art truly believes that the bark of the blackbark cottonwood is one of the most carvable substances on the planet. "And," he adds enthusiastically, "it grows on trees!"



Making V cuts to define the hair strands.



Laying out the eyes.



Using a small gouge to cut in the nostrils.

A light spray coat of sealer is all that is needed to finish the bark carving.



Art Olver of Butte, Montana and one of his cottonwood bark masterpieces.



Each piece of bark is unique. Here is a rose that Art carved.



Art studies each piece of bark until he sees some sort of image. Here are three different examples of his creations.

WHITTILING: CARVING THE LITTLE FISHERMAN

By Ivan Whitlock



Preliminary steps

Trace the outline of the pattern onto the block. Make the bottoms of the boots square with the bottom edge of the block—that will help you key the front and side views. Leave wood around the drawing so that you can keep the image of the side view intact as you saw out the front view. Band saw the pattern, cutting the front view first. Do not cut the wood all the way around the top. Instead, back the blade out to leave a small bridge connecting the two sides (see Fig. 1). That way, the flat surface on one side and the drawing on the other will stay connected to the block as you saw out the side view. Cut the top of the cap last and the scrap will fall away. Fig. 2 shows what the blank should look like when you're finished with these steps.

Carving the blank

Next, set up your carving by drawing guide lines for both of the side views, indicating the placement of the arm, the ear, the brim of the cap, and the neck line.

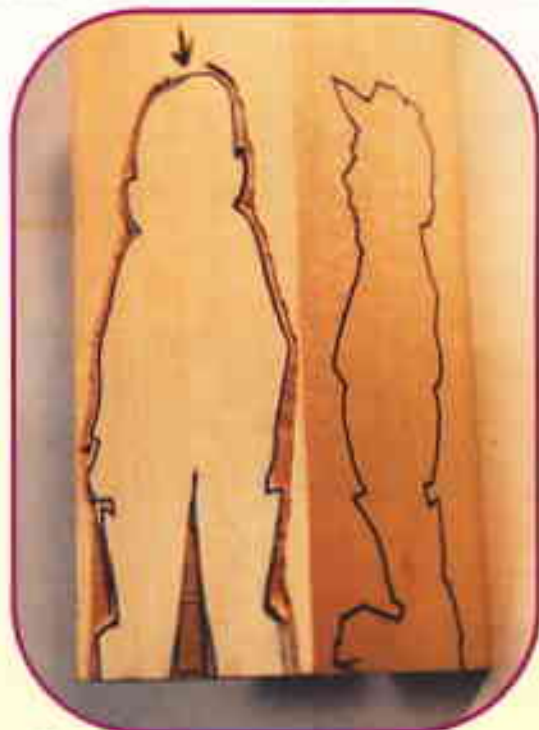


Fig. 1. When roughing the front of the blank with the band saw, leave a small bridge connecting the two sides, then proceed to saw out the side view.

INSTRUCTIONS

A few introductory pointers

The only tools you will need to carve this little fisherman are a band saw, a drill, and a whittling knife, but if you happen to have a small V-tool as well, that can help you with some of the detail. Make sure that your knife is very sharp! For assistance with this, you may want to review the knife sharpening techniques from the December 1996 and June 1997 issues of *Creative Woodworks and Crafts*.

Basswood or sugar pine work best for knife carving. You will need a 3" x 3" x 6" block for this project. (The fishing pole is made from a bit of scrap left from cutting out the blank.)

With the tip of your knife, make stop cuts around the guide lines. Carve away the wood around the arms and the ears. Remove wood below the cap brim, and angle the shoulders into the neck line (see Fig. 3). Don't be timid about removing enough wood. The common mistake among beginners is taking too little wood rather than too much. Draw a line down the center of the front view and use that to help you balance the right and the left sides. In Fig. 4, notice that an ample amount of wood is removed to give the arms good thickness. You have to thin the body in order to make the arms thick.

Next, carve in the sideburns and narrow the sides of the face. Carve a 90 degree angle from the tip of the nose to the cheeks. Leave the very front of the forehead flat. Fig. 4 shows the preliminary blocking out of the face.

Make masses for the eyes by angling the knife to cut down from the forehead into the cheek, as shown in Fig. 5. The eye mounds should be quite large, about the size that sunglasses would be. A common mistake is to make the eye mounds too small. Take two wedge cuts out from directly under the outside corners of the nose. This drops the wings of the nose back and creates the angle of the upper lip.

Make a cut along the mouth line (this should be somewhat crooked to add expression), carve an angle on the edge for the upper lip, and shape the lower lip. Next, draw in the eye openings.

Make stop cuts around the eye openings and round the eyeballs. Make V cuts to separate the upper eyelids from the brow. Cut in the nostrils and make V cuts to show expression at the corners of the mouth. More V cuts create the button of the chin, the eyebrows, and creases in the forehead. Carve the collar, breast pocket, and arch the brim of the cap as shown in Fig. 6.

Draw a circle for the opening in the hand and mark a thumb on the inside edge of the hand. Drill a 1/8" hole for the fishing pole. Make a stop cut around the thumb and lower the wood of the fingers to make the thumb stand



Fig. 2. The sawn carving blank should look like this after rough cutting.

Fig. 3. Carve away the wood around the arm, ear, and cap to define these elements



Fig. 4. Blocking out the face. Notice the line drawn down the center of the workpiece.



Fig. 5. The facial details are added. Angle the cuts down from the forehead into the cheek.

out from the hand. Use V cuts to separate the four fingers of the right hand. On the left hand, make a slop cut at the pants pocket and lower the arm a bit to show that the hand is in the pocket.

Draw in the soles of the feet (see Fig. 7). Trim the wood to angle the legs outward. Shape the boots with strong, firm cuts. Make a V cut to separate the soles from the rest of the boot.

Angle the ears toward the front of the face so that the back of the ear is farther away from the head than the front of the ear. Blend the front of the ear into the face. Draw the guide lines for the ear. Remove a wedge of wood to make a bowl in the middle third of the ear. Use V cuts for the other ear detail.

Carve the detail of the cap and folds in the sleeve in front of the elbow. Texture the hair with V cuts if you wish. Finally, carve a knobby fishing pole from a scrap and insert it into the hole in the right hand.



Fig. 6. The face after the details have been completed.

Finishing

Some carvers like the look of tool finished wood and prefer to let tool cuts create the finish. Others like to color their carvings with acrylic, water, or oil paints. There are many different techniques for painting, some of which will be covered in future issues. One of the easiest ways to top off a carving is to apply a wax finish of either clear or colored shoe polish. Rub it into the wood and buff it with a cloth to create a soft glow. The finished carving shown here has brown wax applied.

Use your imagination to create detail wherever you think it would add to the effect. By all means, add your own personal touches to the carving. That's part of the fun!

Fig. 7. Draw in the soles of the feet.



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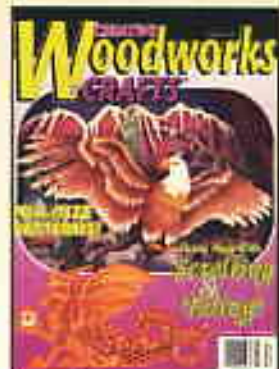
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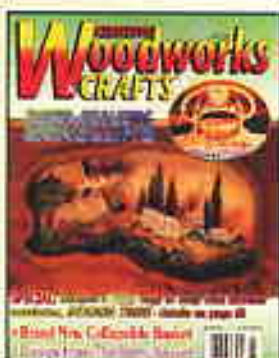
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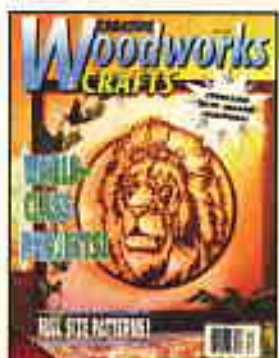
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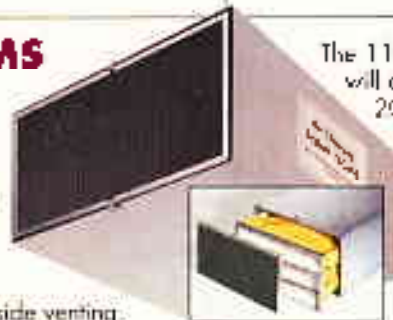
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- long blade life
- Safety-Stop upper arm
- Space-saving design
- 6 year warranty



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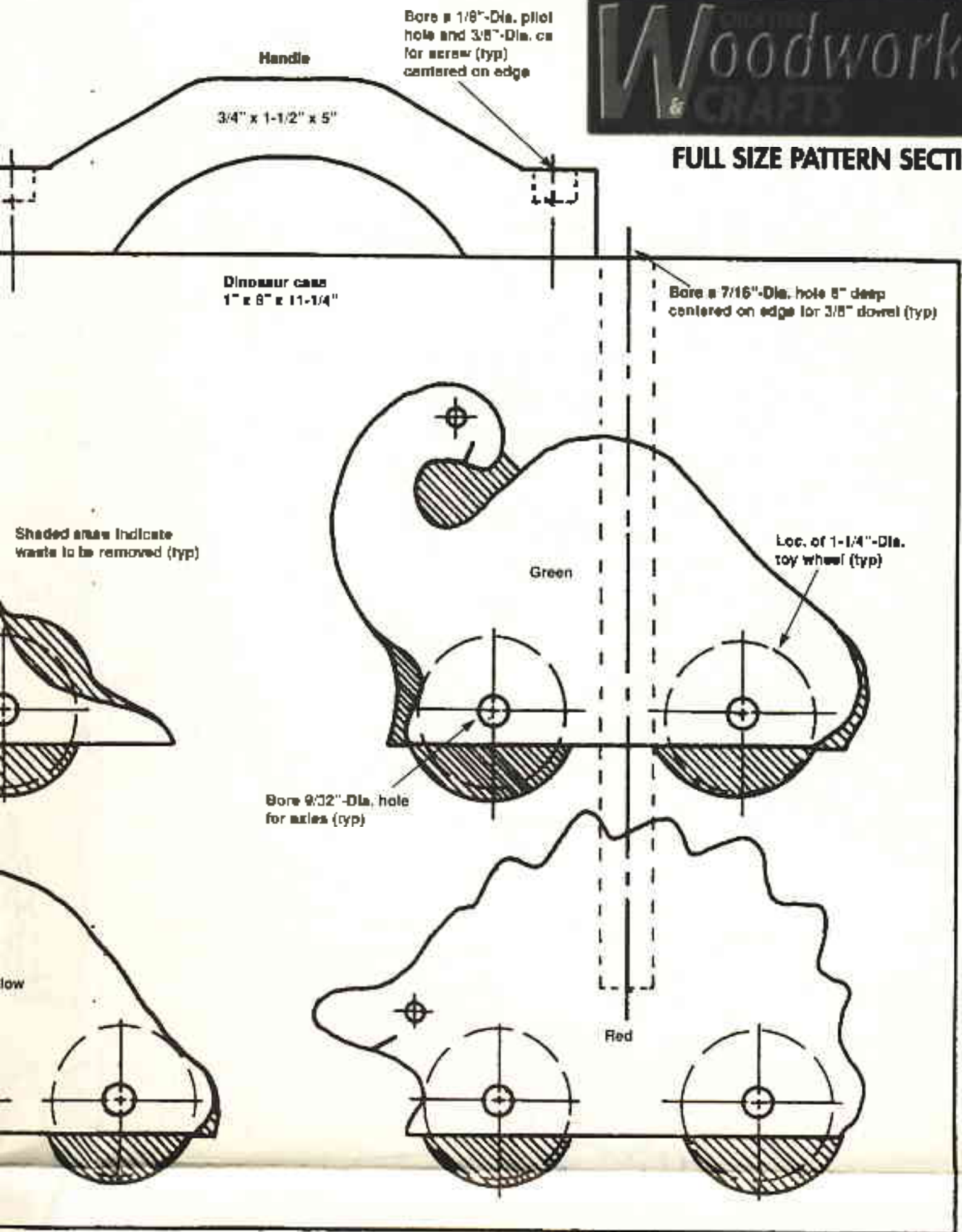
Address _____

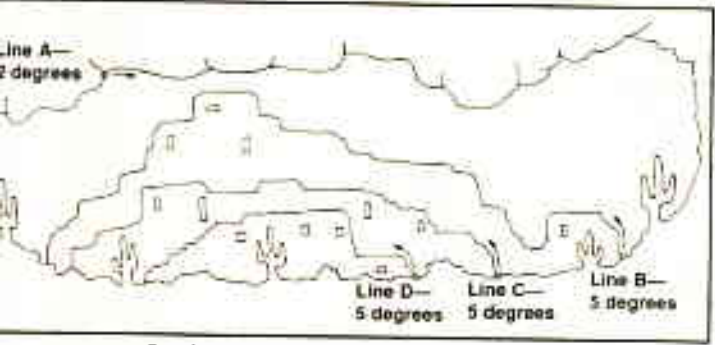
City _____ State _____ Zip _____

Phone _____ 792

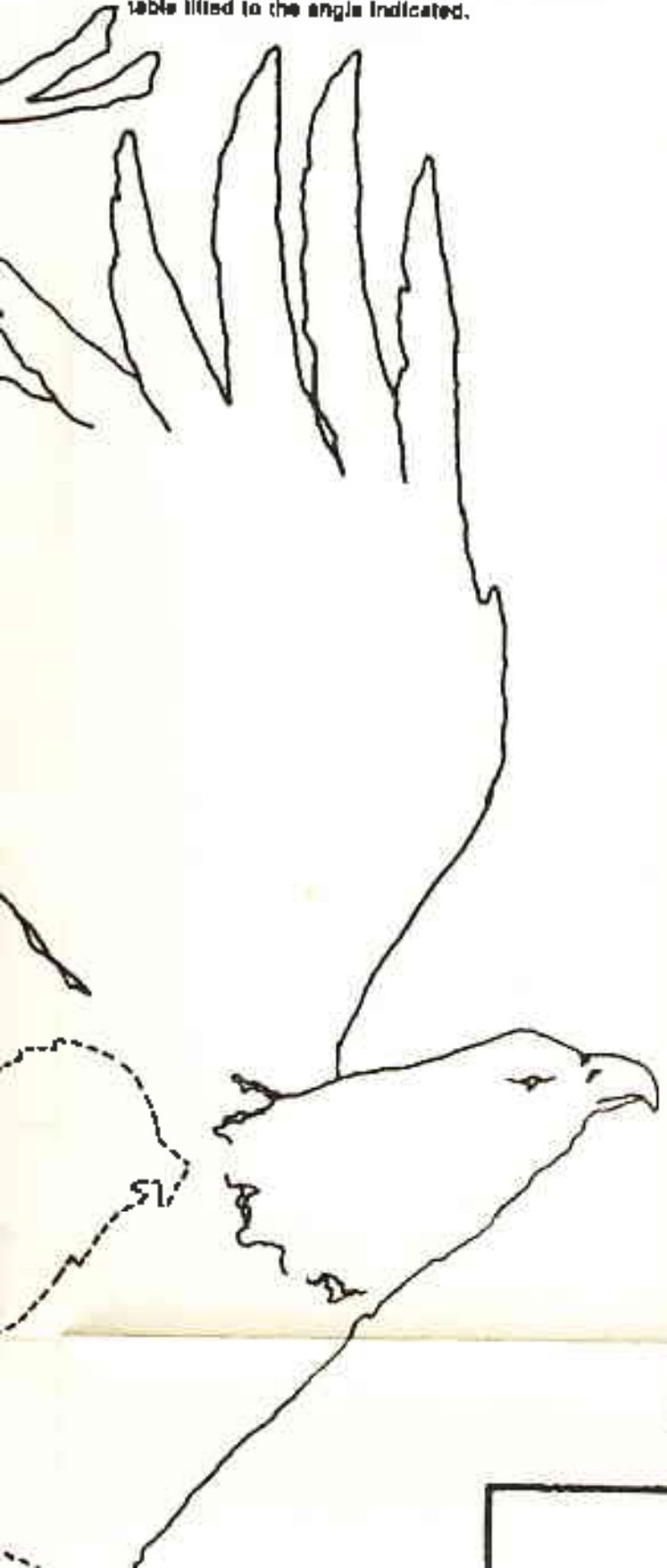
HEGNER makes it better!

FULL SIZE PATTERN SECTION



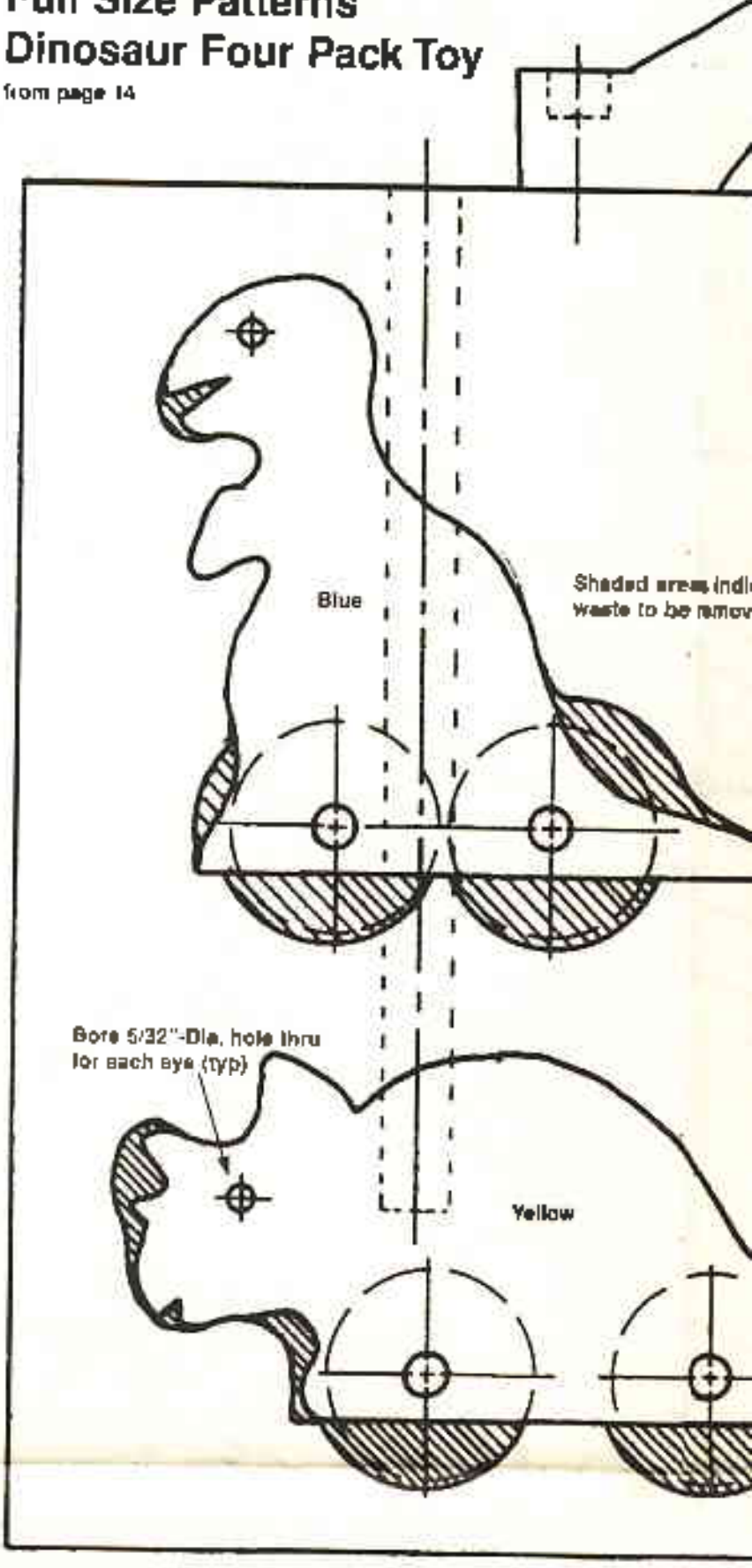


Cut in the direction of the arrows with the saw table tilted to the angle indicated.



Full Size Patterns Dinosaur Four Pack Toy

from page 14



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tern
g



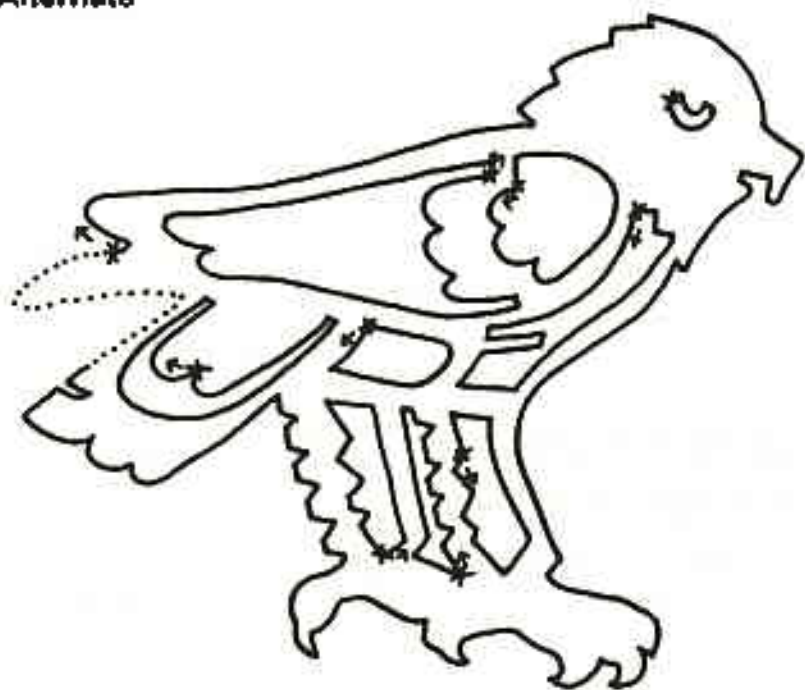
Feathers

Large Eagle
Pattern B



Small Eagle

Alternate



**Full Size Patterns
Spirit of Freedom
Plaque** from page 76

**Full Size Pattern
Bark Carving**

from page 89

Pattern A



For Stone Inlay



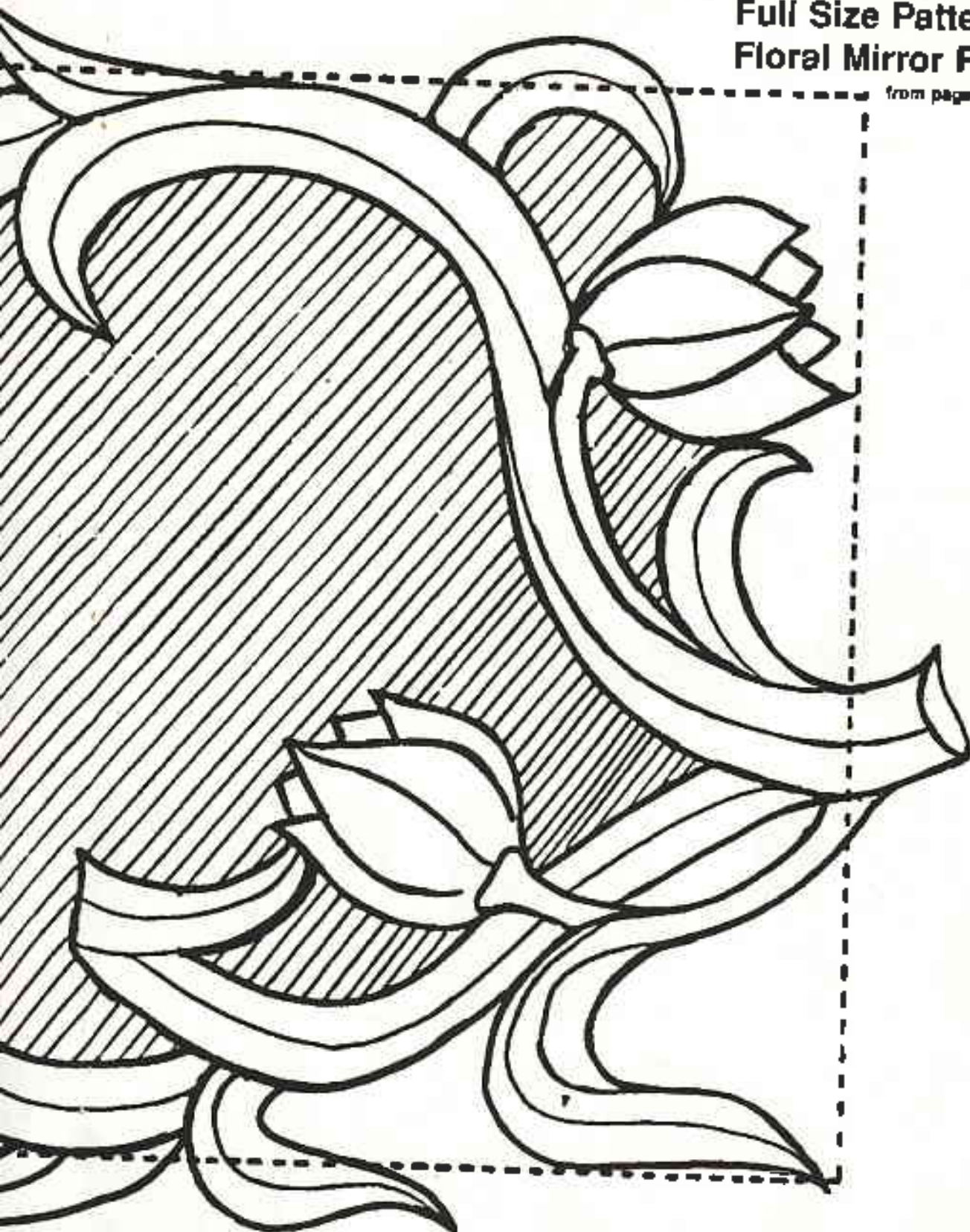
**Full Size Pattern
In Memory of Misty**

from page 22

5/8"-Dia. holes
for 15mm eyes

**Full Size Pattern
Floral Mirror Frame**

from page 86

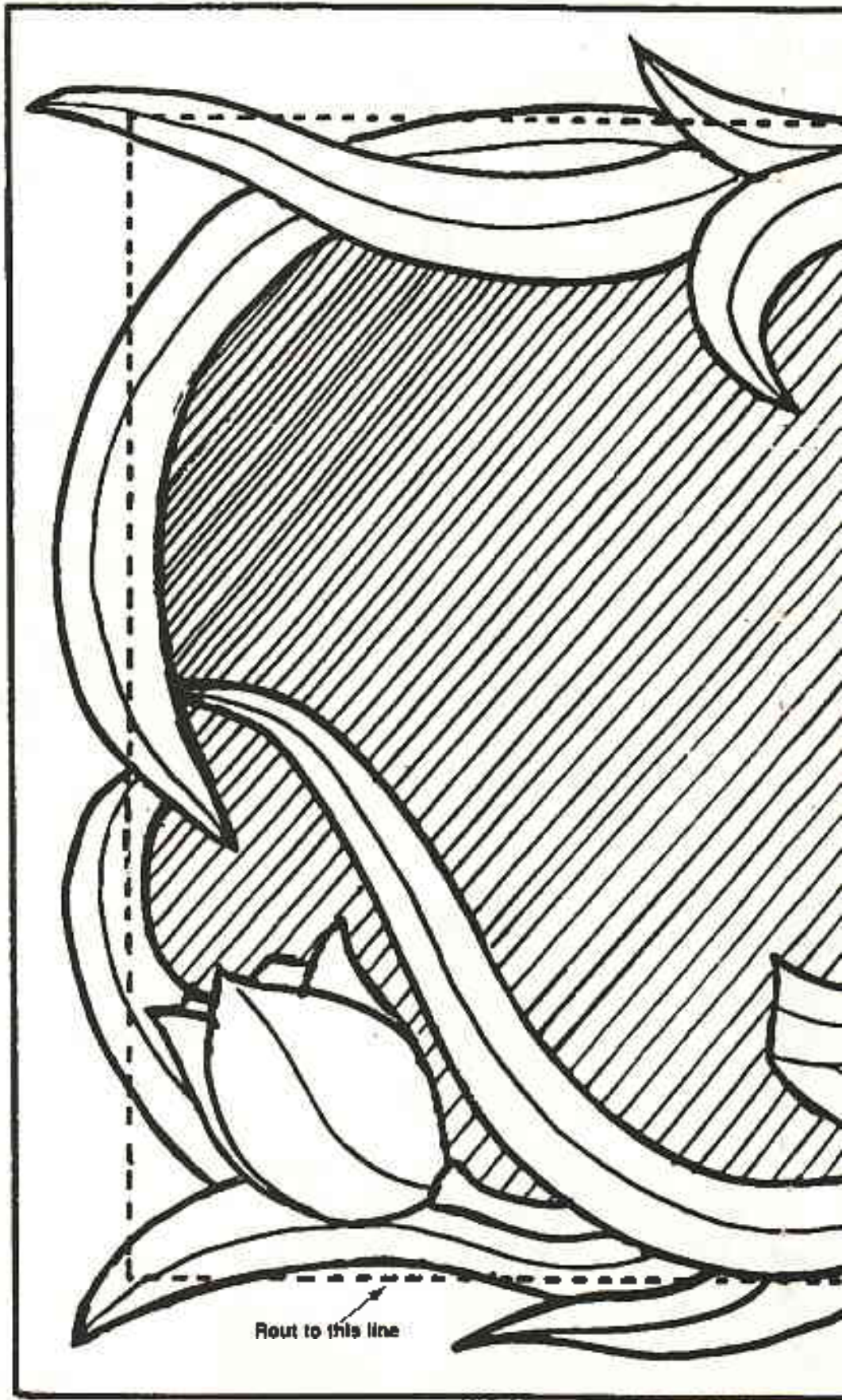




Left side



Fishing pole



Route to this line

Metric Conversions:

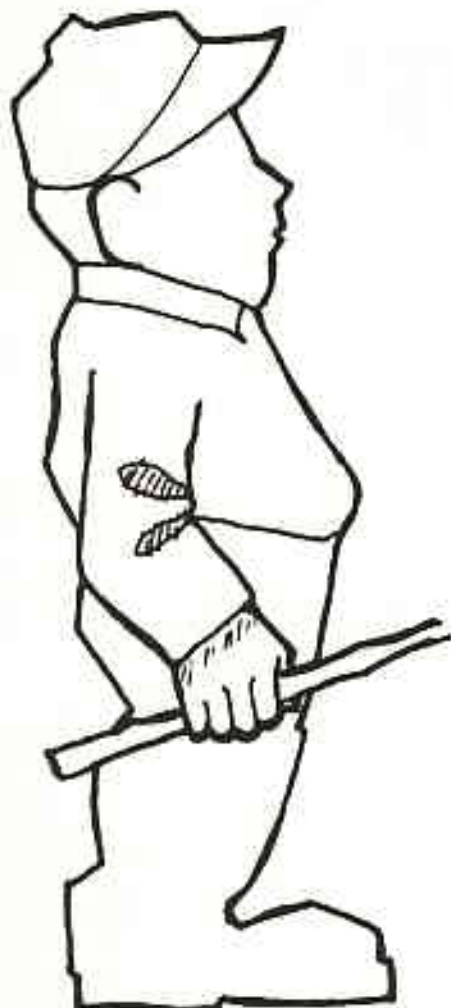
1 inch = 25.4mm = 2.54 cm = 0.0254m

Common Measurements:

1/16" = 1.59mm	1" = 2.54cm	9" = 22.86cm
1/8" = 3.19mm	2" = 5.08cm	10" = 25.40cm
1/4" = 6.35mm	3" = 7.62cm	11" = 27.94cm
3/8" = 9.53mm	4" = 10.16 cm	12" = 30.48cm
1/2" = 1.27cm	5" = 12.70cm	24" = 60.96cm
5/8" = 1.59cm	6" = 15.24cm	36" = 91.44cm
3/4" = 1.91cm	7" = 17.78cm	45" = 1.14m
7/8" = 2.22cm	8" = 20.32cm	60" = 1.52m

Full Size Patterns Little Fisherman

from page 92



Right side



Front view



Left side

Full Size Pattern In Memory of Misty

from page 22

5/8"-Dia. holes
for 15mm eyes

-3/8"

-3/8"

-3/8"

Note: dashed lines on
pattern indicate painted
areas—do not cut.

-3/4"

+1/2"

+1/4"

-3/4"

Metric Conversions:

1 inch = 25.4mm = 2.54cm

Common Measurements:

1/16" = 1.59mm

1/8" = 3.18mm

1/4" = 6.35mm

3/8" = 9.53mm

1/2" = 1.27cm

5/8" = 1.59cm

3/4" = 1.91cm

7/8" = 2.22cm



Tongue pattern
(trace on 1/4" wood)

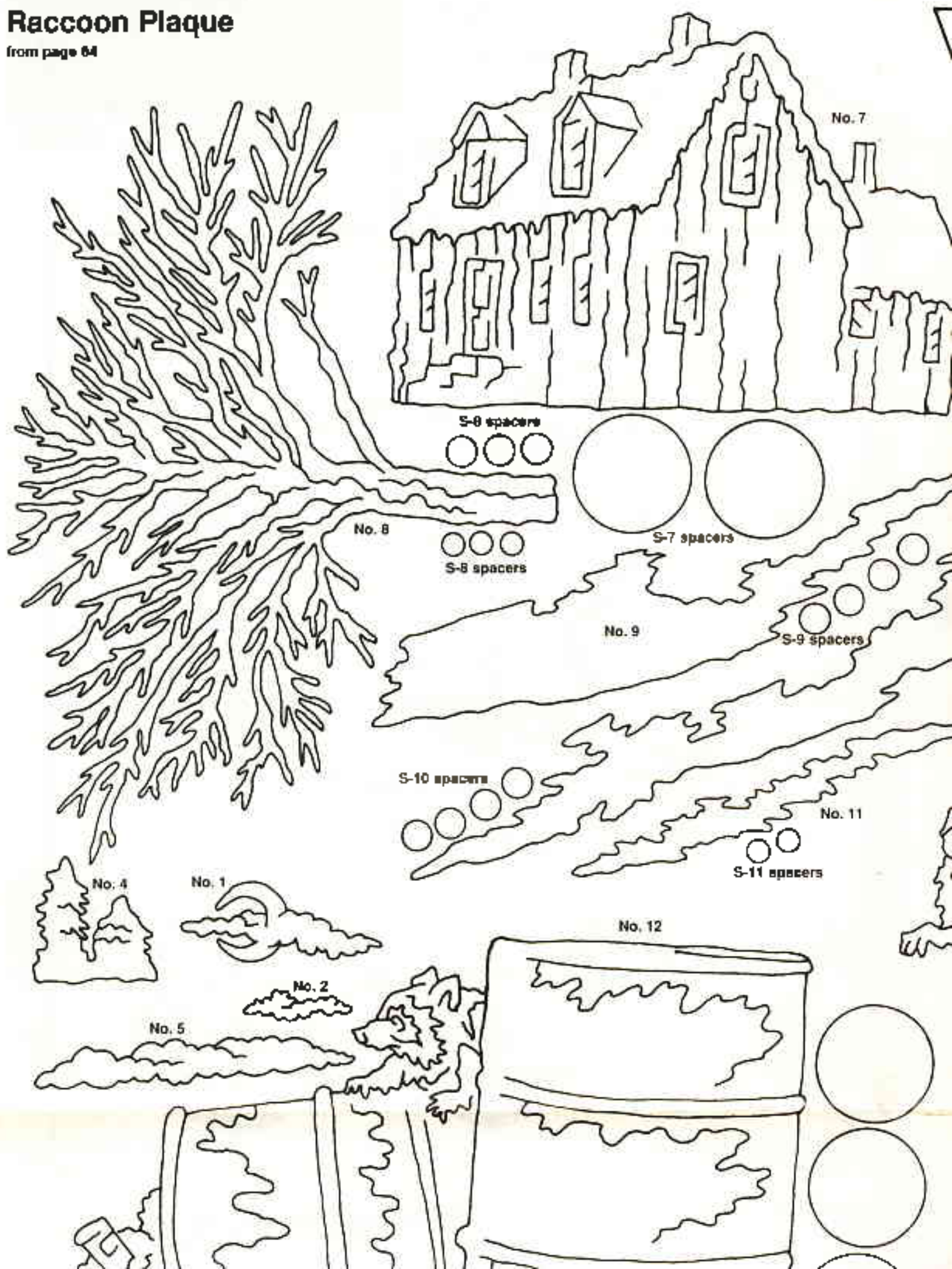
-1/2"

Grain direction

-1/2"

Full Size Patterns Raccoon Plaque

from page 64



Loc. of the case assembly

(A)—make four

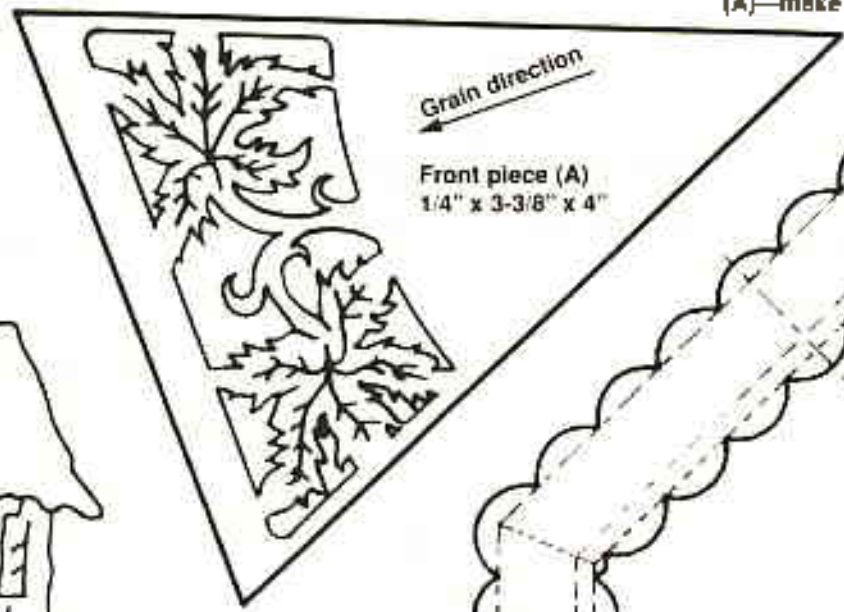
Grain direction

Front piece (A)
1 1/4" x 3-3/8" x 4"

Whispering Winds Vineyard Clock

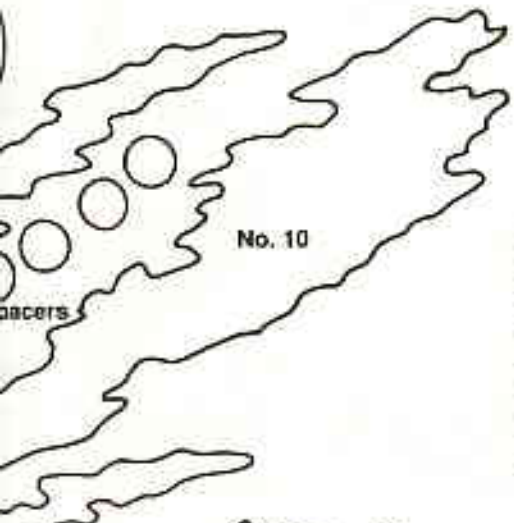
from page 60

No. 7



ancers

No. 10

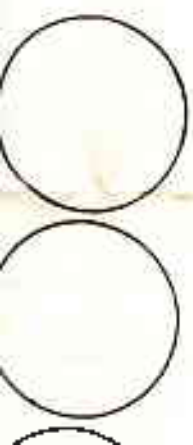
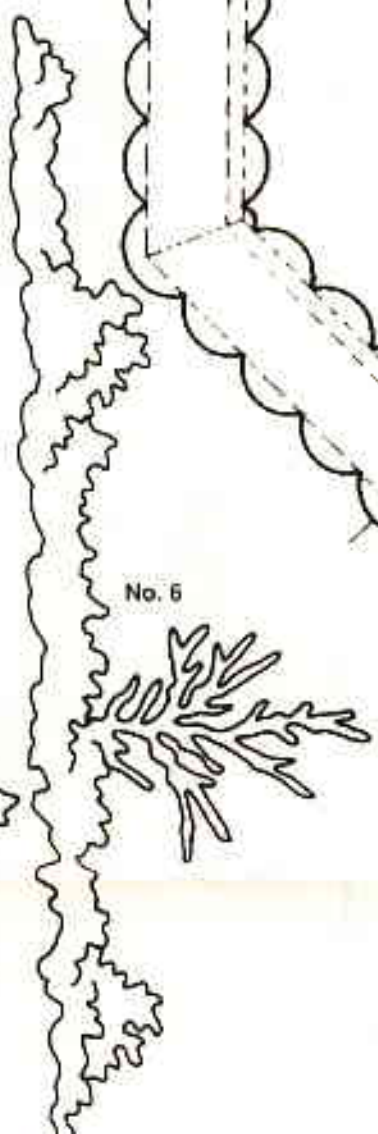


No. 11



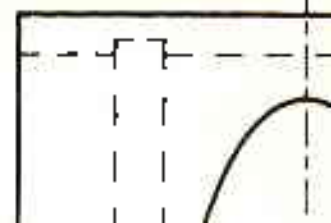
No. 14

No. 6

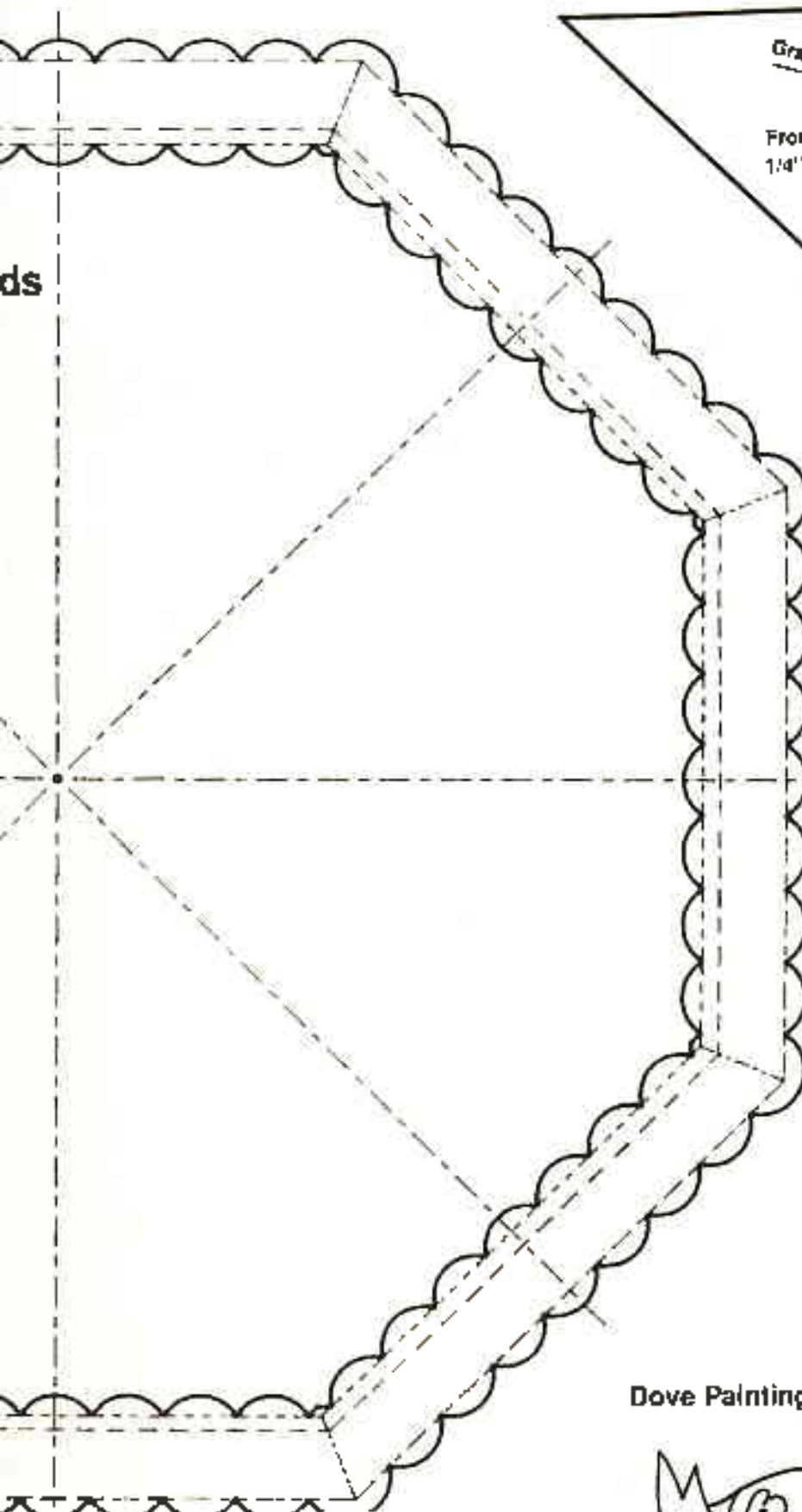


Ring overlay (F)—make
1 1/4" x 9" x 8"

22-1/2
degrees

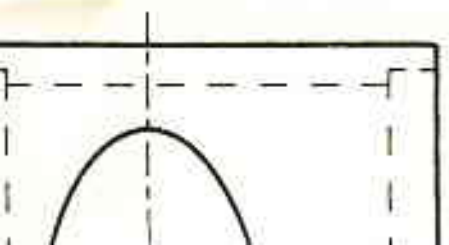


Size Patterns

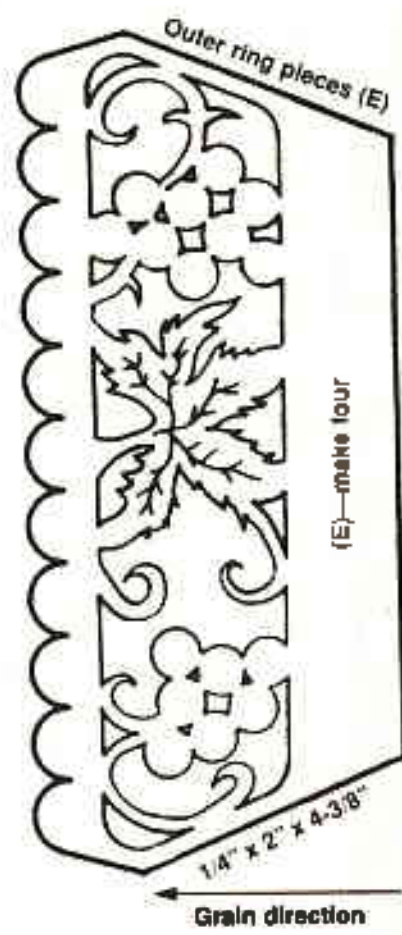
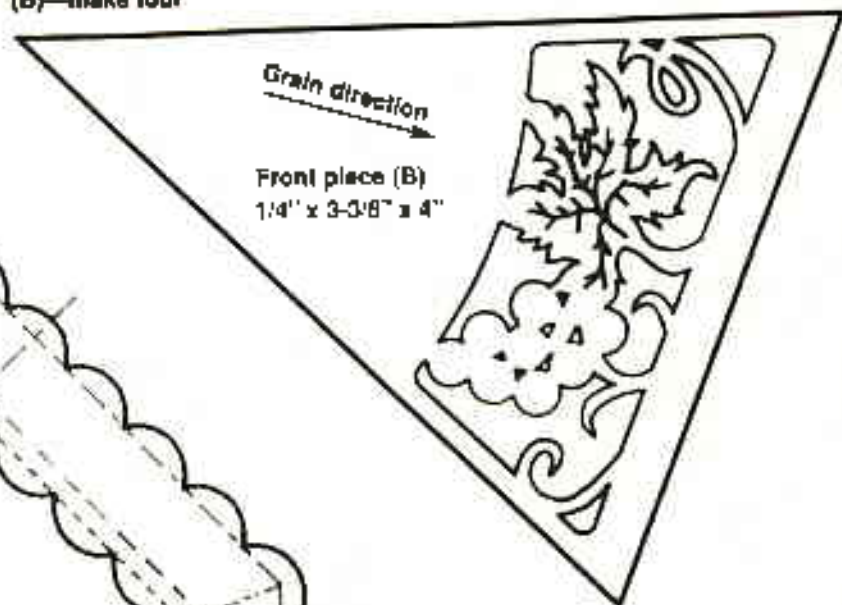


ds

Overlay (F)—make one
1/4" x 9" x 9"



(B)—make four



Dove Painting Pattern



FU
RV

Bore pilot hole and
cs for basket pivot

**Full Size Patterns
Collapsible Dove
Basket** from page 32

Bore 1/16"-Dia.
blade entry hole

Bore pilot hole and
cs for foot pivot

Cut foot

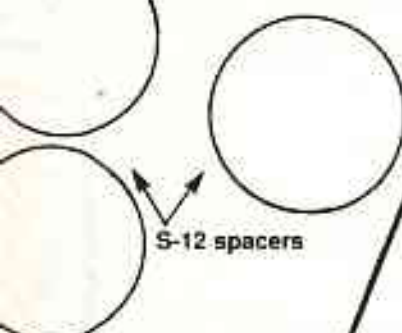
Bore and cs for
basket pivot point

**Full Size Patterns
RV Mini Clock** from page 10



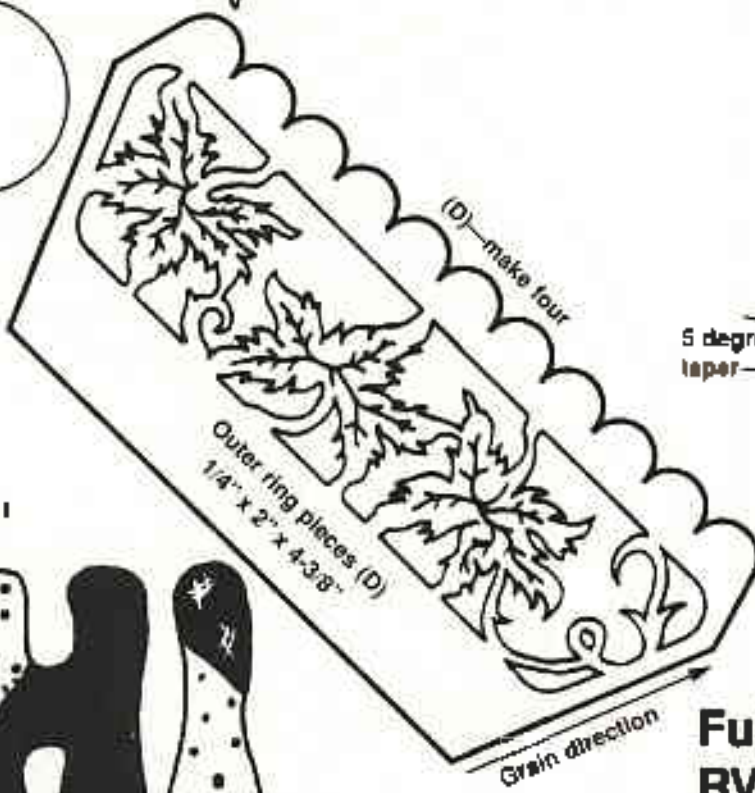
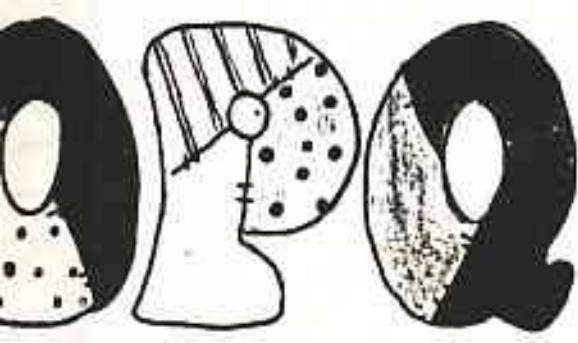


No. 3

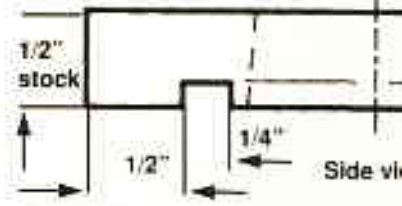
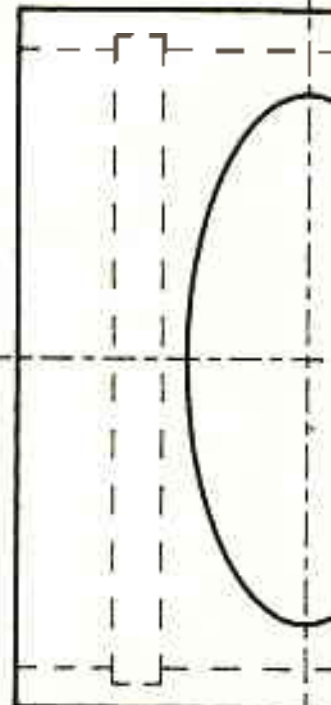


5-12 spacers

Pattern
ay Puzzle from page 81



End View

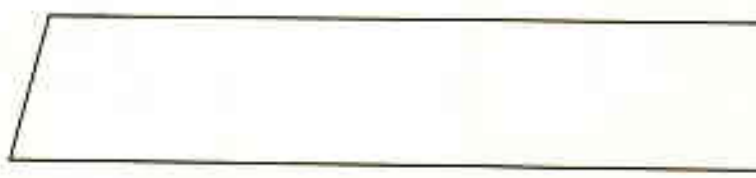


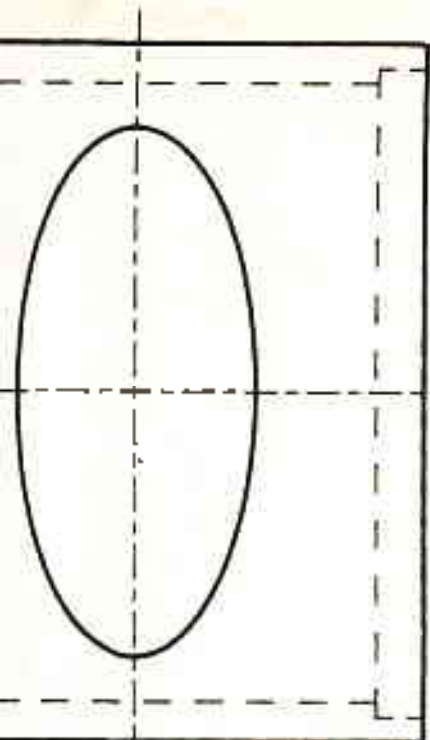
Side view

Full Size Patterns
RV Mini Clock
from page 10



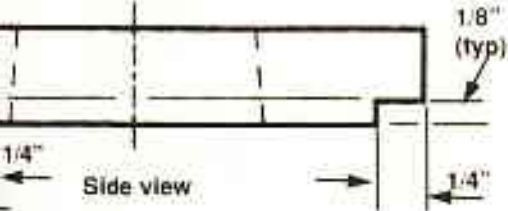
Loc. of wood screw





Side pieces (C)—
make eight

1/4" x 3" x 3-3/8"



Side view

Porthole covers (G)—make eight
1/4" x 1-1/2" x 3"



Ref. outline in
side pieces (C)

Base

Loc. of the upright

Loc. of wood screw

Side view

Full Size Praying H Mini Cloo

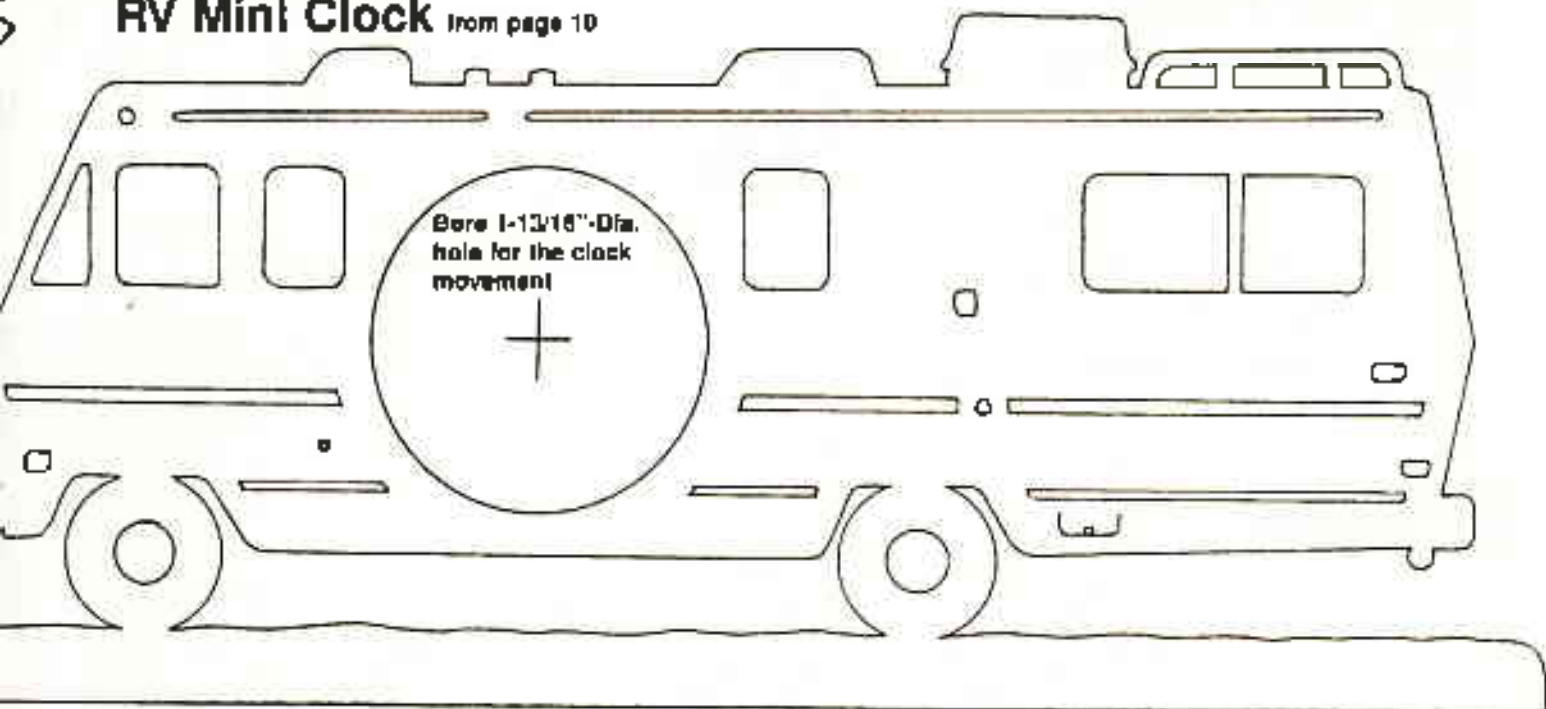
from page 6

Bore 1-3/8"-Dk. 1/8"

15
degrees

Full Size Patterns

RV Mini Clock from page 10



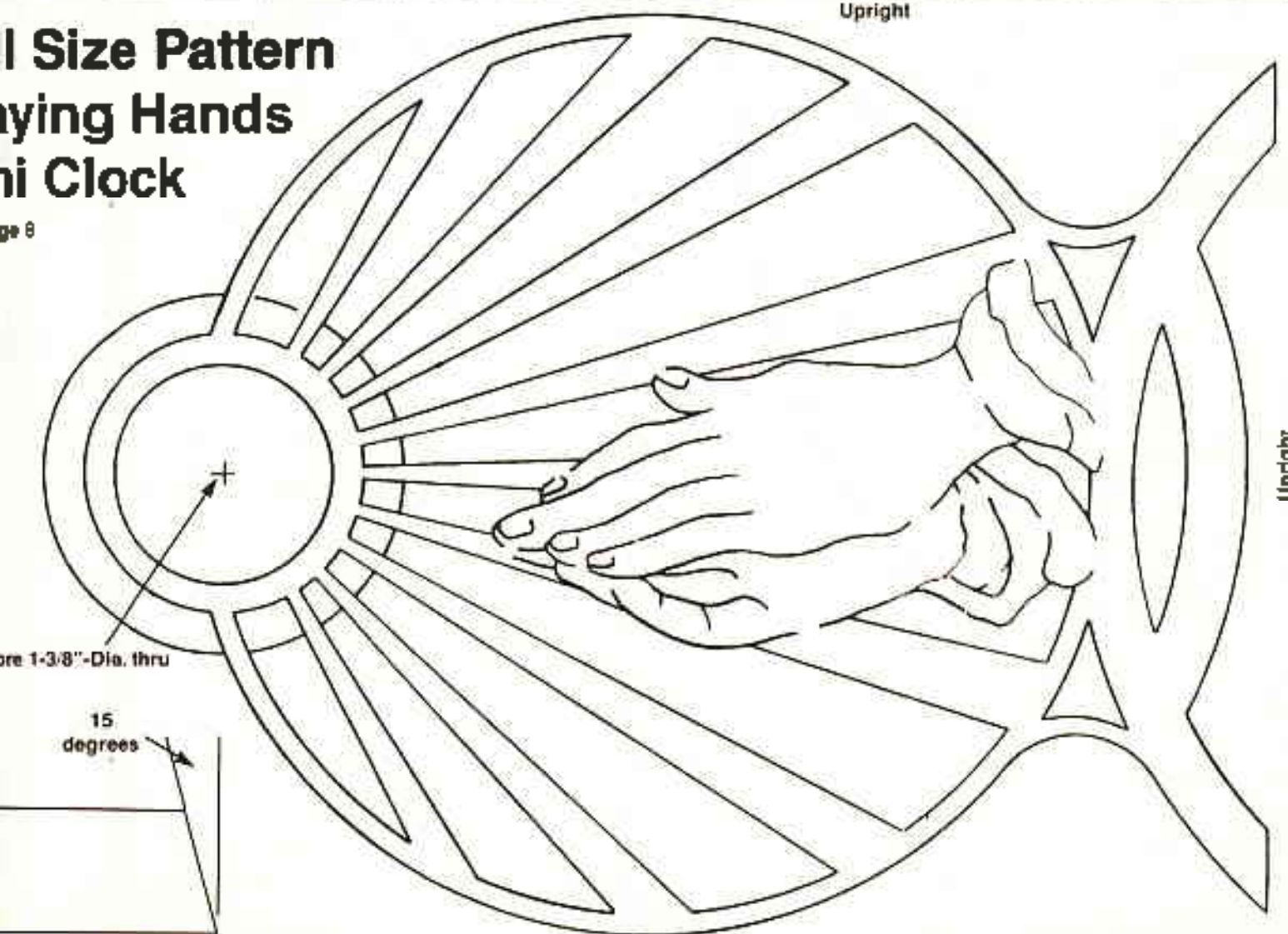
Upright

Full Size Pattern

Clapping Hands

Mini Clock

Page 8



Upright