



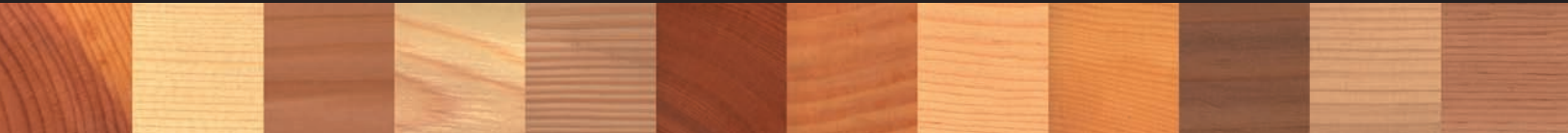
the
ESSENTIAL
PINE
BOOK

INCLUDES **12 FURNITURE PROJECTS** UTILIZING THIS VERSATILE WOOD



JOHN MCGUANE &
MEGAN FITZPATRICK

THE ESSENTIAL PINE BOOK





the
ESSENTIAL

PINE

BOOK

JOHN MCGUANE &
MEGAN FITZPATRICK



POPULAR WOODWORKING BOOKS
CINCINNATI, OHIO
www.popularwoodworking.com

READ THIS IMPORTANT SAFETY NOTICE

To prevent accidents, keep safety in mind while you work. Use the safety guards installed on power equipment; they are for your protection. When working on power equipment, keep fingers away from saw blades, wear safety goggles to prevent injuries from flying wood chips and sawdust, wear headphones to protect your hearing and consider installing a dust vacuum to reduce the amount of airborne sawdust in your woodshop. Don't wear loose clothing, such as neckties or shirts with loose sleeves, or jewelry, such as rings, necklaces or bracelets, when working on power equipment. Tie back long hair to prevent it from getting caught in your equipment. People who are sensitive to certain chemicals should check the chemical content of any product before using it. The authors and editors who compiled this book have tried to make the contents as accurate and correct as possible. Plans, illustrations, photographs and text have been carefully checked. All instructions, plans and projects should be carefully read, studied and understood before beginning construction. In some photos, power tool guards have been removed to more clearly show the operation being demonstrated. Always use all safety guards and attachments that come with your power tools. Due to the variability of local conditions, construction materials, skill levels, etc., neither the author nor Popular Woodworking Books assumes any responsibility for any accidents, injuries, damages or other losses resulting from the material presented in this book. Prices listed for supplies and equipment were current at the time of publication and are subject to change. Glass shelving should have all edges polished and must be tempered. Untempered glass shelves may shatter and can cause serious bodily injury. Tempered shelves are very strong and if they break will just crumble, minimizing personal injury.

METRIC CONVERSION CHART

<i>to convert</i>	<i>to</i>	<i>multiply by</i>
Inches	Centimeters	2.54
Centimeters	Inches	0.4
Feet	Centimeters	30.5
Centimeters	Feet	0.03
Yards	Meters	0.9
Meters	Yards	1.1
Sq. Inches	Sq. Centimeters	6.45
Sq. Centimeters	Sq. Inches	0.16
Sq. Feet	Sq. Meters	0.09
Sq. Meters	Sq. Feet	10.8
Sq. Yards	Sq. Meters	0.8
Sq. Meters	Sq. Yards	1.2
Pounds	Kilograms	0.45
Kilograms	Pounds	2.2
Ounces	Grams	28.4
Grams	Ounces	0.035

The Essential Pine Book. Copyright © 2004 by John McGuane and Megan Fitzpatrick. Printed and bound in China. All rights reserved. No part of this book may be reproduced in any form or by any electronic or mechanical means, including information storage and retrieval systems, without permission in writing from the publisher, except by a reviewer, who may quote brief passages in a review. Published by Popular Woodworking Books, an imprint of F+W Publications, Inc., 4700 East Galbraith Road, Cincinnati, Ohio, 45236. First edition.

Visit our Web site at www.popularwoodworking.com for information on more resources for woodworkers.

Other fine Popular Woodworking Books are available from your local bookstore or direct from the publisher.

10 09 08 07 06 6 5 4 3 2

Library of Congress Cataloging-in-Publication Data

McGuane, John, 1953-

The essential pine book / by John McGuane and Megan Fitzpatrick.
p. cm.

Includes index.

ISBN 13: 978-1-55870-711-5 (pbk.: alk. paper)

ISBN 10: 1-55870-711-5 (pbk.: alk. paper)

ISBN 13: 978-1-55870-928-7 (EPUB)

1. Woodwork. 2. Pine. I. Fitzpatrick, Megan, 1968- II. Title.

TT180.M375 2004

2004046090

684'.08--dc22

ACQUISITIONS EDITOR: Jim Stack

EDITED BY: Amy Hattersley

DESIGNED BY: Brian Roeth

TECHNICAL ILLUSTRATIONS BY: Jim Stack

LAYOUT ARTIST: Joni DeLuca

PRODUCTION COORDINATED BY: Robin Richie

FINISHED PROJECTS AND COVER PHOTOGRAPHY: Christine Polomsky

STYLIST: Nora Martini



F+W PUBLICATIONS, INC.



ABOUT THE AUTHORS

JOHN DOUGLAS MCGUANE has been a woodworker since 1971, but took to it with a vengeance after he and his wife, Jean, bought a Victorian home in need of renovation. First, he built a two-story shop on top of his home's garage, then promptly went about installing hardwood floors and base and crown moulding in every room in the house and furnishing it with his own pieces. He's also designed and built custom cabinets for the kitchen, among numerous other woodworking and construction projects. John is especially adept at designing pieces to make the most of those quirky spaces that abound in late-19th-century homes.

MEGAN FITZPATRICK is a freelance researcher and writer who now knows more about pine than she ever thought possible – or desirable. Megan is especially adept at talking herself and her neighbor John into getting involved in projects that end up taking much more time and effort than expected.

ACKNOWLEDGEMENTS

JOHN | First, I want to thank all the people I have encountered throughout my life who have shared their knowledge and experience with me. These master craftsmen are too numerous to mention, but they provided invaluable information and encouragement.

I would be remiss if I did not acknowledge my coauthor, Megan Fitzpatrick, who gave me the opportunity to participate in this project and provided the support necessary for a first-time author.

Jim Stack, a master craftsman, took the time and had the patience to help me through the learning curve. Without the support and encouragement of Megan and Jim, I would not have been able to execute my ideas and concepts.

But most of all, I am truly thankful for an opportunity to recognize my wife, Jean, my friend and one of my greatest influences. It was her encouragement to travel and view other cultures that allowed me to absorb the various styles of woodworking and craftsmanship that have influenced my life and work. Thanks to all!

MEGAN | Many thanks to Jim Stack for his kind and patient tutelage, to John and Jean McGuane for allowing me to take up all of John's free time for months, and to my grandfather, C. Emmett Fitzpatrick, whose woodworking talent has fascinated me since I was in pigtails.

SPECIAL THANKS

Special thanks to Tom & Sharon Hattersley and Nora & Gregg Martini for allowing us to photograph our projects in their beautiful homes.

CONTENTS



PROJECTS

PROJECT ONE

SMALL TABLE ... 18

PROJECT TWO

SMALL STORAGE CABINET ... 24

PROJECT THREE

UTILITY LADDER SHELF ... 32

PROJECT FOUR

PARLOR FLOOR LAMP ... 38

PROJECT FIVE

STEP STOOL ... 48

PROJECT SIX

SOFA TABLE ... 58

PROJECT SEVEN

SPICE CABINET ... 68

PROJECT EIGHT

OUTDOOR PLANTER BENCH ... 78

PROJECT NINE

BLANKET CHEST ... 84

PROJECT TEN

FRANKLIN CHAIR ... 94

PROJECT ELEVEN

BACHELOR CHEST ... 104

PROJECT TWELVE

TRESTLE TABLE ... 116



INTRODUCTION

SAY THE WORDS *PINE FURNITURE*, AND THE first thought that comes to mind is probably “country furniture.” *Country furniture* is a term used to describe the practical furniture of cottages, humble homes of working people and kitchens and servants’ quarters of mansions in the 17th, 18th and 19th centuries. These functional chairs, tables, chests of drawers and bench beds were made out of inexpensive pine by local carpenters and cabinetmakers.

During the 17th and 18th centuries, pine was predominately used for wood paneling and as foundations for veneered furniture. In the 19th century, North American Pine became available in bulk and was then used for simple cottage furniture. Simple cottage furniture was functional, plain and well proportioned with minimal design. Usually, the only decorative elements on these pieces were turned wooden knobs.

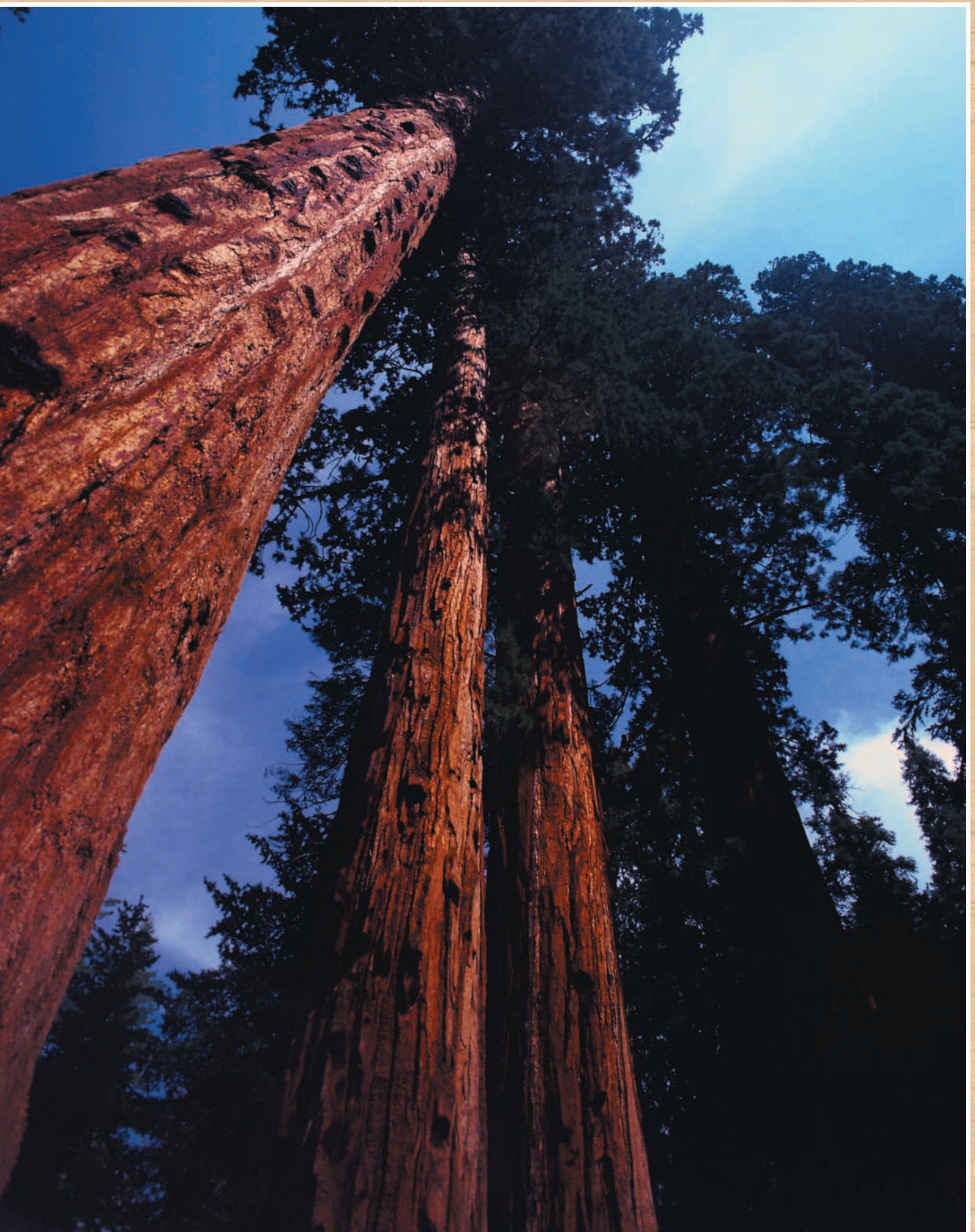
Most of the better pieces of simple pine furniture date from the second half of the 19th century, when pine was also used in rural homes for corner cupboards, hanging cupboards, spice racks, bookshelves and a variety of storage chests previously made in oak. Wealthier farmers had larger and more beautifully hand-carved painted pine furniture. The average piece of painted pine furniture was painted 10 to 15 times during 100 to 120 years! Some of the more elegant painted pine furniture can still be found with the original paint. However,

this furniture is scarce and costly; people are simply unwilling to part with such historic pieces.

Today there is a worldwide demand for pine furniture. It is a viable option for a wide range of furniture styles, and it reflects the 21st-century lifestyle, as well as a return to a simpler way of life. It suits the family home because it is comfortable, relatively inexpensive and readily available throughout most of the world. Plus, you don’t need a lot of expensive tools to get great results because it’s a softwood and easy to work.

In this book, we chose designs that will fit comfortably into any home. Although we picked these projects, designs and dimensions to fit in our own homes, with a few simple adjustments you can custom-fit them to any space. You should feel free to venture from these basic pieces, using your imagination to explore the possibilities.

The key to making beautiful pine furniture (as with any other) is to keep your tools in tip-top condition and your edges sharp, as the softwood tends to tear out a lot more easily than some of its harder cousins. And finishing may be a bit more challenging, as the porous wood soaks up more stain and tends to blotch more easily than many hardwoods. Be sure to save offcuts for use in testing finishes; it may take a few tries to find the right one but it’s worth the effort. You’ll end up with a beautiful piece you can truly call your own.



PINE SPECIES

OVER 150 SPECIES OF PINE GROW THROUGHOUT the world. We've included in this chapter pictures and descriptions of 24 of the most versatile and readily available kinds. There are representatives of the sub-genus *Pinus*, as well as larches (*Larix*), spruces (*Picea*), hemlocks (*Tsuga*), firs (*Abies*) and Douglas firs (*Pseudotsuga*), all of which are in the pine family, and all of which are great choices for inexpensive but beautiful pieces of furniture.

Pine has long been a mainstay of construction. It's often used for framing, millwork stock, architectural trim work and much more. Thus, the most common species, like yellow pine, white pine and Douglas fir, are easy to find in most home-improvement centers, where the species are often sold mixed. Many attractive species are available, ranging in color from almost white to a light reddish brown. And because pine grows quickly, there is often a marked difference in color between the

lighter earlywood, or springwood, and the darker, harder latewood, or summerwood, which makes for interesting patterns on finished pieces.

If you plan to paint your finished piece, choose from available stock at your local home-improvement



center. They buy in bulk and their prices may be more reasonable than a lumberyard's. However, if you plan to leave the grain pattern visible, you're better off going to a good lumberyard and asking for the species you want. It is important to ask for the wood by its scientific name because, as you'll notice when looking through our list of woods, many of the species have similar common names. This way you'll end up with exactly what you want and with no surprises – such as different finishing characteristics when it comes time to stain or varnish

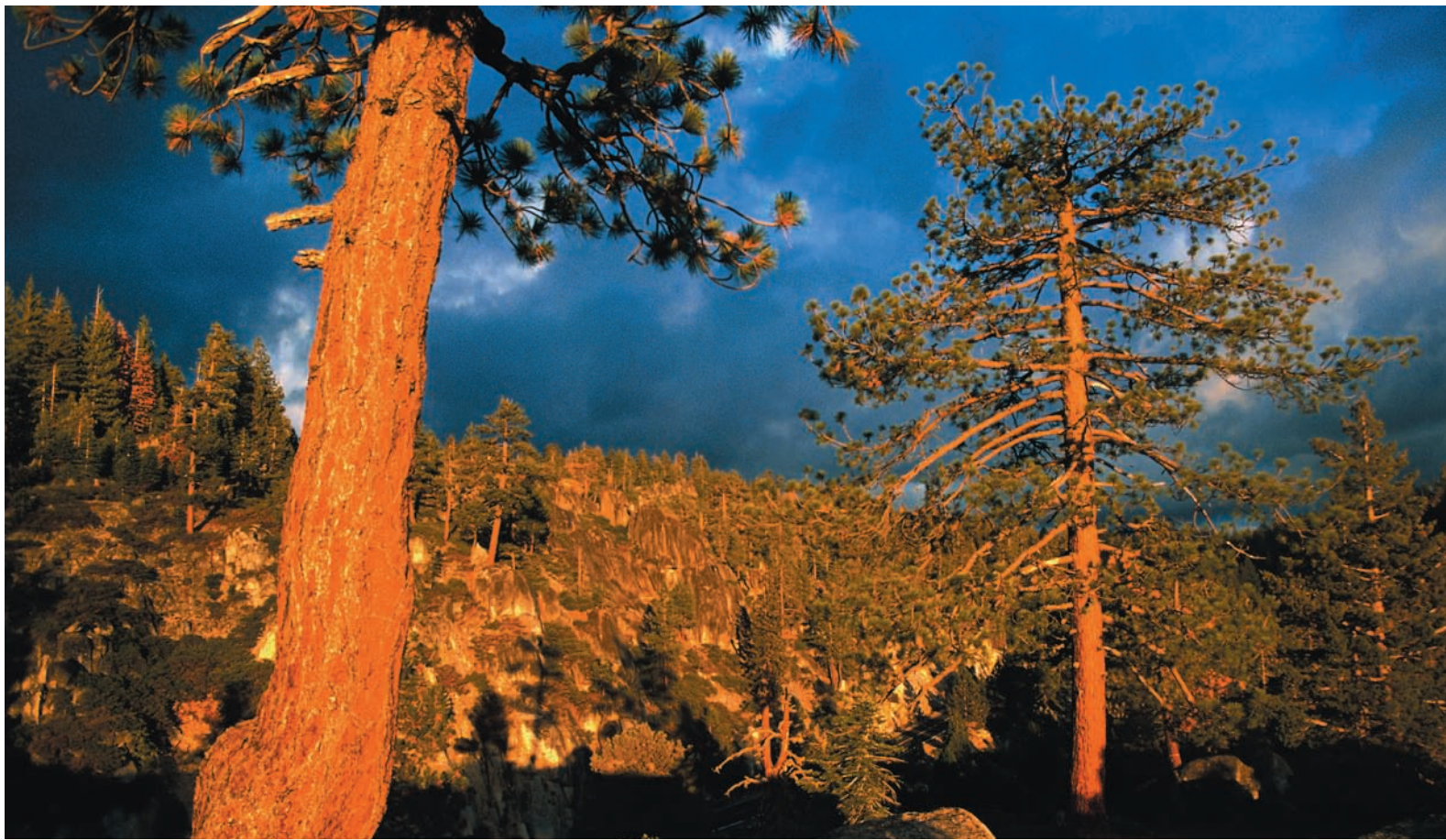
the piece. Plus, you're more likely to get boards from the same rough stock at the lumberyard, which means your grain patterns will more easily match up.

Pine boards are generally sold in home-improvement centers S4S (planed smooth on both sides and jointed at the edges) in nominal widths from 2" to 12", but actual measurements are usually $\frac{1}{2}$ " to $\frac{3}{4}$ " less than nominal dimensions. You'll find the same convention applies to board thickness; a 1" board is actually $\frac{3}{4}$ " thick, and a $\frac{3}{4}$ " board is actually $\frac{11}{16}$ " thick. Of course, if

you purchase your stock at a lumberyard, you can ask them to plane it for you, or do it yourself if you have the machinery.

While grading standards vary from species to species, three grade categories – Select, Finish and Common – are used for woodworking (see chart on next page). Select and Finish grades must be clear of defects, while Common, which is generally used for construction, may contain defects such as tight knots. Knots are the remnants of broken branches, which have been encased by the growth of new wood. Tight knots do not seriously affect strength, and can be integrated into a design to create an interesting appearance. Or simply rip the offending pieces, and consign to the scrap pile. If you encounter loose knots (a whorl encircled by a dark ring), it's a good idea to remove them, as they have a tendency to fall out as the wood expands and contracts over time.





GRADE *

SELECT B & BTR (SUPREME)	Clear appearance and highest quality; minor defects and blemishes; not always available; expensive
C SELECT (CHOICE)	High quality; small defects and blemishes
D SELECT (QUALITY)	Good quality; defects and blemishes more pronounced
SUPERIOR FINISH	Minor defects and blemishes
PRIME FINISH	High quality with few defects and blemishes
NO. 1 COMMON (COLONIAL)	May have small tight knots, which makes it a good choice when a knotty appearance is desired; limited availability
NO. 2 COMMON (STERLING)	Larger, coarser defects and blemishes; a good choice when a pronounced knotty appearance is desired

* For more information on grading, contact the American Lumber Standards Committee, Inc. (www.alsc.org).

GLOSSARY

In addition to grade, here are a few other things to take into consideration when selecting your stock:

BLUE STAIN: Bluish discoloration on the surface of otherwise normal-looking wood results from mold. It may penetrate too deeply to make planing or sanding it off viable. Stain the wood dark, or paint it.

BOW: An end-to-end curve along the face of a board, usually caused by improper storage. While a bow can be planed level, you'll lose board thickness.

CHECKS: Lengthwise ruptures or separations, usually caused by rapid drying. Checks may compromise strength and appearance, but can easily be lopped off.

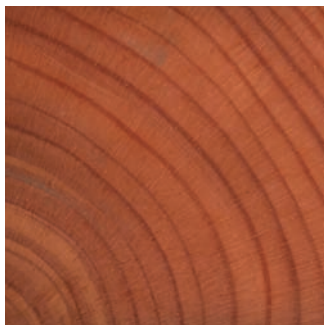
CROOK: An end-to-end curve along the board edge. It weakens the wood and makes it unsuitable for bearing weight. You can salvage crooked boards on a jointer.

CUP: An edge-to-edge curve across the face of a board. A cupped board can be salvaged on a jointer or band saw.

MACHINE BURN: If you see dark streaks across the board face, it's likely from dull planer knives. These streaks can be planed or sanded off.

SPLIT: A split looks like a check, but the separation will be along growth rings and may not go all the way through a board. As with checks, simply cut splits off.

TWIST: Uneven or irregular warping where in one corner is not aligned with the others. You can cut twisted stock into smaller boards.



AMERICAN PITCH PINE

Pinus palustris

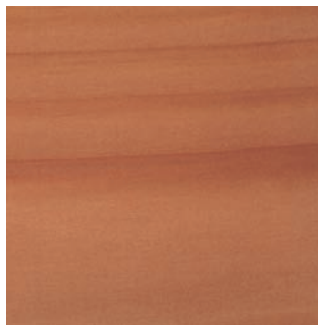
ALSO KNOWN AS: Longleaf Pine

COLOR: orange to reddish brown

GROWS: southern United States

PROPERTIES: resinous with a coarse texture

USES: heavy construction work, shipbuilding, flooring and exterior finishing



DOUGLAS FIR

Pseudotsuga menziesii

ALSO KNOWN AS: Douglas Spruce, Red Spruce, Yellow Spruce, Oregon Pine

COLOR: reddish brown

GROWS: Canada and western United States

PROPERTIES: moderately durable; can be resistant to stains; large, loose knots can be troublesome

USES: plywood, construction and joinery



BALSAM FIR

Abies balsamea

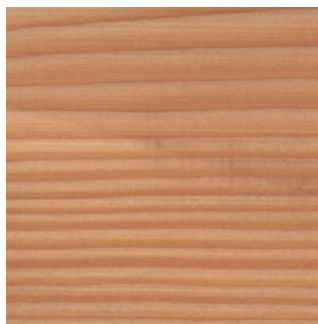
ALSO KNOWN AS: Canadian Fir, Eastern Fir

COLOR: creamy white to pale brown

GROWS: eastern United States and Canada

PROPERTIES: straight and even-grained with a medium to fine texture

USES: general construction, interior doors and trim



EASTERN HEMLOCK

Tsuga canadensis

ALSO KNOWN AS: Canadian Hemlock, Hemlock Spruce

COLOR: buff to light brown

GROWS: northeastern United States and eastern Canada

PROPERTIES: spiral-grained with a medium to coarse texture

USES: construction, crates, pallets, casks, shingles, siding and pulpwood



CEDAR

Cedrus atlantica

ALSO KNOWN AS: Atlantic Cedar

COLOR: light brown

GROWS: Algeria, Morocco, northern India

PROPERTIES: straight-grained with a medium to fine texture

USES: joinery, construction, exterior furniture, fences, doors and closets



ENGELMANN SPRUCE

Picea engelmannii

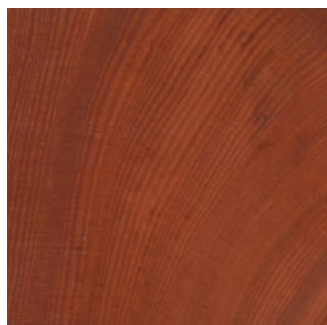
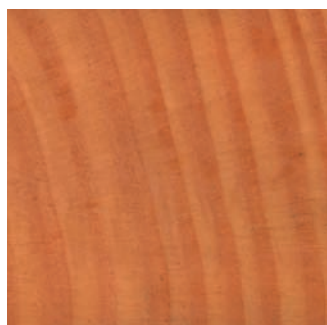
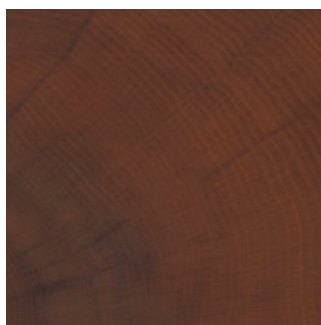
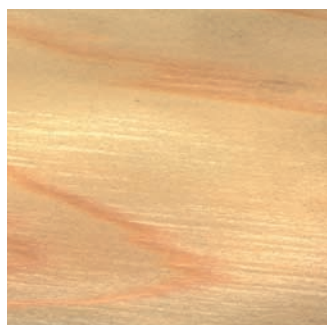
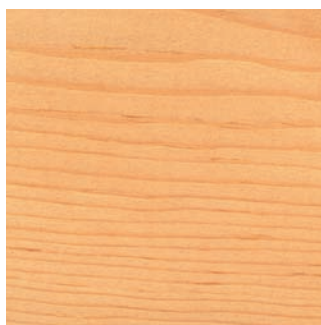
ALSO KNOWN AS: Rocky Mountain Spruce

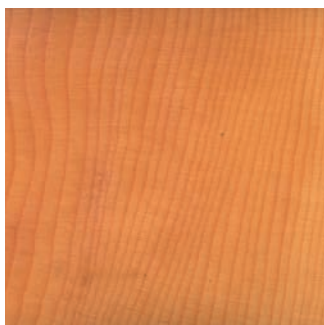
COLOR: whitish to pale yellow

GROWS: Rocky Mountain region and British Columbia

PROPERTIES: strong; low resin

USES: lumber, piano sound boards and violins

**EUROPEAN LARCH***Larix decidua***ALSO KNOWN AS:** Common Larch**COLOR:** orange-red**GROWS:** mountainous regions of Europe**PROPERTIES:** resinous; relatively durable; straight-grained with a uniform texture**USES:** boat planking, staircases, flooring, door and window frames**NORWAY SPRUCE***Picea abies***ALSO KNOWN AS:** European Whitewood, European Spruce**COLOR:** pale yellow**GROWS:** Europe**PROPERTIES:** straight-grained and even-textured**USES:** construction, flooring, plywood, piano sound boards, bellies of violins and guitars**LOBLOLLY PINE***Pinus taeda***ALSO KNOWN AS:** Arkansas Pine, North Carolina Pine, Rosemary Pine, Bull Pine, Oldfield Pine**COLOR:** reddish brown with yellow sapwood**GROWS:** southern United States**PROPERTIES:** straight-grained; easy to work with; often sold with Yellow Pine**USES:** construction, flooring, plywood and furniture**PACIFIC YEW***Taxus brevifolia***ALSO KNOWN AS:** Western Yew, Mountain Mahogany**COLOR:** brown to bright orange**GROWS:** northern Pacific coast of North America and the Rocky Mountains**PROPERTIES:** hard, strong and durable with a straight grain and fine texture**USES:** turnery, veneers, marquetry, furniture and archery bows**NORTHERN WHITE CEDAR***Thuja occidentalis***ALSO KNOWN AS:** Swamp Cedar, Eastern White Cedar, Arborvitae**COLOR:** pale whitish-yellow**GROWS:** southeastern Canada, the Great Lakes states and New England states**PROPERTIES:** straight, even-grained with a fine texture**USES:** fencing, cabin logs, furniture, lumber, shingles and boats**PONDEROSA PINE***Pinus ponderosa***ALSO KNOWN AS:** Bird's Eye Pine, Knotty Pine, California White Pine, Western Yellow Pine**COLOR:** deep yellow to reddish brown**GROWS:** western United States and western Canada**PROPERTIES:** knotty with fine, dark lines**USES:** boxes, crates, millwork, construction, turnery, caskets, furniture and plywood



RED SPRUCE

Picea rubens

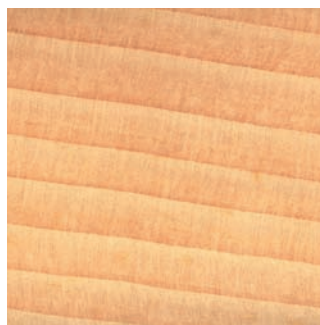
ALSO KNOWN AS: Double Spruce

COLOR: pale reddish yellow

GROWS: Canada and south-eastern United States

PROPERTIES: light and soft, but strong and elastic

USES: construction and musical instruments



SILVER FIR

Abies alba

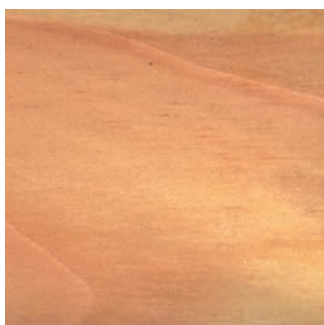
ALSO KNOWN AS: White-wood

COLOR: pale cream

GROWS: England, central and southern Europe, Pacific coast of United States

PROPERTIES: straight-grained with a fine texture; prone to knots

USES: construction, joinery, plywood, boxes and poles



SCOTS PINE

Pinus sylvestris

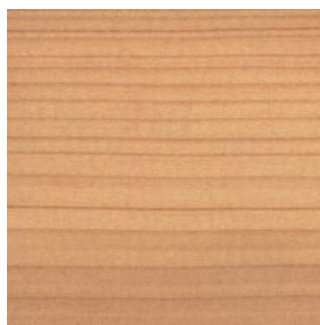
ALSO KNOWN AS: Scots Fir, Red Pine

COLOR: pale to dark reddish brown

GROWS: Europe, United Kingdom, Russia and Scandinavia

PROPERTIES: straight-grained and resinous

USES: furniture, joinery, turnery, construction, poles and plywood



SITKA SPRUCE

Picea sitchensis

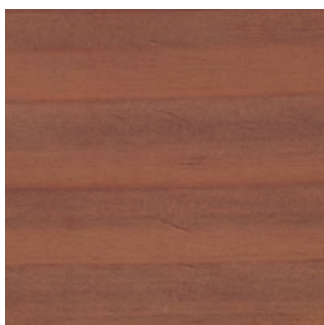
ALSO KNOWN AS: Silver Spruce

COLOR: cream-white with a pink tint

GROWS: Canada, United States and United Kingdom

PROPERTIES: straight-grained with an even texture

USES: construction, interior joinery, gliders, boatbuilding, musical instruments and plywood



SEQUOIA

Sequoia sempervirens

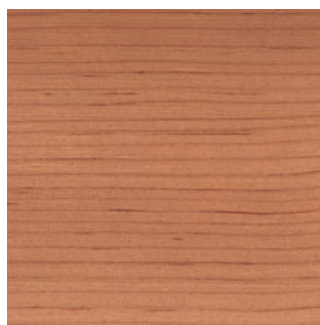
ALSO KNOWN AS: Redwood

COLOR: reddish brown

GROWS: western United States

PROPERTIES: durable; straight-grained with a texture varying from fine to coarse

USES: exterior cladding, shingles, interior joinery, coffins and posts



SUGAR PINE

Pinus lambertiana

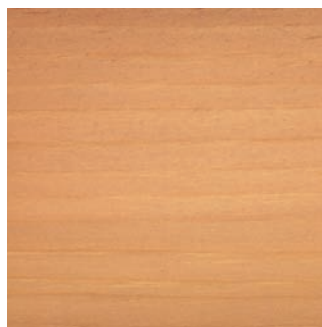
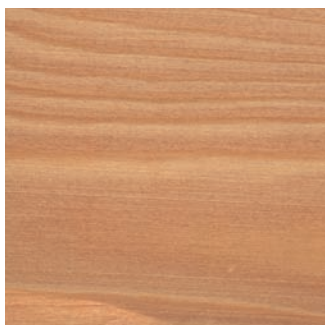
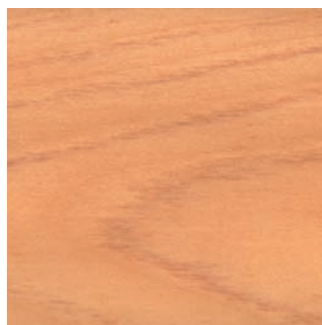
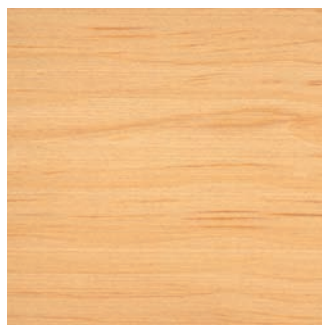
ALSO KNOWN AS: California Sugar Pine

COLOR: pale to reddish brown

GROWS: United States

PROPERTIES: soft; even-grained with a medium texture

USES: light construction and joinery

**WESTERN HEMLOCK***Tsuga heterophylla***ALSO KNOWN AS:** Pacific Hemlock, British Columbian Hemlock**COLOR:** pale yellow brown**GROWS:** Canada, United States and United Kingdom**PROPERTIES:** straight-grained with an even texture**USES:** joinery, plywood and construction**WESTERN WHITE PINE***Pinus monticola***ALSO KNOWN AS:** Idaho White Pine**COLOR:** pale yellow to reddish brown**GROWS:** western United States and Canada**PROPERTIES:** straight-grained; easily workable**USES:** construction, joinery, boatbuilding, pattern making and plywood**WESTERN LARCH***Larix occidentalis***ALSO KNOWN AS:** Tamarack, Hackmatack**COLOR:** reddish brown**GROWS:** British Columbia and northwestern United States**PROPERTIES:** relatively hard; straight-grained with a coarse texture and oily appearance**USES:** construction, interior finishing, flooring, doors, boxes, crates, pallets, veneers and plywood**YELLOW CEDAR***Chamaecyparis nootkatensis***ALSO KNOWN AS:** Western Juniper, Pacific Coast Yellow Cedar, Alaska Yellow Cedar**COLOR:** pale yellow**GROWS:** Pacific coast of North America**PROPERTIES:** durable; straight-grained with an even texture**USES:** furniture, veneers, joinery and boatbuilding**WESTERN RED CEDAR***Thuja plicata***ALSO KNOWN AS:** Pencil Wood**COLOR:** dark brown to pink, fading to reddish gray over time**GROWS:** Canada, United States, United Kingdom and New Zealand**PROPERTIES:** nonresinous; durable; straight-grained with a coarse texture**USES:** shingles, exterior finishing, decking, paneling and construction**YELLOW PINE***Pinus echinata***ALSO KNOWN AS:** Short-leaf Pine, Spruce Pine**COLOR:** pale yellow to pale brown**GROWS:** United States**PROPERTIES:** straight-grained with a fine, even texture**USES:** joinery, construction, furniture, engineering, pattern making and carving



BIBLIOGRAPHY

The Art of Woodworking. Encyclopedia of Wood. Alexandria, VA: Time-Life Books, 1993.

Brockman, C. Frank. *Trees of North America: A Guide to Field Identification.* New York: St. Martin's Press, 2001.

Jackson, Albert, and David Day. *Good Wood Handbook.* 2nd ed. Cincinnati, OH: Popular Woodworking Books, 1996.

Lincoln, William A. *World Woods in Color.* Fresno, CA: Linden Pub., 1996.

Little, Elbert L. *The Audubon Society Field Guide to North American Trees: Eastern Region.* New York: Knopf, 1980.

Little, Elbert L. *The Audubon Society Field Guide to North American Trees: Western Region.* New York: Knopf, 1980.

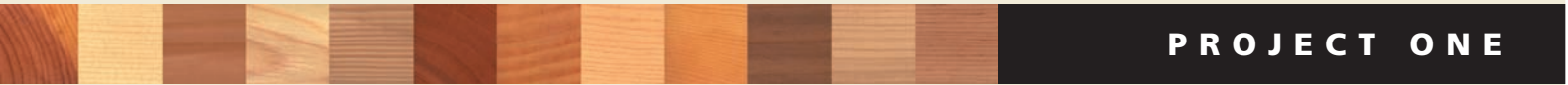
The Lovett Pinetum Charitable Foundation. "What Are Pine Trees?" www.lovett-pinetum.org/1whatare.htm

Trees-Online.com. "Pine Trees." www.trees-online.com/types_of_trees/pine_trees.shtml



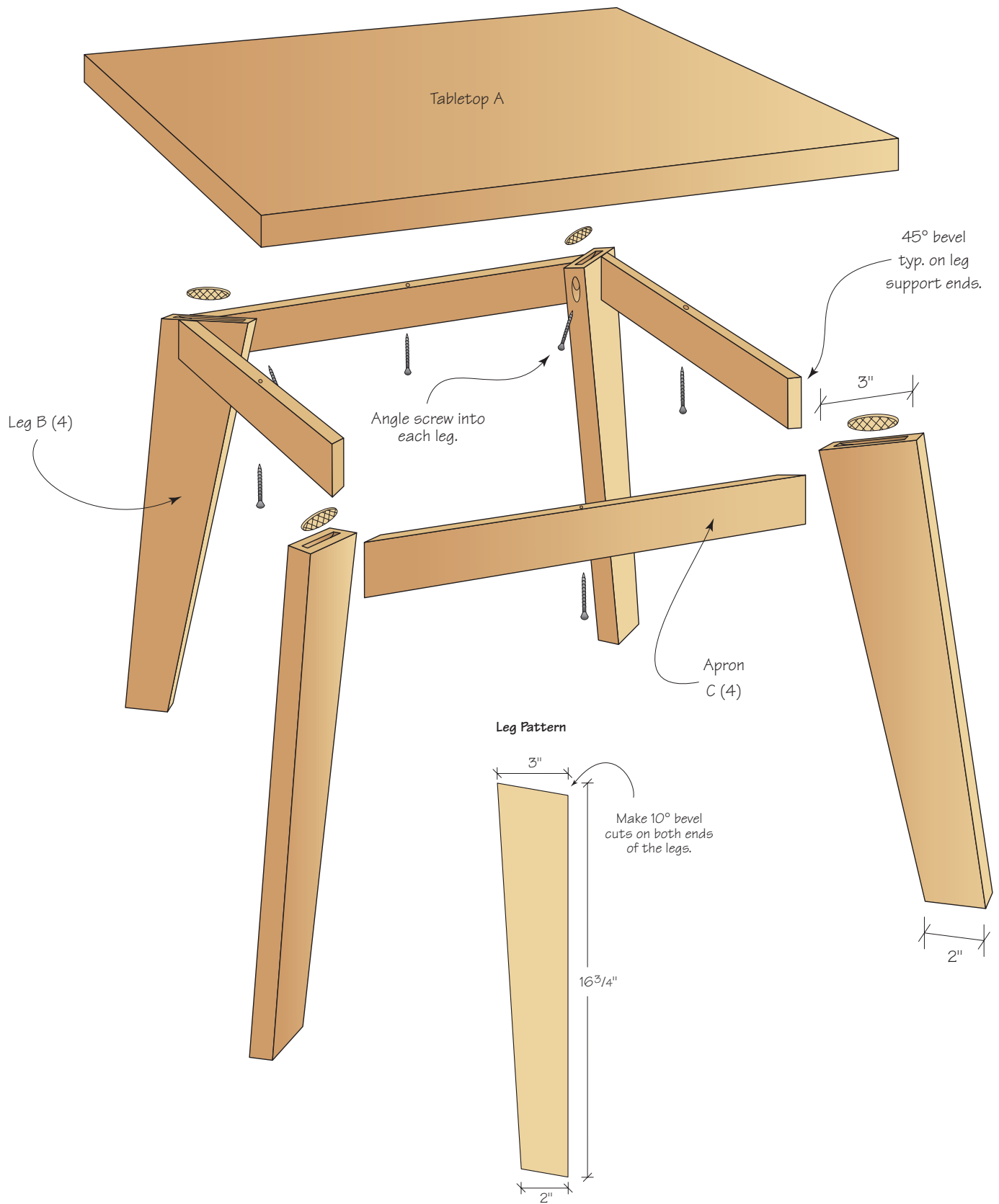
SMALL TABLE

by JOHN MCGUANE



PROJECT ONE

This small white pine table can easily be sized up or down to meet your needs. As shown, it's the perfect size to serve as a bedside table for a futon or child's bed. This project is easy to build and can be made in an afternoon or evening.



INCHES (MILLIMETERS)

REFERENCE	QUANTITY	PART	STOCK	THICKNESS (mm)	WIDTH (mm)	LENGTH (mm)
A	1	tabletop	white pine	3/4 (19)	20 (508)	20 (508)
B	4	legs	white pine	3/4 (19)	3 (76)	17 (432)
C	4	aprons	white pine	3/4 (19)	2 1/4 (57)	15 (381)

HARDWARE & SUPPLIES

4 2 1/2" (64mm) drywall screws

10-15 No. 20 biscuits

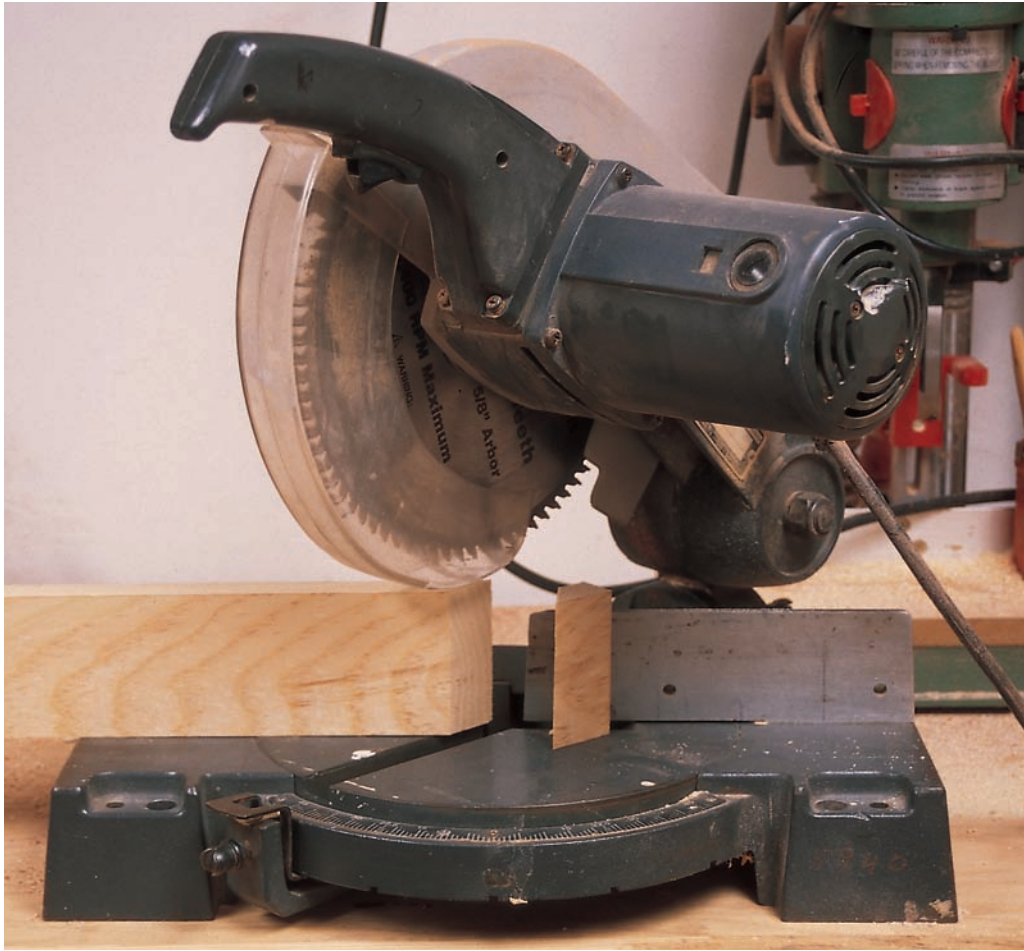
wood glue

STEP 1 | Surface-plane and edge-joint the top boards. Then glue the boards using biscuits.

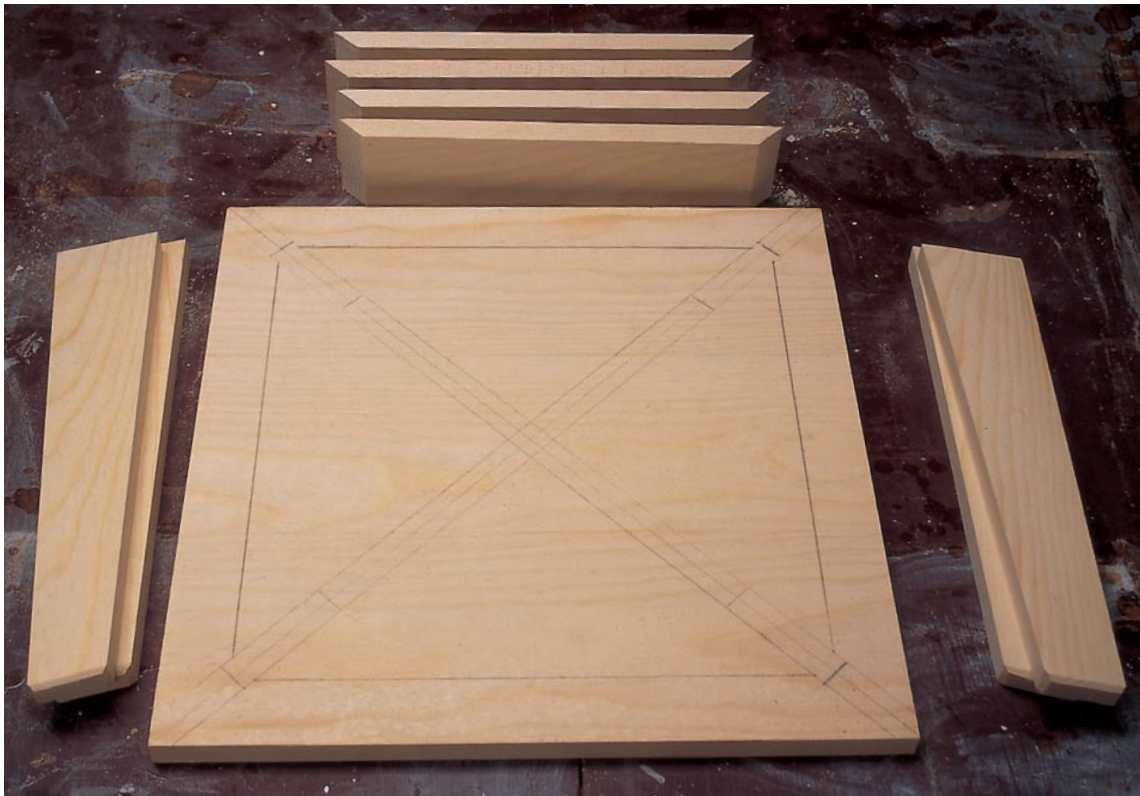


STEP 2 | Cut the taper on the legs, using a tapering fixture on the table saw.

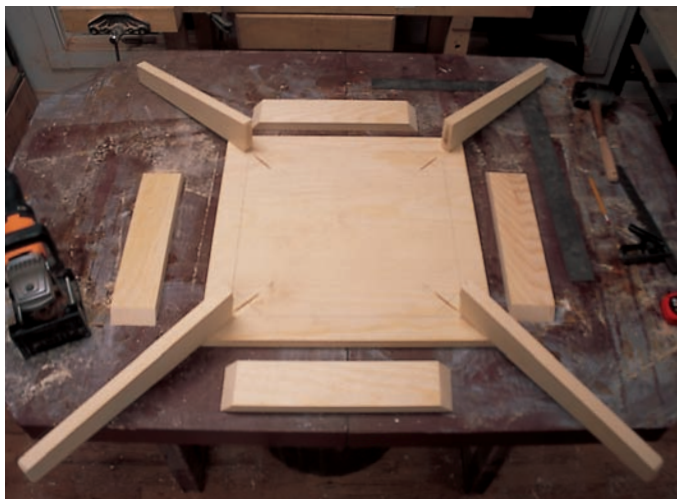




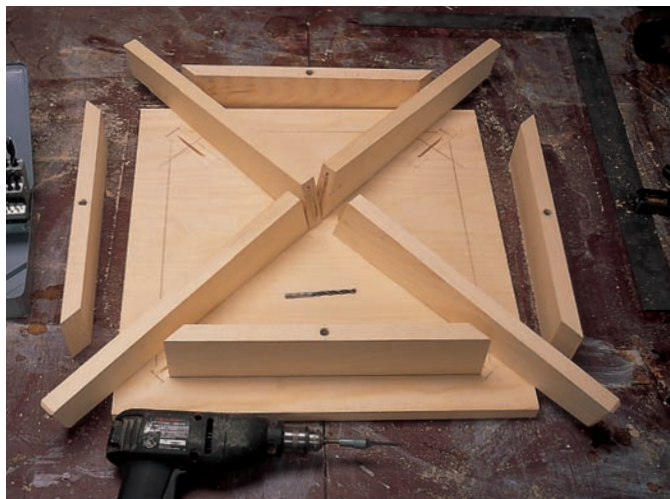
STEP 3 | Holding the vertical edge of the leg against the saw's fence, cut a 10° angle on the top of the leg. Then flip the leg end for end and cut the angle on the bottom of the leg. Then cut a 45° miter on both ends of each apron.



STEP 4 | One top, four legs and four leg supports – that's about all there is to it.



STEP 5 | Lay out all the parts so you'll know which way they go together. Use glue and a biscuit at the top of each leg to secure it to the top. Then, angle a screw through each leg into the tabletop for extra holding power.



STEP 6 | Predrill and counterbore screw holes in the center of each apron. Apply glue on the tops of the legs and aprons. Press the legs and aprons into place. Then tighten the screws enough to squeeze out a little glue. Flip the table over and stand it on its legs. Align the legs and place some weight on the table. Drive two brads in each side of the leg and apron joint and let the glue dry.



STEP 7 | Sand the table and apply the finish of your choice.



SMALL STORAGE CABINET

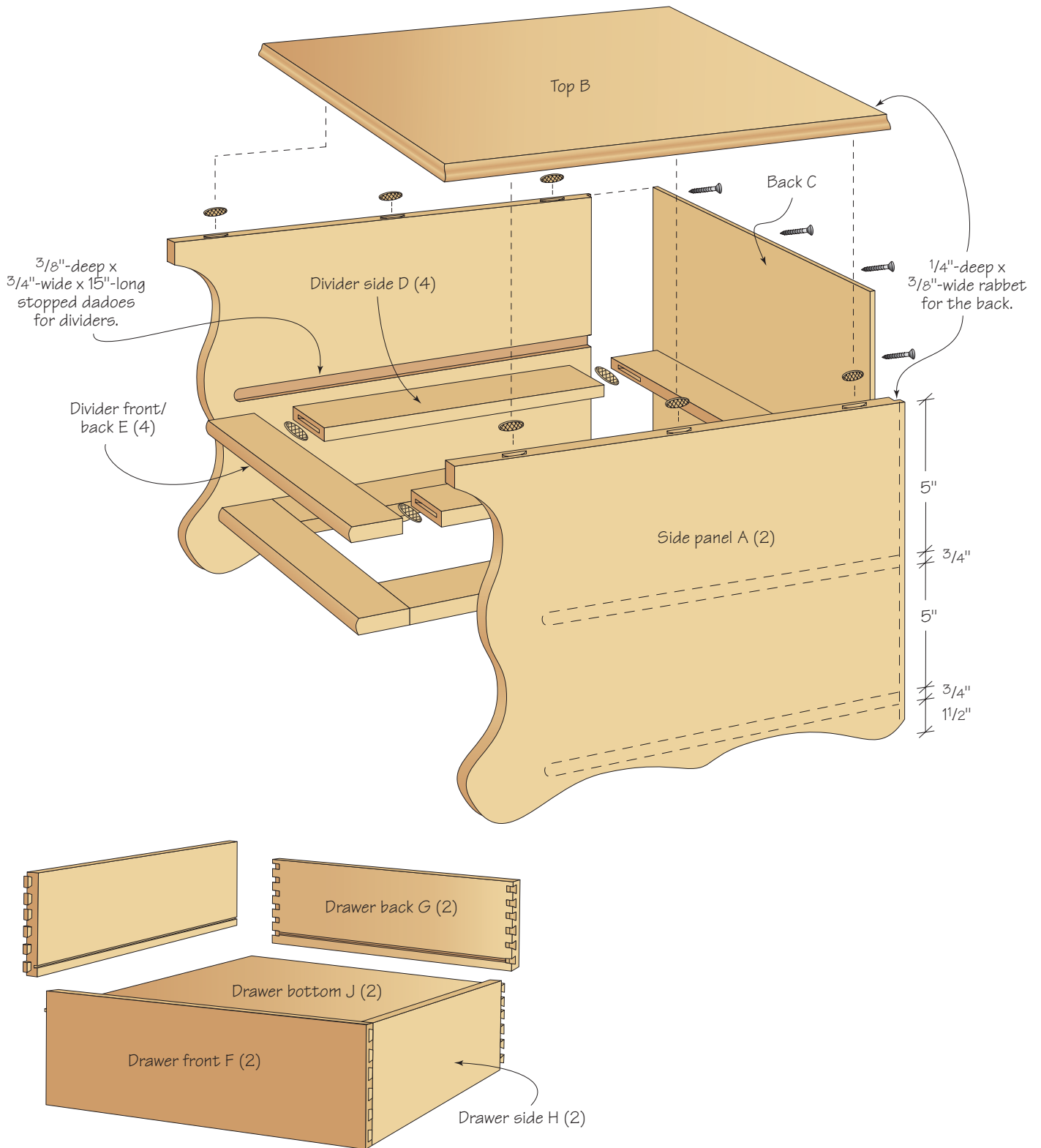
by JOHN MCGUANE



PROJECT TWO

This small storage cabinet is perfect in a home office or on a crowded countertop — anywhere you need a few extra drawers in which to hide things away.

Two species of pine and two varieties of plywood were used in this project. I selected white pine for the top, sides and drawer fronts. Yellow pine was used for the drawer support assemblies due to its hardness and ability to endure decades of drawer sliding. The cabinet back and drawer bottoms are cut from common $\frac{1}{4}$ " interior-grade plywood. Finally, the drawer sides and drawer backs are made from $\frac{1}{2}$ " furniture-grade plywood.

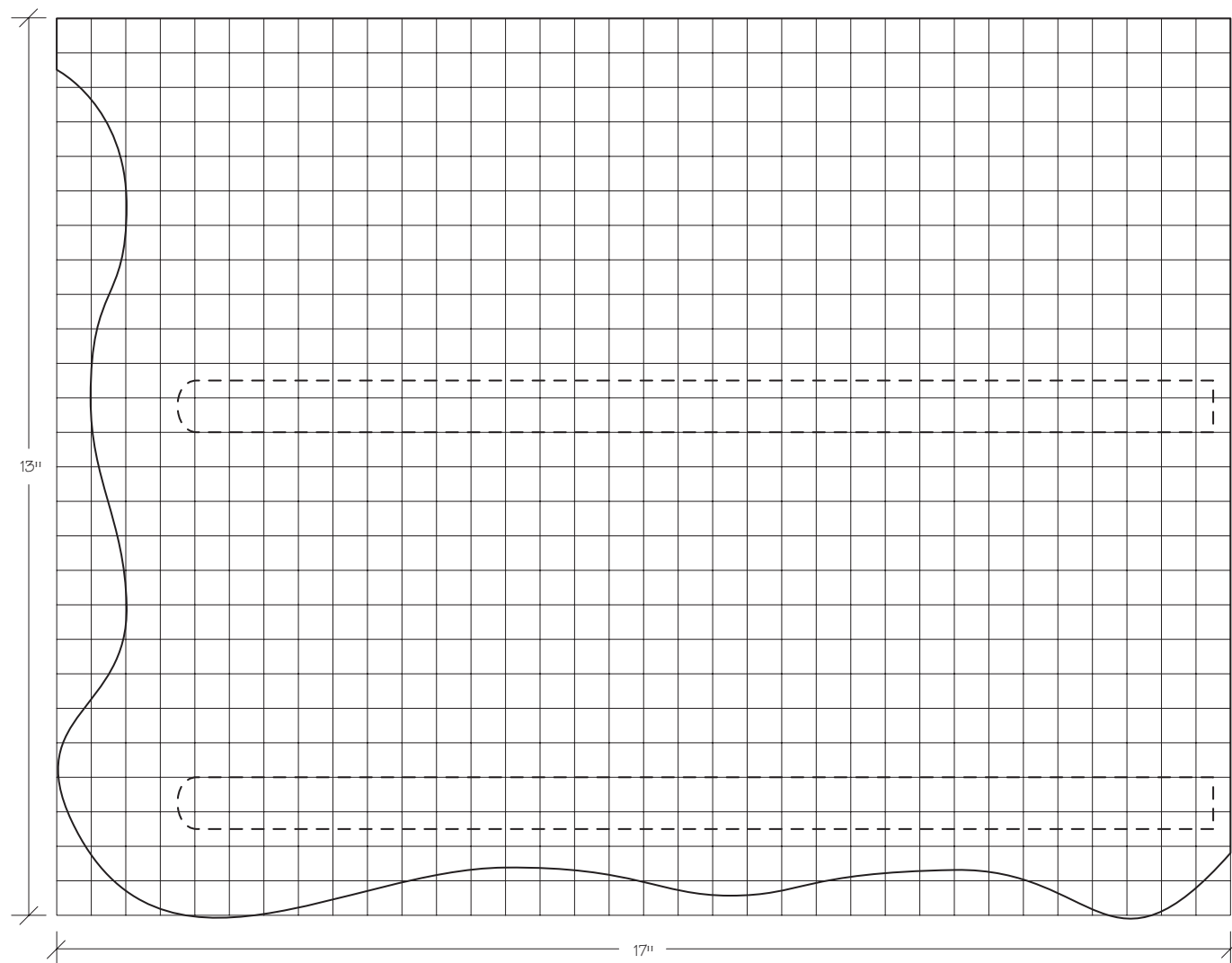


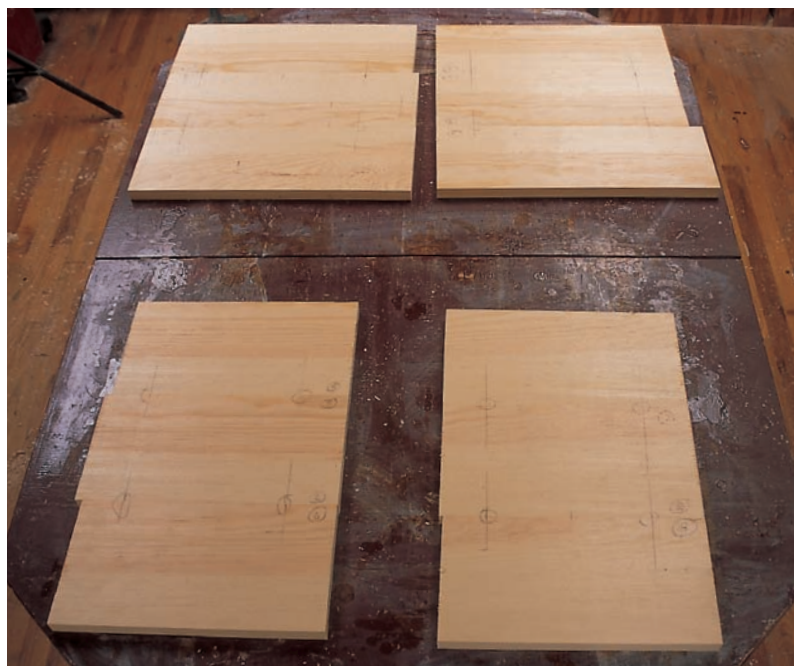
INCHES (MILLIMETERS)

REFERENCE	QUANTITY	PART	STOCK	THICKNESS (mm)	WIDTH (mm)	LENGTH (mm)
A	2	side panels	white pine	$\frac{3}{4}$ (19)	17 (432)	13 h (330)
B	1	top	white pine	$\frac{3}{4}$ (19)	17 (432)	$17\frac{1}{2}$ (445)
C	1	back	plywood	$\frac{1}{4}$ (6)	$15\frac{1}{2}$ (394)	$12\frac{3}{4}$ (324)
D	4	divider sides	yellow pine	$\frac{3}{4}$ (19)	2 (51)	11 (279)
E	4	divider fronts/back	yellow pine	$\frac{3}{4}$ (19)	2 (51)	$15\frac{1}{4}$ (387)
F	2	drawer fronts	white pine	$\frac{3}{4}$ (19)	$4\frac{7}{8}$ (124)	$14\frac{7}{16}$ (367)
G	2	drawer backs	plywood	$\frac{1}{2}$ (13)	$4\frac{7}{8}$ (124)	$14\frac{7}{16}$ (367)
H	4	drawer sides	plywood	$\frac{1}{2}$ (13)	$4\frac{7}{8}$ (124)	$13\frac{3}{4}$ (349)
J	2	drawer bottoms	plywood	$\frac{1}{4}$ (6)	$13\frac{15}{16}$ (354)	14 (356)

HARDWARE & SUPPLIES

2	drawer pulls
10-20	No. 20 biscuits
10	No. 6 x $1\frac{1}{4}$ " (32mm) drywall screws
	wood glue

Each square represents $\frac{1}{2}$ ".



STEP 1 | Glue up the white pine boards that will be cut to form the sides, top and drawer fronts.



STEP 2 | Cut the slots for the biscuits. Clamping a stop board to the worktable makes it easy and efficient to cut biscuit slots.

STEP 3 | Use a damp rag to wipe off the excess glue. This will eliminate having to scrape the glue off later. Dried glue, if not removed from the surface of the stock, will quickly dull saw blades, jointer and planer knives.

Tip

Remove the fence from your biscuit joiner and hold the joiner and the stock flat against the worktable. Cut all the biscuit slots with your stock facing the same way, either facing up or facing down. This method places the slot in the approximate center of $\frac{3}{4}$ " stock.





STEP 4 | Cut two $\frac{3}{4}$ "-wide by $\frac{3}{8}$ "-deep stopped dados in each side to accept the drawer dividers. Then, set up your jointer to cut a $\frac{3}{8}$ "-wide by $\frac{1}{4}$ "-deep rabbet on the back edges of the top and sides. This could also be cut using a router with a straight-cutting bit. This recess will allow the back of the cabinet to sit flush.



STEP 5 | Using biscuits at the joints, glue and clamp the drawer dividers. After the glue has cured, round the front edge of each divider using a stationary belt sander or a router with a roundover bit.



STEP 6 | Apply glue in the dados and attach the two drawer divider assemblies to the sides



STEP 7 | Attach the top to the cabinet, using biscuits and glue. Then, after the glue sets, attach the back with nails or screws. After cutting the drawer parts to size, use your router and dovetail template to cut half-blind dovetails on the drawer sides, fronts and backs. (See step 18 in project eleven, “Bachelor Chest.”) Then rout a $\frac{1}{4}$ "-wide by $\frac{1}{4}$ "-deep groove $\frac{1}{4}$ " from the bottom edge of each drawer part to accept the bottom panels. Use a small artist's brush to apply a light coating of glue to the dovetails. The drawer bottoms are not glued but are nailed in place only at the bottom of the drawer back panels.



STEP 8 | After the drawers are assembled, fit them into the cabinet.



STEP 9 | If you like, draw some decorative curves on the front and bottom edges of the cabinet, then cut with a jigsaw. This adds visual interest, and it establishes feet for the cabinet, allowing it to sit level.



STEP 10 | Use the pattern provided or your own judgement and imagination when designing decorative details.



STEP 11 | Round over the edges of the sides using a router or by using sanding paper. Then rout an ogee profile on the front and side edges of the top.



STEP 12 | Use a random-orbit sander with 120-150-grit sandpaper. Because this wood is soft, using coarser sandpaper would leave scratches that are hard to sand out.



STEP 13 | A gel stain works well to give some color to the almost pure white pine.

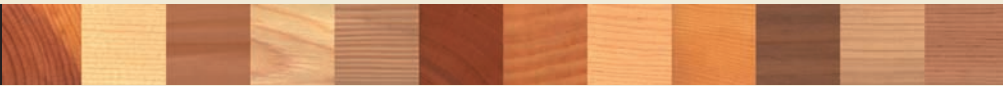


STEP 14 | Apply a topcoat of polyurethane to finish the cabinet. Finally, attach the drawer pulls.

UTILITY LADDER SHELF

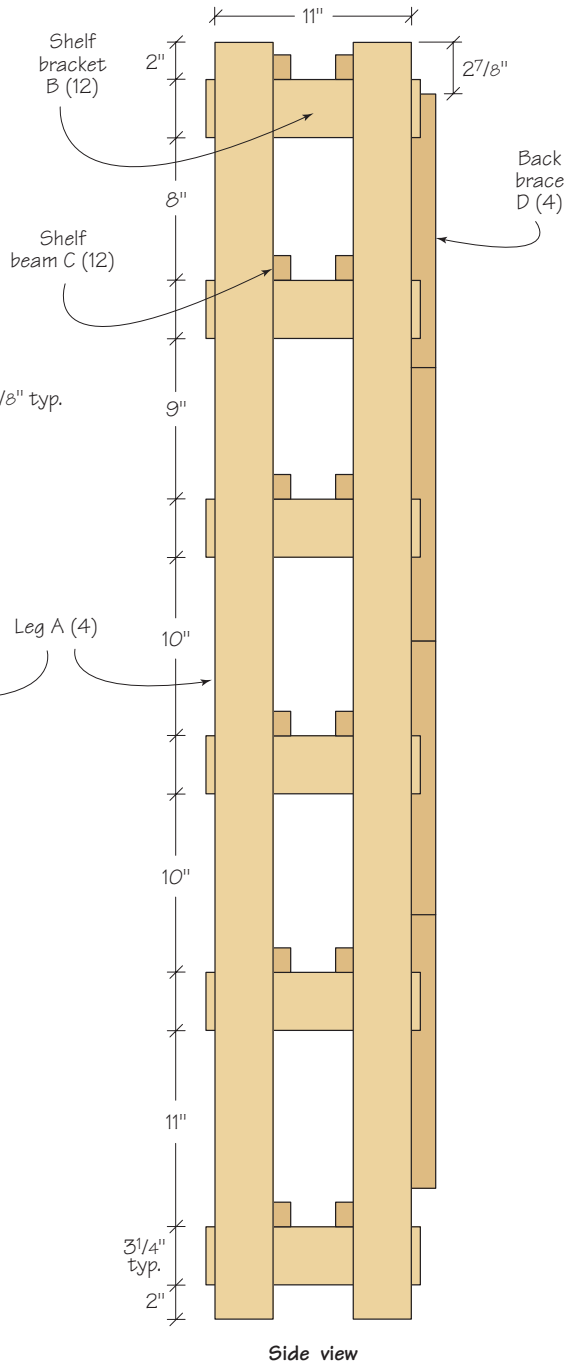
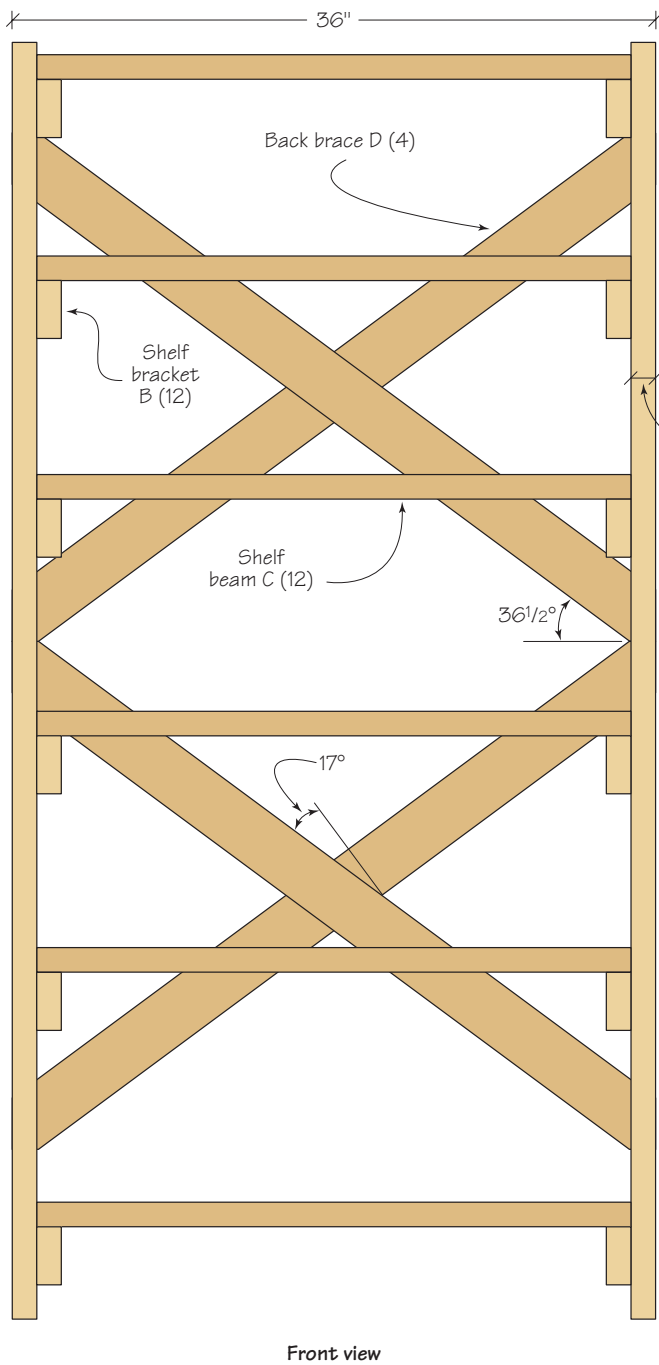
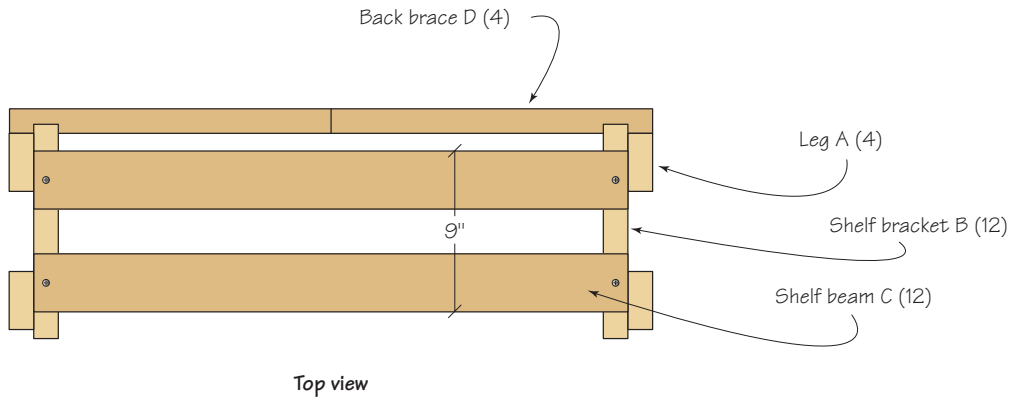
by JIM STACK

PROJECT THREE



This is the perfect project for a shop, garage, utility room or basement. The heaviest thing you can lift will be easily supported by this unit. Over the years, I've made a lot of shelving. This has got to be one of the strongest, sturdiest, quickest and easiest units I've ever built. It's made of pine 2×4s, readily available at any home-improvement center. First, cut all the parts to size. Next, machine the edges with the profile of your choice. Then the parts can be stained, clear finished or painted. Finally, the unit is assembled using drywall screws. It's that easy.





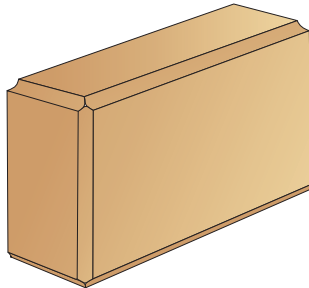
INCHES (MILLIMETERS)

REFERENCE	QUANTITY	PART	STOCK	THICKNESS (mm)	WIDTH (mm)	LENGTH (mm)
A	4	legs	white pine	1 ³ / ₈ (35)	3 ³ / ₈ (86)	72 (1829)
B	12	shelf brackets	white pine	1 ³ / ₈ (35)	3 ³ / ₈ (86)	12 (305)
C	12	shelf beams	white pine	1 ³ / ₈ (35)	3 ³ / ₈ (86)	33 ¹ / ₄ (845)
D	4	back braces	white pine	1 ³ / ₈ (35)	3 ³ / ₈ (86)	47 ³ / ₁₆ (1199)

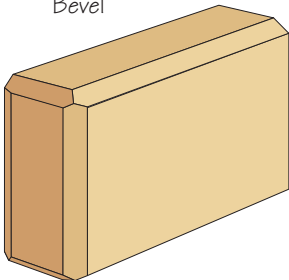
HARDWARE & SUPPLIES

70	No. 8 x 2" (51mm) drywall screws
	wood glue

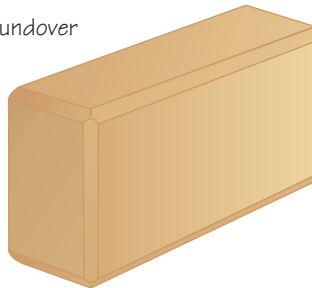
Cove



Bevel

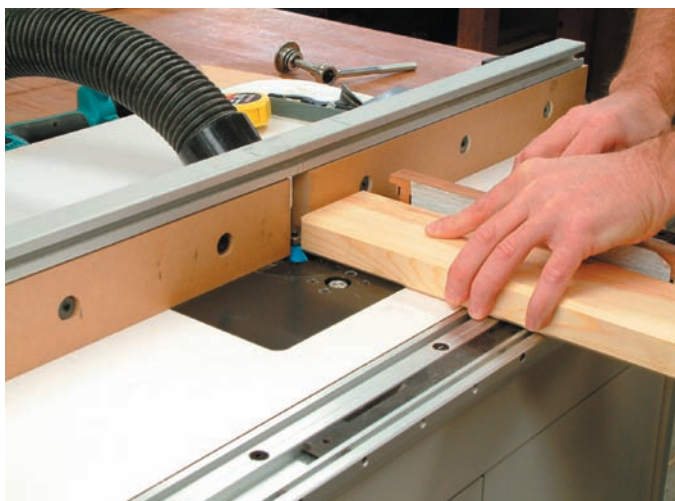


Roundover



Any of these 1/4" edge profiles will work well for this project.





STEP 1 | Cut all the parts as shown in the materials list. Then cut a bevel, roundover or cove on all the edges of all the parts.



STEP 3 | Attach the shelf brackets with screws. Putting a 4½"-wide scrap-wood spacer (not shown) between the legs will help you maintain the proper distance between the legs. Counter-sink the screws.



STEP 2 | Pair the legs, square them together and hold with a clamp. Then draw the locations for the shelf brackets.



STEP 4 | Attach the shelf beams with one screw each into the shelf brackets. First, screw the front beam in place 1" back from the front edge of the front leg. Then put a 2½"-wide spacer behind the front beam, butt the back beam up to the spacer and screw the back beam in place. Lay the fully assembled shelf unit down on its front on a flat surface.



STEP 5 | Cut a 36½° angle on both ends of each back brace. You will need to clip the sharp ends off the ends of the back braces. This is so the assembled back brace X assemblies can butt up to each other on the back of the shelf unit. To cut the sharp ends off of the back braces, set the power miter saw to make a square cut, set the angle cut against the fence, and make the cut. (See step 8 in project twelve, "Trestle Table.") Cut the lap joints for the back braces, using a table saw. Set the miter gauge to 17°, make test cuts until you have a snug-fitting lap joint (but not too tight), and you're good to go.

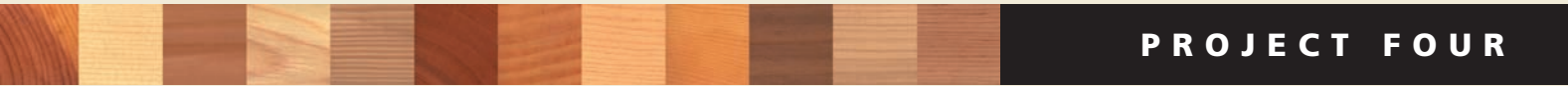


STEP 6 | After gluing the lap joints, attach the back braces with screws. Make sure the shelf unit is square when you attach the braces. Once the back braces are attached, this unit will be rock solid and ready to use.



PARLOR FLOOR LAMP

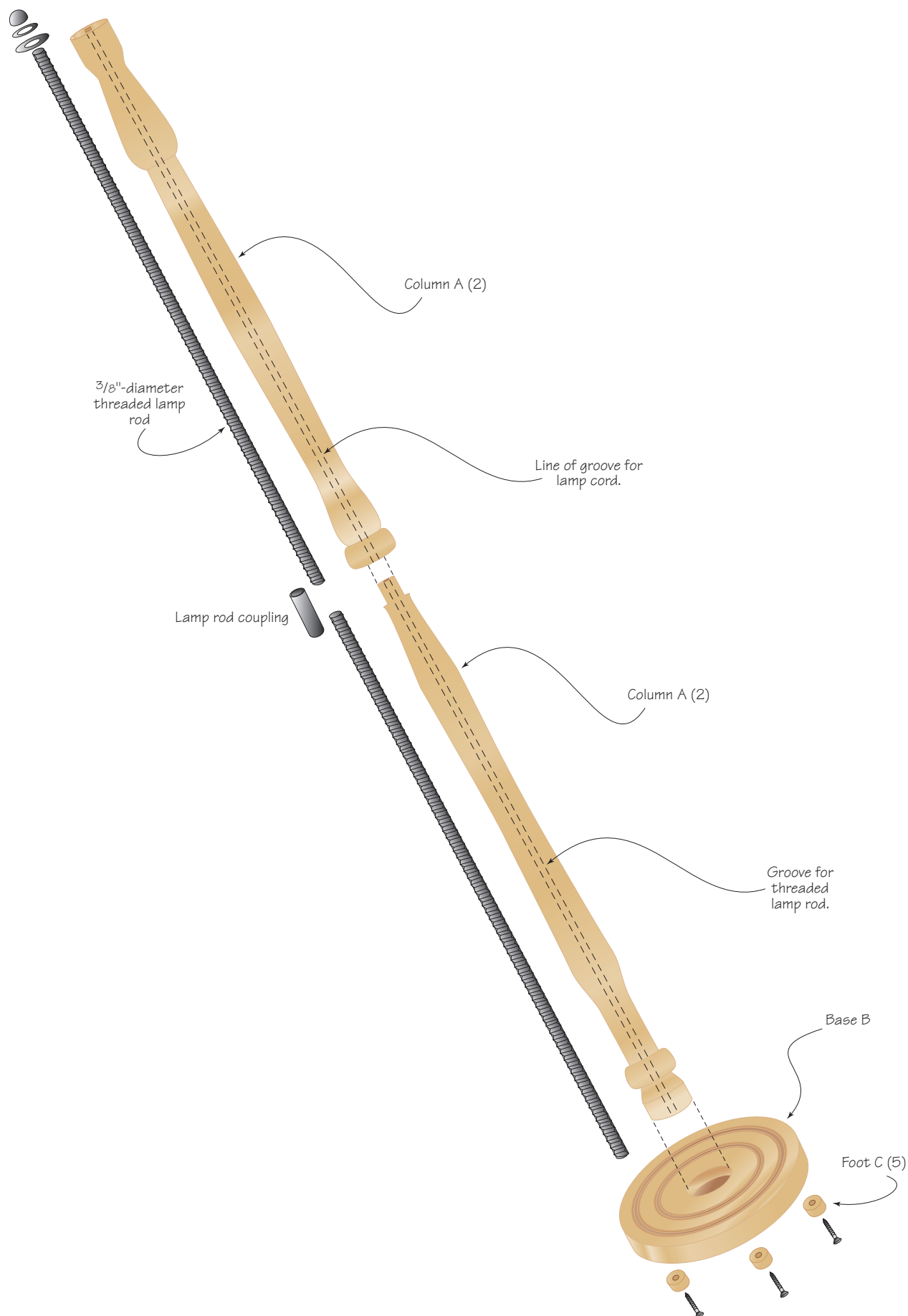
by JOHN MCGUANE



PROJECT FOUR

Whether put in a corner or next to a chair, this parlor floor lamp makes a great reading lamp. This lamp will fit into any room because you can stain it whatever color you like. Also, lamp shades are available in a wide variety of styles and colors.

Of all the projects I made for this book, this lamp is the one that I am the most proud of. It was the most challenging. Standing wood lamps are rarely made by individuals because of the difficulty of creating the passage needed for the electrical cord. I was able to overcome this and I will show you how; it is simple! This parlor lamp is made in three parts — a base and two upright parts. This makes it possible to use a benchtop lathe to turn all the parts easily.



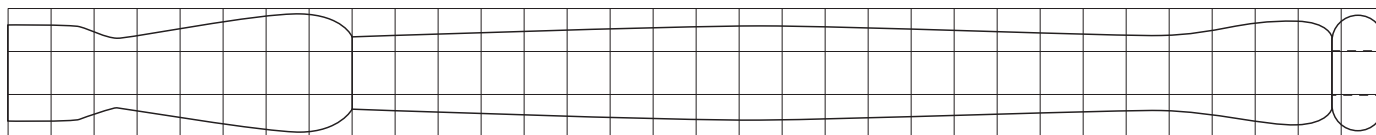
INCHES (MILLIMETERS)

REFERENCE	QUANTITY	PART	STOCK	THICKNESS (mm)	WIDTH (mm)	LENGTH (mm)
A	2	columns	ponderosa pine	3 (76)	3 (76)	32 (813)
B	1	base	ponderosa pine	1½ (38)	13 dia. (330)	
C	5	feet	ponderosa pine	1¾ dia. (35)		5/8 (16)

HARDWARE & SUPPLIES

2	36" × 3/8" (914mm × 10mm) threaded steel lamp rod
1	brass lamp rod coupling
1	brass-plated transition piece (lamp hardware) optional
1	three-way lamp socket
	15ft (5m) electrical cord
1	electrical plug
1	lamp shade harp kit
1	lamp shade
	wood glue
5	1¼" (32mm) drywall screws

PATTERNS FOR THE COLUMNS AND BASE



Each square represents 1".



Each square represents 1/2".



STEP 1 | After gluing up and squaring the column turning blanks, cut $\frac{1}{2}$ "-wide by $\frac{1}{4}$ "-deep channels along two opposite sides of the length of each column turning blade. You can do this using a router with a straight-cutting bit or on the table saw.



STEP 2 | Rip the column turning blanks in half. You may need to flip the piece end for end to complete the cut.



STEP 3 | Glue two grooved faces together, creating a $\frac{1}{2}$ " square channel in the center of the column turning blanks.



STEP 4 | Make four hardwood turning blocks that will be attached to both ends of each square column turning blank. The hardwood turning blocks are necessary because the pine is soft and the force required to turn the columns would cause the head piece of the lathe to tear out the wood.



STEP 5 | Using glue and screws, attach the hardwood turning blocks to the pine stock.



STEP 6 | Using a round container or a compass, draw a circle on the end of the pieces that are to be turned. This shows how much material to remove with the table saw before chucking it into the lathe.



STEP 7 | Set the table saw blade to a 45° angle and clip off the edges of the column turning blanks. This makes it quicker to round the blank on the lathe.



STEP 8 | On the lathe, first turn the columns to a consistent diameter.

STEP 9 | Using the provided patterns, make templates of the profiles to be turned on each column and draw marks to the round blanks to indicate where changes in the profiles occur. Drill the mortise in the bottom of the top lamp column.



STEP 10 | Use a parting tool to define the depth of the different steps in the profile. You can use calipers to gauge the depth of these cuts.



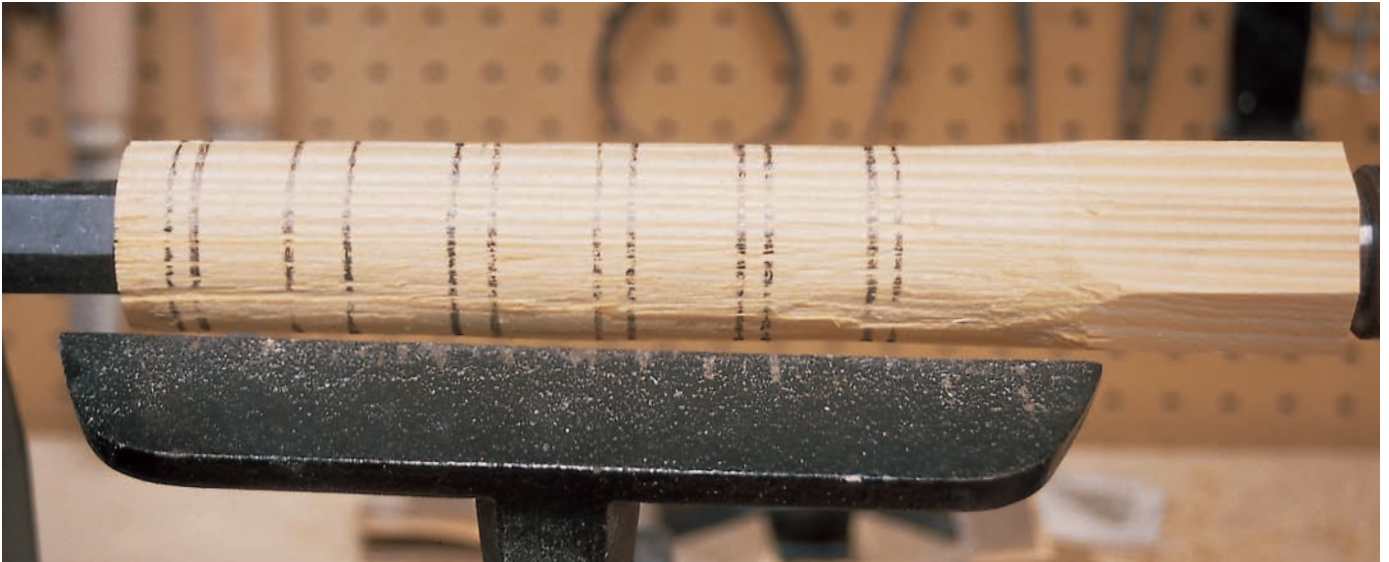
STEP 11 | Using scrap pieces of wood, glue up the base blank and flatten it with a hand plane. Rough-cut the radius using a band saw or jigsaw.



STEP 12 | Center the turning face plate on the base blank.



STEP 13 | Define the depth and location of the profile cuts as you did on the columns. Then shape the profiles to your personal preference.



STEP 14 | Make the feet by turning them out of a longer piece of wood. Then separate them using a parting tool or a coping saw.



STEP 15 | Predrill and counterbore holes in the feet. Attach the feet with screws. Five feet are more stable than three or four feet.



STEP 16 | You can cut the hole for the column while the base is still on the lathe or bore it later using the appropriate size Forstner bit mounted in a drill press.



STEP 17 | A brass end can be attached to the top of the lamp to give the column a finished look. Lamp parts are available at home-improvement centers and hardware stores. You can also take old lamps apart and salvage pieces. The electrical socket and harp are attached to the lamp rod.



STEP 18 | I used a gel stain for the first base-coat color. I taped the tenon on the lower column to keep the finish off of it. The tape will be removed and the tenon will be glued into the mortise at final assembly.



STEP 19 | For the second color coat, I used an oil-based stain. This gave me the deeper color I wanted. I finished the lamp with two coats of varnish. After the finish is dry, put the lamp together and install the electrical parts.



STEP STOOL

by JIM STACK



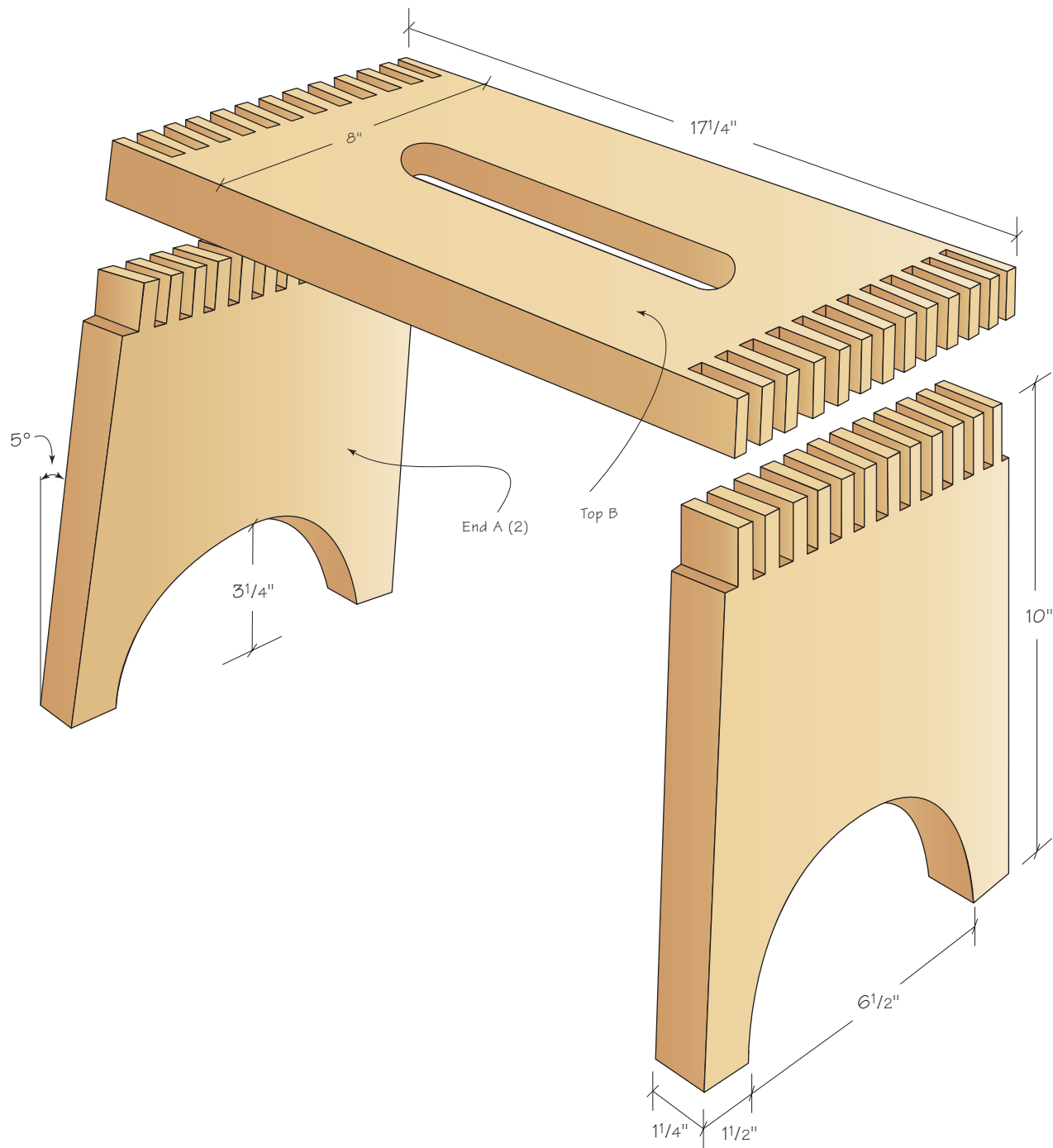
PROJECT FIVE

In my part of the world here in southern Ohio, the construction lumber of choice is either white pine or southern yellow pine. White pine is used mostly for framing walls in houses. Yellow pine is used for the floor and ceiling joists because of its strength.

Yellow pine can also be used to make furniture. With its distinctive grain pattern, it makes a strong visual statement. Yellow pine can be purchased at any home-improvement center here in the eastern midwest of the United States. It comes in the form of dimensioned lumber for construction, so the moisture content is usually higher than furniture hardwood.

After you purchase the lumber, let it sit in your shop for at least a week before cutting or machining it. The wood will probably bow, twist and cup a little as it's acclimating. That's OK; let it dry. This is something to consider if you want to use frame and panel construction. Allow extra room in the frame for the panel to move.

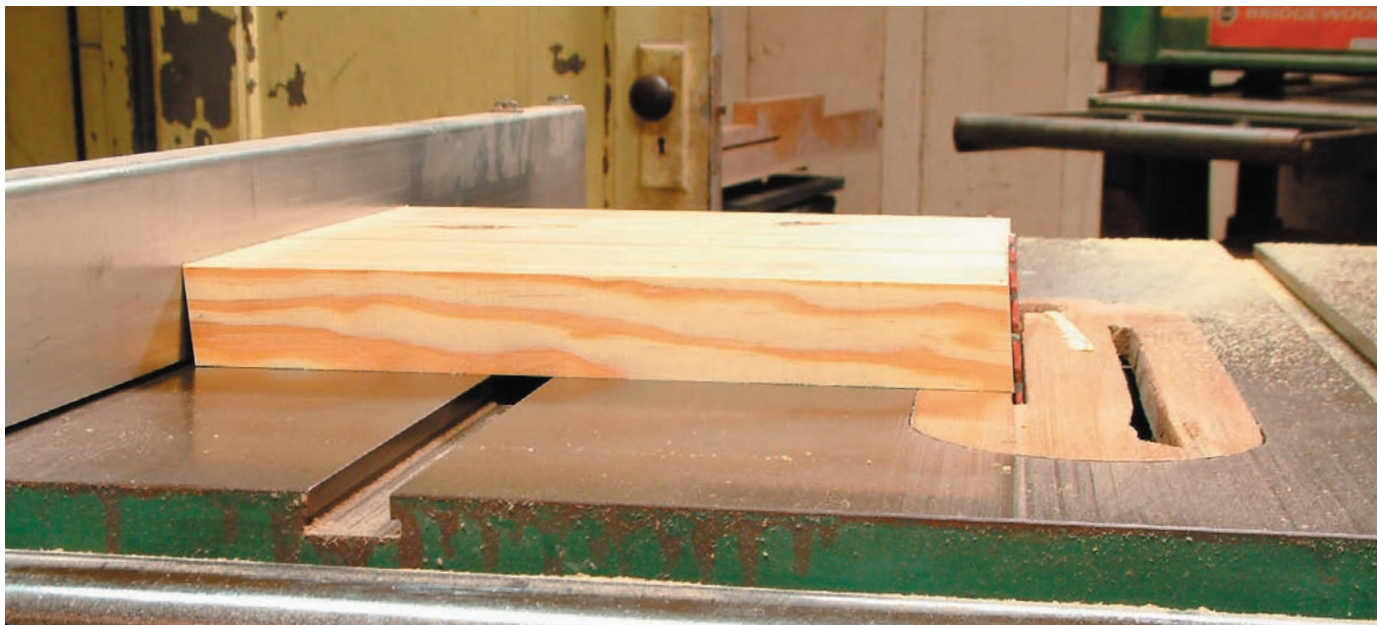
Because this step stool is freestanding and wood movement wasn't a big problem for the project, I made the project after the wood sat for a week. A couple of weeks after the stool was assembled, the ends of the finger joints stood a little proud above the surface of the top and legs. I simply leveled them one more time. The finish is three applications of boiled linseed oil. The oil soaked into the end grain of the finger joints and helped the wood stabilize evenly.



INCHES (MILLIMETERS)

REFERENCE	QUANTITY	PART	STOCK	THICKNESS (mm)	WIDTH (mm)	LENGTH (mm)	COMMENTS
A	2	ends	yellow pine	1 1/4 (32)	9 1/2 (241)	10 (254)	5° bevel both ends
B	1	top	oak plywood	1 1/4 (32)	8 (203)	17 1/4 (438)	5° bevel both ends

HARDWARE & SUPPLIES
glue



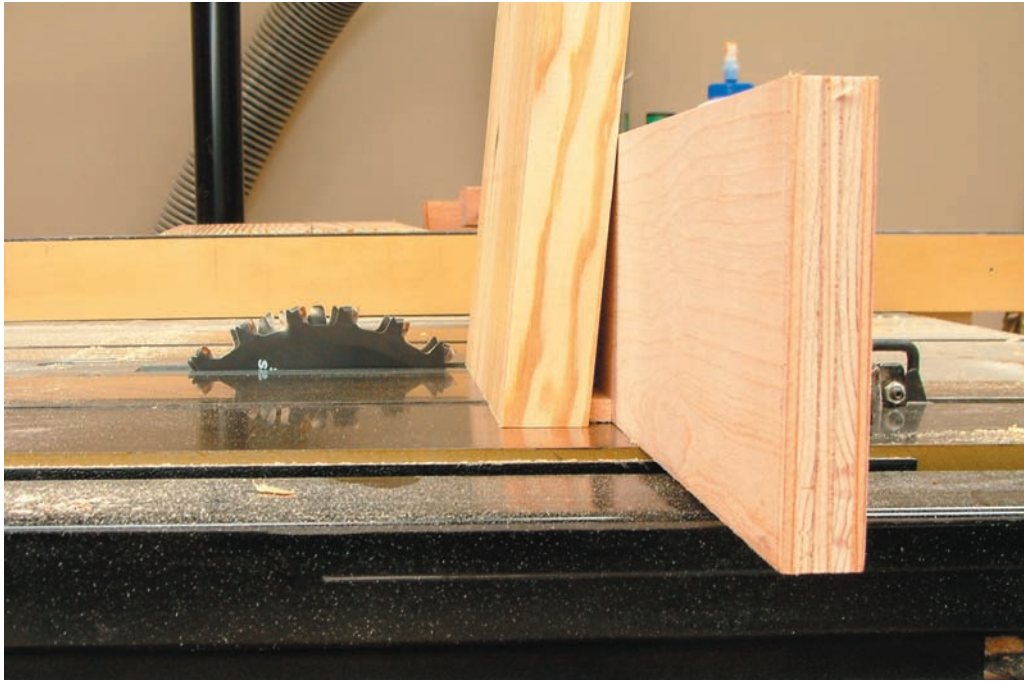
STEP 1 | Cut the ends and top to the sizes shown in the materials list. Then cut a 5° bevel on the ends of all parts. Cut one end, then flip the part over end for end and cut the other bevel. Use your miter gauge to feed the parts through the saw.



STEP 2 | Attach a sacrificial fence to the miter gauge. Set up a $\frac{3}{8}$ "-wide dado stack in your table saw. Then cut a slot in the fence. Cut a spacer exactly the same width as the slot and glue or nail it into the slot. Using a scrap piece of wood, reset the fence to the miter gauge so the spacer is exactly one saw kerf to the side of the dado stack. You want to start the finger-joint cuts with the edge of the part against the spacer as shown. After the first cut is made, place this slot over the spacer and make the next cut and so on. This same setup will work using a router with a $\frac{3}{8}$ "-diameter straight bit. Mount the router under a router table.



STEP 3 | To keep the bevel flat on the table of the saw, attach a spacer to the sacrificial fence.



STEP 4 | Move the spacer to the bottom of the sacrificial fence when making opposite end cuts. Before you start cutting the finger-joint slots, do a mock setup of the legs and top and mark all the right or left edges (either side, as long as the marks are all on the same edge of the mocked-up stool). Keep these edges toward the saw's fence when cutting the slots.



STEP 5 | Start the leg fingers by cutting the first slot even with the edge of the leg.



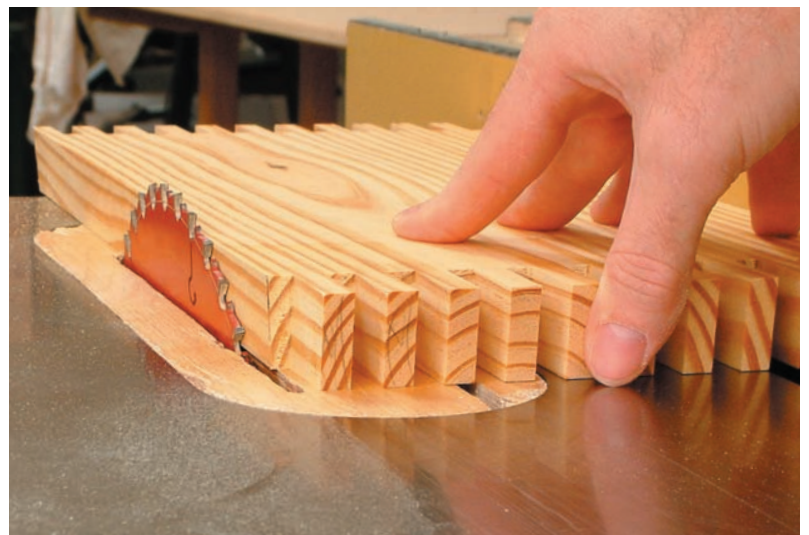
STEP 6 | Butt the edge of the first slot against the spacer and straddle the spacer for the proceeding cuts.



STEP 7 | After the finger-joint slots have been cut, cut the 5° angle on the legs.



STEP 8 | Dry assemble the stool and mark the angle of the legs on the edges of the top.



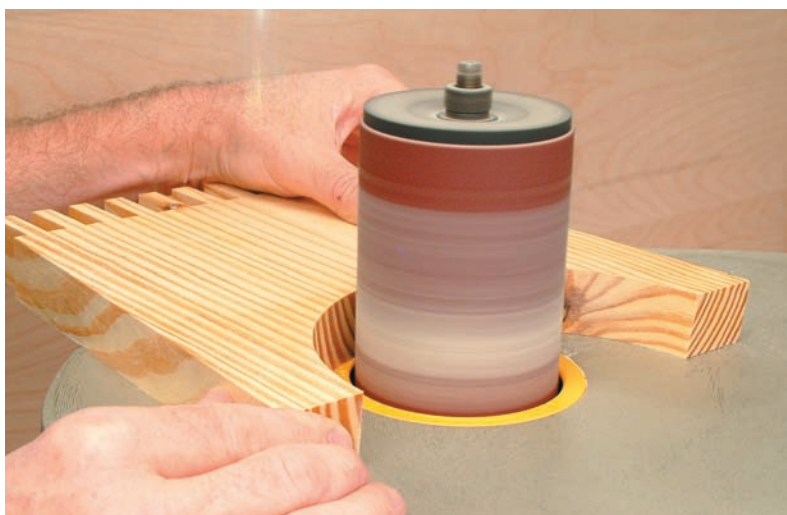
STEP 9 | Cut the angle on the edges of the top. You can do this with a hand plane, stationary planer, table saw or band saw.



STEP 10 | A gallon paint can has the perfect radius for the arcs on the legs. Center the can at the bottom of the leg. I butted the bottoms of both legs together and drew a complete circle around the can.



STEP 11 | Use a band saw, jigsaw or coping saw to cut the radius on the legs. This cutout creates four feet for the stool, which will help it sit solidly on slightly uneven surfaces.



STEP 12 | Sand the saw cut smooth.



STEP 13 | Center the hand-slot cutout on the top. Bore a hole at both ends of the slot.



STEP 14 | Draw straight lines connecting the edges of the two holes. Finish cutting the slot by connecting the holes



STEP 15 | Do a dry-run glue-up. Get all the clamps you'll need and have them at hand. Also have your adjustable T-bevel set to 5° so you can check the angles of the legs. Using a small brush, apply glue to the insides of the fingers and slots. This is a lot of gluing area to cover and you'll need to move quickly when applying the glue, so you might want to practice this on a sample set of fingers.



STEP 16 | I cut the slots for the finger joints a little deeper than the thickness of the parts so I could put a clamp at the top of the legs and pull them tightly to the top.



STEP 17 | Let the glue dry completely, then cut the ends of the fingers flush with the surrounding surfaces.



STEP 18 | Level the bevel on the edges of the top and legs using a hand plane.



STEP 19 | To make the end grain of the fingers crisp and clean, use a hand plane set to make thin cuts. By skewing the plane, you can make paper-thin cuts.



STEP 20 | Using a router with a bevel bit, I beveled the edges of the stool. You could also cut a roundover on the edges of the stool instead of a bevel.



STEP 21 | Square the inside corners of the top and legs with a chisel. Apply two or three coats of boiled linseed oil to the stool. Apply the linseed oil liberally, using a brush. The end grain of the fingers will absorb a lot of oil, so keep applying oil to keep them wet. Let each coat sit for 5 to 10 minutes. Then wipe off all the oil until the stool is dry. Apply as many coats as it takes until the end grain won't absorb any more oil. The wood will continue to lose moisture, but the oil will slow this process so the wood won't split or crack. If the ends of the fingers grow proud (as a result of the wood shrinking in all dimensions), cut them smooth and apply more linseed oil.

SOFA TABLE

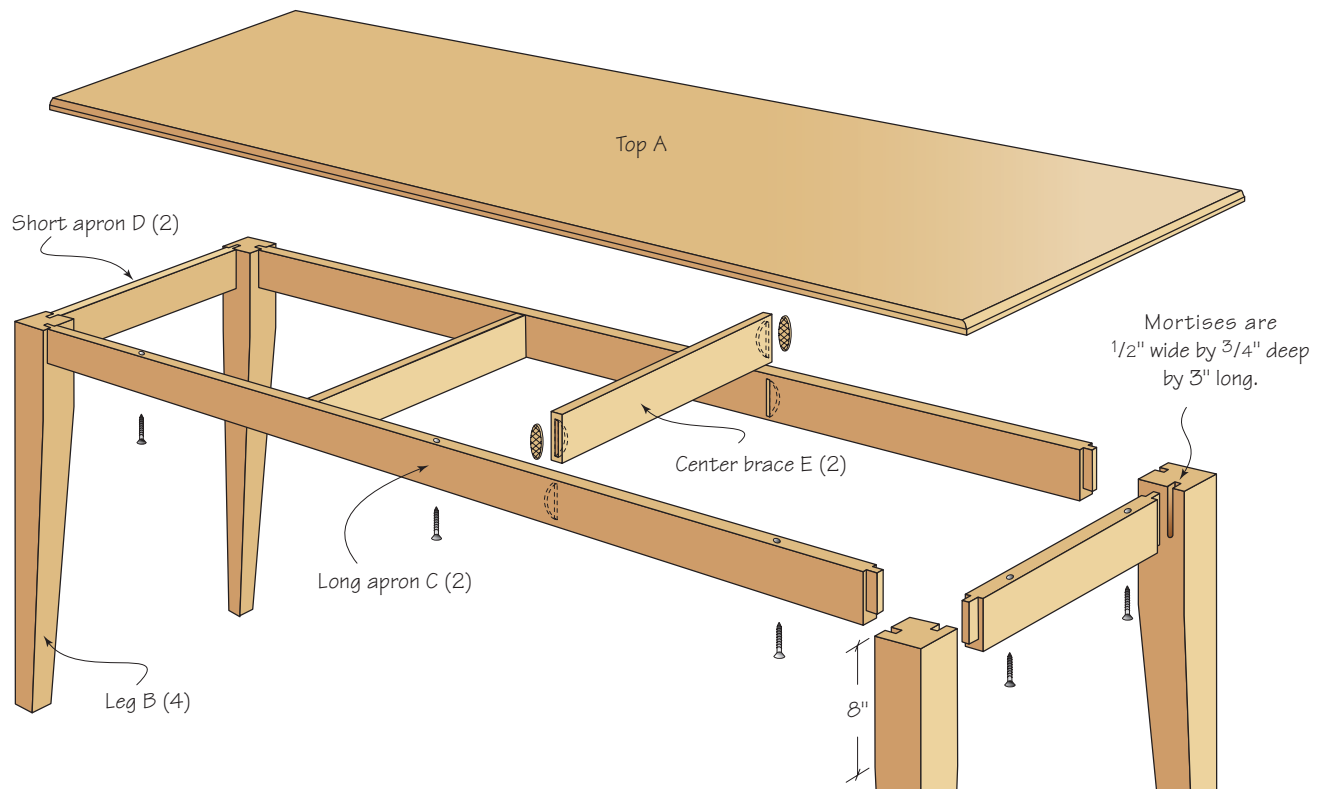
by JOHN MCGUANE

PROJECT SIX

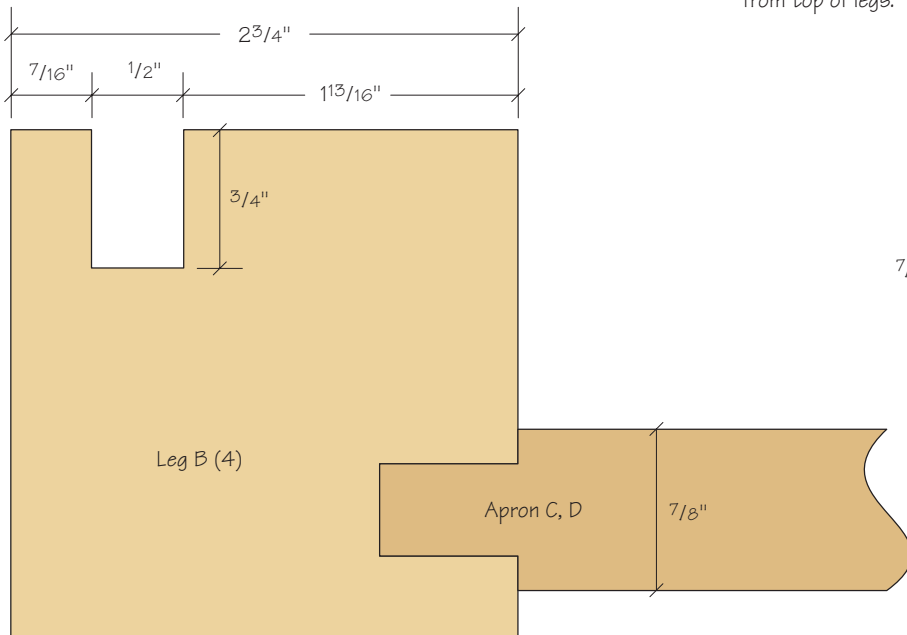
This large sofa table is perfect behind the couch, along the wall in a hallway or wherever you need an attractive table. I chose a pickled white finish for this project, but it's equally attractive with a stain or paint.







Full-scale section of table leg



Taper starts 8" from top of legs.

$\frac{7}{8}$ "

$1\frac{7}{8}$ "

$1\frac{7}{8}$ "

INCHES (MILLIMETERS)

REFERENCE	QUANTITY	PART	STOCK	THICKNESS (mm)	WIDTH (mm)	LENGTH (mm)
A	1	top	select white pine	7/8 (22)	19 1/2 (495)	71 (1803)
B	4	legs	select white pine	2 3/4 (70)	2 3/4 (70)	29 (737)
C	2	long aprons	select white pine	7/8 (22)	3 1/4 (83)	65 1/4 (1657)
D	2	short aprons	select white pine	7/8 (22)	3 1/4 (83)	13 3/4 (349)
E	2	center braces	select white pine	7/8 (22)	3 1/4 (83)	15 1/2 (394)

HARDWARE & SUPPLIES

12	3" (76mm) bugle head screws
35	No. 10 biscuits
	glue



STEP 1 | Select the best wood for the top of the sofa table. The 5/4 stock came in 16' lengths. By request, the local supplier cut them in half to enable transport in my small pickup truck.



STEP 2 | Rip the wide boards approximately into thirds and surface both sides on your thickness planer. You could use the wide boards without ripping and gluing, but they are much more likely to warp than narrow stock.



STEP 3 | After ripping and surfacing the lumber, arrange the grain pattern of the parts in the way you think they look best.



STEP 4 | Use biscuits and glue to strengthen the top.



STEP 5 | Glue up the top. Clamping the top to the work surface will help hold the top flat.

Learning Opportunity

I used the fence of my plate joiner to place the biscuit slots in the center of the stock's thickness. I later discovered, for $\frac{1}{2}$ " to 1" stock, it's not necessary to center the biscuit exactly in the thickness of the stock. Remove the fence from the biscuit joiner and set it directly on the worktable. The tabletop was the reference point for aligning the slots as I cut them.



STEP 6 | Cut the leg lumber to length.



STEP 7 | Three pieces of leg lumber are glued together to make a leg blank.



STEP 8 | Spread the glue evenly on the leg stock. Don't use too much glue, as it will ooze out, the parts will slide around, and you'll need to increase the clamping pressure to force the excess glue out of the joint.



STEP 9 | Spread the clamping pressure evenly by using several clamps. Gluing two legs at once saves time and clamps. Be sure not to glue the two legs to each other.



STEP 10 | Cut the aprons and center braces to length. Shown are all the parts you'll need for the table.



STEP 11 | Use a router in a router table to cut two $\frac{1}{2}$ " $\times$ $\frac{3}{4}$ " mortises in each leg blank. Cut them on two adjacent faces on each leg, as shown in the detail drawing in the technical art.



STEP 12 | Use a table saw and a tapering jig to create the taper on the two faces that have the mortises. Start the taper cuts 8" from the top of the leg.



STEP 13 | Don't cut all the way through the leg blank. By leaving some material, you'll be able to rotate the leg with no need to reset the tapering fixture. Use a band saw or jigsaw to complete the cuts.



STEP 14 | On the left is a table leg ready for sanding and assembly. On the right is a leg blank before trimming it on the band saw.



STEP 15 | Cut the biscuit slots for the center braces in the long rails.



STEP 16 | Use a router mounted under a router table or a table saw to cut the $\frac{1}{2}'' \times \frac{3}{4}''$ tenons on the aprons. Glue up the end-leg assemblies first.



STEP 17 | Glue the braces to the long apron pieces, then glue the long aprons to the end-leg assemblies.



STEP 18 | Double-check for squareness at the final assembly of the table base.



STEP 19 | Add a decorative edge profile to the top, using a profile-cutting router bit.



STEP 20 | Attach the top to the base using 3" bugle head screws inserted into oversize holes drilled in the aprons. Sand the table up to 150-grit. Then apply stain, if desired. Let the stain dry overnight.



STEP 21 | Apply two coats of polyurethane as a final top finish.



SPICE CABINET

by JIM STACK



PROJECT SEVEN

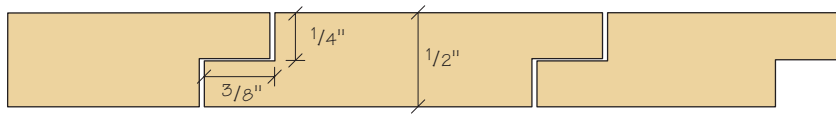
I designed this spice rack with visual movement in mind. Visual movement is an important consideration when designing furniture or cabinetry. The coves on the front and sides of the top and bottom parts of this spice cabinet guide your eye around the cabinet. Also, your eye will follow the angled doors to see where they go.

This cabinet is made of white pine, which was purchased at a local home-improvement center in the form of 1×10s that were 8' in length. The wider boards are more likely to have knot-free wood, or at least more wood that's clear and usable.

Originally, I was going to make door frames and install glass panels. Instead, I saw some honey-colored wood in one of the boards that just begged to be made into panels for the doors.

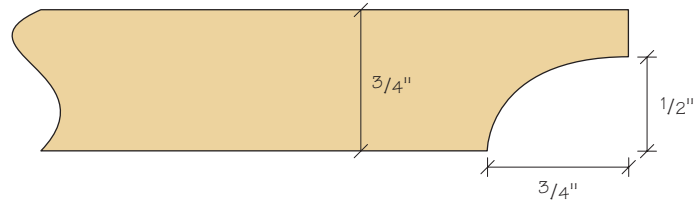
Basic woodworking skills are all that you need to make this cabinet. I used only a table saw and a router. I fit the doors with a hand plane after using the table saw to cut the bevels on the edges. After sanding the whole cabinet with 220-grit sandpaper, I finished the inside of the cabinet with thinned (about 400 percent) shellac. It will smell good every time the cabinet is opened. The outside of the cabinet was finished with two light coats of wipe-on polyurethane.

Full-scale section detail of cabinet back slats with shiplap joints

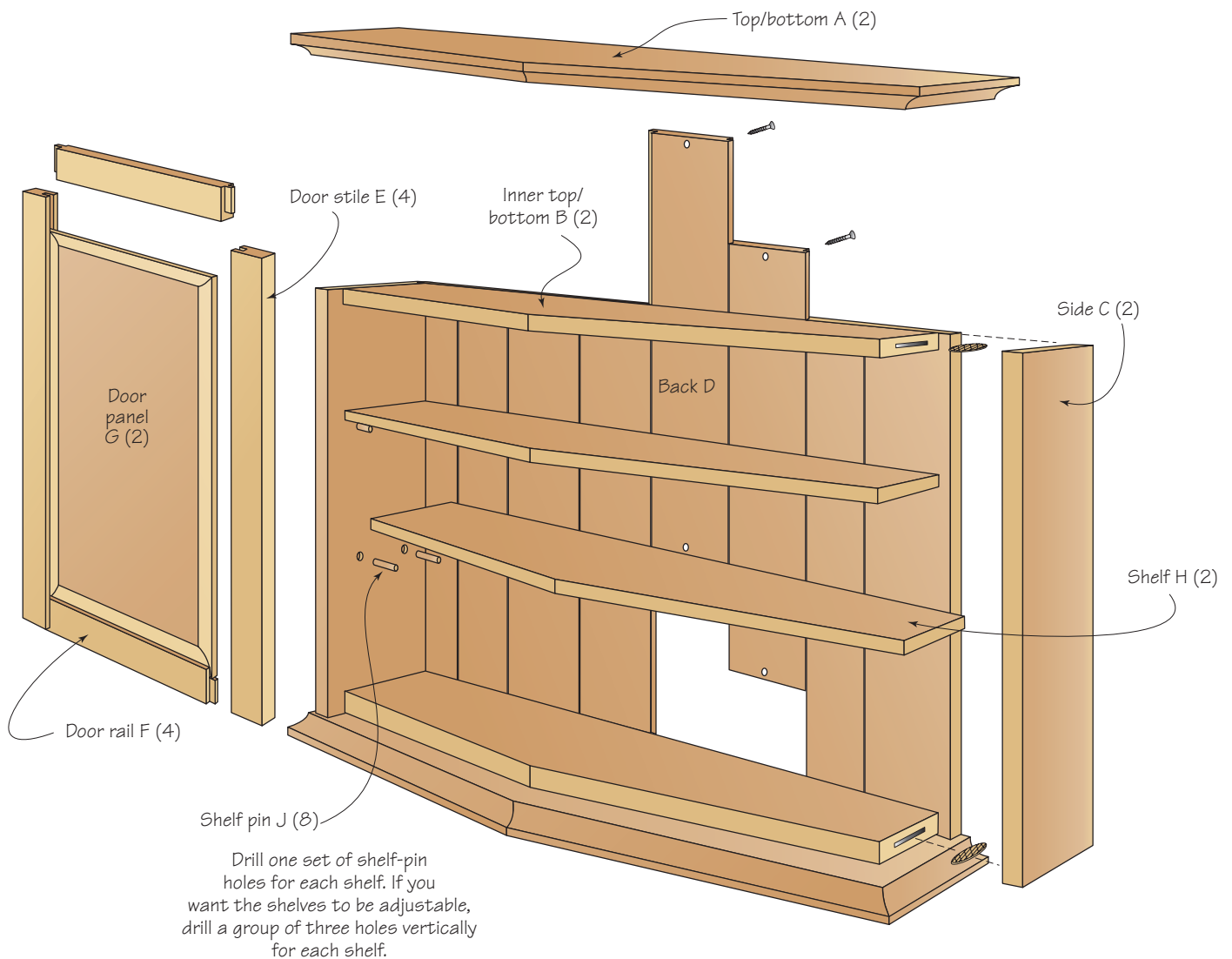


Back slats are random widths.

Profile for top/bottom A



Cut the cove asymmetrically to add visual interest.



INCHES (MILLIMETERS)

REFERENCE	QUANTITY	PART	STOCK	THICKNESS (mm)	WIDTH (mm)	LENGTH (mm)	COMMENTS
A	2	top/bottom	white pine	3/4 (19)	8 (203)	26 (660)	
B	2	inner top/bottom	white pine	5/8 (16)	5 3/4 (146)	22 1/2 (572)	
C	2	sides	white pine	3/4 (19)	5 1/4 (133)	16 (406)	
D	1	back	white pine	1/2 (13)	16 (406)	23 1/2 (597)	back is made of random width boards using shiplap joints
E	4	door stiles	white pine	3/4 (19)	1 1/2 (38)	15 7/8 (403)	
F	4	door rails	white pine	3/4 (19)	1 1/2 (38)	9 7/16 (240)	
G	2	door panels	white pine	1/2 (13)	9 3/16 (233)	13 3/4 (349)	
H	2	shelves	white pine	3/4 (19)	5 1/2 (140)	22 15/16 (583)	
J	8	shelf pins	hardwood dowel	1/4 dia. (6)	3/4 (19)		

HARDWARE & SUPPLIES

4	No. 20 biscuits
20-25	1 1/4" (32mm) drywall screws
	wood glue
4	1 1/2" (38mm) butt hinges



STEP 1 | Start this project by cutting out the top/bottom parts. Cut the parts to the width and length shown in the materials list. Then lay out the front angles. Temporarily join the two parts together with double-stick tape. Cut them using a jigsaw or band saw. Smooth the saw cuts using a hand plane or power jointer. Finally, draw the rest of the cabinet on the top. Cut out the inner top/bottom and the sides, using these lines as your guides for sizing the parts. This ensures they will all fit together properly.



STEP 2 | Cut the 1/2" x 1/2" rabbets on the back edges of the sides using a dado stack set up in your table saw. You could also cut these rabbets with a single blade by first standing the parts on edge and making the first cut. Then lay the parts flat and make the second cut to remove the material to create the rabbet. If you use a dado stack, you'll need to attach a sacrificial fence to the table saw fence because the dado blades will cut slightly into the fence.



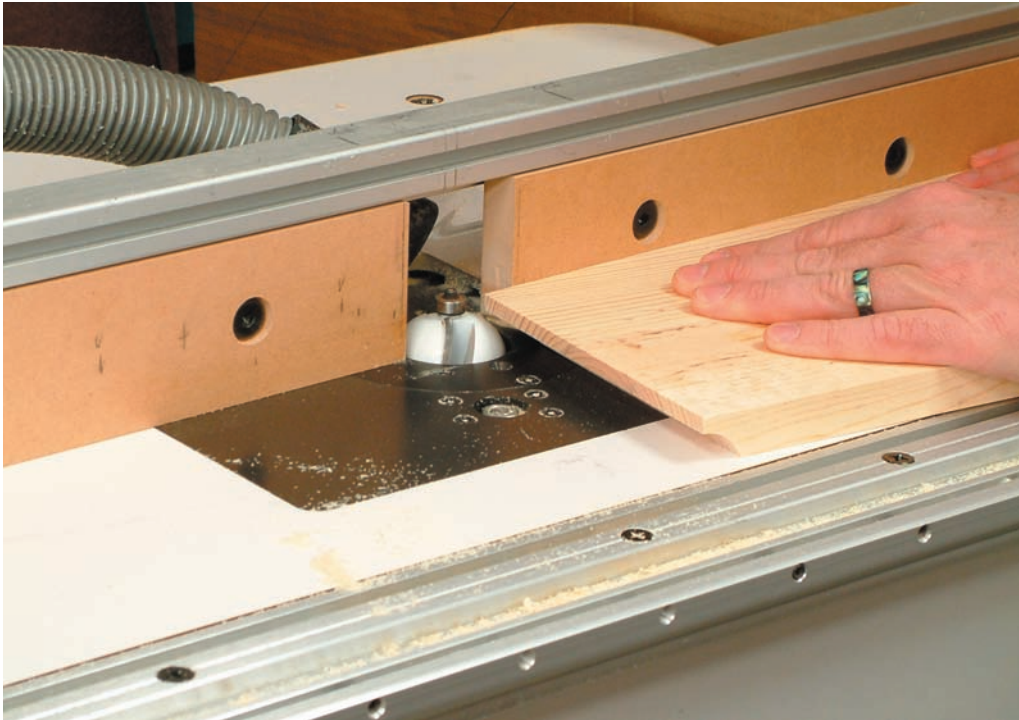
STEP 3 | Use biscuits and glue to join the inner top/bottom to the sides.



STEP 4 | When gluing the sides to the inner top/bottom parts, double-check the cabinet for squareness.



STEP 5 | Cut enough boards to create the back of the cabinet. Using several individual boards to make the back rather than making it one solid piece minimizes the seasonal movement in the wood. Make the shiplap joints using the same dado setup you used in step 2. Then attach the back boards with a single 1¼" drywall screw in the center top and bottom of each one. Use no glue.



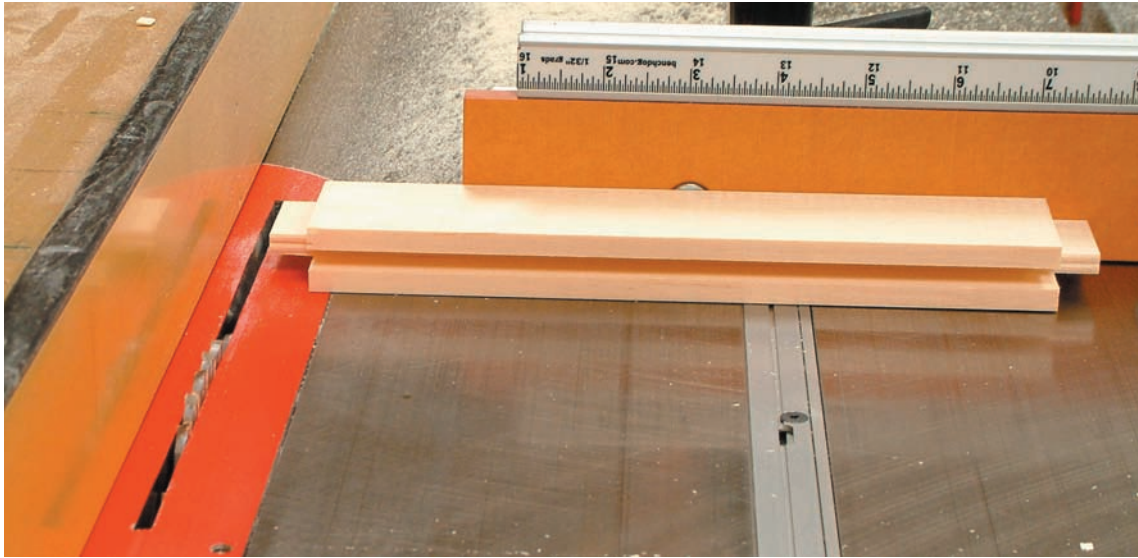
STEP 6 | Cut the cove on the ends and front of the top/bottom parts, using a router. To give the cove more visual interest, cut it asymmetrically. (See the illustration for details.)



STEP 7 | Glue the top/bottom parts to the cabinet.



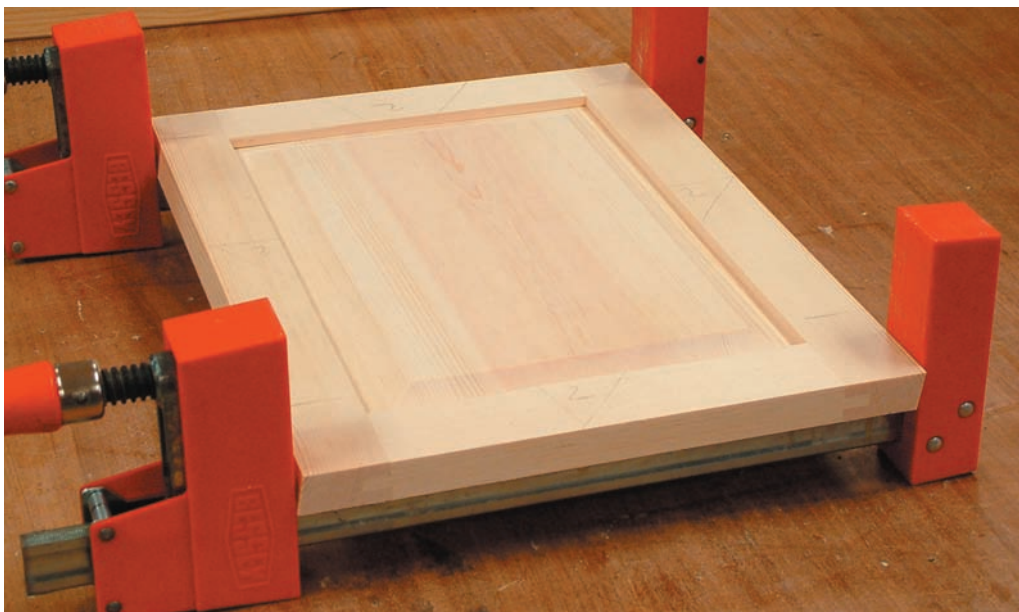
STEP 8 | Cut out the door parts. Using a single blade, cut a $\frac{1}{4}$ "-wide by $\frac{3}{4}$ "-deep groove in the center of the stiles and rails. To center the groove, make the first cut slightly off center. Then flip the part end for end and make the second cut to create the groove.



STEP 9 | Cut $\frac{1}{4}$ "-wide by $\frac{3}{4}$ "-long tenons on the rails by setting the fence to the length of the tenon. Nibble the wood with the saw blade, then flip the rail over to complete the tenon. This will automatically center the tenon on the rail. Fit the tenons first using some scrap wood.



STEP 10 | Use the router to cut the cove on the door panels. You could also raise the panels by cutting a 12° bevel on the panel edges.



STEP 11 | When assembling the doors, glue them up on a flat surface. Apply glue only on the frame joints. Let the panel float in the frame.



STEP 12 | Make a router jig to cut the mortises for the door hinges. (See “Jig for Routing a Hinge Mortise” on the next page.) The depth of the mortise will dictate the spacing between the door and the cabinet side.

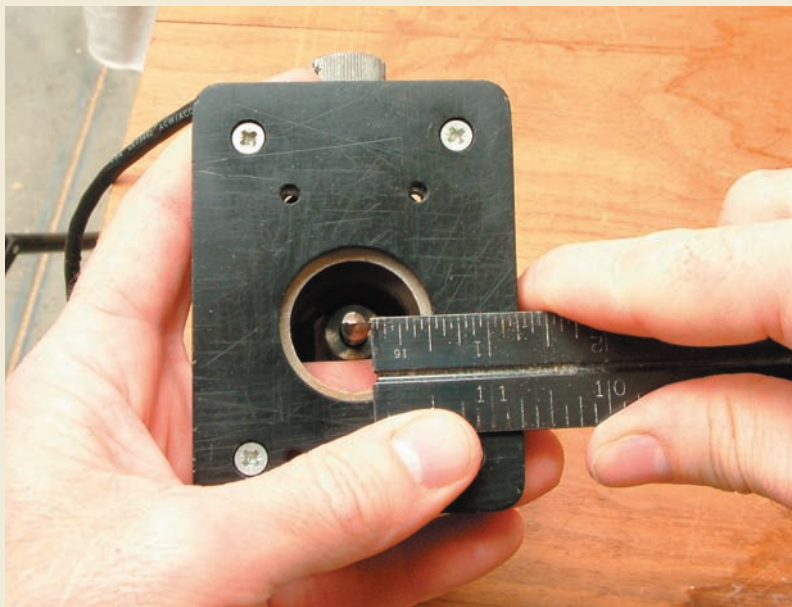


STEP 13 | This is the bird’s-eye view of the cut mortise. Use a chisel to square the corners of the mortise.

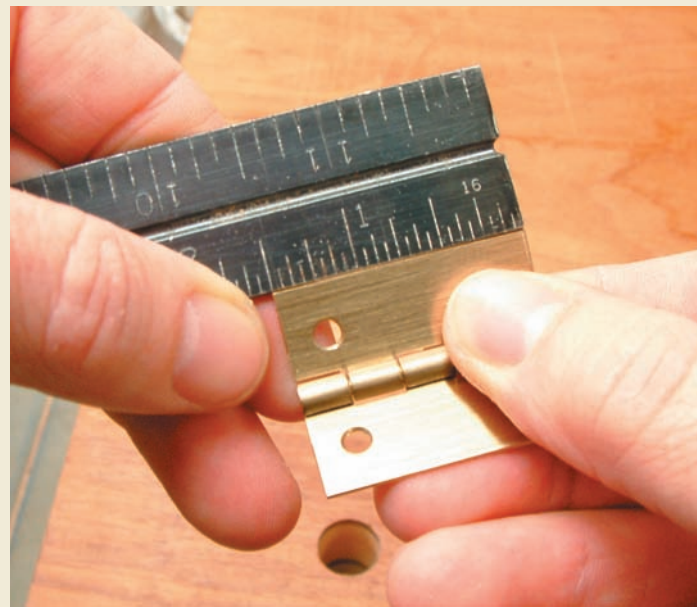


STEP 14 | The hinge is installed with the barrel located proud from the door front. This allows the door to swing a full 180°. Cut out the shelves like you did the tops/bottoms. Drill the shelf-pin holes. Cut the shelf pins to length and smooth the ends with sandpaper. After the cabinet is completed, remove the doors, sand all the parts up to 220-grit and apply the finish.

Jig for Routing a Hinge Mortise



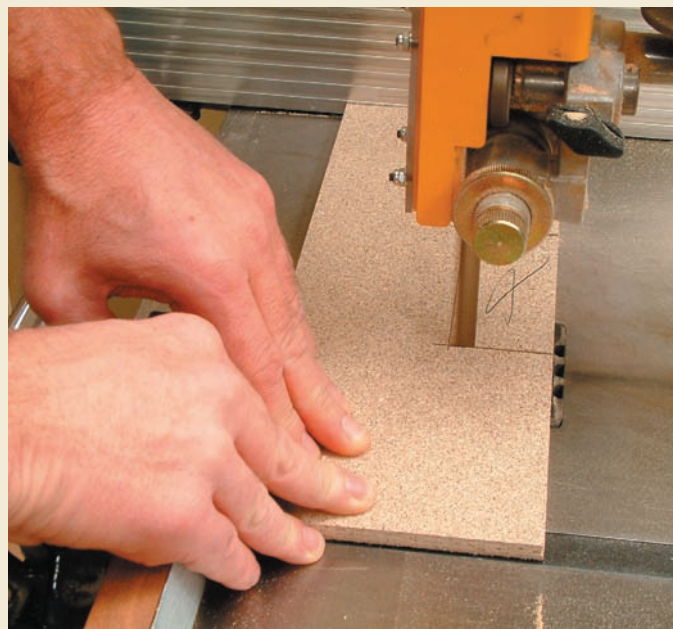
STEP 1 | Measure the distance (d) from the bit to the edge of the router base. If you're using a guide collar, measure from the bit to the outside of the collar.



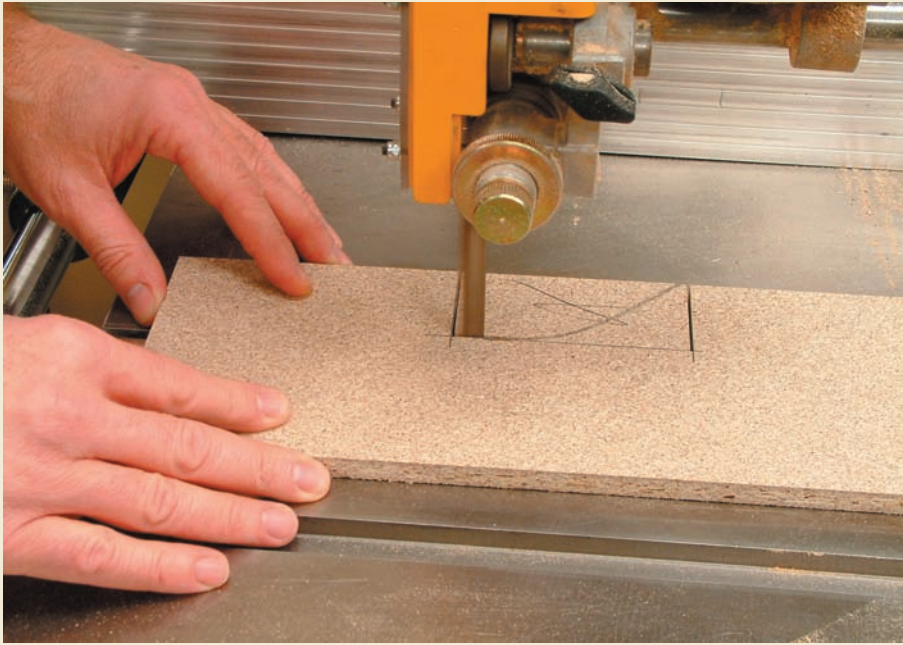
STEP 2 | Measure the hinge's length and width. Add the measurement from step one to the width. Double the measurement from step one and add it to the length of the hinge. These are the two cutout sizes for the template's base.



STEP 3 | Use the measurements from step two and draw the cut out on the template's base. Make the first cut as shown.



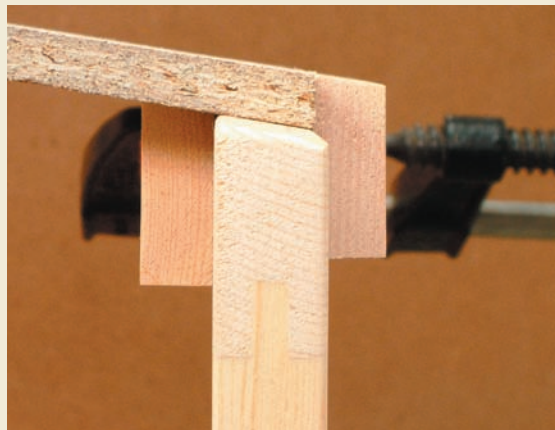
STEP 4 | Make a second cut to define the mortise's width.



STEP 5 | Make the first cut freehand, cutting up to the depth line.



STEP 6 | Set the fence to the depth of the cutout and make the final cut.



STEP 7 | Cut two cleats about 2" wide and as long as the template. These cleats are nailed or screwed to the template to hold it in place on the edge of the door, and they are great clamping blocks. Normally the edges of doors are square, but for this project the doors have beveled edges, so the cleats and the front edge of the template needed the same bevel. Use this jig as shown in steps 12 and 13.

OUTDOOR PLANTER BENCH

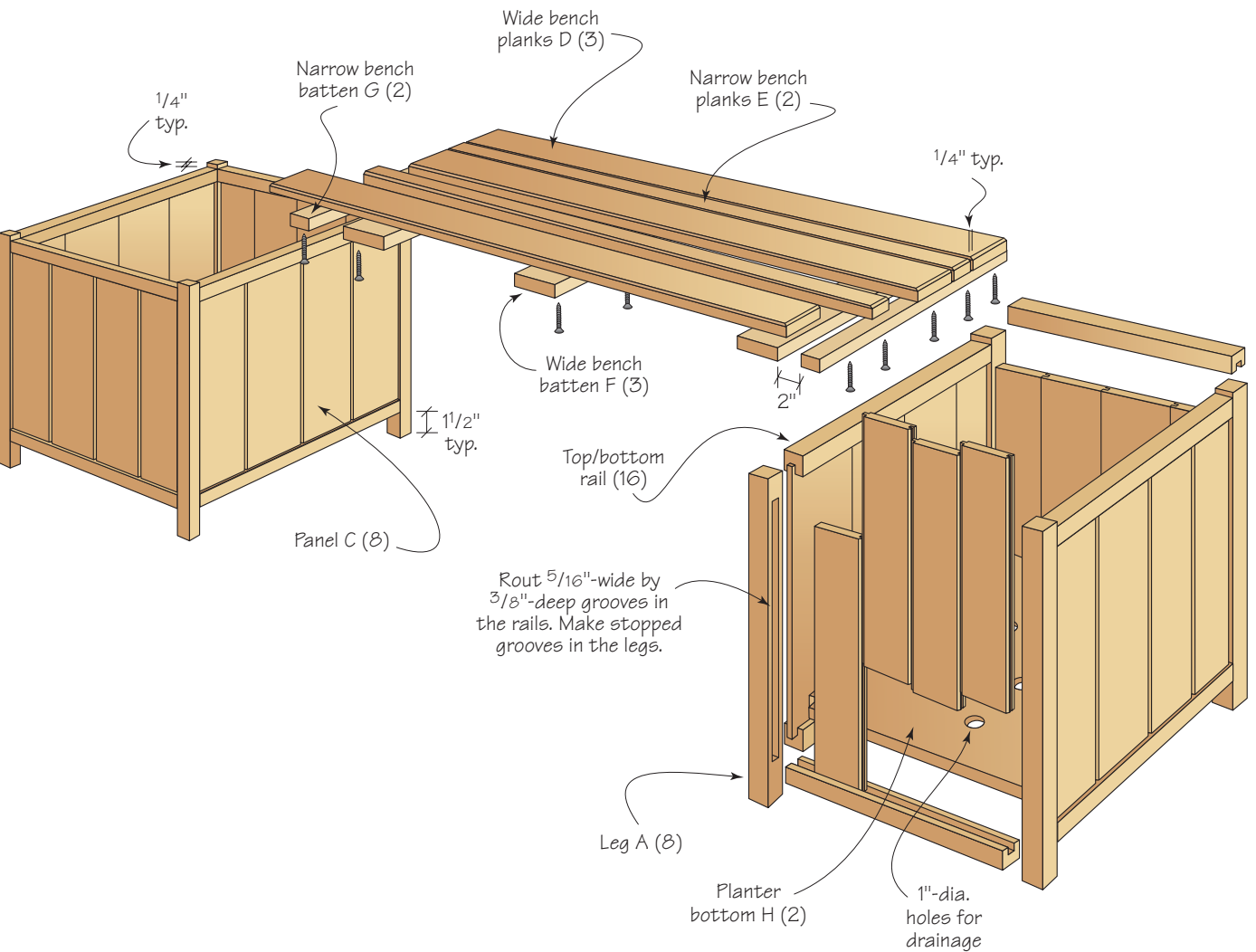
by JOHN MCGUANE

PROJECT EIGHT

Cedar is durable when exposed to weather and has a natural resistance to insects and rot — so it was the perfect choice for this project. Redwood would be another good choice. If you plan to paint your piece, use treated lumber.







INCHES (MILLIMETERS)

REFERENCE	QUANTITY	PART	STOCK	THICKNESS (mm)	WIDTH (mm)	LENGTH (mm)	COMMENTS
A	8	legs	cedar	1 1/2 (38)	1 1/2 (38)	17 (432)	
B	16	top/bottom rails	cedar	1 1/2 (38)	1 1/2 (38)	17 (432)	
C	8	panels	cedar	5/16 (8)	17 3/4 (451)	13 (330)	tongue-and-groove closet liner boards
D	3	wide bench planks	cedar	3/4 (19)	4 1/4 (108)	36 (914)	
E	2	narrow bench planks	cedar	3/4 (19)	1 1/2 (38)	36 (914)	
F	3	wide bench battens	cedar	3/4 (19)	3 (76)	16 3/4 (426)	
G	2	narrow bench battens	cedar	3/4 (19)	1 1/2 (38)	16 3/4 (426)	
H	2	planter bottoms	CDX plywood	1/2 (13)	18 (457)	18 (457)	7/8" x 7/8" (22mm x 22mm) notch at all four corners

HARDWARE & SUPPLIES

	polyurethane glue
	galvanized nails
31	1 1/4" (32mm) galvanized drywall screws



STEP 1 | If you have $\frac{3}{4}$ "-thick material, you'll need to glue two pieces together to create $1\frac{1}{2}$ "-thick blanks for the legs and rails. Glue up these assemblies in groups. This saves time and clamps. Use waxed paper between the dry joints to ensure the parts don't stick together.



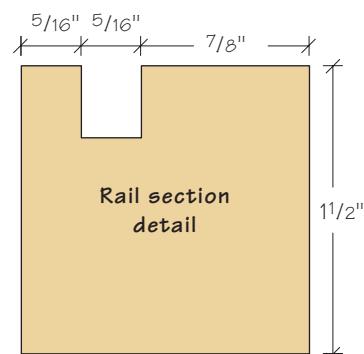
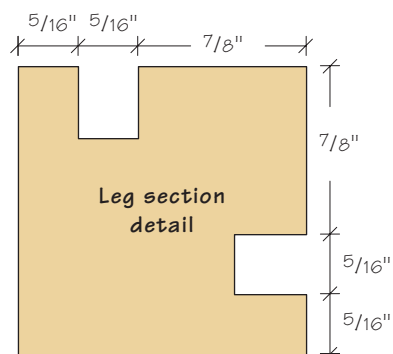
STEP 2 | Machine the parts to dimension and cut to length.



STEP 3 | Use a router mounted under a table to cut the grooves in the legs and rails. See illustration for groove details.



STEP 4 | Cut stopped dadoes into two adjacent sides of each of the legs. Use the same setup to cut a through-dado in the top and bottom rails.





STEP 5 | Make a squaring jig by clamping straight boards at 90° to each other. This makes it easy to install the panels into the rails and keep the whole assembly square. Glue the panels into the top and bottom rails. The panels should be $\frac{3}{4}$ " longer than the rails. This extra length is the tenons that go into the grooves in the legs.



STEP 6 | Glue the ends of the panels into the grooves in the legs. Make four of these assemblies.



STEP 7 | Glue two of the assemblies from step 6 together with two of the legless panel assemblies from step 5. Then, after cutting notches at all four corners of the bottom panels, glue and screw them to the inside top edges of the bottom rails.



STEP 8 | To give the bench some detail, bevel the edges of the bench planks using a router.



STEP 9 | Attach the bench planks to the battens using galvanized screws installed from the bottom of the battens. (See the technical art for locations of the battens.) Then rout a bevel on the ends of the bench planks.



STEP 10 | Seal the project with sanding sealer. Then apply two coats of spar varnish as a topcoat. While cedar can withstand the elements for an extended period of time, it will weather to a silvery gray if not protected. I like the “fresh” cedar look, and finishing will maintain that.



STEP 11 | Drill a series of 1"-diameter holes in the planter bottoms so water will drain easily out of the planters.

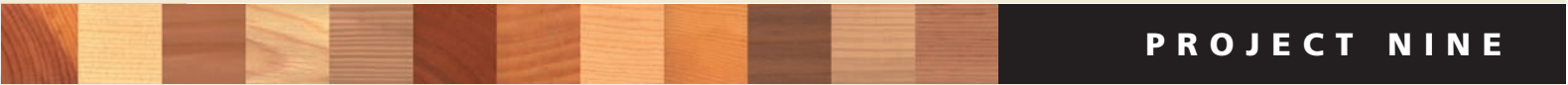


STEP 12 | You may choose to buy plastic pots to put inside the planters, which makes it easy to bring plants in from the cold. Or if you choose to fill the planters directly, put a layer of coarse gravel or small stones in the bottom before adding soil so proper drainage occurs.



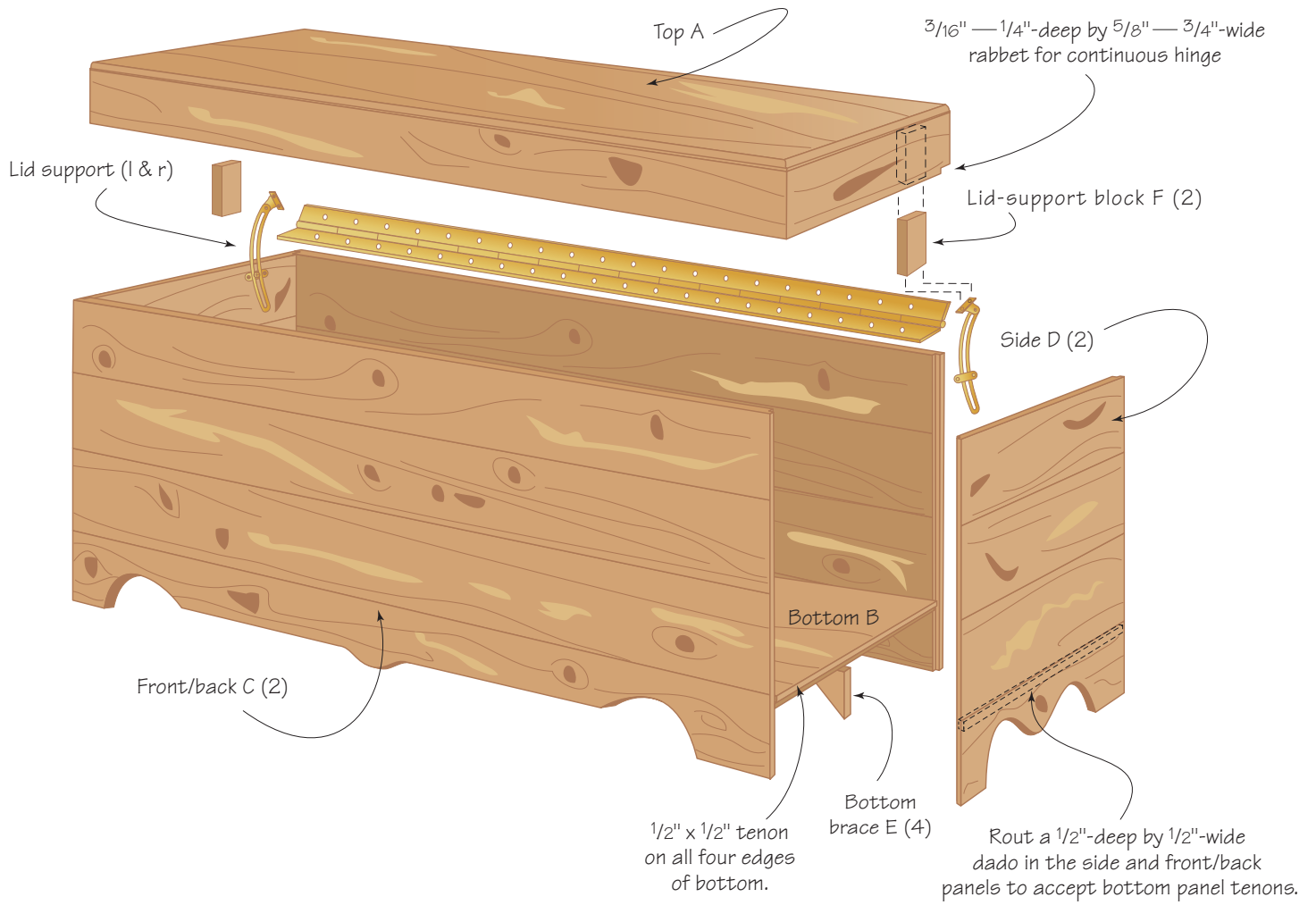
BLANKET CHEST

by JOHN MCGUANE

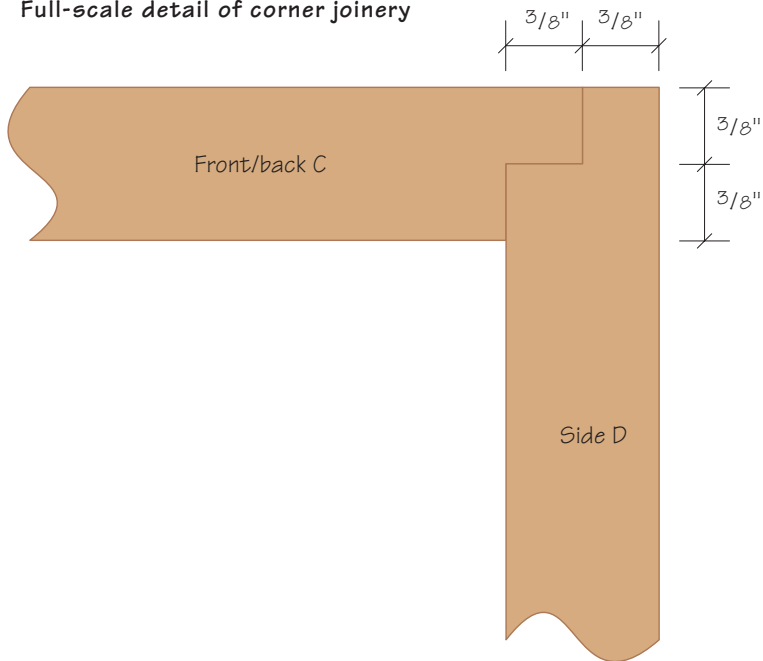


PROJECT NINE

Placed at the foot of a bed, this cedar blanket chest is perfect for extra storage and can double as a bench. The natural moth-repellent properties of the aromatic cedar will protect your blankets, sweaters and fine woolens for years to come.



Full-scale detail of corner joinery

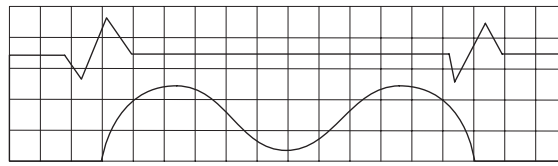


INCHES (MILLIMETERS)

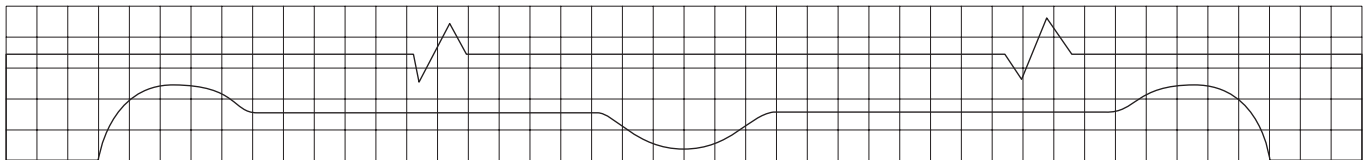
REFERENCE	QUANTITY	PART	STOCK	THICKNESS (mm)	WIDTH (mm)	LENGTH (mm)
A	1	top	aromatic cedar	$\frac{3}{4}$ (19)	18 (457)	44 (1118)
B	1	bottom	aromatic cedar	$\frac{3}{4}$ (19)	$17\frac{1}{4}$ (438)	$43\frac{1}{4}$ (1099)
C	2	front/back	aromatic cedar	$\frac{3}{4}$ (19)	23 (584)	44 (1118)
D	2	sides	aromatic cedar	$\frac{3}{4}$ (19)	23 (584)	18 (457)
E	4	bottom braces	aromatic cedar	$\frac{3}{4}$ (19)	3 (76)	3 (76)
F	2	lid-support blocks	aromatic cedar	$\frac{3}{4}$ (19)	2 (51)	4 (102)

HARDWARE & SUPPLIES

1	44" (1118mm) brass-plated steel continuous hinge
2	friction lid supports (left and right)
10-20	No. 20 biscuits
a few	4d finishing nails

APRON PATTERNS

18"



44"

Each square represents 1".



STEP 1 | Aromatic cedar has a busy grain pattern. You can cut the wood to suit your personal taste. The light-colored sapwood contrasts dramatically with the heartwood. If you want to get good yield from the lumber, try different configurations of the boards until you're satisfied with the overall pattern.



STEP 2 | One benefit of using aromatic cedar is that your shop will smell wonderful for days. Plane the lumber and cut it so several of the knots remain. The knots contain a lot of resin, which adds to the aroma.



STEP 3 | Use biscuits to reinforce the edge joints. Mark the location of the biscuits about one per foot. Be careful where you place the biscuits so they aren't located in the middle of a cut.



STEP 4 | Be sure the panels remain flat at glue-up time. After the glue dries, cut the panels to size.



STEP 5 | The corner joints of this box use a double-rabbeted joint. I cut the $\frac{3}{8}" \times \frac{3}{8}"$ rabbets in the front/back and side panels, using a straight-cutting bit in a router mounted under a table.



STEP 6 | Use a pair of outfeed rollers and a board as an extra pair of hands to keep the workpiece level.



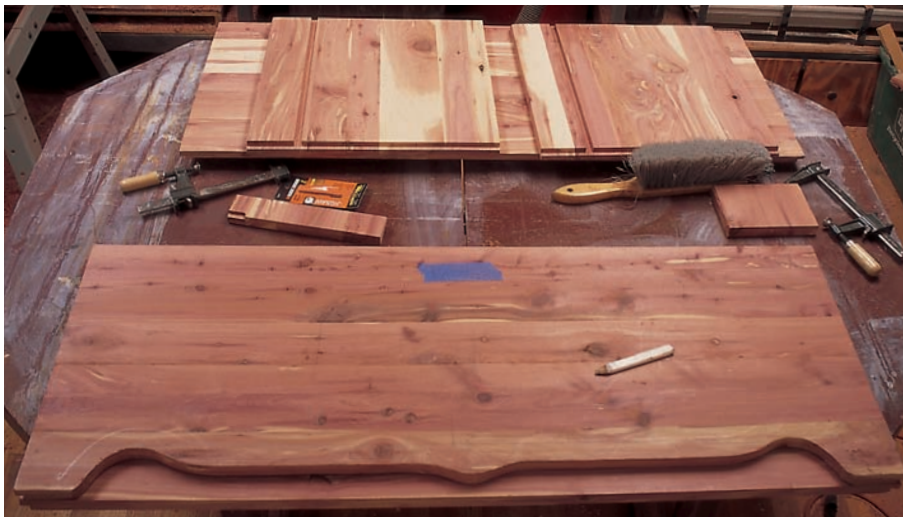
STEP 7 | Reset your router table fence and cut the $\frac{1}{2}" \times \frac{1}{2}"$ dados in the front/back and side panels for the bottom panel.



STEP 8 | Dry fit all the parts before final glue-up. This gives you a chance to rehearse the steps for glue-up.



STEP 9 | Use the provided apron patterns and a jigsaw to cut decorative curves in the bottom of the vertical panels. These cutouts are more than embellishments. They create four feet that will allow the box sit level on uneven floors.



STEP 10 | Using the front panel as a template, transfer the decorative design to the back panel. The side panels use a variation of the pattern used on the front/back panels. Then, rout the $\frac{1}{2}" \times \frac{1}{2}"$ groove for the bottom panel into the side panels and the front/back panels.



STEP 11 | Cut the $\frac{1}{2}" \times \frac{1}{2}"$ tenon on the edges of the bottom panel using a jointer or a straight-cutting bit in the router. This tenon will fit into the grooves that were routed in step 10.



STEP 12 | Do another dry fit with the bottom included.



STEP 13 | First, rip 4" from the top of the side and front/back panels. These pieces will be used for the sides of the lid. Then apply glue and assemble the chest.



STEP 14 | Using the assembled chest as a gluing template, glue the sides of the lid together. Use waxed paper between the chest and lid at the joints so the glue won't attach the lid sides to the chest.



STEP 15 | Glue the top to the lid sides. If necessary, use a few small nails to hold the lid in place while you clamp it. The nail holes can be filled later.



STEP 16 | Use a sanding drum attached to a hand drill to smooth the curved edges of the box.



STEP 17 | Rout a decorative profile on the edges of the top and on the curved detail along the bottom of the box.



STEP 18 | Cut the rabbet in the back, bottom edge of the lid, using a jointer or router. The depth of the rabbet should be the same as the thickness of the closed hinge. Cut the continuous hinge to length and attach it to the lid, then attach the lid to the chest. Glue the lid-support blocks in place, then install the lid supports. Finally, glue the bottom braces in place.



STEP 19 | To prepare the chest for finishing, tape the edges of the lid and box to stop the finish from bleeding into the chest. The inside of the chest is left unfinished and can be sanded periodically in coming years to release more moth-repellent scent.



STEP 20 | Seal the entire exterior of the box with two coats of lacquer. Then apply two layers of spar varnish, sanding lightly between coats.

FRANKLIN CHAIR

by JOHN MCGUANE

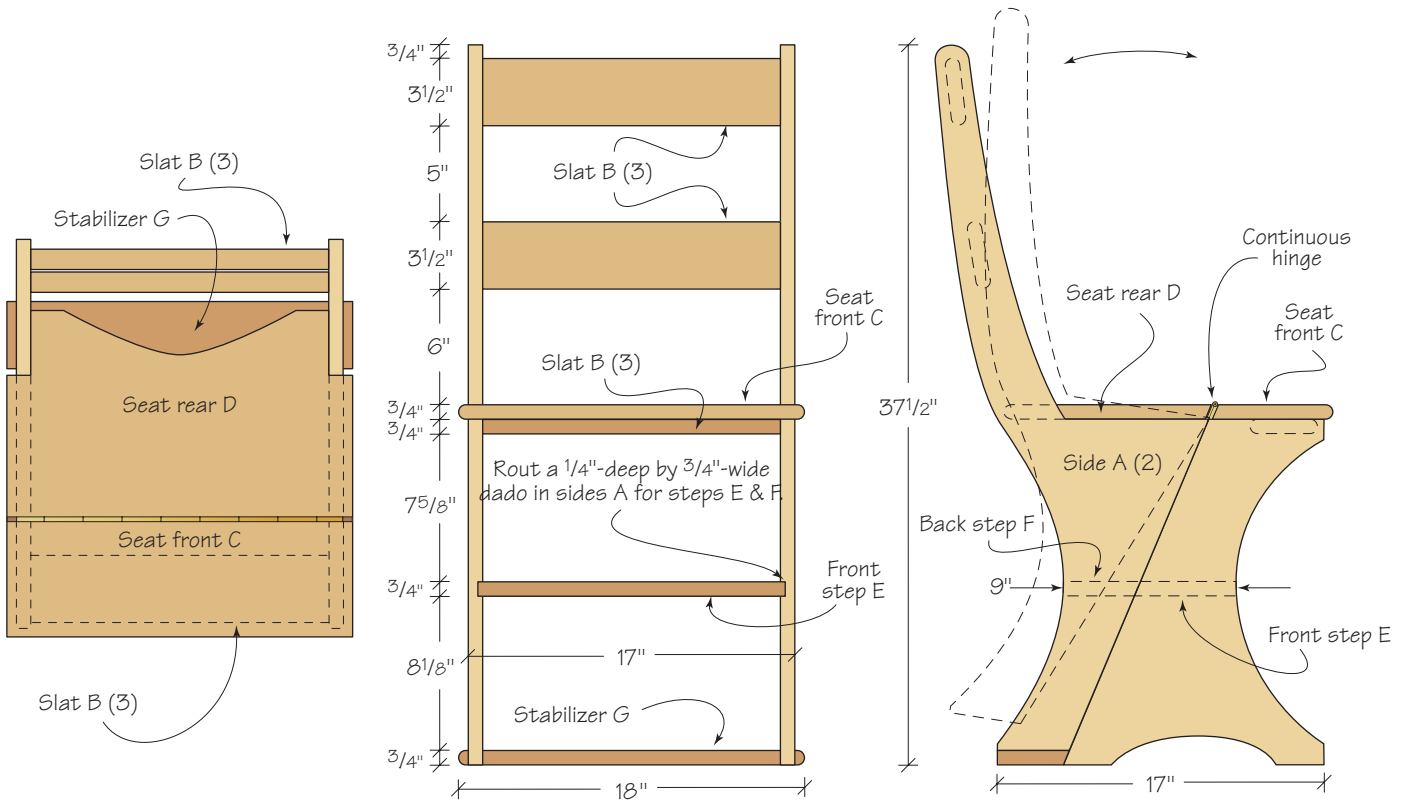
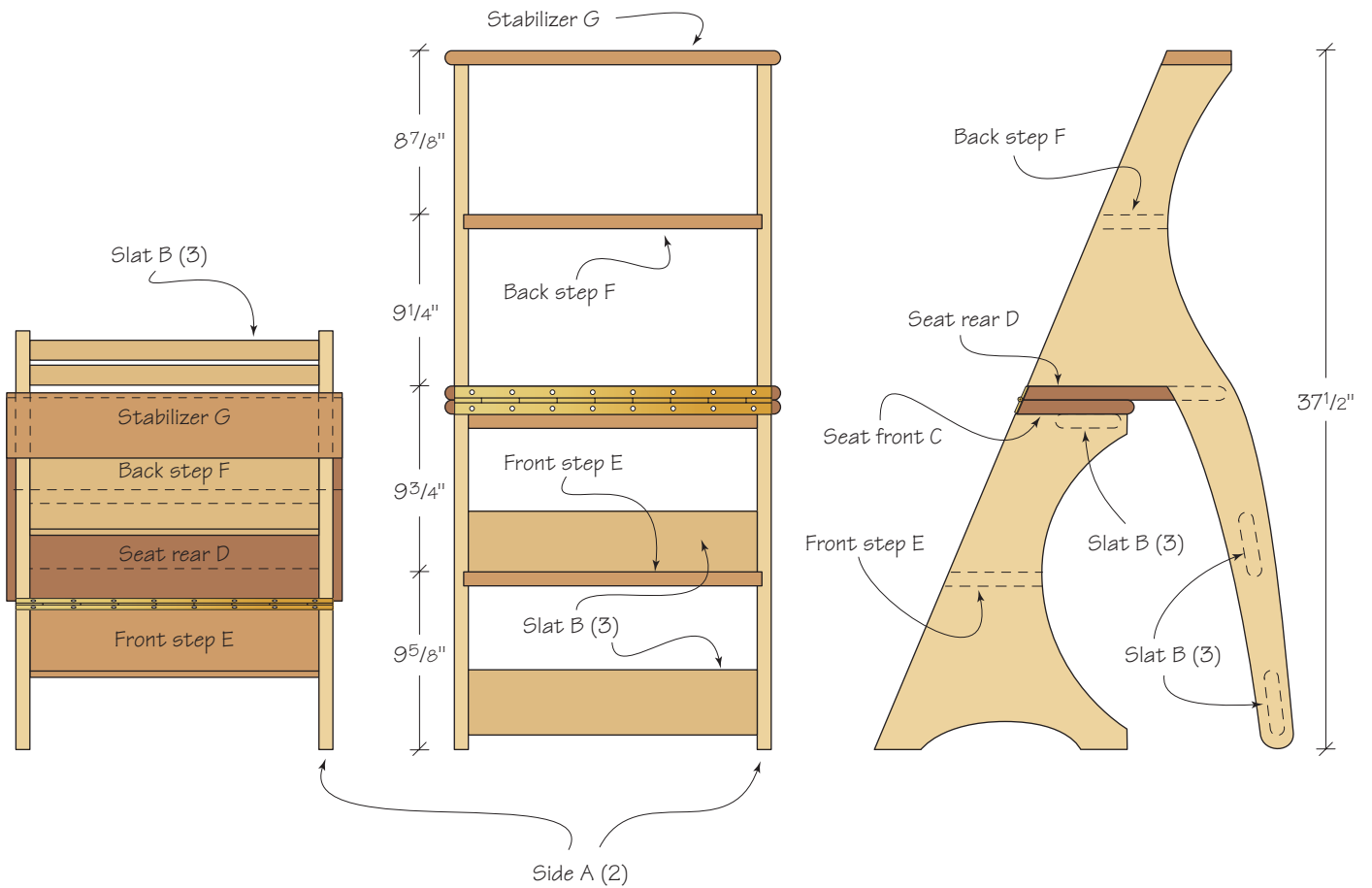
PROJECT TEN

Legend has it that the design for this ingenious piece of furniture, also known as a ladder chair or library chair, was invented by Benjamin Franklin. This attractive, useful chair easily converts into a ladder, enabling you to reach the top shelves of bookcases and cabinets without having to pull your stepladder out of storage.

This project is made of yellow pine purchased at a local home-improvement center. I used yellow pine because of its strength and stability. Although I finished my Franklin chair with shellac, it can be painted to fit any room or decor.





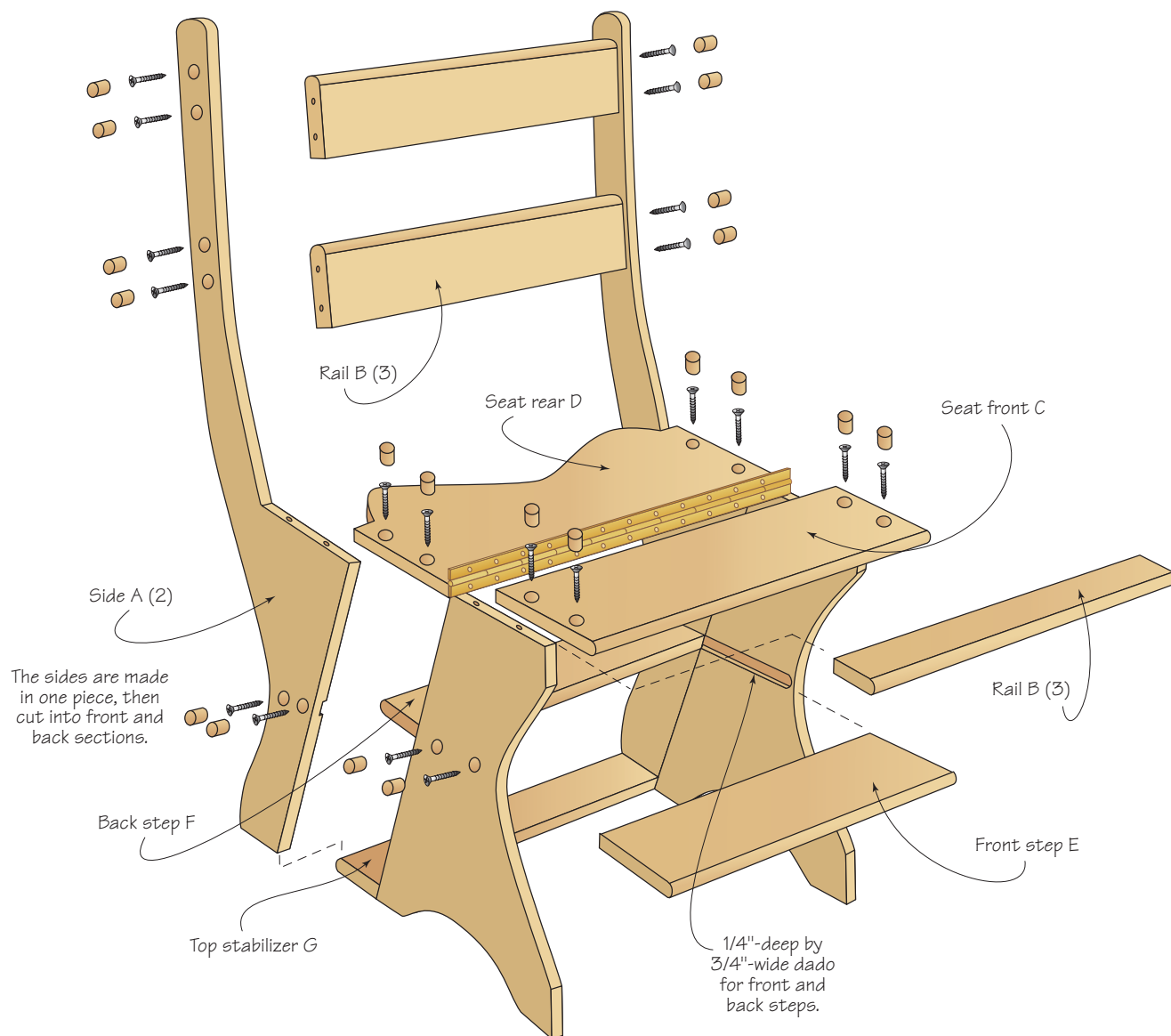


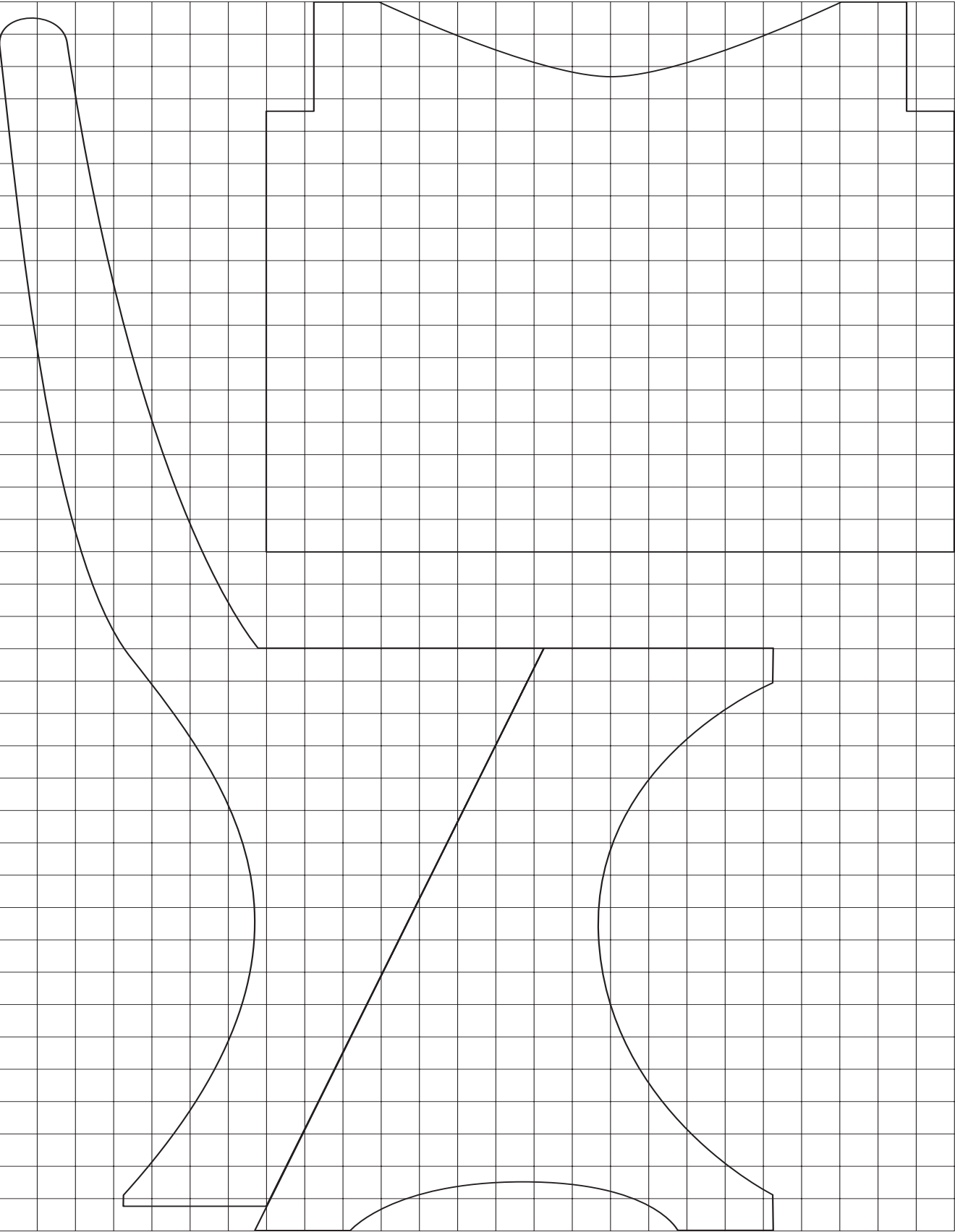
INCHES (MILLIMETERS)

REFERENCE	QUANTITY	PART	STOCK	THICKNESS (mm)	WIDTH (mm)	LENGTH (mm)	COMMENTS
A	2	sides	yellow pine	3/4 (19)	20 1/4 (514)	37 1/2 (953)	
B	3	rails	yellow pine	3/4 (19)	3 1/2 (89)	15 1/2 (394)	
C	1	seat front	yellow pine	3/4 (19)	18 (457)	6 5/16 (160)	23° bevel on hinge edge
D	1	seat rear	yellow pine	3/4 (19)	18 (457)	10 7/8 (276)	23° bevel on hinge edge
E	1	front step	yellow pine	3/4 (19)	5 1/8 (130)	16 (406)	23° bevel on one long edge
F	1	back step	yellow pine	3/4 (19)	4 1/4 (108)	16 (406)	23° bevel on one long edge
G	1	top stabilizer	yellow pine	3/4 (19)	3 3/4 (95)	17 1/2 (445)	

HARDWARE & SUPPLIES

1	17 3/4" (451mm) brass-plated continuous hinge
28	3/8"-diameter x 1/4"-long (10mm x 6mm) maple plugs
28	No. 10 x 2" (51mm) steel screws
10-20	No. 20 biscuits
	wood glue





Each square represents 1".



STEP 1 | The yellow pine for this project was purchased from a local home-improvement center. Yellow pine is strong and stable when properly seasoned. It's an excellent material for projects that require strength and rigidity.



STEP 2 | Use your compound miter saw to cut the boards to the proper lengths. Then cut the slots for the biscuits. Be sure the location of the biscuits won't be on the cutting line of the side pattern.



This folding ladder was the model for the Franklin chair.

Tip

Chairs and ladders need to support a wide range of loads. Think carefully when you build anything that would cause an injury if a failure in design or workmanship should occur. Pay special attention to your load-supporting joints. I reinforced all the joints of this project with 2" steel screws. The screw heads are countersunk and plugged. The screws make assembly much easier, as clamping is not required.



STEP 3 | Use battens to help keep the glued-up sides flat.



STEP 4 | Glue the final wing piece on the long back edges of the sides. Then, using a straightedge and a router, cut a $\frac{1}{4}$ "-deep by $\frac{3}{4}$ "-wide dado in the sides for the front and back steps. Be sure to make right and left sides.



STEP 5 | Draw the pattern on the side blanks (see pattern illustration). Then, using a jigsaw, separate the front and back parts of the sides.



STEP 6 | This side pattern is one idea of how the chair could look. Feel free to change this pattern to suit your tastes.



STEP 7 | The jigsaw is a good tool for cutting the patterns on the sides. You could also use a band saw or coping saw.



STEP 8 | Finish cutting the back part of the sides.



STEP 9 | Use your own sense of design when laying out the curves on your chair. Just be careful not to compromise strength by removing too much material. You can use a bucket or other round object to help lay out the curves.



STEP 10 | Cut the steps and slats to size and check the fit of all the parts. Sand them before final assembly.



STEP 11 | Assemble the chair using glue and screws.



STEP 12 | After cutting the seat to shape, separate the front and back parts. Then attach the continuous hinge to the parts. The bevels on the hinged edges of the seat should match the angle of the front and back parts of the chair sides. Finally, attach the seat to the chair, using glue and screws. Plug all the screws holes on the chair and sand them flush.



STEP 13 | Finish the chair how you like. I used three coats of shellac.

BACHELOR CHEST

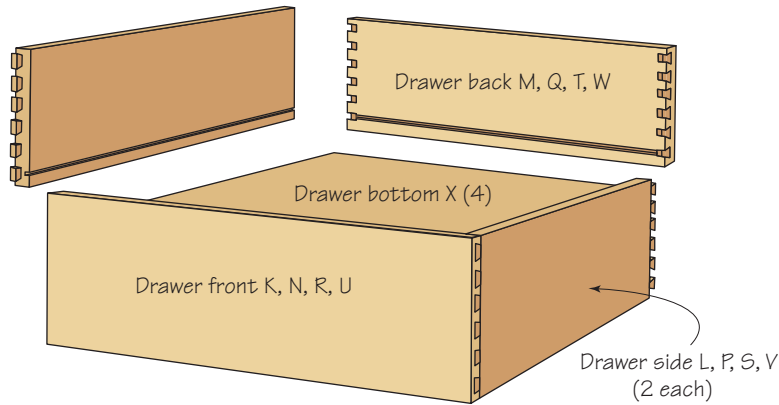
by JOHN MCGUANE

PROJECT ELEVEN

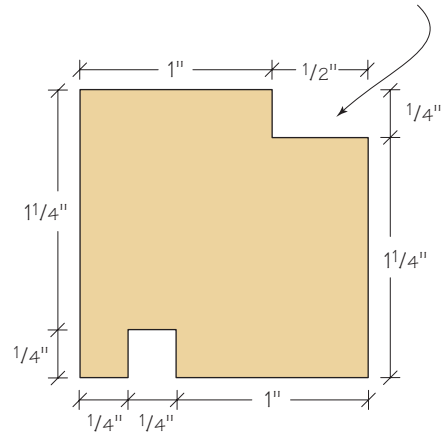
This chest was built with No. 2 Pine — not usually considered furniture grade. With a little planning, though, you can build beautiful pieces using this cost-effective wood. If you like the rustic look, simply incorporate the knots and defects into your cut stock. If, however, you prefer the look of clear pine, simply rip your 6" and 8" boards into narrower stock, discarding the strips with undesirable defects.

I wanted to make this bachelor chest because I had seen one and I became intrigued by its construction. I thought it would be fun to figure out the mystery and show others how to make it. This chest is designed to fit into any small room, but the dimensions can be expanded to fit the needs of a larger room.

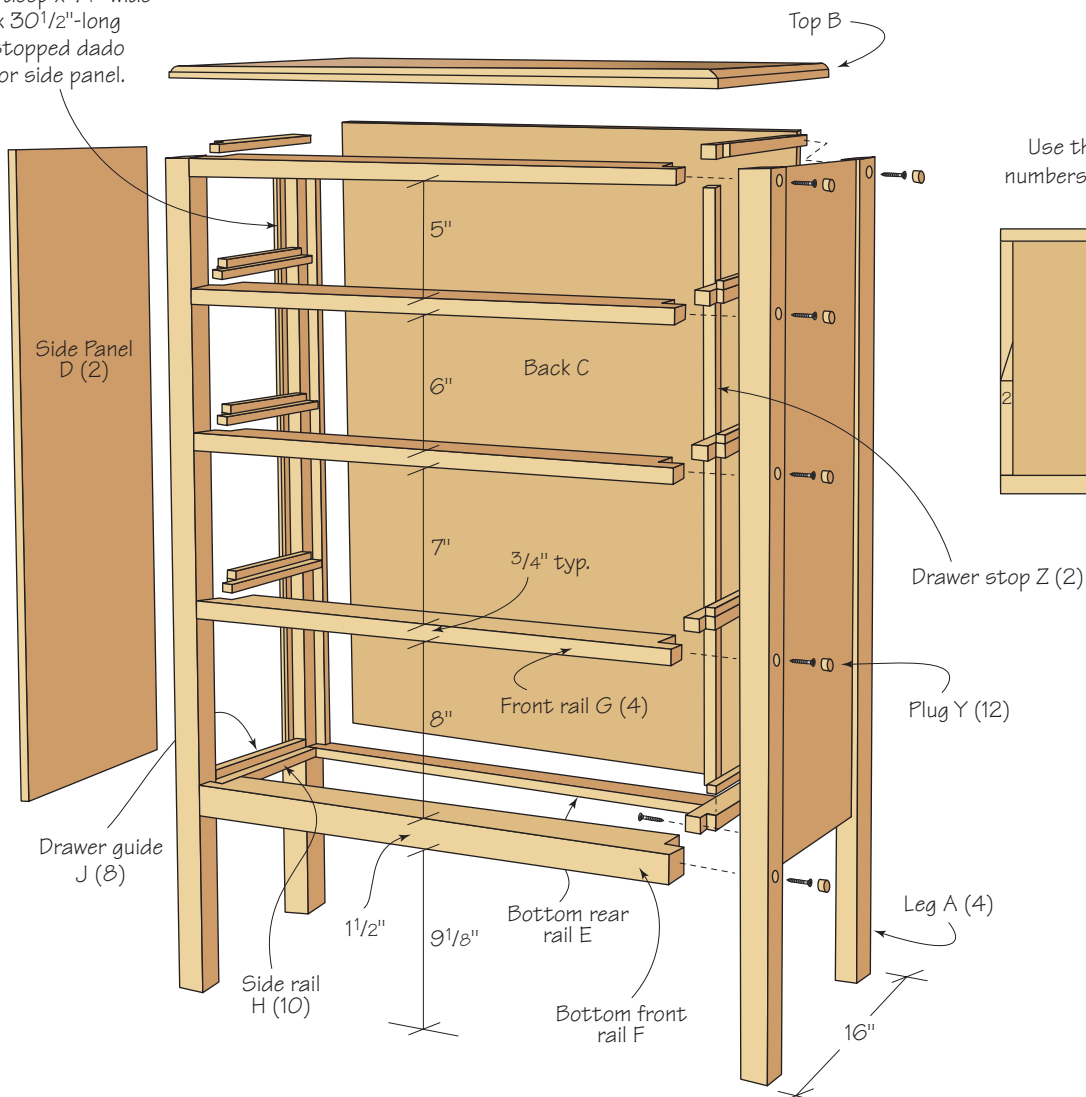




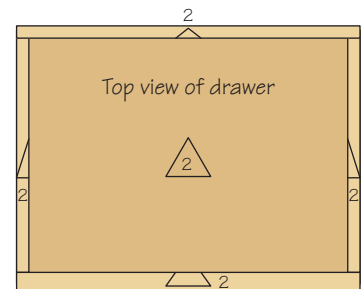
Full-scale leg section This rabbet in back legs only.



1/4"-deep x 1/4"-wide x 30 1/2"-long stopped dado for side panel.



Use the orienting triangle and numbers to label the drawer parts.



INCHES (MILLIMETERS)

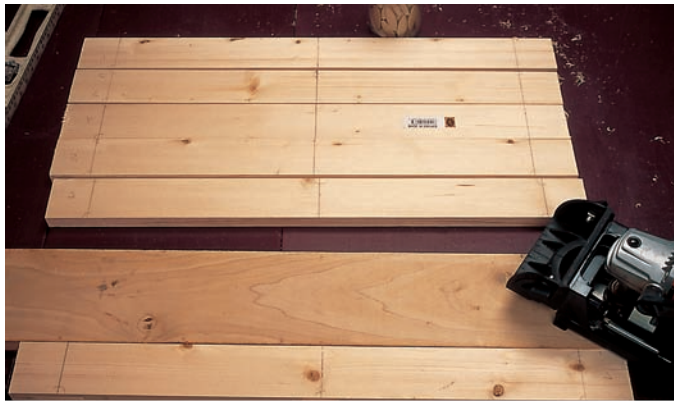
REFERENCE	QUANTITY	PART	STOCK	THICKNESS (mm)	WIDTH (mm)	LENGTH (mm)	COMMENTS
A	4	legs	No. 2 pine	1½ (38)	1½ (38)	39½ (1006)	make left, right, front, back legs
B	1	top	No. 2 pine	¾ (19)	27¼ (692)	14¾ (375)	
C	1	back	¼" plywood	¼ (6)	24¾ (629)	30½ (775)	
D	2	side panels	¼" plywood	¼ (6)	13½ (343)	30½ (775)	
E	1	bottom rear rail	No. 2 pine	¾ (19)	1¾ (45)	23¾ (603)	
F	1	bottom front rail	No. 2 pine	1½ (38)	1⅝ (41)	23¾ (603)	rails have a ¾" x ¾" notch at both ends
G	4	front rails	No. 2 pine	¾ (19)	1⅝ (41)	23¾ (603)	rails have a ¾" x ¾" notch at both ends
H	10	side rails	No. 2 pine	¾ (19)	1¾ (45)	14½ (369)	rails have a ¾" x ¾" notch at both ends
J	8	drawer guides	No. 2 pine	¾ (19)	¾ (19)	13 (330)	
K	1	drawer front	No. 2 pine	¾ (19)	4⅞ (124)	23⅞ (602)	
L	2	drawer sides	No. 2 pine	½ (13)	4⅞ (124)	14¾ (375)	
M	1	drawer back	No. 2 pine	½ (13)	4⅞ (124)	23⅞ (602)	
N	1	drawer front	No. 2 pine	¾ (19)	5⅞ (149)	23⅞ (602)	
P	2	drawer sides	No. 2 pine	½ (13)	5⅞ (149)	14¾ (375)	
Q	1	drawer back	No. 2 pine	½ (13)	5⅞ (149)	23⅞ (602)	
R	1	drawer front	No. 2 pine	¾ (19)	6⅞ (175)	23⅞ (602)	
S	2	drawer sides	No. 2 pine	½ (13)	6⅞ (175)	14¾ (375)	
T	1	drawer back	No. 2 pine	½ (13)	6⅞ (175)	23⅞ (602)	
U	1	drawer front	No. 2 pine	¾ (19)	7⅞ (200)	23⅞ (602)	
V	2	drawer sides	No. 2 pine	½ (13)	7⅞ (200)	14¾ (375)	
W	1	drawer back	No. 2 pine	½ (13)	7⅞ (200)	23⅞ (602)	
X	4	drawer bottoms	¼" plywood	¼ (6)	15 (381)	23¾ (589)	
Y	12	plugs	No. 2 pine	½ dia. (13)		½ (13)	
Z	2	drawer stops	No. 2 pine	½ (13)	¾ (19)	29 (737)	

HARDWARE & SUPPLIES

12	No. 8 x 2" (51mm) drywall screws
14	No. 8 x 1¼" (32mm) drywall screws
10	No. 8 x 1⅝" (40mm) drywall screws
10-20	No. 20 biscuits
	wood glue
10-20	1" (25mm) brads
20-30	4d nails
8	drawer pulls



STEP 1 | Mark the pieces of the top for biscuit placement, laying out the boards edge to edge with opposing end-grain pattern to compensate for warp and shrinkage.



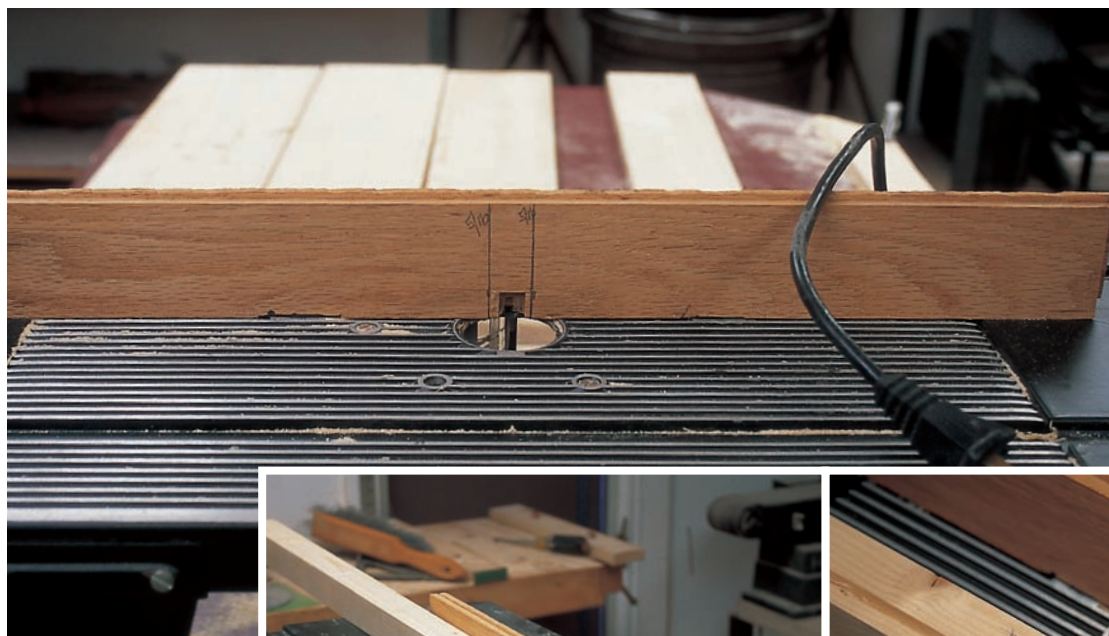
STEP 2 | Cut the biscuit slots and apply glue, then clamp the edges together. I always lay waxed paper under my projects when gluing up to keep them from sticking to the assembly table. When the glue has dried, cut the top to size as shown in the materials list. Then rout the profile of your choice on two sides and one front edge.



STEP 3 | Prepare the leg pieces by gluing stock together to make 2" square leg blanks. Use wood blocks to prevent denting of the leg blanks. I clamped three legs together simultaneously to save time, applying glue between alternate pieces.



STEP 4 | After the glue sets, scrape the excess glue from the leg blanks. Then machine the leg blanks to proper size, as shown in the materials list.



STEP 5 | Set up your router table to cut the $\frac{1}{4}$ "-deep $\times$ $\frac{1}{4}$ "-wide $\times$ $30\frac{1}{2}$ "-long stopped slots in the legs into which the sides will be slipped. Then rout the $\frac{1}{4}$ "-deep $\times$ $\frac{1}{2}$ "-wide rabbets for the back panel in the back legs.



STEP 6 | Dry fit the side panels and the legs to ensure everything will fit together properly.



STEP 7 | Set the saw blade to $\frac{3}{4}$ " high and cut the notches on the front rails. Clamp the rails together and cut all the notches at once. Make multiple passes to remove the material. Use this same procedure to cut the notches on the side rails. If you don't feel comfortable with this procedure, cut the notches on each rail separately.



STEP 8 | Predrill the side rails with a counterboring bit. This will allow for easy attachment to the legs.



STEP 9 | The side rails and drawer guides are assembled with glue and brads before attaching them to the side assemblies. There are eight of these assemblies. Note: The remaining two side rails are mounted at the top of the cabinet and don't require the drawer guides.



STEP 10 | Lay out the location of the side rails on the legs. Then, using $1\frac{5}{8}$ " drywall screws, attach the side rails to the cabinet sides.



STEP 11 | Lay the two side assemblies on their back edges and slide the back panel in place. Then, using 2" drywall screws, attach the front and bottom rails to the side assemblies.



STEP 12 | The front and side rails should be flush with each other so the drawers will glide smoothly.



STEP 13 | Attach the bottom rear rail and glue the plugs in place. Then, glue and nail the drawer stops in place.



STEP 14 | Using a table saw sled, clamp a stop block to the fixture's fence so that each drawer part can be cut squarely and to the length shown in the materials list.



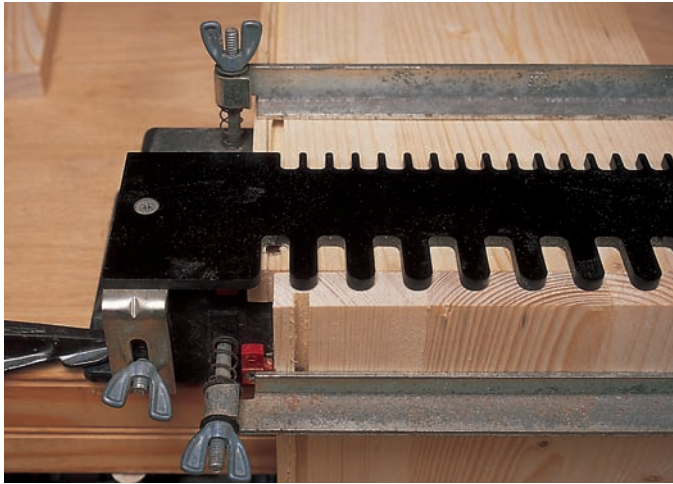
STEP 15 | Cut the stopped drawer-bottom grooves in the drawer sides, fronts and backs using a $\frac{1}{4}$ " straight-cutting router bit.



STEP 16 | This is what the stopped grooves look like before the dovetails are cut on the drawer parts.



STEP 17 | Sand the drawer parts, using either a belt or random-orbit sander.



STEP 18 | Set up your dovetail jig according to the instructions that came with it. Then mark the drawer parts so you know which way the parts will go together. The easiest way to do this is to use the orienting triangle. Also, number the top edges of each set of parts. (See illustration for details.)



STEP 19 | Use a small brush to apply glue to the pins, then assemble the drawers.

Fitting Dovetails



Adjusting the fit of the dovetail pins is easy on this type of dovetail jig. If the pins are a little loose (as shown in the photo), adjust the router base up slightly (move the base toward the motor end of the router). This will make longer pins. If the pins are too tight, reverse the above procedure. Remember to keep the adjustments small. When you assemble these half-blind dovetails, you need to use only a moderate amount of hammering force.



STEP 20 | Fit the drawers in their respective openings. If you cut the drawer parts as listed in the materials list, the drawers should slide easily and smoothly.



STEP 21 | Slide the side panels into place and attach the top with 1/4" screws inserted up through the top rails and side rails.



STEP 22 | Finish-sand the cabinet up to 150-grit. Stain the wood, if desired, and finish with two coats of satin polyurethane. The last step is to attach the drawer pulls.

TRESTLE TABLE

by MEGAN FITZPATRICK

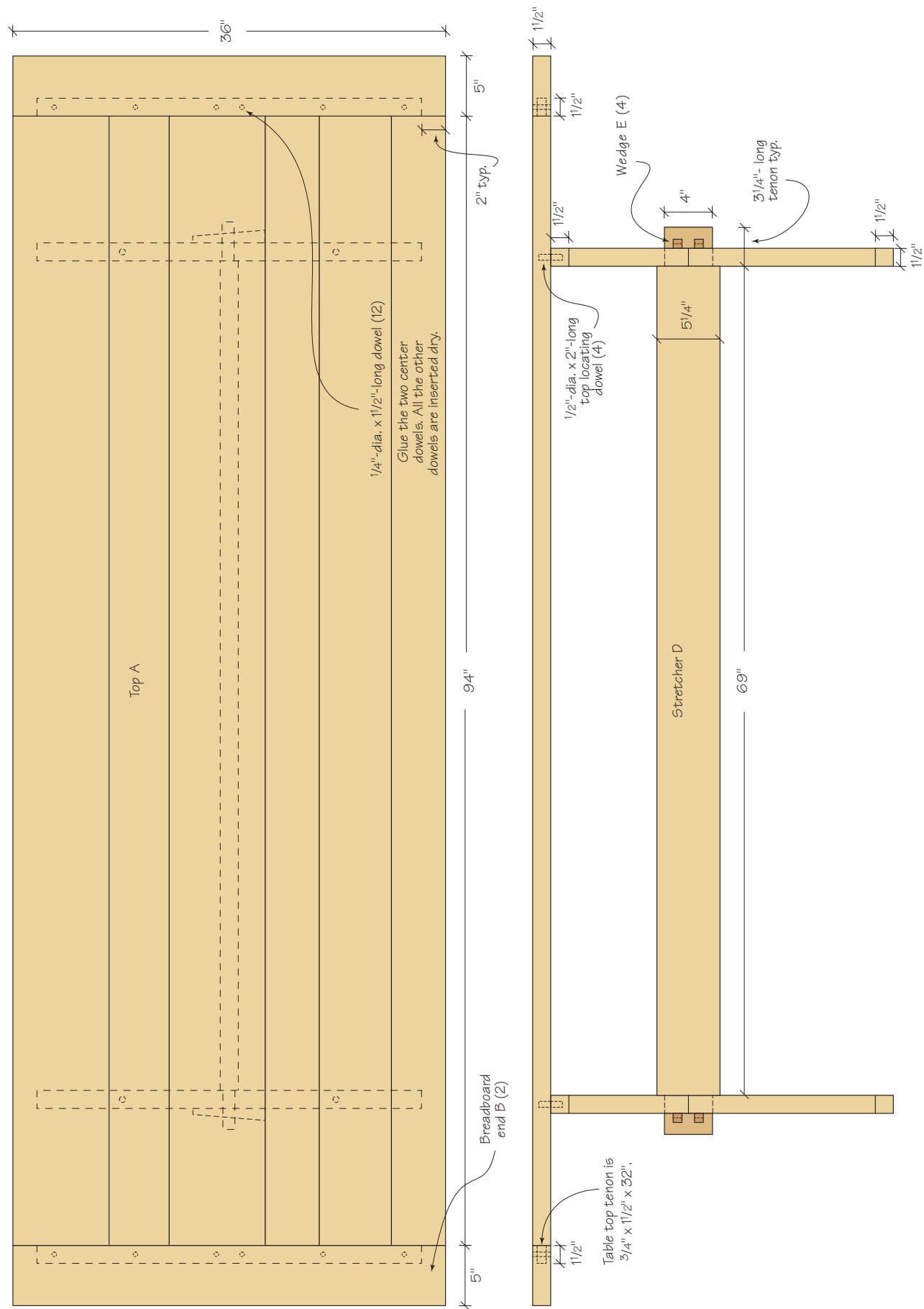
PROJECT TWELVE

This large trestle table is modeled after a piece you might find in the great hall of a medieval castle. It's built of sugar pine, uses no hardware and is entirely knockdown. This very soft wood will pick up dings and dents readily, which helps age the piece a couple of centuries in just a few weeks!

As a dabbler in medieval and renaissance history and literature, I'm fascinated not only with the cultural productions of the time, but the physical ones as well. Thus, I modeled my table after several I've seen in books and in museums, and made my version without any hardware, as most of the furniture of the time was held together by pegs, and iron and leather bands.







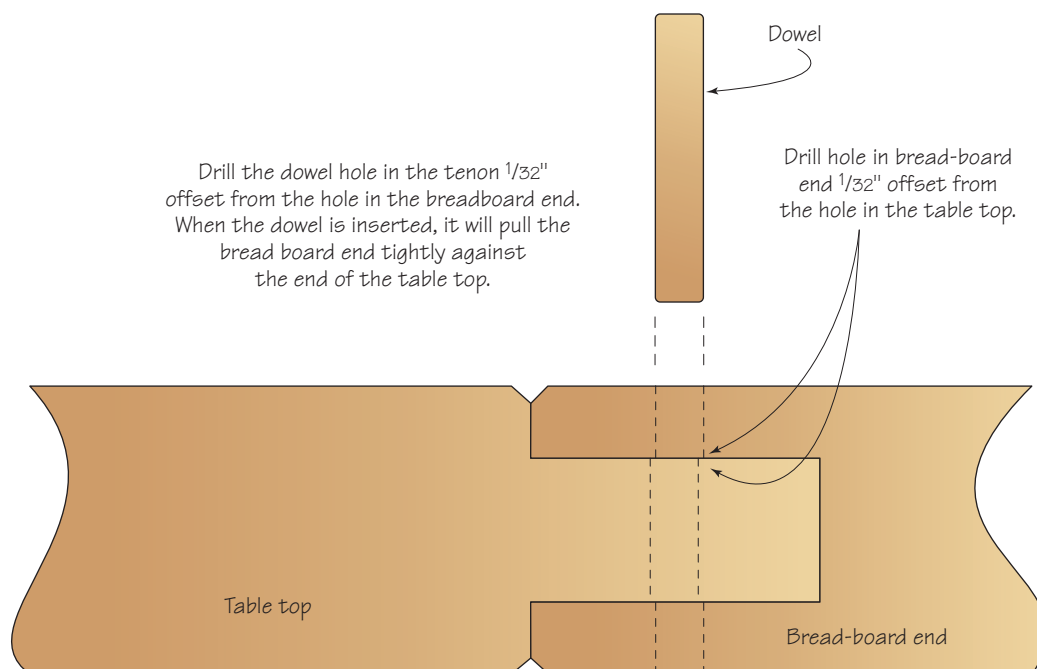
INCHES (MILLIMETERS)

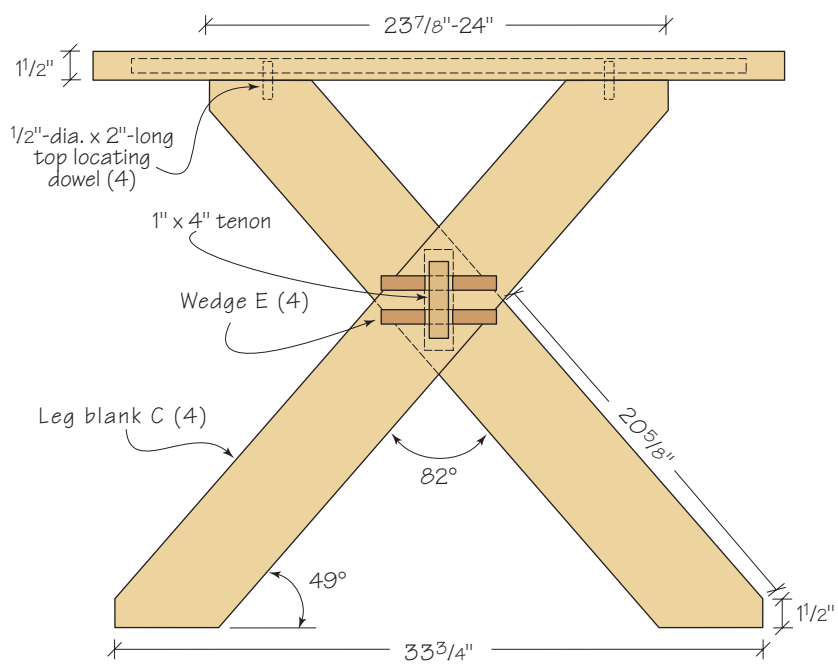
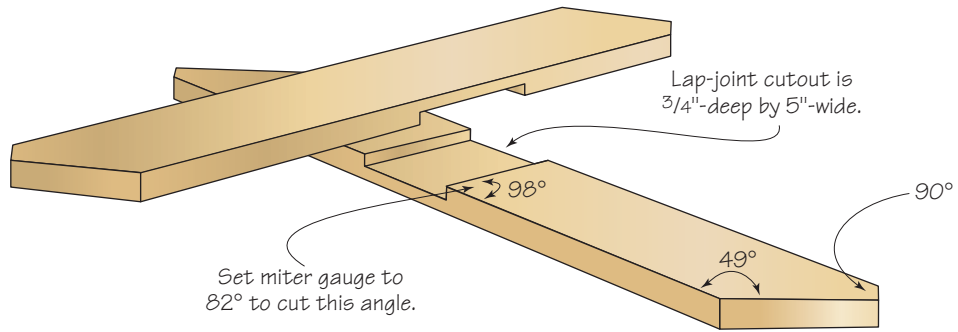
REFERENCE	QUANTITY	PART	STOCK	THICKNESS (mm)	WIDTH (mm)	LENGTH (mm)	COMMENTS
A	1	top	sugar pine	1½ (38)	36 (914)	96½ (2451)	random width boards to make 36" (914mm)-wide top
B	2	breadboard ends	sugar pine	1½ (38)	5 (127)	36 (914)	
C	4	legs	sugar pine	1½ (38)	5 (127)	40± (1016)	
D	1	stretcher	sugar pine	1½ (38)	5¼ (133)	69½ (1765)	
E	4	wedges	sugar pine	¾ (19)	1 (25)	6½ (165)	

HARDWARE & SUPPLIES

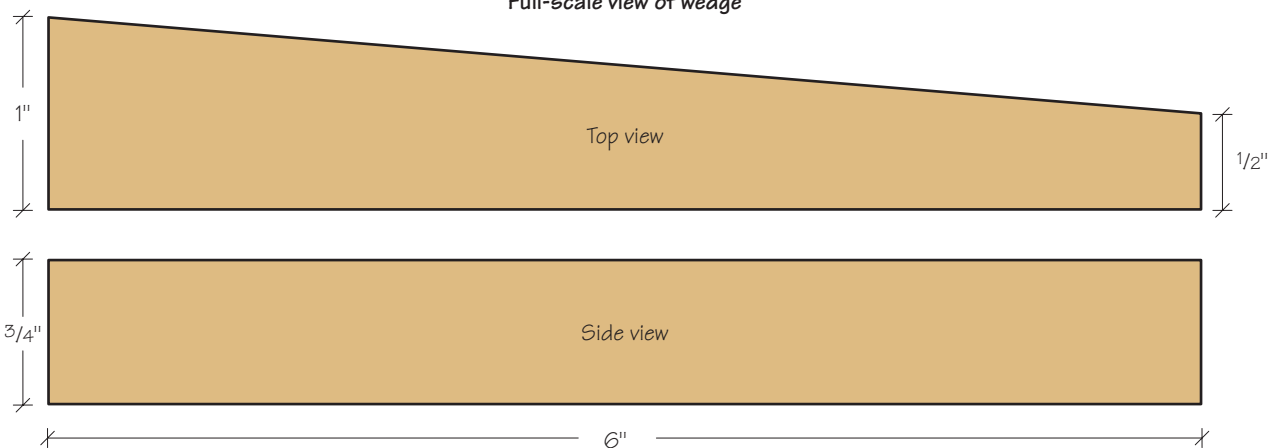
12	¼"-dia. x 1½" (6mm x 38mm) dowels
4	½"-dia. x 2" (13mm x 51mm) dowels

Full-scale section of table-top tenon and pegs



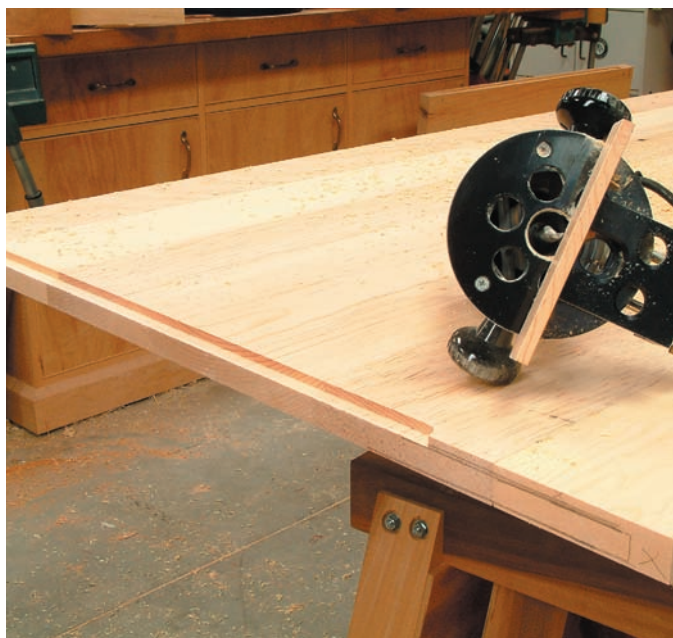


Full-scale view of wedge





STEP 1 | Cut out all parts for the top. Use random width boards totaling 36" in width. Before gluing these boards together, cut a bevel on all the long edges using a router with a bevel-cutting bit. Now, cut a $\frac{3}{4}$ "-wide $\times$ $1\frac{1}{2}$ "-deep $\times$ $32\frac{1}{2}$ "-long mortise in both breadboard ends using a router fitted with a $\frac{1}{2}$ " straight-cutting bit. Mount the router under a router table. Because the mortise is deep, cut the mortise only $\frac{1}{2}$ " deep per pass, and then go back for more.



STEP 2 | This is the router setup used to cut the tenons on the top. Remember to make test cuts on scrap wood until the tenon fits the mortise in the breadboards.



STEP 3 | When you're satisfied with the fit, cut a $\frac{3}{4}$ "-wide $\times$ $1\frac{1}{2}$ "-deep $\times$ $32\frac{1}{2}$ "-long tenon along each end of the top.



STEP 4 | Drill holes in the breadboards for the dowels that will help secure the breadboards to the ends of the top.



STEP 5 | Moving the center of the holes in the tenons toward the center of the table, drill the holes in the tenons offset $\frac{1}{32}$ " from those in the breadboards. This will ensure the breadboards are pulled tightly to the top. (See the illustration for details.)



STEP 6 | Bevel the inside edges of the breadboards. Then slide the breadboards onto the tenons. The fit should be snug. Drive $\frac{1}{4} \times 1\frac{1}{2}$ " dowels into the predrilled holes, leaving them proud of the surface to sand off later. Apply glue to the two center dowels only.



STEP 7 | Cut the tops and bottoms of all four leg pieces at a 49° angle.



STEP 8 | For aesthetic purposes, make a 90° cut 1" from both ends of each of the leg pieces.



STEP 9 | Using your table saw, cut lap joints on the legs. The dado cut should be exactly one-half the thickness of the leg and the same width as the leg. Make test cuts in scrap wood first. Be sure to clearly mark the leg parts so you cut the joints correctly.



STEP 10 | Glue up the leg assemblies. Then, using a router with a ½" by 1½"-long bit, rout a mortise through the lap joint in both halves of the legs. Square the corners of the mortise using a chisel. This mortise will receive the stretcher tenon that holds the base stable. While some woodworkers choose to cut the tenon first and then cut the mortise to fit, I find it's easier to start with the mortise and fit the tenon to the mortise.



STEP 11 | Using the table saw, cut the tenons on the ends of the stretcher. Leave the tenons a little thick and plane down the excess until the tenons slide snugly into the mortises in the leg assemblies. Because this is a knockdown project, you want to be able to slide the tenons in and out easily, but still have a tight enough fit to ensure stability.



STEP 12 | Mark the overhang on the tenons to determine the placement of the holes for the wedges.



STEP 13 | Drill $\frac{3}{4}$ "-diameter holes to create the mortises. Make sure the edges of the holes are slightly inside the lines you drew. Then, using a chisel, square the holes.



STEP 14 | Make a simple wedge-cutting fixture by cutting two pieces of $\frac{3}{4}$ "-thick plywood 4" wide by 10" long. Cut the wedge shape out of one of the pieces on the band saw, then join the two with brads. The edges of your wedge-shaped cut need not be perfect, but cut them as close as you can.



STEP 15 | Insert a piece of wedge stock into the fixture, then cut the wedges on the table saw. Flip the offcut edge for edge and cut another wedge. Flip the stock before each cut. Make a few extra wedges (you never know when a wedge will go missing).



STEP 16 | This is the underside of the wedge-cutting fixture. Finish-sand all the table parts with 220-grit sandpaper. This table was stained with a heavily pigmented oil-based stain directly on the raw wood. The stain was allowed to dry for 36 hours. Two coats of polyurethane finish were then applied.

SUPPLIERS

B&Q

B&Q Head Office
Portsmouth House
1 Hampshire Corporate Park
Chandlers Ford
Eastleigh
Hampshire
SO53 3YX
0870 0101 006
www.diy.com
Tools, paint, wood, electrical, garden

BRIMARC ASSOCIATES

7-9 Ladbroke Park
Millers Road
Warwick
CV34 5AE
01926 493389
www.brimarc.com
Woodworking tools and accessories

CONSTANTINES WOOD CENTER

1040 East Oakland Park Boulevard
Fort Lauderdale, Florida 33334
800-443-9667
www.constantines.com
Tools, woods, veneers, hardware

FOCUS (DIY) LIMITED

Gawsworth House
Westmere Drive
Crewe
Cheshire
CW1 6XB
0800 436 436
www.focusdiy.co.uk
Tools and home woodworking equipment

HOMEBASE LTD

Beddington House
Railway Approach
Wallington
Surrey
SM6 OHB
0845 077 8888
www.homebase.co.uk
Tools and home woodworking equipment

THE HOME DEPOT

2455 Paces Ferry Road
Atlanta, Georgia 30339
800-553-3199 (U.S.)
800-668-2266 (Canada)
www.homedepot.com
Tools, paint, wood, electrical, garden

LEE VALLEY TOOLS LTD.

U.S.:
P.O. Box 1780
Ogdensburg, New York 13669-6780
800-267-8735
Canada:
P.O. Box 6295, Station J
Ottawa, Ontario, Canada K2A 1T4
800-267-8761
www.leevalley.com
Bench dogs and other bench hardware

LOWE'S HOME IMPROVEMENT WAREHOUSE

P.O. Box 1111
North Wilkesboro, North Carolina 28656
800-445-6937
www.lowes.com
Tools, paint, wood, electrical, garden

TOOLSTATION

18 Whiteladies Road
Clifton
Bristol
BS8 2LG
0808 100 7-2-11
www.toolstation.com
Power tools

WICKES

Wickes House
120-138 Station Road
Harrow
Middlesex
HA1 2QB
0870 6089001
www.wickes.co.uk
Tools and home woodworking equipment

WOODCRAFT

P.O. Box 1686
Parkersburg, West Virginia 26102-1686
800-535-4482
www.woodcraft.com
Woodworking hardware and accessories

WOODWORKER'S SUPPLY

1108 North Glenn Road
Casper, Wyoming 82601
800-645-9292
www.woodworker.com
*Woodworking tools and accessories; finishing
supplies; books and plans*



INDEX

- A**
American Pitch Pine, 13
- B**
Bachelor Chest, 104-115
Balsam Fir, 13
Bibliography, 17
Blanket Chest, 84-93
Blue stain, 12
Bow, 12
- C**
Cedar, 13
Checks, 12
Crook, 12
Cup, 12
- D**
Douglas Fir, 13
Dovetails, fitting, 114
- E**
Eastern Hemlock, 13
Engelmann Spruce, 13
European Larch, 14
- F**
Franklin Chair, 94-103
- G**
Glossary, 12
Grades of pine, 12
- I**
Introduction, 8
- L**
Loblolly Pine, 14
- M**
Machine burn, 12
Materials lists
 Bachelor Chest, 107
 Blanket Chest, 87
 Franklin Chair, 97
 Outdoor Planter Bench, 80
 Parlor Floor Lamp, 41
 Small Storage Cabinet, 27
 Small Table, 21
- Sofa Table, 61
Spice Cabinet, 71
Step Stool, 50
Trestle Table, 119
Utility Ladder Shelf, 35
- N**
Northern White Cedar, 14
Norway Spruce, 14
- O**
Outdoor Planter Bench, 78-83
- P**
Pacific Yew, 14
Parlor Floor Lamp, 38-47
Ponderosa Pine, 14
Projects
 Bachelor Chest, 104-115
 Blanket Chest, 84-93
 Franklin Chair, 94-103
 Outdoor Planter Bench, 78-83
 Parlor Floor Lamp, 38-47
 Small Storage Cabinet, 24-31
 Small Table, 18-23
 Sofa Table, 58-67
 Spice Cabinet, 68-77
 Step Stool, 48-57
 Trestle Table, 116-125
 Utility Ladder Shelf, 32-37
- R**
Red Spruce, 15
- S**
Scots Pine, 15
Sequoia, 15
Silver Fir, 15
Sitka Spruce, 15
Small Storage Cabinet, 24-31
Small Table, 18-23
Sofa Table, 58-67
Species of pine, 10-16
 American Pitch Pine, 13
 Balsam Fir, 13
 Cedar, 13
 Douglas Fir, 13
 Eastern Hemlock, 13
 Engelmann Spruce, 13
 European Larch, 14
 Loblolly Pine, 14
 Northern White Cedar, 14
 Norway Spruce, 14
 Pacific Yew, 14
 Ponderosa Pine, 14
 Red Spruce, 15
 Scots Pine, 15
 Sequoia, 15
 Silver Fir, 15
 Sitka Spruce, 15
 Sugar Pine, 15
 Western Hemlock, 16
 Western Larch, 16
 Western Red Cedar, 16
 Western White Pine, 16
 Yellow Cedar, 16
 Yellow Pine, 16
Spice Cabinet, 68-77
Split, 12
Step Stool, 48-57
Sugar Pine, 15
Suppliers, 126
- T**
Trestle Table, 116-125
Twist, 12
- U**
Utility Ladder Shelf, 32-37
- W**
Western Hemlock, 16
Western Larch, 16
Western Red Cedar, 16
Western White Pine, 16
- Y**
Yellow Cedar, 16
Yellow Pine, 16



With the diverse and attractive qualities of pine, creating gorgeous, handcrafted furniture is easily within reach for all woodworkers. In *The Essential Pine Book*, you'll discover the secrets to using yellow pine, sugar pine, white pine, cedar and other varieties to build outstanding projects.

Step-by-step instructions and full-color photos guide you in creating 12 attractive, practical and inexpensive furniture projects including a Franklin chair, spice cabinet, parlor floor lamp, blanket chest and more. You'll also find authoritative advice on selecting and using wood grain patterns in your work, tips and tricks for staining pine evenly and detailed descriptions of more than 20 species of pine.

Both beginners and experienced woodworkers will enjoy building these impressive projects with the sound instruction found in *The Essential Pine Book*. Get started today and discover the pleasure of working with pine.

DISCOVER THE VERSATILITY OF PINE



Look for these fine titles also from Popular Woodworking Books



UK £15.99 US \$24.99

70663 (CAN \$32.99)

ISBN-13: 978-1-55870-711-5

ISBN-10: 1-55870-711-5

9 781558 707115

