Packed with more than ten projects to help you start building your own furniture!

# Woodworking

FOR DUMIES



A Reference for the Rest of Us!



Packed with more than ten projects to help you start building your own furniture!

## Woodworking

DUMMIES



### Woodworking For Dummies®

### by Jeff Strong



Wiley Publishing, Inc.

#### **Woodworking For Dummies®**

Published by
Wiley Publishing, Inc.
111 River St.
Hoboken, NJ 07030-5774
www.wiley.com

Copyright © 2004 by Wiley Publishing, Inc., Indianapolis, Indiana

Published simultaneously in Canada

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning, or otherwise, except as permitted under Sections 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher, or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, 978-750-8400, fax 978-646-8700. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201)748-6011, fax (201)748-6008, or online at <a href="http://www.wiley.com/go/permissions">http://www.wiley.com/go/permissions</a>.

Trademarks: Wiley, the Wiley Publishing logo, For Dummies, the Dummies Man logo, A Reference for the Rest of Us!, The Dummies Way, Dummies Daily, The Fun and Easy Way, Dummies.com and related trade dress are trademarks or registered trademarks of John Wiley & Sons, Inc., and/or its affiliates in the United States and other countries, and may not be used without written permission. All other trademarks are the property of their respective owners. Wiley Publishing, Inc., is not associated with any product or vendor mentioned in this book.

LIMIT OF LIABILITY/DISCLAIMER OF WARRANTY: While the publisher and author have used their best efforts in preparing this book, they make no representations or warranties with respect to the accuracy or completeness of the contents of this book and specifically disclaim any implied warranties of merchantability or fitness for a particular purpose. No warranty may be created or extended by sales representatives or written sales materials. The advice and strategies contained herein may not be suitable for your situation. You should consult with a professional where appropriate. Neither the publisher nor author shall be liable for any loss of profit or any other commercial damages, including but not limited to special, incidental, consequential, or other damages.

For general information on our other products and services or to obtain technical support, please contact our Customer Care Department within the U.S. at 800762-2974, outside the U.S. at 317-572-3993, or fax 317-572-4002.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be available in electronic books.

Library of Congress Cataloging-in-Publication Data:

Library of Congress Control Number: 2003112654

ISBN: 978-0-7645-3977-0

Manufactured in the United States of America

109876



#### **About the Author**

Jeff Strong began creating sawdust at a very young age while helping his father, a master craftsman, build fine furniture. An accomplished woodworker, Jeff has designed and built countless pieces of furniture and currently accepts commissions to build his creations. His woodworking style marries Arts and Crafts, Southwestern, and Asian influences. This is his third book.

### **Dedication**

This book is dedicated to my dad who shared with me both the skills and love of woodworking.

## Author's Acknowledgments

First, I want to thank my wife, Beth, for encouraging my woodworking despite seeing less and less of me, and my daughter Tovah for inspiring me to create unusual designs.

I'm also grateful for the persistence of my agent, Carol Susan Roth, and the vision of my acquisitions editor, Tracy Boggier, both of whom were essential in getting this book off the ground. Thanks also go to my project editor, Allyson Grove, whose skill and easy-going nature made this project all the more enjoyable.

I'd like to acknowledge the skills and expertise of the technical editor, Robert Lasso and copy editor, Jennifer Bingham: You both made me look like I know what I'm doing.

#### **Publisher's Acknowledgments**

We're proud of this book; please send us your comments through our Dummies online registration form located at <a href="https://www.dummies.com/register/">www.dummies.com/register/</a>.

Some of the people who helped bring this book to market include the following:

Acquisitions, Editorial, and Media Development

Project Editor: Allyson Grove

**Acquisitions Editor:** Tracy Boggier

Copy Editor: Jennifer Bingham

**Editorial Program Assistant:** Holly Gastineau-Grimes

Technical Editor: Robert Lasso

Editorial Manager: Michelle Hacker

**Editorial Assistant:** Elizabeth Rea

Cover Photos: ©Jim Craigmyle/CORBIS

Cartoons: Rich Tennant, <a href="https://www.the5thwave.com">www.the5thwave.com</a>

**Composition Services** 

Project Coordinator: Maridee Ennis

Layout and Graphics: Seth Conley, Heather Ryan,

Jacque Schneider

**Special Art:** Precision Graphics

Proofreaders: Aptara Production Services, Susan

Moritz, Carl William Pierce, Brian H. Walls

**Indexer:** Aptara Production Services,

Special Help Kristin DeMint

#### **Publishing and Editorial for Consumer Dummies**

**Diane Graves Steele,** Vice President and Publisher, Consumer Dummies

**Joyce Pepple,** Acquisitions Director, Consumer Dummies

**Kristin A. Cocks,** Product Development Director, Consumer Dummies

Michael Spring, Vice President and Publisher, Travel

Brice Gosnell, Associate Publisher, Travel

Kelly Regan, Editorial Director, Travel

**Publishing for Technology Dummies** 

**Andy Cummings,** Vice President and Publisher, Dummies Technology/General User

#### **Composition Services**

**Gerry Fahey,** Vice President of Production Services

**Debbie Stailey, Director of Composition Services** 

#### **Contents**

#### **Title**

#### **Introduction**

**About This Book** 

How to Use This Book

Conventions Used in This Book

Not So Foolish Assumptions

**How This Book Is Organized** 

Icons Used in This Book

Where to Go from Here

#### Part I: What's All the Buzz about Woodworking?

#### Chapter 1: Discovering the Basics of Woodworking

Getting the Lowdown on Wood

Setting Up Shop

Working with Woods

#### <u>Chapter 2: Wood You Be Mine? Appreciating Wood</u> <u>for All It's Worth</u>

**Board Basics: Knowing What to Look For** 

Sorting Through the Types of Solid Wood

<u>Looking Beneath the Surface of Veneers</u>

Playing with Plywood (and Other Manufactured Boards)

Searching for Wood in All the Right Places

#### **Buying Wood**

#### **Chapter 3: Putting Safety First in Your Workshop**

**Protecting Yourself from Injury** 

Where's Mr. Clean When You Need Him? Keeping Your Shop in Ship-Shape

Taking Care with Bits and Blades: Basic Tool Safety

#### <u>Part II : Tool Time: Selecting and Setting Up Your</u> <u>Equipment</u>

#### <u>Chapter 4: Gearing Up: Choosing Tools That Are</u> <u>Right for You</u>

Figuring Out Your Work Style

**Determining How Much to Spend** 

#### <u>Chapter 5: Getting a Handle on Hand Tools</u>

Measuring and Marking Your Wood

<u>Using Saws: More Than One Way to Cut a Board</u>

<u>Using Planes: Smoothing the Old-Fashioned Way</u>

<u>Charging into Chisels</u>

<u>Choosing and Using Sharpening Stones</u>

**Hammers and Mallets** 

**Diving into Drivers** 

<u>Holding It All Together: Clamps</u>

#### Chapter 6: Peeking at Portable Power Tools

To Cord or Not to Cord: The Pros and Cons of Cordless Tools

Sizing Up Saws

Rallying around the Router

Getting the Skinny on Sanders

**Detailing Drills** 

Banking on Biscuit Joiners

#### <u>Chapter 7: Introducing the Big Guns: Stationary</u> <u>Power Tools</u>

Tuning In to the Table Saw

Joining the Jointer

<u>Cutting Curves with the Band Saw</u>

Making a Case for the Miter Saw

Partying with the Planer

**Detailing the Drill Press** 

### <u>Chapter 8: Setting Up Your Workshop and Maximizing Your Tools</u>

**Considering Core Issues** 

Sampling Some Shop Setups

Tackling Tool Set-ups

Journeying into Jigs

#### <u>Part III : Together Forever: Basic Wood Joinery</u>

### <u>Chapter 9: Stuck on You: Using Adhesives and Glues</u>

Cluing into Gluing: Understanding the Essential Role of Glue

Working with Carpenter's Glue

**Handling Hide Glue** 

**Choosing Contact Cement** 

Relying On Resin Glues

Honing In on Hot Melt Glue

#### Chapter 10: Working with Wood Joints

Choosing the Right Joint for the Job

Easing into Edge-to-Edge Joints

**Constructing Carcass Joints** 

Figuring Out Frame Joints

#### <u>Chapter 11: Making the Most of Mechanical</u> <u>Fasteners</u>

<u>Understanding the Role of Mechanical Fasteners</u>

Securing with Screws

<u>Getting Down to the Nitty-Gritty of Nails</u>

Getting What You Need: Stocking Up on Your Screw and Nail Selection

#### <u>Part IV : Getting Your Hands (and Shop) Dirty:</u> <u>Turning Raw Wood into Furniture</u>

#### Chapter 12: Understanding the Building Process

Following Plans: Making Sense of Diagrams, Dimensions, and Procedures

Creating a Cut List

Preparing the Board for Milling

Making the Cut

Putting It All Together

#### **Chapter 13: Banging Out Bookcases**

Parts Is Parts: Breaking Down Bookcases

Making Your Own Simple Bookcase

<u>Creating a Contemporary Style Bookcase</u>

Crafting a Craftsman Style Bookcase

Fashioning a Shaker Style Bookcase

Making Your Mark: Designing Your Own Bookcases and Storage Units

#### **Chapter 14: Tackling Tables**

<u>Introducing the Parts of a Table</u>

<u>Digging In to Building a Dining Table</u>

<u>Crafting a Shaker Style Table</u>

Creating a Craftsman Style Table

<u>Tackling a Trestle Table</u>

When You Want to Get Creative: Designing Your Own Tables

#### **Chapter 15: Creating Cabinets**

**Introducing the Parts of a Cabinet** 

Making Your Own Storage/Work Cabinet

Building a Four-Drawer Dresser

<u>Crafting a Shaker Entertainment Center</u>

**Bucking Tradition: Designing Your Own Cabinets** 

#### <u>Part V : The Grand Finale: Sanding and Finishing</u> <u>Your Masterpiece</u>

### <u>Chapter 16: Smoothin' It Out by Sanding and Filling</u>

Filling Holes and Cracks

#### **Smoothing Out Your Wood**

#### **Chapter 17: Adding Color: Stains and Paints**

<u>Understanding Types of Stains</u>

Picking Up on Paints

#### <u>Chapter 18: Protecting Your Work with Topcoats</u>

The Good, the Bad, and the Ugly about Various Topcoats

Shining It Up with Shellac

Opting for Oil

Working with Wax

**Employing Varnish and Oil-Based Polyurethane** 

<u>Using Water-Based Polyurethane</u>

#### Part VI: The Part of Tens

#### Chapter 19: Ten Great Habits to Get Into

**Slowing Down** 

**Standing Guard** 

**Wearing Protection** 

Staying Fresh

Being Prepared

Checking Up on Key Equipment

Staying Sober

<u>Lighting Up</u>

**Keeping Clear** 

**Staying Sharp** 

#### <u>Chapter 20: Ten Common Woodworking Pitfalls</u> <u>and How to Avoid Them</u>

**Going Too Fast** 

A Blotchy Finish

Drawers/Doors Don't Fit

A Table Rocks

Stain Doesn't Take

Sanding Makes the Wood Fuzzy

Joints Don't Fit Together

Tabletops Aren't Flat

**Wood Splits When Cutting** 

Joints Too Loose

#### **Chapter 21: Ten Great Woodworking Resources**

Online Forums

**Magazines** 

**Woodworking Guilds** 

Community Colleges/University Extension

**Books and Videos** 

Online Instruction

Plans

Local Woodworkers

**Local Woodworking Stores** 

**Woodworking Shows/Conventions** 

#### : Color Insert

### Introduction

So, you want to work with wood? Well, I can't think of a better way to spend your free time than building a tangible project that will last for a lifetime or longer.

Woodworking For Dummies is a great place for you to start developing the skills of a craftsperson and gaining the satisfaction of creating a work of art (or at least a decent table or bookcase). This book gives you the essential information to help you do just that.

#### **About This Book**

Woodworking For Dummies introduces you to the wonderful world of woodworking (how's that for alliteration?). Whether you have very little knowledge of the hobby or some experience but with a few gaps in your knowledge base, this book is for you.

I tried to write a book that contains all the essential information for the novice woodworker as well as some more advanced tips and tricks to jumpstart your existing woodworking skills. You won't find any useless theories or unnecessary technical jargon to bog you down. What you will find is practical, hands-on information and advice that will save you hours of frustration (pretty good deal, huh?).

Here's some of what I cover in this book:

- Choosing the right wood for your projects
- Getting the best tools for you and your goals
- Setting up your workshop
- ✓ Making wood joints and knowing the best joint for the job
- Building projects that you'll be proud of
- Sanding and finishing

If that's not enough, I also try to make this book as fun as possible to read. After all, there's no sense in suffering through a book, is there?

### **How to Use This Book**

This book is organized modularly, which means that you can read it from cover to cover and progressively build your woodworking knowledge. Or you can skip around and choose a subject that interests you from the table of contents or index, and start reading it immediately without feeling lost. Throughout the book I also include cross-references to where you can find more information about a subject.

## **Conventions Used in This Book**

Woodworking is a fairly technical subject with its own rules and language. Because of this, I include a lot of terms you may not be familiar with. Rather than include a glossary of terms, I've chosen to provide definitions or cross-references for terms that are part of the woodworking vocabulary. These terms are in italics to help you identify them.

## Not So Foolish Assumptions

When I wrote this book, I made some assumptions about you, the reader.

First, I assumed that you want to build furniture projects and not a house or some other large-scale construction project. For that, you're probably better off with a book on carpentry, because if you apply all the little details that go into a good piece of furniture to framing a house, for example, it'll take you too long to get the job done. (Of course, it will look awesome and be a work of art when you're through.)

Second, I assumed that you want to do things the fast and easy way and not necessarily the old-fashioned way. As you'll likely find out by talking to other woodworkers, you can find almost as many ways to perform a task as you can find woodworkers. Everyone has his own unique way to do things and mine involves taking advantage of modern tools and shortcuts, rather than using oldfashioned, time-consuming, and often frustrating approaches that can be done better with modern tools and approaches (do you sense a little bias here?). For example, if you want to find out how to craft dovetails by hand with a chisel and backsaw, buy another book. But if you want to make joints that are just as strong and beautiful in a fraction of the time with a router and a jig, then this book is for you. (Don't worry, in this book, you will still get to see many of the traditional ways things are done, if for no other reason than to help you decide for yourself how you want to approach a task.)

Aside from these two things, I don't assume that you want to make a certain type of furniture or whether your goals include wanting to make a few things for your house or getting really serious and entering your work in juried shows.

## How This Book Is Organized

Woodworking For Dummies is organized into six parts so that you can find the information you're looking for quickly and easily. What follows is a closer look at each part and what it covers.

### Part I: What's All the Buzz about Woodworking?

Part I is your introduction to woodworking, wood, and woodworking shops. Chapter 1 gives you an overview of the woodworking process and gets absolute beginners up to speed on this fascinating hobby. Chapter 2 helps you to understand the unique qualities of wood. You discover the various types of wood used in furniture and how to find and buy the right boards for your projects. Because woodworking is an inherently dangerous activity, Chapter 3 shows you how to create a safe working environment and gives you some guidelines for working as safely as possible.

## Part II: Tool Time: Selecting and Setting Up Your Equipment

Part II is the section for anyone who loves tools. Chapter 4 helps you determine the best tools for your goals. It opens your eyes to the type of woodworking you intend to do and what tools will help you accomplish your goals. Chapter 5 introduces you to the tried-and-true hand tools and provides tips on how to choose and use them. Chapter 6 explores portable power tools. It gets you up to speed on what to use for what purpose. Chapter 7 is all about the big machines. This chapter gives you the lowdown on the machines that most woodworkers drool over (and that make woodworking easier, faster, and more fun). Chapter 8 helps you set up your tools and lets you get started using them by providing some projects to make some tool helpers called *jigs*.

## Part III: Together Forever: Basic Wood Joinery

Part III gets into the nuts and bolts of joining wood together (you don't use actual nuts and bolts, though). Chapter 9 is all about adhesives (glues). This chapter demystifies all the different glue choices you have to contend with. After reading this chapter, you'll be able to walk into a woodworking store and get the right glue for you. Chapter 10 shows you how to make all the wood joints you'll encounter in this book. Wood joints are the basis for almost all woodworking, and making them well is the difference between a project that lasts for a few years (at most) and one than is still solid after generations. Chapter 11 offers your wood joints some assistance with mechanical fasteners such as screws and nails. This chapter shows you when adding a nail or screw to your project can help and when it's a waste of effort.

## Part IV: Getting Your Hands (And Shop) Dirty: Turning Raw Wood into Furniture

Part IV is filled with really cool projects. The purpose of this section is to give you some woodworking experience and to progressively build your skills. Chapter 12 leads you through the process of making a project so that you know what you're getting into before you begin cutting wood. Chapter 13 gets you started woodworking with the easiest project to build — a bookcase. Not just one bookcase, but several, so you're sure to find one that fits your design ideals. Chapter 14 builds on the skills you developed in Chapter 13 by helping you build tables. Like Chapter 13, you have several table designs to choose from (heck, build 'em all; you can never have too many tables!). Chapter 15 ups the ante by providing projects for making cabinets with either drawers or doors. Again, you get to choose among several really good designs (if I do say so myself).

## Part V: The Grand Finale: Sanding and Finishing Your Masterpiece

A woodworking project wouldn't be complete without the finish. Part V helps you make this often hated (trust me, I'm being nice here) process of sanding and finishing into a chore that you'll love (okay, maybe just *tolerate*). Chapter 16 explores the often short-shrifted process of filling and sanding the wood smooth. Chapter 17 shows you how to add color to the wood. Chapter 18 demystifies the topcoat process. In this chapter, you discover the best type of finish for your project and go through the steps of applying it for best results.

#### Part VI: The Part of Tens

A staple of every *For Dummies* book, Part IV presents the Part of Tens. Chapter 19 includes ten good habits to get into to make your woodworking experience safer. Chapter 20 offers ten woodworking pitfalls that almost everyone encounters at one time or another. (Oh, and ways to avoid or fix them, too.) Chapter 21 gives you some woodworking resources so that you can keep expanding your woodworking knowledge.

### **Icons Used in This Book**

As in all *For Dummies* books, I include a few icons to help you along your way. They include:



Certain techniques and information bear repeating. This icon gives you those gentle nudges to keep you on track.



This icon highlights expert advice and ideas that can help you to make better projects.



Woodworking is an inherently dangerous hobby. This icon alerts you to those times when you need to take extra care so as not to injure yourself or damage your workpiece or tools.



This icon contains some background information about the material you're working with to help you better understand the reason for doing a task a certain way.